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Forest PROFESSIONAL

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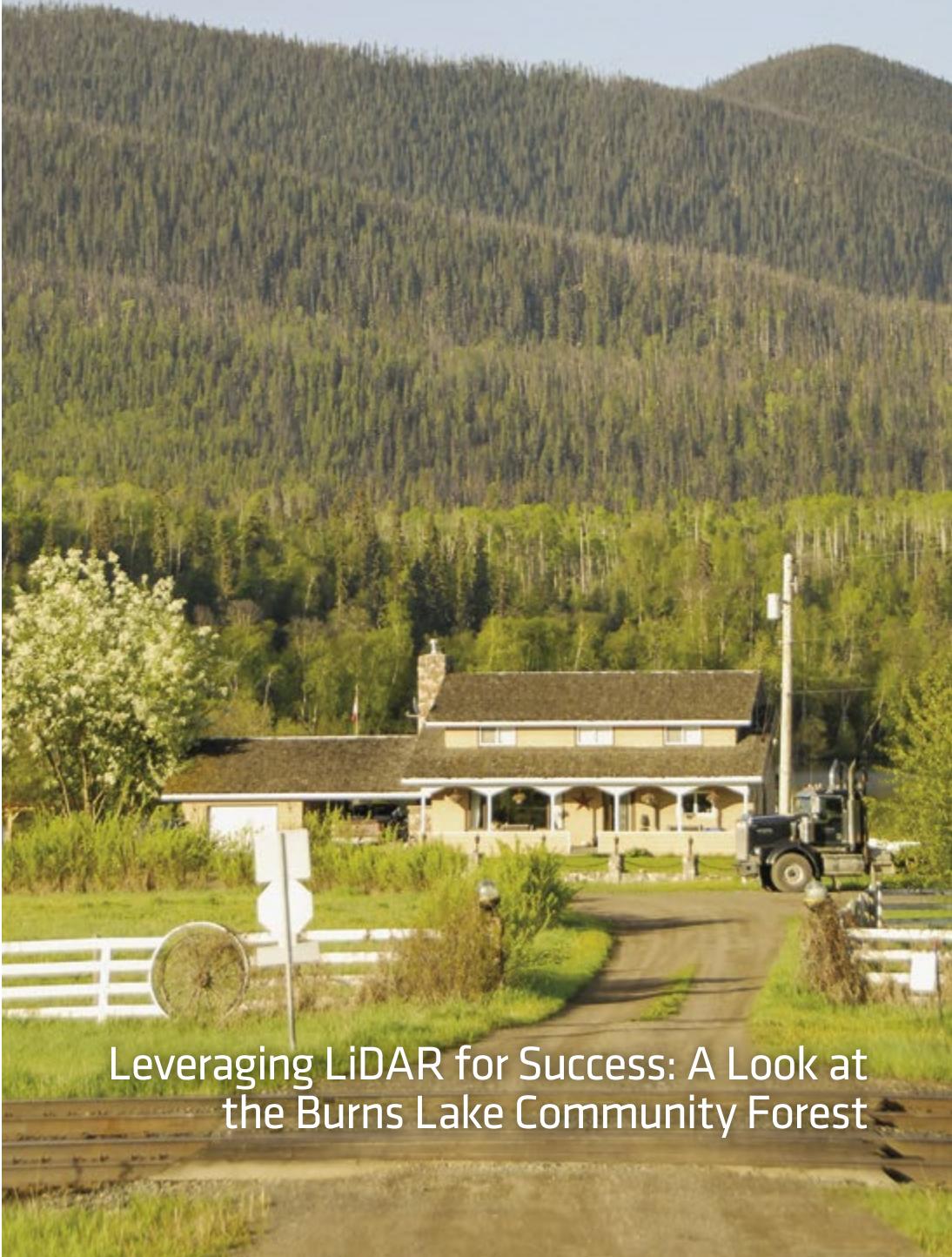
Where Forest and Ocean Meet:
The Making of Fish Leather Shoes

A Century of Silviculture Research in BC

Bulkley Valley Wildfire Research:
Sub-boreal and Montane Landscapes

Understanding Duty to Report

The PGA: What You Need to Know



Leveraging LiDAR for Success: A Look at
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Freshly tanned coho salmon leather drying on a rack. The first two rows are tanned with western hemlock. Photo credit: Tasha Nathanson.

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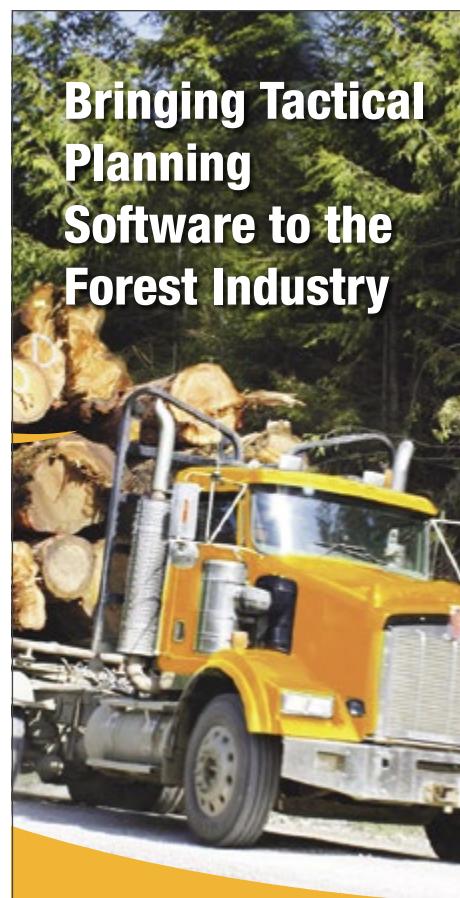
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The *BC Forest Professional* letters section is intended primarily for feedback on recent articles and for brief statements about current association, professional, or forestry issues. The editor reserves the right to edit and condense letters and encourages readers to keep letters to 300 words. Anonymous letters are not accepted.

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A Year of Change and Adaptation

I am honoured to be the 74th President of the Association of BC

Forest Professionals, with the distinction of being the last president to serve under the *Foresters Act* and the first under the *Professional Governance Act* (PGA).

The past year was different for all of us due to COVID-19. One of the impacts of the pandemic was the need for the ABCFP to transition to a virtual format for the conference and AGM. Usually we get to connect in-person — seeing old friends and meeting new ones. However, the change also brought new opportunities. I want to start by acknowledging the success of the first virtual ABCFP Forestry Conference and AGM with a record turnout of 1,538 attendees. I would like to thank ABCFP staff for their hard work in producing such a great event, which included an insightful program, good time management, an easy to use and interactive platform, as well as thoughtful dialogue about PGA-related changes and what we can expect as registrants. As well, it was great to have the opportunity to hear from the Honourable Katrine Conroy, the new Minister of Forests, Lands, Natural Resource Operations and Rural Development. Though attendance for our virtual conference was excellent, I am also hoping for a return to normalcy later this year, and an opportunity to meet with registrants, colleagues, and friends in-person.

During my incoming presidential speech at the ABCFP AGM, I thanked a few people for their support in my involvement with ABCFP Council. Thank you to my family; my employer, Interfor; the great mentors I have been fortunate to have during my career, including Al Todd, RPF(Ret), Ian Stephen, RPF, Steve Sheldon, Doug Perdue, RPF, Jim Snetsinger, RPF, and Ric Slaco, RPF; and past presidents Bruce McLean, RPF, Robin Modesto, RPF, P.Eng., MBA, and Bob Craven, RPF — just to name a few. One characteristic these individuals stand for, which I think is one of the most valuable attributes for a professional, is integrity. Keeping promises, being honest, and always having strong ethical and moral principles — these are the qualities that sustain and advance the profession.



There were 140 inductees to the ABCFP in 2020 and I am glad these young professionals chose forestry as their path. I encourage all forest professionals to share the stories of their varied paths with others in order to support, sustain, and grow the profession. A position in natural resources management is a very rewarding career and it has opened many doors for me to grow as a professional and as a person. I am excited about forestry and respect the link our profession has regarding land base decisions, Indigenous peoples, rural and urban economies, and the role BC plays in being a global leader in managing a sustainable and renewable resource.

As your president, I think it is important to remain focused on the key priorities facing the ABCFP — namely the implementation of the PGA and acting on strategic priorities identified by ABCFP Council. The items I think are of particular importance are:

- The evolution of practice rights for individual professionals and the relationship of the ABCFP with all regulators under the PGA;
- Indigenous rights and the provincial and federal commitments to the implementation of the United Nations Declaration on the Rights of Indigenous Peoples; and
- The role of the ABCFP as a regulator: responding and adapting in strategic ways and communicating accountabilities to registrants under the PGA.

This year will be one of significant change for the ABCFP but I am confident in the great council and staff we have in place and I look forward to bringing my energy and attention to serve as your president. I want to welcome Dave Gill, RPF, and recognize Jamie Jeffreys, RPF; Marina Rayner, RFT; and Morgan Kennah, RPF for their time and contributions to council.

For professionals young and old, I think it is important to be inquisitive, embrace continual learning, and strive to conduct ourselves with high integrity at all times in private life, professional practice, and outside professional activities. The profession will continue to evolve, just like it did when the *Foresters Act* was brought into force in 1947. Your role as a forest professional is as important now as it was then. ☺

Regulating with Passion

The ABCFP is a regulatory body, but we are also so much more.

The story of the ABCFP does not start and stop with our legislative mandate set out in Section 22 of the *Professional Governance Act* (PGA). The forest profession's culture — and the ABCFP's approach to how we regulate forest professionals — is as equally important as the legislated mandate.

By definition, a regulator's job is to bring something or someone under the control of law or a constituted authority. Many regulators set rules for the way things are to be done. The ABCFP, however, regulates people as opposed to things. This fundamental difference matters.

I feel we can effectively do our job as a regulator, while also appreciating that the 'thing' we are regulating is a real-life, emotional human being. To me, this means the ABCFP does not just set rules forest professionals must follow but also helps forest professionals successfully live up to those rules. It is the reason we didn't just establish ethical and professional conduct standards in a new Code but also developed a companion guide and paid to have an online e-course built to help every forest professional learn the Code.

Being more than a 'purist' regulator also means being thoughtful in our engagements and taking a principled approach to our interactions with registrants and undertaking our work. This means the ABCFP is:

- Fair: processes, decisions, and services are made in accordance with applicable rules and appropriate authority based on relevant information and respectful of individual needs and circumstances.
- Objective: issues and decisions are impartial and made with integrity, approached with an open mind, and avoid pre-judgment and bias.
- Transparent: information is shared in a forthright way; it is clear, accessible, and respectful of confidentiality and privacy rights.

