

COLLEGE MATTERS

Volume 16 // Issue 1 // November 2024

*Saving Goshawks from
regional extinction*

*Understanding how disturbances
affect Fisher populations*

*Enhancing corporate ESG
through collaboration*

The **Collaboration** Issue *Part One*

We respect and acknowledge that the College's office and its registrants operate within the traditional territories of the Indigenous Peoples of BC.



COLLEGE OF
APPLIED BIOLOGISTS
Professional Accountability



2024 College Board

The College Board met in Cranbrook, BC, at the St. Eugene Golf Resort and Casino (former residential school) in June 2024 for Board meeting and cultural training with the Ktunaxa Nation. From left to right: Susan Wells, Corinna Hoodicoff, Megan Hanacek, Mark De Croos, Victoria Burdett-Coutts, Kathryn Graham, Denis Dean, Deborah Stanyer, Seán Sharpe and Bob Redden. *Not pictured: Brittany John, Jason Kuzminski.*

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ABOUT US

The College of Applied Biologists is the regulator of applied biology professionals in British Columbia. Established by government legislation in 2003, the College protects the public interest by ensuring that applied biology professionals—Registered Professional Biologists (RPBios), Registered Biology Technologists (RBTEchs), Applied Biology Technicians (ABTs) and Applied Biology - Limited Licensees (AB-LLs)—meet rigorous standards of professional and ethical competency.

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Cover photo: Juvenile goshawk near Blackcomb Mt., BC, by Bob Brett, 2024.

Back cover photo by Prince George Conference and Civic Centre

Christine Houghton's photo by Naomi Maya Photography

***Disclaimer: the opinions expressed in *College Matters* do not necessarily represent those of the College, its Board or other registrants.**



By Victoria Burdett-Coutts, RPBio, *Chair*

The Spirit of Collaboration

WE ARE IN an important time as registered applied biology professionals to embrace the concept of the “spirit of collaboration” and find a mechanism through which we can action this concept. I encourage you to consider what this means to you in your area of specialization, and how we as professionals can contribute to the collective knowledge and maintain our dedication to the public interest. This can be done through engagement with others who may be performing parallel science through academic, non-government or government channels; through inclusion of Indigenous sciences in all phases of the regulatory-compliance life cycle; and through potential mentorship opportunities for young professionals interested in your path.

Most of us are now familiar with and embrace the recognition of the important contribution to knowledge we gain when engaging with Knowledge Keepers and Elders from Indigenous communities in the lands where we work. It is an indispensable opportunity to be able to learn from them and understand the deep connections they have to the land, and their ways of knowing about nature and environmental interactions. We all look forward to the positive path that has been initiated for the inclusion and intertwining of western and Indigenous sciences.


Within our own areas of specialization, there are also opportunities for collaboration, where we can consider developing practice guidelines and creating ways to engage on the application of consistent measures to minimize negative effects to the environment. These exciting collaborations will allow us to put down our competitive edge and utilize a wealth of *collective knowledge* that will have significant benefits to the public, the environment and our respective professional practices.

Within the areas of other designated professionals, we can also embrace the opportunities to collaborate across a broader spectrum of scopes of expertise and all within the *Professional Governance Act*. It is fascinating and exciting to be in *the situation room* with other regulated professionals (foresters, agrologists, engineers and geoscientists, etc.) to engage and interact, and map out a project that crosses the boundaries of multiple professional areas. The recent publication of the [*Erosion and Sediment Control*](#) guidance document is an excellent example of the product of collaboration.

“We all look forward to the positive path that has been initiated for the inclusion and intertwining of western and Indigenous sciences.”

As we migrate from intermediate to senior professionals, there is an exciting opportunity to provide guidance and mentorship to junior professionals. Where our schedules all do get busy, this is a significant concept to remain attached to and realize the importance of transferring knowledge and

fostering interest and understanding in the work that we do. Whether this is developing members of your own organization or outside of it, we all need to stay connected to the value of this component of our professional commitment. With mentorship, we may also be involved in capacity building opportunities with members of Indigenous communities. This may take the form of cross training, where we are fortunate to be able to learn from each other and appreciate the respective knowledge base. Alternatively, it may take the form of talking to young children and adults from Indigenous communities to describe the *paths we took* to get where we are as registered professionals.

In closing, reach out to those around you who collectively share a common interest, and engage in collaborative opportunities to follow in the path of our commitments to the public interest. 