Being more than a regulator also means ABCFP Council and staff think beyond regulatory duties and reflect on the broader needs and values of both registrants and society. The ABCFP is mandated to act in the public interest but we also choose to prescribe the following strategic guiding principles and strive to build them into our daily work:

- We support reconciliation with Indigenous peoples through education, awareness, and inclusion.
- We engage our registrants.
- We foster diversity and inclusivity.
- We value partnerships and collaboration.
- We provide effective support and recognition for volunteers, staff, and registrants.
- We support national cooperation.
- We embrace technology and evidence-based decision making.

You might be thinking those sound like nice things, but is the ABCFP actually taking action? I can confidently say yes and point to actions related to every single one of the principles. I would also say we could be doing more in every area. As the CEO, it is a constant juggling act for me to consider how to deliver strong professional regulation while striving to make things better by aspiring towards our strategic guiding principles. And of course, all at the same time while working within the limits of our resource capacity. Council assists me to identify ways the ABCFP might further realize these principles. The subject matter of these strategic guiding principles are often the focal point of discussions during council strategic retreats, part of council conversations about strategic risk, or topics guest speakers might explore in meetings with council.

Choosing to be more than a rule maker and enforcer is how we will continue to enjoy the strong culture that has made the forest profession what it is today — a leader. Striving to uphold stewardship has been an important part of the forest profession's culture; bringing value to the public and registrants alike and something we will continue to make space to do going forward under the PGA. Fostering diversity and inclusion; supporting reconciliation through education and awareness; engaging registrants through our magazine, conferences, and more will continue to be an important part of what the ABCFP does under the PGA as it did under the *Foresters Act*.

As we move forward under the *Professional Governance Act*, I look forward to continuing operations in a manner that reflects strong professional regulation alongside passion and compassion. As a wise person once coached me, be hard on the business and soft on the people, a mantra that rings true more than ever in terms of how to approach regulating people. ✎



Retiring? Changing Jobs? Remember to Update Your ABCFP Contact Information

If you have recently changed jobs or retired, remember to change your ABCFP contact information. This can be done on the Manage My Membership section of the ABCFP website.

The ABCFP uses your primary contact information to send you registration renewal information and reminders, ballots and voting instructions for council elections, as well as *The Increment*, our electronic newsletter, *BC Forest Professional* magazine, and information regarding the ABCFP annual forestry conference and annual general meeting.

Two Professional Foresters Fined for Woodlot Overharvesting

Two RPFs have been fined \$7,000 each for their role in over-harvesting a woodlot. The fines and other related discipline actions, including a requirement that they take an ABCFP ethics course, were issued under a consent order approved by the ABCFP discipline committee under Section 27(4) of the *Foresters Act*.

Michael Siclari, RPF, and Kenneth Wolfe, RPF, as the sole directors of a corporate entity that owns a woodlot licence in the central Interior, admitted to a contravention of ABCFP Bylaw 11.3.3 for their part in causing the allowable annual cut (AAC) of the woodlot licence to exceed the harvest volume permitted.

This resulted in a harvest volume that was approximately 245 per cent of the total sum of the AAC available during the cut control period.

The orders can be read on the ABCFP website on the Discipline Cases web page.

Videos of 2021 ABCFP Virtual Conference Sessions Available Until End of April

A record 1,538 forest professionals registered for the three-day 2021 ABCFP Virtual Forestry Conference and AGM, held February 3-5.

The event featured 13 separate professional development sessions (including the ABCFP AGM) on a range of critical forestry topics. All sessions count towards your continuing professional development hours.

Videos of all conference sessions are available for free until the end of April for conference attendees using their conference log-in ID on the conference website at pheedloop.com/abcfp21.

The 2021 AGM, along with the Inductees recognition event, the ABCFP Award Winners recognition event, and the conference session, What You Need to Know about the *Professional Governance Act*, can be viewed for free by anyone on the ABCFP YouTube channel, www.youtube.com/user/TheABCFP/videos.

Help Plan the 2022 ABCFP Conference — Wherever it May be Held

After the success of the 2021 ABCFP Virtual Forestry Conference and AGM, we're now turning our thoughts to planning the 2022 conference. Although 2022 was originally planned for Kelowna, there's a very strong chance that it will again be virtual depending on the state of the COVID-19 pandemic and public health orders.

We need volunteers to work with ABCFP staff to identify conference topics and potential speakers as part of the conference planning task force. Regardless of where you live, the use of video conferencing means anyone can participate in the conference planning task force.

Volunteers should:

- Have an understanding of the professional development needs of forest professionals;
- Be able to identify some of the main issues affecting the practice of professional forestry;
- Have a network of contacts within the forest sector, in BC and/or nationally;
- Be open to contrasting opinions;
- Be organized and have an ability to work collaboratively as part of a team; and
- Have a sense of fun.

Serving on the conference planning task force is a great way to meet and work with other forest professionals. We need a range of experience, from well-connected forestry veterans to new forest professionals filled with enthusiasm and ideas.

If interested, please email Dean Pelkey, ABCFP communications director, at dpelkey@abcfp.ca with details of your experience, areas of interest, and how you would contribute to planning and organizing the conference program.

Announcing the 74th ABCFP Council

Dave Gill, RPF, was elected as a new registrant councillor at large in the ABCFP Council election held in December and January and will join the 74th ABCFP Council. Members of the 74th Council carrying forward from the 73rd Council are:

- Trevor Joyce, RPF – president;
- Trevor Swan, LLB, RPF – immediate past president;
- Garnet Mierau, RPF – vice president;
- Ken Day, RPF – councillor at large;
- Bowen Sly, RFT – councillor at large;
- Jason Fisher, LLB, RPF – councillor at large;
- Kelly Kitsch, RFT – councillor at large;
- Alison Dempsey, LLB/JD, LLM, PhD – lay councillor; and
- Wendy Royle, CPA – lay councillor.

Our sincere thanks to councillors whose terms have expired:

- Morgan Kennah, RPF;
- Jamie Jeffreys, RPF, and;
- Marina Rayner, RFT.

The BC government will appoint two new lay councillors (bringing the number to four) under the newly enacted *Professional Governance Act*.

Road Maintenance and Protection of Fish Habitat



An unstable section of road depositing sediment into fish habitat.

Photo credit: Daryl Spencer, RPF.

One aspect of environmental management the Forest Practices

Board often examines is the protection of fish habitat; most recently in its special investigation on *Conserving Fish Habitat* (2020), which found that sediment from forest service roads (FSR) in streams is a common source of potential harm to fish habitat. Elevated levels of sediment may be harmful to fish and negatively affect their habitat.

In a recent Board audit, auditors found a section of a FSR had been sliding into a fish stream for several years. There were multiple industrial road users — none of which were fully aware of their maintenance obligations and legal requirements — and none had stabilized the road. To protect fish habitat it is important for road users to understand legislative requirements for road maintenance, understand who is responsible for road maintenance, and apply sound road maintenance practices.

The *Forest Planning and Practices Regulation* (FPPR) provides protection for fish habitat by requiring persons responsible for road maintenance to:

- Conduct road maintenance at a time and in a manner that is unlikely to harm fish or destroy, damage, or **harmfully alter** fish habitat; and
- Ensure the structural integrity of the road prism and clearing width are protected and the drainage systems of the road are functional to the extent necessary to ensure there is no **material adverse effect** on fish habitat.

It can be difficult for road users to fully understand FPPR requirements because determining a material adverse effect or a harmful alteration are subjective. When these elements are in question, it is always useful to consult a qualified professional. The government can also establish more concise objectives and requirements for fisheries sensitive watersheds through government actions regulation (GAR) orders, which it did in the area of the audit.

The objectives and measures in the GAR order can

Daryl Spencer, RPF, is an auditor with the Forest Practices Board. He is primarily an operational planning, harvesting, and silviculture specialist. Prior to joining the Board in 2008, he worked for major tenure holders in the Interior as a resource planner, forest engineer, and silviculturist for 22 years. Daryl studied forestry at UBC.

clarify legal requirements. Road users should be aware of whether they are maintaining a road in a fisheries sensitive watershed or not and understand the road maintenance requirements.

District managers administer road maintenance responsibilities on FSRs by issuing road use permits or exemptions to industrial users. The permit assigns road maintenance obligations to the road user, who the government expects to be aware of legal requirements and potential liabilities associated with road maintenance, including liabilities associated with fish habitat. If a road is unstable and causes damage to fish habitat, the permit holder can be held legally responsible for the damage — even for pre-existing conditions.

In situations where there are multiple permit holders over time, it is particularly important for district managers to provide strong oversight to ensure road maintenance obligations and liabilities are clear when responsibility transitions between permit holders. District managers can specify obligations and liabilities in the road use permit. However, Board auditors often find road use permits are unclear and the government's monitoring of FSR maintenance by permit holders is often limited and informal. The government expects permit holders to self-monitor and maintain the road for environmental protection as required under the legislation.

To ensure fish habitat is protected, road users should employ sound road maintenance practices. This includes routine inspections and repairs for road sections near fish streams to protect the road prism. If a certain road section is particularly unstable — placing fish habitat at higher risk — it should be inspected more frequently and any identified instability be mitigated at a time and in a manner that prevents harm to fish and fish habitat. This may include having a qualified professional assess and make recommendations on how to mitigate unstable road sections and implement repairs in a timely manner.

Before an industrial user takes on road maintenance responsibilities, it is important to fully understand the legal requirements, the maintenance obligations, and any pre-existing liabilities associated with the FSR, as well as to have a sound maintenance plan in place. With clarity on requirements, obligations, and sound maintenance, a permit holder can demonstrate they have been diligent in ensuring fish habitat is protected.

Go to our website at www.bcfpb.ca to see the full reports. ☐



The Making of a Fish Leather Shoe: From Oceans to Forests

What do Nike, BMW, Prada, Christian Dior, and Louis Vuitton have in common? Using leather made from fish skin. It's a new-old material increasingly used for its low environmental impact, high beauty, and durability.

Leather and shoemaking aren't industries FPInnovations¹ was associated with in the past. But in an era where interconnectivity is everything, FPInnovations' and 7 Leagues² paths were meant to cross. In British Columbia, forest and sea are bound to meet.

When 7 Leagues — a Pacific Northwest fish leather tannery and high quality boot maker — approached FPInnovations — a research and development organization specializing in solutions that support the global competitiveness of Canada's forest sector — in 2019, the need was clear: obtain a high-quality plant-based tannin to craft leather and shoes out of local and sustainably sourced fish skin. Tannin is a naturally occurring compound used in the production of leather, rendering it pliable and durable. In this case, the tannin would be used to create leather from fish skin and, for 7 Leagues, specifically from sustainably caught wild salmon.