The Importance of Being Collaborative

By Chistine Houghton, Chief Executive Officer

FEW OCCUPATIONS ARE truly independent and, even those that are more individual in nature, such as data entry, writing or painting, rely on others to produce the tools that they use to do the job at hand. But most endeavours are only successful if there is at least some degree of collaboration.

In my twenty-five-year-plus career (yikes!) in and around resource management, what has always struck me is how much interdependency there is between professionals—that is if you want the best results. Applied biology professionals know this intuitively. A productive and effective project team is not unlike an ecosystem. Each contributor has a role to play in supporting other functions of the team similar to how each species in its natural state contributes to the overall health of the biome.

For centuries, western “civilization” viewed itself as the master of all, that humans were separate and above all other species. While this belief was marginally sustainable with a small population and prior to the industrial revolution, it has not been sustainable for some time. If we are to have a sustainable world, we must see ourselves as part of the environment—collaborating with it, not conquering it.

We also have to recognize that there are many important factors that need to be considered when determining the benefits of planned human activities. Natural resources cannot just be viewed as a *resource* but need to be viewed as part of the whole. Economic, social and environmental factors are all important in making decisions.

Taking a holistic view of our activities and impacts on the natural environment is how we achieve better and more

sustainable results, and such a view requires us to work collaboratively with others.

The *Cambridge Dictionary* defines collaboration as “the act of working together with other people or organizations to create or achieve something.” It is not always easy. Collaboration

means taking the time to listen to others’ point of view and, even when we don’t agree, trying to find common ground that will achieve the best result. It means knowing where compromise is needed and where it would cause more harm than good. It means trusting others to also be working in the public interest: not always easy—but always

the best way to get to the best outcomes.

Hopefully, the days of managing British Columbia’s natural resources with only the short-term economic benefits in mind are long behind us, and we can continue to get even better at listening to each other, to other resource professionals and, critically, to Indigenous Peoples, who have worked collaboratively and lived sustainably on this land since time immemorial.

We live in a world that is more interconnected across a wider range of activities, disciplines and geographies than ever before. If we are going to deliver a world that is safe, healthy and just for future generations, we need to embrace what we each have to offer and collaborate on finding lasting solutions. [CM&](#)

“If we are to have a sustainable world, we must see ourselves as part of the environment—collaborating with it, not conquering it.”



Introducing New College Staff and Editorial Board Members



Elizabeth (Ellie) Zajc, MES, RPBio, is an environmental consultant with Stantec Consulting Ltd., currently based in Burnaby. Ellie holds a Master of Environmental Studies from the University of Waterloo (Ontario). Although her early training was in field botany in Ontario, she now works as a regulatory specialist and project manager. She is also a team lead in Stantec's environmental services group.

With over ten years of work experience in the environmental field, Ellie has had the privilege to work in applied biology in other parts of Canada (Ontario) as well as overseas (Australia). Prior to her current role, her broad experience has included water policy development, working on environmental assessments for major water and transportation projects, and freelance editing. She has worked in British Columbia for over five years.

Ellie recently joined the Editorial Board as a contributing member and Co-chair of the working group. She is interested in effective science communication. She is excited to contribute, even in a small way, to the work of the College of Applied Biologists and its mandate.

Ellie is a busy mother of two children with a passion for getting outside and enjoying the wealth of natural beauty British Columbia provides. [CM](#)



Isaac Anderton, RPBio, joined the College as Sr. Manager of Registration at the beginning of September 2023. Isaac grew up in the Lower Mainland, BC, and pursued post-secondary education in the 1990s earning a Diploma in Environmental Studies at Langara College and a BSc in Environmental Science at Royal Roads University. Following this, his career spanned more than 20 years in fisheries, environmental research, environmental management and governance throughout coastal BC and the Yukon. This has included a variety of work with consulting companies, Yukon renewable resource co-management boards/councils, and First Nations Governments.

Isaac has always had a personal interest in public policy and, therefore, finds working with the College to be a great opportunity to further explore this interest while serving the profession.

Other important things in Isaac's life include his two children as well as spending time exploring nature. Since living in the far north early in his career, he has had an interest in procuring food, and this has taken various forms over the years, tending towards opportunities that involved roaming the landscapes and waters of BC and the Yukon. Through an experiment in growing garlic commercially a number of years ago, he determined that he is not a farmer. [CM](#)


ANNOUNCEMENT



Chi Kwong (Boris) Chow joined the College in November 2023 as a Manager of Compliance. He was mainly responsible for investigation and discipline matters, as well as PGA compliance. He recently became Manager of Special Projects.

With a background in ecology, Boris holds an MSc degree in environmental engineering. He is a Chartered Biologist with the UK Royal Society of Biology and has applied to the RPBio designation.

Before joining the College, Boris worked at the Hong Kong railway company (MTR), where he managed the environmental aspects of new railway projects. His experience covered the entire infrastructure project cycle, including project management, EIA, environmental monitoring, implementation of mitigation measures, permits management, system and regulatory compliance, and complaint investigation. He aims to leverage this experience to empower the College's operations.


Boris enjoys many outdoor activities such as hiking, camping, kayaking, diving and soccer. He is currently exploring new activities such as mountain biking and is looking forward to snowboarding in the winter. He regularly dedicates his time to public services, including volunteering at a centre for at-risk youth in Victoria, hoping to have a positive impact by acting as light and salt for others. 



Elaine Vale joined the College as Registrar in January 2024. She is responsible for overseeing applications for registration and administering the complaint and discipline process.

She is passionate about administrative fairness and helping people to succeed. She is thrilled to be in a role that harnesses her background in biology and law with her experience in policy and planning.


Elaine graduated with a Bachelor of Science in biology from McGill University and, early in her career, she conducted genetic research. Subsequently, she earned a law degree from the University of Ottawa. She practiced law in Kamloops before joining the provincial government to focus on policy and planning for regulated sectors, such as commercial vehicle and road safety, liquor and cannabis retailing, and consumer protection.

Outside of work, Elaine enjoys gardening, biking, camping and travelling. 



Elizabeth (Betsy) Hagerty joined the College in March 2024 and has been enjoying learning about professional governance and the regulated practice of applied biology. In her role as an Administrative Officer, she handles administrative functions, supports the Investigation and Discipline Committee and enjoys being a first point of contact for applicants and registrants calling with questions.

In 2010, Betsy moved to Canada from her hometown of Rio de Janeiro, Brazil, to pursue studies at the University of Victoria. She has lived from coast to coast, spending some time in Halifax before settling back in Victoria. Before joining the College, Betsy worked with UVic Properties—the University of Victoria's property management company—and Over the Edge—a company that organized rappelling fundraisers for nonprofits across North America. She is skilled at optimizing processes and finds satisfaction in bringing clarity to chaos.

Outside of the office, Betsy embodies the typical west coaster lifestyle and enjoys backpacking and co-leading a hiking group. She and her husband are looking forward to growing their family in the fall with the arrival of their first son. 

2024 Conference & AGM: A Review

By College Staff

The College convened its Conference and 21st Annual General Meeting on April 4 and 5, 2024, in the Traditional Territory of the Snuneymuxw First Nation at the Vancouver Island Conference Centre. The College was proud to welcome Snuneymuxw Elder Lolly Good, who opened both conference days with the traditional protocol of the Hul'qumi'num-speaking People. The Honourable Nathan Cullen, Minister of Water, Land and Resource Stewardship provided opening remarks on April 4, and delegates heard from local Member of the Legislative Assembly Sheila Malcolmson and Nanaimo Mayor Leonard Krog on April 5.



Top-left: College Staff having fun at the photo booth set up for the soirée reception on Thursday evening.

Top-right: Dallas Smith during his presentation on behalf of the Nanwakolas Council.

Bottom-left: A full room during Day 2's keynote presentation by Dr. Erika Horwitz.


Bottom-right: Part of the tradeshow room ready for a busy day.

Key discussions included how climate change is affecting our decision making, emerging tools and applications in monitoring wildlife and habitat, and shared stewardship paradigms. However, conference attendees identified the panel on Steps on the Road to Reconciliation as being the most relevant to both their professional and personal lives; Dallas Smith's presentation on behalf of Nanwakolas Council was of particular interest. The Conference plenary was punctuated by the perennially popular "How Professionals Stay out of Trouble" panel, which in 2024 featured a compelling presentation on ethical use of artificial intelligence by Julia Hengstler of Vancouver Island University.