Why Fish Leather?

7 Leagues is participating in a growing trend within the fashion industry toward more environmentally, socially, and ethically conscious production. Fish skin has a unique pattern and, despite being thin, it's stronger per thickness



Diana Beshay is a communications specialist at FPInnovations. A self-proclaimed storyteller, Diana writes content that showcases FPInnovations' value and impact in improving the forest sector's competitiveness through innovative solutions. A graduate of McGill and Concordia universities, she has earned graduate and postgraduate degrees in public relations, communications, and political science.



Tasha Nathanson is founder and CEO at 7 Leagues Leather. She is keen on commercially successful business models designed for individual, community, and environmental vitality. 7 Leagues Leather, a circular economy fish leather tannery and boot company, synthesizes all of that — from sea to tree in BC.

than mammal leather because of its crisscrossing fibres. The fish skin is a byproduct of the food industry that often goes to waste; using the whole fish adds value to fisheries, reduces waste, and makes good sense.

The craft of making fish leather has been around for centuries³ in First Nations, Arctic territories, and across Asia and Europe. It's now making a comeback as an emerging commodity in the world of high-end fashion, just done a little bit differently. Rejuvenating the craft of fish leather tanning in BC showcases the ingenuity of a past practice and its adaptability to present-day innovation.

Obstacle as Opportunity

Historically, tannin from bark has been the most common way to preserve skin, even giving the practice its name: tanning. As modern manufacturing shifted to faster and cheaper methods, a toxic chemical solution of chromium salts⁴ overtook plant-based leather production in all but the high-end of the market. Plant-based tannins make stronger leather, but chrome requires less time, money, and skill.

By the 1950s and 60s, local hemlock bark tannin could no longer compete⁴ with chrome-tanned leather. Eventually, BC's last hemlock tannin plant closed. Chromium salts used to tan about 90 per cent of leather today are harmful to the environment and to tannery workers.⁵ As North America tightened regulations, chrome tanning was squeezed out almost entirely.

Seeking a Local Solution

With sustainability in mind, the search for a local eco-friendly tannin to make fish leather began. The only commercially available tannin extracts 7 Leagues could find, however, were imported. Since importing tree products to BC is like importing sand to the Sahara, this seemed like a problem we could solve with a homegrown solution.

Research projects⁶ led by FPInnovations on wood species in Canada revealed tannin concentration are highest in western hemlock, western larch, and black spruce. Some bark extracts even show antimicrobial activity⁷ against pathogens and strong antioxidant activity. Western hemlock extract was one of the best candidates.

The Worthy Evergreen Western Hemlock

Western hemlock is the most plentiful tree species in coastal BC. Declining demand for traditional paper products such as newsprint is generating an increase in hemlock bark availability.

Trying to get more value out of bark, seen as a low-value by-

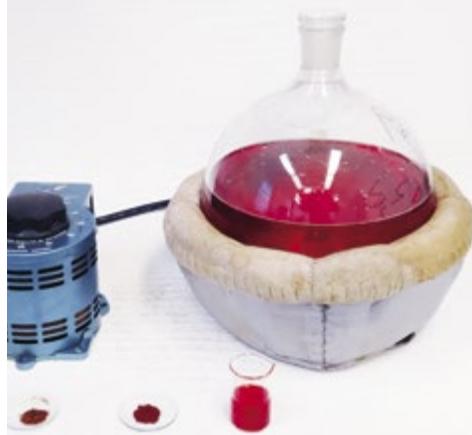


CLOCKWISE FROM ABOVE
LEFT: *Smoked sockeye salmon tanned with western hemlock*. Photo credit: Tasha Nathanson.

7 Leagues boots on a sunny day in East Vancouver. Photo credit: Tasha Nathanson.

Western hemlock tannin – from crushed bark to tannin solution.

Photo credit: FPInnovations.



product, made perfect sense. In fact, BC's Ministry of Forests, Lands, Natural Resource Operations and Rural Development launched the Coast Forest Sector Revitalization Initiative⁸ in 2019 to, among others, increase the processing of BC logs and reduce residual waste fibre left in the woods.

Western hemlock bark is generally found as a waste product at the mill site as well as at sort yards, which are often situated near Indigenous communities. Bark is mostly available as debris and waste, but with proper sorting and managing, it can be accessible at very little cost. This presents an opportunity to work with Indigenous communities to develop a circular economy forest-based business.

The Not-So-Secret Recipe

The first tannin extraction method used ethanol and elaborate equipment which required strictly controlled conditions and safety measures. Initially, the process was used to evaluate the feasibility of tannin extraction from bark and assess its quality. In this test, hemlock showed great potential when compared to other species.

Further effort focused on finding an environmentally friendly kitchen-type extraction protocol that doesn't use too much equipment. It uses water as the sole solvent in the process and yields similar quantity and quality of tannin as when using ethanol. This new method could potentially be used by coastal Indigenous communities and others interested in extracting tannin from bark at a relatively small scale.

FPInnovations reached out to several coastal Indigenous communities to better understand their traditional knowledge. Learnings highlighted that although fish leather was traditionally

oil tanned, most other leather had been tanned using animal brain and hemlock bark, the latter giving it a distinctive red color.

What's Next?

We're very happy with the results of the hemlock tanned fish leather. Tests yielded a striking red colour and woodsy perfume, making a distinctive and wholly Cascadian leather that stands out in the international market. 7 Leagues hopes that commercial production of hemlock extract will be forthcoming soon, as they'd love to add this offering to their product line.

Better yet, if FPInnovations' Indigenous community partners choose to bring hemlock tannin extract to market, it would be yet another way of using business as a force for good to knit the social, environmental, and economic needs of BC through a wholesome use of local resources. ☀

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Wildfire Research and Extension

In 2017 and 2018, British Columbia experienced unprecedented wildfire seasons. Over the course of both wildfire seasons, approximately 2.6 million hectares of forest lands burned. The majority of fires in 2017 burned in the south-central regions of BC, while the 2018 fires burned primarily in the north-central regions. Research into the impacts of these large fires is underway to better understand how combined effects of disturbances such as insect infestations, decades of fire suppression, and a warming climate affected fire behaviour, as well as to document post-fire effects.

The research is being conducted through a collaboration with the Bulkley Valley Research Centre, the University of British Columbia, the Canadian Forest Service, and the University of Northern British Columbia, with funding from the Government of British Columbia (Forest Carbon Initiative and BC Wildfire Service) and the Government of Canada (Emergency Management Strategy Program).

Research in northern BC, undertaken by the Bulkley Valley Research Centre, is focused on sub-boreal and montane landscapes. The Research Centre seeks to answer several questions:

1. How have recent fires responded to fuel type differences associated with forest management history and natural variation in forest composition?
2. How does the current forest/fuel structure and wildfire threat relate to historical fire activity and past forest management practices, and what practices could reduce wildfire risk?
3. What is the post-fire impact on carbon dynamics in planted and naturally regenerating stands?

Of these questions, initial analysis has been completed on the influence of past forest management practices on wildfire burn severity. Specifically, evidence from the 2017 and 2018 wildfires indicates some forests were not as susceptible to fire as others were, or they burned with lower severity. Lower severity fires typically do not kill trees, which fosters greater landscape resilience. Future



analyses will examine the management techniques that may have contributed to lower fire severity and may assist with informing strategic land-use and silviculture planning.

Our research focuses on 10 fires from 2017 and 2018 situated in BC's north-central Interior, as well as over 20 fires from the 1960s through to 2015 for post-fire carbon and ungulate browse research. Landscapes in the region are characterized as gently rolling plateau country consisting of a wide range of managed and unmanaged forest stands, dominated by different combinations and ages of lodgepole pine, Engelmann spruce, hybrid white spruce, subalpine fir, trembling aspen, and small amounts of Douglas-fir.

Preliminary observations based on fire severity maps prepared by the Government of British Columbia suggest young plantations may have been less susceptible to consumption by crown fires (79 per cent of 21-40 year old plantation polygons burned, compared to overall burn levels of 83 per cent¹). These findings prompted our current research to better understand whether this trend is supported with additional in-depth analyses that accounts for past forest management activities from a number of sources. These include — but are not limited to — historic silviculture practices (broadcast burning, thinning, disc trenching, etc.), landscape features, fire weather indices and fire spread, and the state of the forest surrounding plantations.²

Sam Coggins, PhD, RPF; Alana Clason, PhD; and Kira Hoffman, PhD, RFE, are researchers collaborating with the Bulkley Valley Research Centre. Phil Burton, PhD, RPBio, and Evelyn Hamilton are principal investigators for the wildfire research program. The Research Centre is an independent, not-for-profit society conducting high-quality, interdisciplinary research on natural and cultural resources.



with the Bulkley Valley Research Centre



TOP: Ecological recovery of the herb layer among burned trees in a field plot in the Nadina Lake Fire, south of Houston, BC. Photo credit: Sam Coggins, PhD, RPF.

FROM LEFT TO RIGHT: Interior plateau fragmented landscape, with spruce, pine, aspen, and Douglas-fir dominated stands, which are subject to widespread bark beetle attack and salvage logging. Photo credit: Phil Burton, PhD, RPBio.

Status of lodgepole pine natural regeneration in 2015 within the Greer Creek Fire that burned in 2010. Photo credit: Phil Burton, PhD, RPBio.

A valley within the Nadina Lake fire displaying fragmented landscape, with fire damage, and salvage logging starting to regenerate. Photo credit: Sam Coggins, PhD, RPF.

Additional research suggests forests dominated by broadleaf species such as trembling aspen (often considered more resistant to fire than conifers) were subject to lower overall burn severity when compared to the broader landscape. However, the ability of broadleaf stands to remain unaffected by fire was mixed, with significantly lower burn rates in five of 19 fires, but with broadleaf stands in three of 19 fires instead exhibiting greater burn rates than expected by chance alone. Following preliminary analysis, a field program was designed to gather on-the-ground burn severity estimates to compare with satellite-derived information. Approximately 150 plots were located within four fires in north-central BC. Data was recorded in accordance with the Composite Burn Index protocol,³ which uses visual estimates of disturbance in each of the strata (ground, herb, shrub, small trees, and mature trees). The data suggests that satellite-derived burn severity is systematically over-estimated in stands dominated by broadleaf trees.