The College was also pleased to present two keynote speeches: on Day 1, Gwen Bridge shared her extensive experience in Indigenous governance, negotiations and consultation; and on Day 2, Dr. Erika Horwitz appealed to attendees' personal sides with a presentation on workplace stress and the journey to inner contentment.

For the second consecutive year, the College ran a tradeshow alongside the conference, which was well received by guests

and exhibitors alike. The College would like to extend its gratitude to all of the 2024 conference sponsors and exhibitors, including our *Premier* sponsor EDI, and *Select* sponsors Dynamic Ocean Consulting, Associated Environmental, WSP, McTavish Resource & Management Consultants and Ecofish Research.

Join us in Prince George in 2025 as the College convenes its conference at the Prince George Conference and Civic Centre on April 10-11. Tickets go on sale in early 2025. Make sure your address is updated on the College's distribution lists, so you don't miss out on early bird pricing. 

Do you want to speak at the College's 2025 conference? Send us an email with your topic, so that it can be considered by the Conference Planning Working Group.





COLLEGE MATTERS

The **Collaboration** Issue *Part One*

FEATURE ARTICLES

Article notes & references are on pages 25-26

You Are Part of the *Community of Practice* Needed to Save the Goshawk from Regional Extirpation

By Frank Doyle, RPBio, and Michial Buirs, RPF(Ret)

THE NORTHERN GOSHAWK:¹ Have you ever heard of it? Have you ever seen one? Some of you, for sure, but for many, this will be a bit of a head-scratcher. In contrast (prior to industrial scale harvest), most people living and using the once vast expanse of old forest would know the bird and where its nests were found. On Haida Gwaii, the island endemic subspecies, stads k'un,² has deep cultural roots and was adopted as Haida Gwaii's national bird in 2017. This large—and loud—forest hawk hunts and nests beneath the canopy and is not easily missed: It is a sleek grey hunter and an apex predator within its forest realm. The Haida name for this powerful, acrobatic flier has been translated for me as, “wings brushing boughs.”

So where are those goshawks now? This has been a leading area of research, collaboration and outreach since loggers halted their machines deep in Kispiox Valley of northwestern BC, approximately three decades ago. There, a pair of adult birds “screamed” and dive-bombed machinery as the harvest moved towards their nest and their young. Our colleagues on the machines knew that there was a nest and did not want it to fail, so they asked, “How much forest do they need? How close can we log?”

Little did we know that the journey to answer these simple questions would teach us many lessons, and that a solution would involve all those who harvest and use the forest. This would be a collaboration, an investment of time, money and personal resources for many of us over the many years since.

This work started with a small group of biologists and technicians working in partnership with BC Timber Sales,³ the BC Government, and a now closed sawmill (Skeena Cellulose ceased operation early 2000s) that was located near Hazelton, deep within the Interior Cedar Hemlock forests of Gitksan and

Gitanyow Territories. However, after a long summer of survey days and logistic challenges (back then: no Global Positioning System (GPS), no Geographic Information System (GIS), no Autonomous Recording Units (ARUs) or cameras), it became clear that these “simple” questions were not going to be answered by biologists simply locating this hawk's nests. In fact, no new nests were located that first year. Where do they live?

A little break from this narrative to reflect on an earlier lesson I (Frank) learned: Once, I worked with biologists on a high-arctic project on Snowy Owls. Biologists caught and radio-tagged the

owls to discover that many spent their winters out on the sea ice feeding on sea ducks that congregated at the few areas of open water surrounded by sea ice or “polynyas”. Duly presented with excitement to the Inuit across the north, this revelation was met with a knowing smile, as, of course, the Indigenous Peoples knew this all along.

Similarly, as our tired survey crews talked to the folks they met in the woods, stories

of possible nest sites came in from loggers, mushroom pickers, hikers and those who live on the land. Not everyone knew what a “goshawk” was, but that large, noisy bird that swooped down on them, the big nest beneath the canopy, that they knew! So, as scientists and professionals, our critical work for the next several years focused on communication, outreach and presentations. This included mentorship and training of forest workers and First Nation Guardians to conduct goshawk surveys. What better way to share the knowledge of goshawks in the community and to build the support for potential changes in our approaches to forest harvest?

Of the nests located to date, most (> 85%) have been located through outreach, talking to and spending time with people,



Adult goshawk. Photo by Bob Brett.

FEATURE

describing the bird and what it sounds like. Importantly, we also learned to listen: Forest workers were happy to help, but they also hoped we could find a win-win solution that allowed the birds to stay while they harvested the wood.