Other aspects of the Bulkley Valley Research Centre wildfire research program are underway. Field work has been completed to examine the impacts of wildfire and post-fire reforestation activities on forest carbon and the quantity and quality of ungulate browse. Other aspects of the program are filling in gaps in the documentation of the extent and effects of historical burning, including Indigenous fire

stewardship. We anticipate that increasing the practice of prescribed burning will enhance land stewardship, wildfire risk mitigation, silvicultural site preparation, and wildlife habitat management. Results from this research will be presented at conferences and published in peer-reviewed journals during 2021 and 2022. ☀

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100 Years of Silviculture Research within the Government of British Columbia

Silviculture research in British Columbia began in 1921 when the first full-time silviculture researcher — J.L. (Alex) Alexander — was hired by the Forest Branch. His hiring marked the beginning of a 100-year journey that saw Alexander and his successors bring science to bear on silvicultural problems that directly affect forest management practices in BC.

Alexander's brief was to study regeneration and forest measurements — both keys to understanding what policies were needed to achieve sustained yield. He was well equipped with a forestry degree from the University of Toronto, bush experience in Québec, and several years of war service with the Corps of Royal Canadian Engineers. Alexander's field work involved studying problems on the southern two-thirds of the land base of BC. Forest managers needed help in understanding the potential for a pulp mill in the Kitimat valley, responding to concerns about overcutting in the ponderosa pine forests of the Thompson and Okanagan valleys, and finding solutions to the regeneration problems already plaguing foresters on the south coast. This was an ambitious agenda by any standards and Alexander was expected to complete the work with one assistant, plus

cope with the many difficulties of traversing a province with limited transportation options. After six years, he resigned to teach at the University of Washington's School of Forestry, perhaps exhausted by all that travelling.

Alexander was followed by several colleagues who — like Alexander — were war veterans. They quickly established experiment stations at Aleza Lake (near Prince George) and Cowichan Lake (on Vancouver Island) modelled on examples in the United States, and embarked on studies of practical silvicultural problems. They were field ready, with many skills; as competent with axes and saws, horses and railway speeders, as they were with report writing and the unreliable motor vehicles of the day. They also focused on the long term by establishing plots; some of which are still measured today.

After this promising beginning, all forms of forest research hit a very large bump in the road when the Great Depression hit British Columbia and the forest sector in 1931. That bump dislodged all but two of the researchers on staff, and almost all research activity was shuttered and did not recover until 1946. At that point, new staff were hired and directed to refocus on regeneration issues, as well as inventory and growth and yield studies. The continued failure of natural regeneration after logging in many forest types was troubling the government and the profession. Means of artificial regeneration were urgently needed as the pace of logging increased. Many questions associated with achieving reliable seed production, better seedling stock, tree species for planting, and improving tree genetics were investigated in the late 1940s and into the 1950s.

At the same time, the recipients of research advice began to shift from the Forest Service reforestation staff to the forest professionals working for companies operating on public land under the terms of the new forest management licences (to become tree farm licences). Cooperation with industry operators became common and was facilitated through the creation of the Tree Farm Forestry Committee. This committee, which included participation from the University of British Columbia and the Government of Canada, was very enthusiastic about forest genetics work and a strong partner-

Alan Vyse, RPF, and John Parminter, RPF(Ret), Life Member, are former researchers with the BC Forest Service; while Francesco Cortini, PhD, RPF is the current coordinator of the Ministry of Forests, Lands, Natural Resource Operations and Rural Development's Research Program.





OPPOSITE PAGE, LEFT TO RIGHT:

Aleza Lake Research Forest, 1935. Aleza Lake Research Forest fonds, Northern BC Archives, UNBC Accession No. 2007.1.45.27.5.

Braham Griffith using an increment borer to obtain the age of a spruce tree; 1926. Aleza Lake Research Forest fonds, Northern BC Archives, UNBC Accession No. 2007.1.25.7.42.

Growth of lodgepole pine on imperfectly drained clay of lacustrine origin at the main access road, Aleza Lake Experiment Station; 1966. Harry Coates stands in the photograph for scale. Aleza Lake Research Forest fonds, Northern BC Archives, UNBC Accession No. 2007.1.30.2.025.

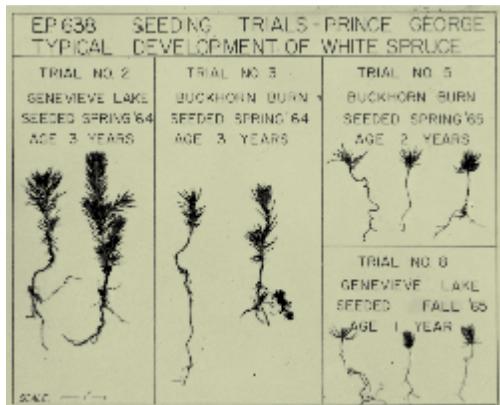
Frank Dickson photographing balsam heart rot at the Aleza Lake Experiment Station; 1927. Image NA-03997 courtesy of the Royal BC Museum.

ship was formed between government researchers and private industry forest professionals to further the work.

In the 1960s and 1970s, the research focus remained on regeneration issues. Concerns about regeneration delays around the province began to intensify and public criticism surfaced. A goal of planting 75 million trees by 1975 was advertised and this created a sense of urgency in research work. Projects were directed at advising practitioners on the best methods of brush control and site preparation, as well as how to produce suitable high-quality Douglas-fir and Interior spruce planting stock. Lodgepole pine was added to the list of species of interest, as advances in industrial operations allowed the use of logs smaller in diameter. The success of tree improvement operations on the coast with Douglas-fir generated interest in both lodgepole pine and Interior spruce. As a result, the research centres at Red Rock (near Prince George) and Kalamalka (outside of Vernon) were established.

By the 1970s, the need for better silvicultural prescriptions came to the fore and operational silviculturists across BC were trained in ecological site classification. Although silvicultural research continued much as before, forest values other than timber began to shape research study objectives.

In the mid-1980s, a federal-provincial *Forest Resource Development Agreement* funded a substantial increase in regeneration research and associated activities in ecology and earth sciences, tree physiology, and tree improvement; and there was a significant shift toward providing operational foresters with



E.P. 638 Exploratory direct seeding trials in Prince George Forest District. Typical development of white spruce showing seedlings from Genevieve Lake and Buckhorn Burn; 1967. Photo by Craftsman Photographers, Prince George. Aleza Lake Research Forest fonds, Northern BC Archives, UNBC Accession No. 2007.1.30.2.077.

better training. The book, *Regenerating BC's Forests*¹, provided a summary of research, technological improvements, and practical experience hard won over the preceding decades. Reforestation success began to improve at all points along the reforestation chain, from seed to planted site.

At the same time, public demands for an end to clearcutting of the province's old-growth forests came to a boil with large demonstrations and civil disobedience campaigns. One part of the government response was funding for large-scale silvicultural systems projects that looked at alternatives to clearcutting. Across the province, demonstration areas and long-term replicated trials were established which widened the scope of silvicultural research well beyond traditional boundaries.

After 100 years of silvicultural research, what would the pioneers think about the state of silviculture research in 2021? Alexander and his colleagues would likely be amazed at the volume and range of research projects established throughout the province across all forest types. We're certain they would recognize the forces that drive much of the work now are the same forces that drove their work 100 years ago. Forest managers still rely on sound silviculture research to provide guidance in solving management problems exacerbated by a rapidly changing climate. This motivation will continue to be the driving force for future silviculture research projects of the BC Research Program. ☐

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How Burns Lake Community Forest Leveraged LiDAR Analysis



Public trust has always been a tenet for forest professionals and will continue to be so under the *Professional Governance Act*. The public will trust forest professionals when we meet objectives set by government and demonstrate sound stewardship. When it comes to visual resource management, public expectations are well defined through the establishment of visual quality objectives (VQO). Forest tenure holders across British Columbia are operating more and more within visually sensitive terrain. How forest professionals meet the VQO can take many paths and this article will share one approach the Burns Lake Community Forest (BLCF) used that leveraged LiDAR (light detection and ranging) analysis and visual magnitude to support their decision making.

Although the primary goal is to plan for and meet visual quality objectives, there are many other values to consider in concert with the visual ones. The BLCF is a corporation that is accountable to its First Nation partners and the citizens of their communities. Management must be mindful of the suite of stewardship values in addition to social and economic values like community safety and wildfire hazards. It's a complex balancing act. Forest professionals must be able to leverage the best tools available to them. The public expects and deserves this level of due diligence. The days of just plunking your proposal into Google Earth or making a pretty picture for a visual impact assessment are fading fast and the need for innovation and accuracy never higher.

The BLCF is an area-based tenure that has roughly 33,340 hectares of established visual quality objectives. The visual landscape inventory (VLI) was completed roughly 20 years ago. Part of the challenge is that with a dated VLI, a significant change in circumstances has occurred, namely the impacts of mountain pine beetle from 2003 and attendant windthrow. From a landscape design perspective, this has significantly altered the existing visual conditions and visual absorption capability on the landscapes/landforms. Forest ecosystems are dynamic and change over time while VQOs are set and tend to be static.

Temporal components of visual resource management are not the only challenge, there are spatial ones too. At the time the VLI was completed, TRIM (terrain resource information management)

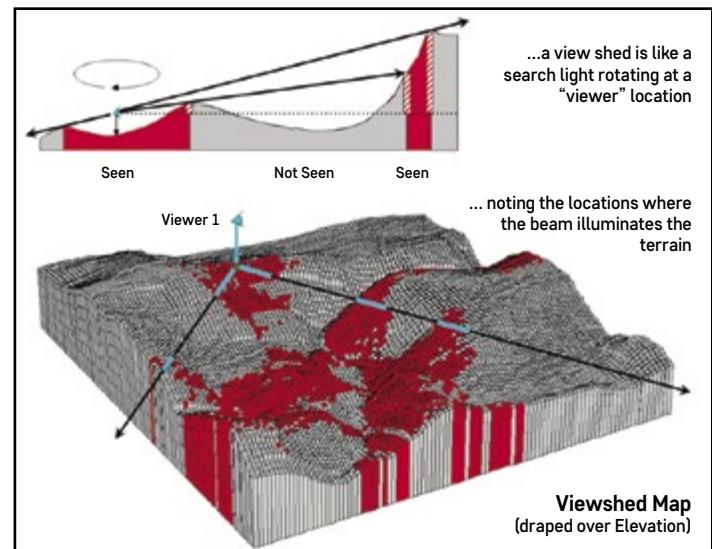


FIGURE 1. *How visibility analysis works from a viewpoint.*

Source: GeoWorld, February 2003, pg. 22-23. <http://www.innovativegis.com/basis/MapAnalysis/Topic15/Topic15.htm>

was the best available elevation source. Older VLI polygons may have been determined using GIS analysis on crude TRIM data or by even simpler methods such as hand tracing the polygons along contours. The BLCF was able to update these visually sensitive areas by running a simple GIS visibility analysis using LiDAR data. The updated "visually sensitive area" was determined (Figure 1) to be quite different from the existing VLI polygons. In some cases, areas with established VQOs were no longer a factor because they are simply not visible. On the flip side, new areas were identified that are clearly visible to the public but do not have legally established VQOs. Through professional peer-to-peer conversations, it was decided to manage towards VQOs in these areas because local knowledge of the public sentiment and expectations were well understood.

A key first step was to better understand the temporal and spatial factors. The next step was to leverage the more accurate

and Visual Magnitude to Support Decision Making

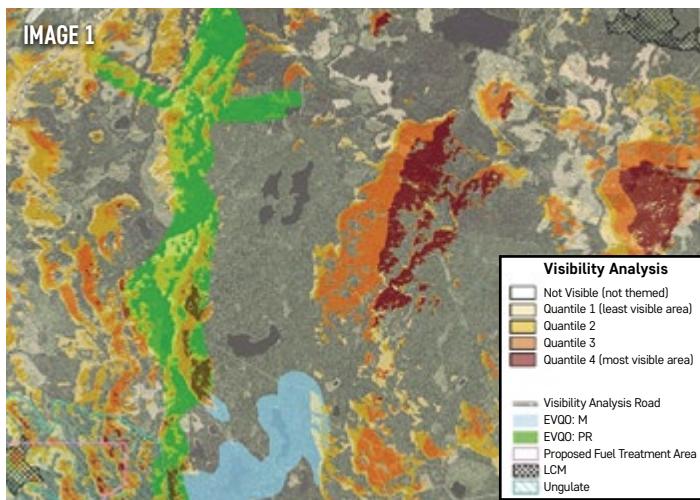
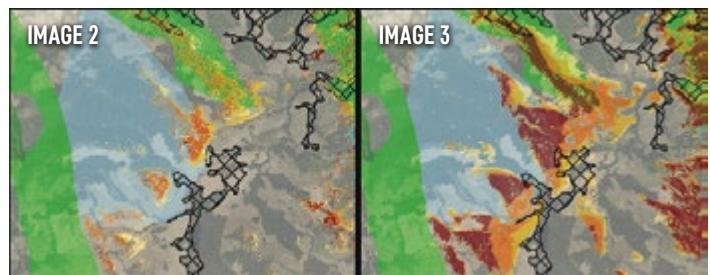


IMAGE 1. 'Bare Earth' visibility east of Babine Road.

data at the road and block planning phase. For a very long time now, the practice of completing a visual impact assessment (VIA) is done on a block-by-block basis. This approach is expensive and often only addresses a limited scope of values on isolated landforms. Chamberlain et al. (2015) conducted three case studies with West Fraser to evaluate visual magnitude as a planning tool in the central Interior of BC. The authors of these three studies developed and applied their GIS software to strategically locate reserves, design blocks, and consider viewpoints over large tracts of land. The BLCF piggybacked off these case studies and combined LiDAR analysis with visual magnitude.

The process involved categorizing the visibility analysis into quantiles (equally sized groupings) of visibility ranked from low to high (magnitude) (Images 1, 2 and 3). The advantage of a LiDAR- and GIS-based project like this is the data can be parsed out in any number of resultants. In this case, we took our visibility quantiles and then further broke them down by several stewardship values (Table 1 – on page 18): established visual quality objectives (EVQOs),



IMAGES 2 AND 3. 'Full Feature' scenario (left) compared to the 'Bare Earth' scenario (right).

the landscape connectivity matrix (LCM), ungulate habitat, and proposed fuel treatment boundaries.

A 'Bare Earth' (no standing timber) and a 'Full Feature' (includes timber screening) scenario was completed for this project (Images 2 and 3). For the Bare Earth Scenario, visibility was assessed using ground elevation only (i.e. no timber heights were modelled). This allows the "worst-case" visibility to be captured if screening were to be removed, such as logging, blowdown, or ineffective deciduous cover. For the Full Feature Scenario, visibility was assessed using ground elevation plus timber heights (commonly called a digital surface model or DSM). This is a more realistic approximation of what is actually visible and mimics screening. One cautionary note would be to apply some quality control with the screening assumptions in your model, as nuances such as crown density (deciduous and coniferous), harvest, wildfire, and blowdown are some factors that may influence the screening and require adjustments.

As the maxim goes: with better information, better decisions can be made. "*We have decisions to make that balance ecologic, economic and social values,*" stated Frank Varga, RPF and manager of the Burns Lake Community Forest. Varga continued, "*using*

Continued on following page

| | Quantile 1 (ha) (least visible) | Quantile 2 (ha) | Quantile 3 (ha) | Quantile 4 (ha) (most visible) | Combined Quantiles (ha) |
|--------------------------------------|------------------------------------|-------------------|-------------------|-----------------------------------|----------------------------|
| Total Visible Area | 8548.9 (25.6%) | 8334.9 (24.9%) | 8233.8 (24.8%) | 8222.7 (24.7%) | 33340.3 |
| EVQO: R | 1408.5 | 1624.6 | 1864.9 | 2928.0 | 7826.0 |
| EVQO: PR | 2442.5 | 2795.3 | 3158.1 | 2807.9 | 11203.8 |
| EVQO: M | 106.6 | 55.3 | 91.3 | 188.1 | 441.3 |
| EVQO: unclassified | 4592.1 | 3860.5 | 3119.9 | 2298.8 | 13871.3 |
| LCM (R) | 577.7 | 632.2 | 601.0 | 962.2 | 2773.1 |
| LCM (PR) | 898.9 | 1010.5 | 1070.7 | 671.0 | 3651.1 |
| LCM (M) | 0.2 | 0.5 | 2.3 | 4.4 | 7.4 |
| LCM (unclassified) | 403.0 | 245.8 | 184.6 | 156.2 | 989.6 |
| Ungulate (R) | 882.3 | 1153.2 | 1258.1 | 1392.3 | 4685.9 |
| Ungulate (PR) | 1334.2 | 1668.3 | 1670.0 | 1367.3 | 6039.8 |
| Ungulate (M) | -- | -- | -- | -- | 0.0 |
| Ungulate (unclassified) | 1650.2 | 888.7 | 624.7 | 693.7 | 3857.3 |
| Fuel Treatment (R) | 245.5 | 332.1 | 365.08 | 216.6 | 1159.3 |
| Fuel Treatment (PR) | 135.3 | 110.6 | 210.0 | 145.9 | 601.8 |
| Fuel Treatment (M) | -- | -- | -- | -- | 0.0 |
| Fuel Treatment (unclassified) | 219.5 | 189.3 | 117.0 | 17.9 | 543.7 |

TABLE 1. *Quantile breakdown of total visible area by VQO, landscape connectivity matrix, ungulate habitat and fuel treatment area.*

Continued from page 17

visual magnitude and LiDAR helps us factor all the stewardship needs. Additionally, I need to factor in community safety and economic viability with all our dead pine surrounding our community. I'm pushing for a solution that everyone can agree to and is consistent with higher level plans."

As you can see, forest professionals making decisions in visually sensitive areas are stick handling a multitude of values across the full spectrum of ecology, economy, and social. Juxtaposing stewardship values and leveraging technology to inform decision-

making is an approach used in this case. It is the responsibility of all forest professionals to balance the use of advanced technology while applying the right touch of diplomacy to achieve management objectives. ☺

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Frank Varga, RPF, is the general manager of Burns Lake Community Forest (BLCF) and an advocate of sustainable forest management. Over the last five years, Frank has worked closely with Garnet Mierau, RPF, and Russ Thorsteinsson, RPF, from Forsite Consultants Ltd. to achieve BLCF's visual quality objectives. Together, they have leveraged advanced technology, such as LiDAR, to support numerous decisions as well as analysis and planning initiatives.

Support the Forest Professionals of Tomorrow

ForesTrust, the ABCFP's registered charity, funds 11 endowments at eight post-secondary institutions across BC. ForesTrust also provides funding for educational activities focused on how we care for and manage BC's forests.

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Office of the Superintendent of Professional Governance Guides Regulatory Excellence



Guided by the Superintendent of Professional Governance, the Office of the Superintendent of Professional Governance (OSPG) is responsible for ensuring regulatory bodies comply with the *Professional Governance Act* (PGA). The OSPG is also responsible for auditing, measuring, and reporting on regulatory body performance; conducting research into and promoting best practices in professional governance; responding to complaints and conducting investigations about systemic governance matters; and the consideration of designating new regulatory bodies, as well as the scope of practice rights of regulatory bodies.

The OSPG also provides an important conduit of two-way communication between government and regulatory bodies by chairing the professional governance advisory committee. This committee allows the ABCFP and other regulatory bodies to jointly discuss professional service-related issues and opportunities with representatives from across multiple government ministries at the same time.

ABCFP vs OSPG Role

While both the OSPG and the ABCFP have a mandate to protect the public, they achieve this goal in different ways. The OSPG provides oversight of designated regulatory bodies such as the ABCFP. The ABCFP provides oversight of individual forest professionals it governs by setting requirements for persons to enter the profession; setting and enforcing standards of practice; and taking action where required through the complaints, investigation, and discipline process.

The PGA provides:

- Greater consistency of ethical principles across all regulatory bodies operating under the PGA — reflected in profession-specific codes of ethics.
- Changes to the bylaw approval process: the PGA gives councils the authority to make bylaws by resolution without registrant approval.
- Consistent requirements and measures within the complaints and discipline process of all regulatory bodies under the PGA.
- A more comprehensive public register of professionals, including practice related information, business contact information, and more.

The PGA also introduces the authority for regulatory bodies to regulate firms, similar to how individual professionals are currently regulated. This change not only affects private companies but also some government ministries and agencies

that are engaged in the regulated practice. Initially, the authority to regulate firms has been granted to Engineers and Geoscientists BC, who will start to register firms in July 2021. The PGA provides the ability for the ABCFP to also regulate firms; however, the ABCFP has not yet requested this authority.

PGA Continues Reserved Practice for Forest Professionals

Implementation of practice rights under the PGA involves carrying forward the status quo from the repealed statutes and expressing them in a consistent format under the framework of the PGA. The way definitions of regulated and reserved practice are framed for all of the regulatory bodies under the PGA also requires consistency because these definitions will be considered in context of each other, rather than within the context of their previous individual statutes.

On a go-forward basis, it is also necessary to establish a modernized reserved practice regime that contemplates the addition of new reserved practices under the PGA. Prompted by these considerations, the OSPG analyzed all previous definitions to identify the elements that make up a common framework. This common framework involves a regulated practice arising from the provision of advice and services based on ancillary to specific disciplines or in relation to specific technical matters. As well as, where granted, a reserved practice is derived from the aspects of the regulated practice that require the experience or technical knowledge of a registered professional in order to hold paramount the safety, health, and welfare of the public, including the protection of the environment and the health and safety of the workplace.

In support of the transition to the new definitions, the OSPG will support the ABCFP in their preparation of illustrative materials articulating the reserved practice of professional forestry to the public and employers of forest professionals. As well, a backstop has been included in the Forest Professionals Regulation to clearly identify that everything included in reserved practice under the Foresters Act, immediately before its repeal, is still in the reserved practice under the PGA.

The PGA has created new opportunities to better govern professionals and to demonstrate to the public that professionals working in the natural and built environment are highly skilled and accountable to professional and ethical standards. And while the PGA will affect all regulatory bodies a little differently, the new changes will bring improved public interest protection everyone can benefit from. ☀



THE PROFESSIONAL GOVERNANCE ACT



WHAT YOU NEED TO KNOW

The regulation of professions in BC has largely been accomplished through a system known as self-regulation, an arrangement between an occupational group or profession and the government to regulate the activities of its registrants. Self-regulation is a privilege granted by government to a profession through legislation along with a right to exclusively use a title (e.g., Registered Professional Forester, Registered Forest Technologist) and in some cases like the forest profession, the exclusive right to practice.

In 2021, the implementation of the *Professional Governance Act* (PGA) will change the system of regulation with new governing legislation for the Association of BC Forest Professionals and regulators

of other professions including engineers, biologists, agrologists, and applied science technologists. The stated goal of the PGA is to provide a governance framework for self-regulating professions that incorporates best practices of professional governance and improves protection of the public interest.

Once the PGA comes into force on February 5, 2021, it will replace the *Foresters Act* and introduce new regulatory tools, processes, and requirements for the ABCFP and its registrants.

This change means you will have new obligations you need to be aware of, and new requirements you need to follow.

WHAT'S CHANGING?

① A NEW CODE OF ETHICAL AND PROFESSIONAL CONDUCT

- Underlying professional principles remain the same. The new *Code of Ethical and Professional Conduct* (the Code) combines the core components of the existing *Code of Ethics* and *Standards of Professional Practice*. It also incorporates mandatory principles required by the PGA in Section 57.
- The new code, which forms Bylaw 9 - Schedule A, has nine standards of ethical and professional conduct, and includes objects describing the core elements of each standard.
- Bylaw 9 - Schedule B carries forward the requirement for ABCFP members to follow the established crossing guidance (or keep on file a written rationale for why not) and expands to include other established ABCFP practice guidance for forest resource activities.
- Guidance documents, training resources, and answers to frequently-asked questions will be available to support your understanding of ethical and professional conduct obligations.

CODE OF ETHICAL AND PROFESSIONAL CONDUCT

All registrants of the Association of BC Forest Professionals are bound by the **Code of Ethical and Professional Conduct**.

Registrants are responsible to hold paramount the safety, health, and welfare of the public and the protection of the environment.

The practice of professional forestry is undertaken in a manner that protects the public interest by ensuring the multiple values society has assigned to BC's forest are balanced and considered. To protect the public interest, all registrants practising professional forestry must be accountable and adhere to the following ethical and professional standards:

1. COMPETENCE

Registrants, maintain sufficient knowledge, skill, and ability in order to address the matter in question, and must:

- a. practise only in those fields where training and ability make the registrant professionally competent;
- b. maintain competence in relevant specializations, including advances in the practice of professional forestry and relevant science;
- c. provide accurate information detailing their qualifications and experience.

2. INDEPENDENCE

Registrants exhibit objectivity and are professionally independent in fact and appearance, and must:

- a. uphold the public interest and professional principles above the demands of employment or personal gain;
- b. distinguish between facts, assumptions and opinions when providing professional opinions;

- c. clearly identify each registrant who has contributed professional work, including recommendations, reports, statements or opinions;
- d. not disclose confidential information without consent, except as required by law;
- e. present clearly to employers and clients the possible consequences if professional decisions or judgments are overruled or disregarded.

3. CONFLICT OF INTEREST

Registrants must avoid situations and circumstances in which there is a real or perceived conflict of interest, and must:

- a. ensure conflicts of interest, including perceived conflicts of interest, are properly disclosed;
- b. take appropriate action to resolve or mitigate identified conflicts of interests;
- c. take necessary measures so that a conflict of interest will not bias decisions or recommendations.

4. DUE DILIGENCE

Registrants work with constant and careful attention, and must:

- a. ensure work is complete, correct, and clear;
- b. provide professional work that is measurable or verifiable;
- c. have regard for the common law and applicable legislation or regulations, including relevant enactments of British Columbia, federal enactments, and enactments of other provinces;
- d. have regard for applicable standards, policies, plans and practices established by the government or ABCFP;
- e. undertake work and documentation with due diligence and in accordance with any any guidance developed to standardize professional documentation for the profession of forestry.

5. INTEGRITY

Registrants always conduct themselves honourably and in ways which sustain and enhance their professional integrity and the integrity of the profession as a whole. Registrants must:

- a. inspire confidence in the profession by maintaining high standards in daily conduct and work;
- b. abstain from undignified public communication;
- c. not misrepresent facts.

6. FOREST STEWARDSHIP

Registrants work to improve practices and policies affecting forest stewardship. Registrants must:

- a. obtain a clear understanding of objectives for land and resource use;
- b. uphold forest stewardship and practise the responsible use of forest resources based on the application of an ecological understanding at the stand, forest, and landscape levels, which maintains and protects ecosystem function, integrity, and resilience;
- c. take respectful and appropriate steps to raise identified concerns with another registrant about any practice that may be detrimental to forest stewardship, and to seek to resolve those concerns.

7. SAFETY

Registrants must:

- a. Maintain safe work practices and consider the safety of workers and others in the practice of professional forestry; and
- b. hold paramount the safety, health, and welfare of the public, and the promotion of health and safety in the workplace.

8. PROFESSIONALISM

Registrants provide professional service that is respectful and appropriate to the circumstances, and must:

- a. promote public knowledge of forestry with truthful and accurate statements on forestry matters;

b. refrain from unfairly criticizing the work of other registrants or attempting to injure the professional reputation or business of another registrant;

- c. contribute to the advance of scientific and professional knowledge of the profession and others;
- d. be conscientious in providing professional services;
- e. take respectful and appropriate steps to raise identified concerns with another registrant about their professional competence, or about conduct by the other registrant that may constitute professional misconduct, conduct unbecoming a registrant, or a breach of the Act or the bylaws, and to seek to resolve those concerns.

9. REPORTING

Registrants must:

- a. report to ABCFP and, if applicable, any other appropriate authority, any instance where, on reasonable or probable grounds, the registrant believes that the continued practice of professional forestry by another registrant, or by another person, including a firm or employer, might pose a risk of significant harm to the environment or to the health or safety of the public or a group of people;
- b. report to the regulatory body for another profession under the *Professional Governance Act* and, if applicable, any other appropriate authority, any instance where, on reasonable and probable grounds, the registrant believes that the continued carrying on of the regulated practice of that profession by a registrant of that other regulatory body, or by another person, including a firm or employer, might pose a risk of significant harm to the environment or to the health or safety of the public or a group of people;
- c. report to ABCFP any other concern described in Standard 6(c) or 8(e) about the practice, competence or conduct of another registrant that it is not possible or appropriate to raise directly with the other registrant, or that cannot appropriately be resolved with the other registrant in accordance with Standard 6(c) or 8(e).

2 NEW STATUTORY DUTY TO REPORT UNSAFE OR HARMFUL PRACTICES

- The PGA, Section 58 Duty to Report, obliges you to report if you have reasonable and probable grounds to believe that:
- A **person** engaging in a **regulated practice** is doing so in a manner that may pose a risk of **significant harm** to the environment or the health or safety of the public.

This includes:

- a registrant of the forest profession;
 - registrants of other professions under the PGA; or
 - a non-registrant who is engaged in regulated practice.
- This reporting duty differs from prior and continued obligations of forest professionals to resolve or report practice matters believed to be detrimental to good stewardship of forest land (see Code - Standard 6, Forest Stewardship) or to take

steps to raise identified concerns with another registrant about their competence or conduct (see Code - Standard 8, Professionalism).

- Under the PGA, failure to exercise your Duty to Report is an offence and would make you liable for a fine of as much as \$200,000 or a term of imprisonment up to two years.

3 CONTINUING PROFESSIONAL DEVELOPMENT REPORTING WILL BE MANDATORY

- A New ABCFP Bylaw 10: Continuing Professional Development, requires every practising RPF and RFT registrant to undertake and report to the ABCFP 30 hours of continuing professional development (CPD) between December 1 and November 30 each year.

NOTE: reporting CPD will be voluntary until December 1, 2021 with the first CPD report due by November 30, 2022.

4 AUDIT AND PRACTICE REVIEWS

- The ABCFP formerly conducted proactive practice reviews of forest professionals. These were led by either a forest professional's peer or by ABCFP staff. Under the PGA, these will now be referred to as "competence and professional conduct audits."
- A new statutory Audit and Practice Review Committee will set policies to routinely or randomly select registrants for competence and professional conduct audits.
- Competence Audits will typically be conducted by a professional peer and will examine your general competence and skills.
- A second audit type, Professional Conduct Audits, are performance based (technical) conducted by assessors appointed by the Audit and Practice Review Committee to examine specific aspects of your conduct including practice.
- Under the PGA, a practice review may be carried out by an appointed assessor in the event of a criticism or perceived problem with your practice as opposed to undertaking a complaint investigation.
- A practice review can lead to mandatory actions including education or training, imposition of a limit or condition on your practice (which will be published on the public online register), or lead to the authorization of a formal complaint investigation.

5 PUBLIC DISCLOSURE

The PGA requires the ABCFP to make more specific information about you available to the public through an online public directory on the ABCFP website.

A new ABCFP Bylaw 13 – Public Disclosure, will require you to submit this information when you renew your annual registration or at any time if the information has changed (for example, a change in employer).

Information to be made publicly available about you includes:

- Your name and whether you are a registrant, former registrant, or trainee;
- The category, subcategory, or class of registrant for which you are registered, and for trainees, the type of education program you are enrolled under;
- Any technical occupations or certified practices held;
- Any limits or conditions imposed on your practice;
- Notation of each cancellation or suspension of your registration, including any cancellations or suspensions that occurred before the PGA came into force;
- Your declared practice area or areas;
- Your municipality of residence;
- Your business address and business telephone number, if applicable;
- Your employer, if applicable;
- Your registration number issued by the ABCFP; and
- The date on which you were first registered with ABCFP.

TIMELINE

February 5, 2021
The *Professional Governance Act* comes into force.

February 5, 2021
New ABCFP bylaws, including new Code, come into effect.

October 1, 2021
Mandatory reporting of contact information and practice-related information during registration renewal.

December 1, 2021
Mandatory continuing professional development requirements come into effect.

November 30, 2022
First mandatory reporting of continuing professional development activities.

KEEP INFORMED

Stay up to date on the *Professional Governance Act* and check out a schedule of upcoming webinars, FAQs, and other resources at www.abcfp.ca

Questions? Contact ABCFP professional staff:

Mike Larock, RPF
Director of Professional Practice and Forest Stewardship
mlarock@abcfp.ca

Casey Macaulay, MA, RPF
Registrar and Director of Act Compliance
cmaulay@abcfp.ca

Paul Nuttall, RPF
Deputy Director of Forest Stewardship and Engagement
pnuttall@abcfp.ca

Congratulations!

CONGRATULATIONS TO THE ABCFP'S 2020 AWARD WINNERS

Distinguished Forest Professional

Jim Girvan, MBA, RPF

Kenneth Mitchell, PhD, RPF(Ret)

Professional Forester of the Year

Neil Hughes, MSc, RPF

Jim Rodney Memorial
Volunteer of the Year

Guy Burdikin, RPF

BC Forest Professional
Magazine Best Article

Siomonn Pulla, PhD

*"Building a Holistic Framework
to Support Informed Consent"*

Thank You!

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A FOREST PROFESSIONAL'S OBLIGATION:

Duty to Report

It's a bright day in the forest; the air is crisp and the buds are starting to show on the salmonberry. The songbirds have arrived and our forest is once again a busy biological place. It feels like the forest ecosystem is telling me there is a lot to do, and no time to waste. This sentiment is also true for understanding how the landscape has evolved under the *Professional Governance Act*. The PGA is in force and the ABCFP's new bylaws are in effect.

The *Professional Governance Act* (PGA)¹ has asked us to double down on reporting. Professional reporting is essential to communicating what is happening in the forest environment. For the public, it is not always clear what is transpiring in the forest, so reporting becomes an opportunity for transparency. And there are commonly asked questions about activities occurring in the forest, so reporting becomes an opportunity to demonstrate competence in the management of forest resources. There are several aspects of reporting for forest professionals that are required by the PGA and resulting ABCFP Bylaws, including:

- Distinguish between facts, assumptions, and opinions.
- Clearly identifying the registrants who have contributed to professional work.
- Undertaking work and documentation with due diligence.
- Presenting clearly to employers the consequences if professional decisions and judgements are not followed.

However, it is the Duty to Report² obligation that stands above them all.

For many years, forest professionals have had a positive obligation to report instances of forest practice that result in poor forest stewardship, or to report instances of professional misconduct. I'm sure you were not surprised to see that similar reporting require-

ments now exist in the PGA. There are, however, new elements to the professional requirement of reporting.

Firstly, the circumstances requiring professional reporting have shifted from a broad forest practice-stewardship obligation to the regulated practice of forestry; and from "detrimental" to "significant harm." The Duty to Report in the previous *Foresters Act Code of Ethics* existed relative to a practice. Meaning the activity requiring reporting could be a forest practice or professional practice. The trigger to report in the previous *Code of Ethics* was simply the belief the practice is "detrimental to good forest stewardship."

The PGA Duty to Report is narrower and limited to the regulated practice of forestry. Meaning the professional service is the focal point for consideration, not necessarily a forest practice. The trigger for a reporting requirement in the PGA is whether the regulated practice may pose a "risk of significant harm" to the environment.

Secondly, in the PGA and ABCFP Bylaws³, there are two separate and related instances where the Duty to Report obligation is required of a registrant. One instance is ABCFP Bylaw 9 – Standards of Ethical and Professional Conduct⁴, and the second is PGA Section 58 Duty to Report.

ABCFP Bylaw 9 contains our *Code of Ethical and Professional Conduct*.⁵ In this instance, the registrant is required to report to the ABCFP (regulatory body), and if applicable, any other appropriate authority.

The duty for a registrant to report in Section 58 of the PGA requires reporting to the registrar of the applicable regulatory body. The PGA goes a step further and imposes the reporting obligation on any person who terminates, or imposes restrictions on, a registrant as a result of "significant harm."

Third is that the application and scope of the reporting requirements under the PGA are different. The trigger on the Duty to



Hiking through a meadow in the high alpine near the village of Sun Peaks in the Shuswap Highlands in central BC. Photo credit: Harry Beugelink.

Report obligation of whether a professional service “may pose a risk of significant harm” is followed up or preceded by tests or conditions under which we are to consider the trigger. Specifically:

- Reasonable and probable grounds to believe;
- The continued practice of professional forestry (ABCFP Bylaw 9 requirement); and
- Promptly report (PGA sec 58).

The scope of the application of the Duty to Report now also includes “significant harm to the health or safety of the public or a group of people.” Additionally, the *Forest Professionals Regulation*⁶ raises the connection of reserved practice of forestry, including in the protective purpose “health and safety in the workplace.”

Finally, the PGA Duty to Report in these circumstances does not include an avenue for resolution with the other registrant (or the identified registrant, PGA sec 58). The stepped approach to resolving conflict on matters of conduct or stewardship is now located in ABCFP Code Standard 8 and Code Standard 6 and they exist relating to lesser concerns involving professional practice, competence, and stewardship.

It is important to note, there is much to learn and discuss about the new Duty to Report and that interpretations or clarifications will continue

to occur in the coming months. The Office of the Superintendent will also continue to provide helpful guidance on the Duty to Report and on other areas of the PGA.

So here we are, the beginning of the forest growth season. Before I know it, the migratory birds will be heading in the other direction. Time is of the essence, and the significance of the season is not lost on this forest professional. Forest professionals typically feel and observe the new possibilities of changing seasons and in particular, spring growth. In fact, seasonal changes may be a benchmark of your professional work. One of the significant benefits the forest professional brings to the public is the ability to communicate the intimate connection between forest ecosystem and products, between forest resources and employment, between forest paths and human health. In all cases, the forest professional has the necessary knowledge to observe the forest, the required expertise to understand the implications of forest activities, the accountability of professional licensure, and therefore the corresponding Duty to Report. ☺

REFERENCES

1. Professional Governance Act (PGA); <https://www.bclaws.gov.bc.ca/civix/document/id/complete/statreg/18047>
2. Professional Governance Act, Section 58 Duty to Report; <https://www.bclaws.gov.bc.ca/civix/document/id/complete/statreg/18047#section58>
3. ABCFP Bylaws; <https://abcfp.ca/web/ABCFP/Governance/Bylaws>
4. ABCFP Bylaw 9: Standards of Ethical and Professional Conduct; <https://abcfp.ca/web/ABCFP/Governance/Bylaws-2021/Bylaw-9-Standards-of-Ethical-and-Professional-Conduct.aspx>
5. ABCFP Code of Ethical and Professional Conduct; <https://abcfp.ca/web/ABCFP/ABCFP/Governance/Bylaws-2021/Bylaw-9-Standards-of-Ethical-and-Professional-Conduct.aspx>
6. Forest Professionals Regulation; https://www.bclaws.gov.bc.ca/civix/document/id/oic_oic_cur/0038_2021



Mike Larock, RPF, is the ABCFP’s director of professional practice and forest stewardship. Mike develops and communicates professional standards, provides ABCFP responses on professional practice matters, and oversees the association’s forest stewardship commitments.

What registrants need to know that's new in Professional Practice and Forest Stewardship

Why It's Important to Identify Professional Practice Areas

Under the *Professional Governance Act* (PGA) and new bylaws, the ABCFP must provide a web-based register of information about each registrant. Identifying your practice area(s) for the public register will be required as of December 1, 2021. You are encouraged to update your identified practice area(s) before registration renewal by going to the Manage My Account page of the ABCFP website (login required).

Identifying practice areas also helps us identify CPD resources to support registrants' diverse practice and helps us understand new and changing areas of professional practice. For more information, contact Paul Nuttall, RPF, at pnuttall@abcfp.ca.

Guidelines for Interpretation – Code of Ethical and Professional Conduct

We have a new ABCFP *Code of Ethical and Professional Conduct* (the Code). The professional principles in the new Code align closely with those that were the underpinnings of the previous *code of ethics* and standards of professional practice under ABCFP Bylaws 11 and 12 (under the *Foresters Act*). There are changes in the number of standards, nuanced changes in the application of professional principles, as well as new responsibilities. The new *Code of Ethical and Professional Conduct Guidelines for Interpretation* is available at abcfp.ca/web/ABCFP/Practising-in-BC (login required).

New Guideline Required for Professional Practice in Forest Road Crossings

The *Guideline for Professional Services in the Forest Sector – Crossings Version 3.0* — approved by ABCFP Council — replaces version 2.0. These guidelines are mandatory for forest professionals practising in the area of forest roads and forest transportation systems, forest harvest planning, and forest harvest operations management and administration.

Section 22(f) of the PGA requires the ABCFP to "establish, monitor and enforce standards of practice." *ABCFP Bylaw 9-2 Forest Resource Activities* requires that registrants providing professional service in a forest resource activity must comply with the standards of practice and standards of competence described in the guidelines. This document contains the standards of practice and competence for forest professionals.

The guidelines have been jointly developed by the Engineering, Geoscience, and Forestry Joint Practice Panel. EGBC is completing the publication process for professional engineers and geoscientists.

What's New in Continuing Professional Development (CPD)

Introduction to Visual Resource Management: This free, entry level, four-module course is for forest professionals who want to upskill in this practice area. The course is available on the ABCFP Events page of our website. Registration is required. Visit abcfp.ca/web/ABCFP/Event-Listings-ABCFP.

Climate Change Adaptation Courses: The Adaptation Learning Network is helping professionals in BC who work on climate adaptation to integrate adaptation competencies into their professional practice. Visit adaptationlearningnetwork.com.

Indigenous Awareness E-Course: This free, online course developed by BCIT examines Indigenous peoples and their past and present place in Canadian society and the importance of reconciliation to all Canadians. Visit bcit.ca/free-online-learning/mooc-0200-indigenous-awareness.

The guideline, *Watershed Assessment and the Management of Hydrologic and Geomorphic Risk in the Forest Industry*, is supported by three webinars for forest professionals: *Introduction to Watershed Assessment and Management of Hydrologic and Geomorphic Risk in the Forest Sector*, *Developing a Watershed Risk Management Framework*, and *Watershed Assessments*. These webinars are available on the ABCFP website. Registration is required. Visit abcfp.ca/web/ABCFP/Event-Listings-ABCFP.

What's New for Practice and Stewardship Volunteers

With new organizational responsibilities in the PGA and ABCFP Bylaws, we have reorganized volunteer opportunities and efforts to support key practice and stewardship functions, including superintending overall practice; providing specific professional advisory service; CPD; audit and practice reviews; and collaboration with other regulators, governments, and post-secondary schools to achieve PGA objectives.

On March 9, we hosted a meeting for practice and stewardship volunteers to discuss the purpose, role, and opportunities for volunteers as practice stewards, project groups, and the new audit and practice review committee. We look forward to relying upon our dedicated volunteers to meet new responsibilities. If you have questions, please contact Mike Larock, RPF, at mlarock@abcfp.ca or Paul Nuttall, RPF, at pnuttall@abcfp.ca.

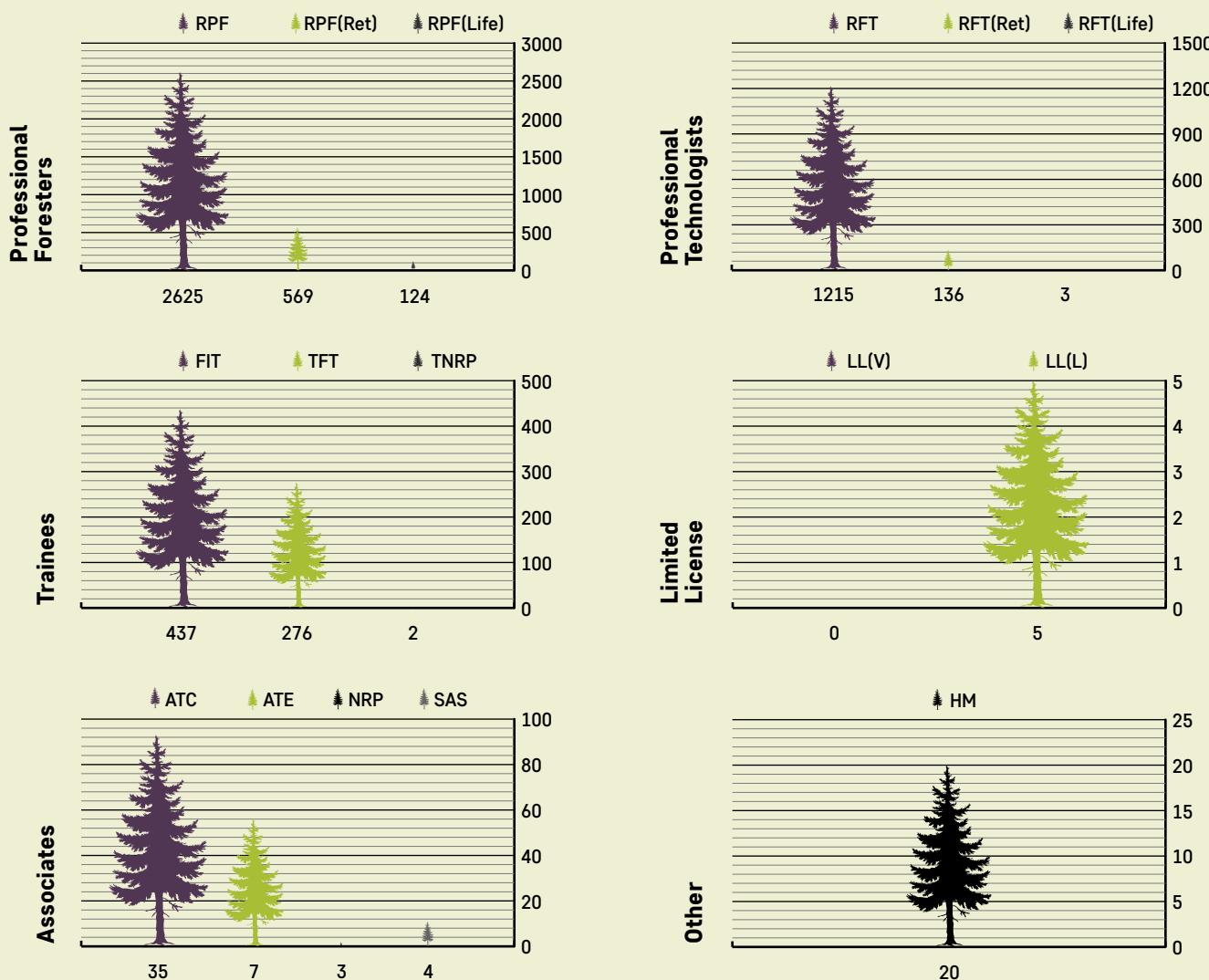
New Learning Resources Coming Soon

We're upgrading the *Principles of Forest Stewardship E-Course*, the *Code of Ethical and Professional Conduct E-Course*, and the *Gender Diversity and Inclusion Webinar* to be PGA compliant.

These learning activities count as reportable hours. You can use the online CPD reporting tool voluntarily until November 30, 2021. Starting on December 1, 2021, reporting 30 CPD hours annually will be mandatory. For more information, contact Troy Lee at tlee@abcfp.ca.

- A detailed view of registrant status updates is available at abcfp.ca/web/reg-status
- Need to find a forest professional? The Public Directory is available at abcfp.ca/web/public-directory
- A detailed directory of ABCFP registrants (registrant access only) is available at abcfp.ca/web/directory

YEAR-TO-DATE ABCFP REGISTRANT TOTALS



YEAR-TO-DATE TOTALS: MARCH 29, 2021

NET EFFECT 5,461**

**Note: These totals include registrants with multiple memberships who are counted in each of their registration categories.
All categories except Life, Retired, Honorary Member, and SP(V) include registrants on leave of absence.

IN MEMORIAM

It is very important to many registrants to receive word of the passing of a colleague. Registrants have the opportunity to publish their memories by sending photos and obituaries to editor@abcfp.ca. The association sends condolences to the family and friends of the following registrant:

Dr. Robert (Roy) Strang, RPF(Ret) #1606, Life Member

June 18, 1926 – September 13, 2020



With deep sadness we announce the passing of Dr. Robert (Roy) Strang, at the age of 94. Roy will be remembered as a dedicated professor, erudite member of the ABCFP editorial board, environmental advocate, community volunteer, respected mentor, and bagpiper. Roy was also devoted to his family. Predeceased by Alison, his wife of over 60 years, and by

one grandchild, he will be greatly missed by his five children, eleven grandchildren, and one great-grandchild.

Born in London, England, and raised in Tillicoultry, Scotland, Roy spent two decades developing forestry programs in Africa before immigrating with his family to Canada. He taught at the Faculty of Forestry and Plant Science at UBC, and then at the Forestry Department at BCIT. Roy regularly played his bagpipes at Burns night suppers, UBC spring field camps, and ABCFP conferences. Roy held a BSc (Forestry) degree from Edinburgh University (1950) and a PhD (Ecology) from London University (1965). After a career in research and teaching, he retired as associated dean (Renewable Resources) of BCIT. Roy then consulted until 1983 in Tanzania for the World Bank.

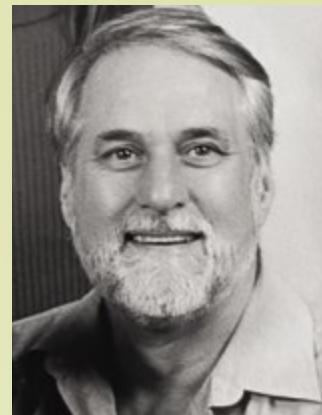
Roy was very active in retirement. A long-time Semiahmoo Peninsula resident, he chaired the City of Surrey's environmental advisory committee, served as a community policing volunteer, and advocated to preserve and raise awareness of Sunnyside Acres Urban Forest Project in Surrey. Following a campaign to preserve the second-growth forest from future development, the South Surrey greenspace was designated a protected urban forest in 1988.

Roy was a Surrey Citizen of the Year honouree; he received the Queen's Golden Jubilee medal in 2002; and he was presented the Order of White Rock in 2008. In 2014, he was named a winner of a Surrey City Award for his preservation efforts and in 2017 he accepted a Heritage in the City Award on behalf of the Sunnyside Acres Heritage Society, which he helped create. In 2000, Roy was named ABCFP Distinguished Forest Professional.

Submitted by Margaret Symon, RPF and Catriona Strang, with input from Eli Koleva, MSc (Forestry), Dr. Susan B Watts, RPF(Ret), and acknowledgements to Nick Greenizan (Peach Arch News).

Val Edward Fletcher

February 14, 1946 – December 8, 2020



Val Fletcher passed away on December 8, 2020 after a lengthy battle with skin cancer. Born in New Westminster, Val and his family settled in Victoria.

Val followed in his older brother Murray's footsteps, graduating from the University of Victoria with a degree in math and physics. He began his career with the BC Forest Service in 1971. The Inventory Program, recognizing Val's math

and physics training, moved him into Helmut Bradatch's 70mm airphoto sampling program. It was during this period that Val met the love of his life, Jeanne, a member of Al McMinn's 'dot counting empire'. They married in 1977 and Val left the BC Forest Service to pursue a Masters in marine biology.

After graduating, the BC Forest Service recruited Val as a member of the biometrics section in Research Branch, supporting forest researchers through data management and statistical analysis.

In the mid 80's, Val moved to the Forest Protection Program to support the newly developed Forest Health Section. In 1986, Val completed the forest pupil program to become a professional forester. In 1990, Val moved to the Fire Management Program. During a reorganization, Val was posted to the Silviculture Branch supporting forest health.

Throughout his career, Val was recognized for his analytical talents and was seconded to support major program initiatives. He spent a year with the Timber Supply Branch performing the timber supply analysis for Haida Gwaii. He engendered the respect of all who were involved.

In one of Val's last secondments before retirement, he worked in the Timber Reallocation Project with members of the Research, Economics, and Forest Analysis Branches to identify a land base for auction-based timber pricing critical to the ongoing softwood lumber dispute between Canada and the US.

After their marriage, Jeanne and Val moved to the Highlands community where they raised two daughters, Meara and Brenna; plus numerous cats and an occasional Irish Wolfhound. Val was one of the Highlands busiest citizens who gave whole-heartedly to his community as a volunteer firefighter, an emergency coordinator, and a water conservationist.

Val leaves behind Jeanne, Meara, Brenna, and his sister, Faye. He was predeceased by his parents and his brother Murray.

Submitted by Jeanne Fletcher and friends of the family.



A Moment in **Forestry**

A red-breasted nuthatch (*Sitta canadensis*) harvesting the seeds of Douglas-fir cone in Lake Country. By Bernie Kaplun, RPF(Ret).



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