Autonomous Recording Unit deployed for goshawks: Dustin Gray, Gitanyow Wildlife Guardian, 2021. Photo by Kevin Koch.

Interesting things we learned about goshawks

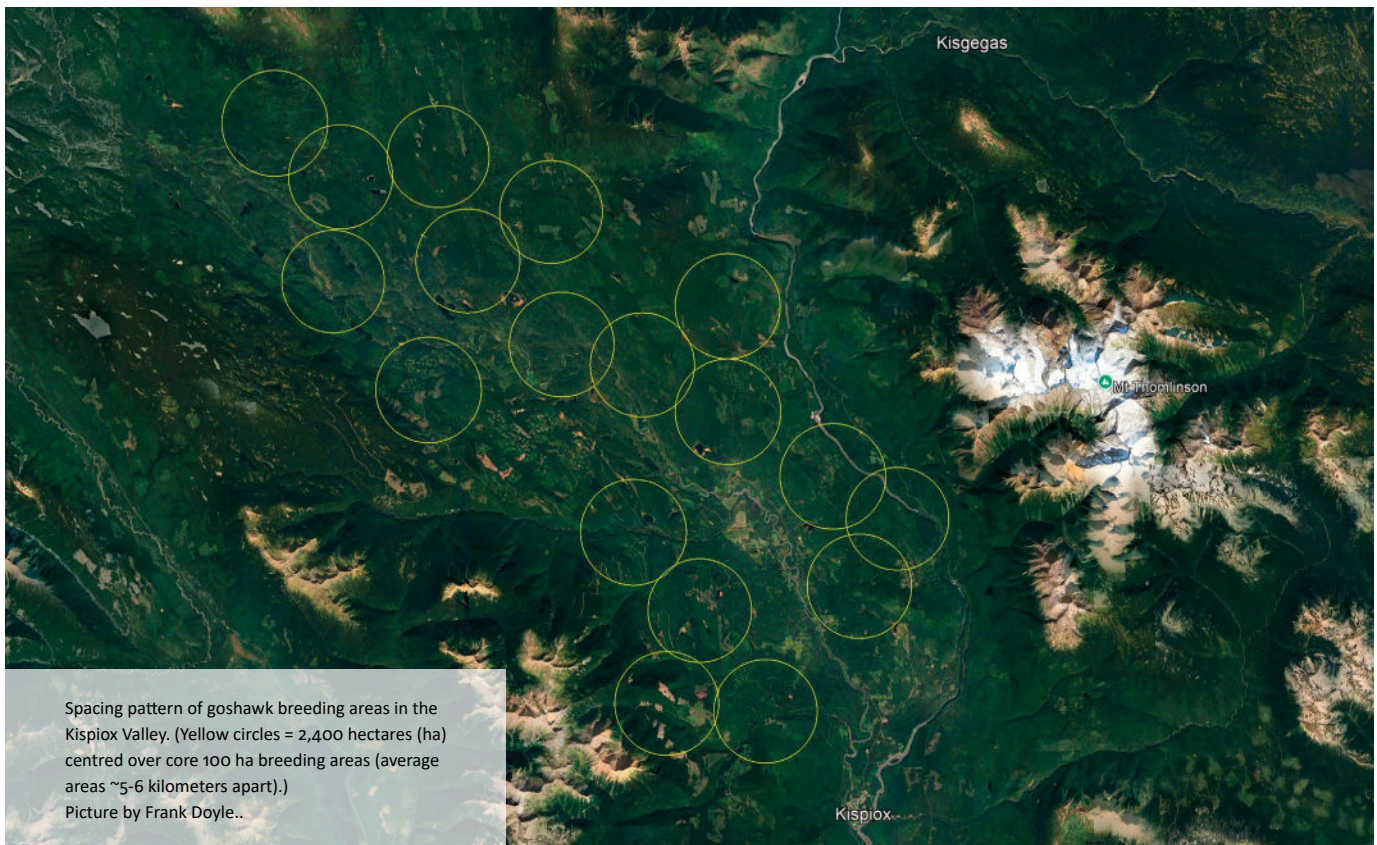
As a result of this support from our *community of practice*, what emerged over the next several years was that the birds in the Kispiox Valley, as we now know is true elsewhere, are regularly spaced across all forested landscapes. Recently, a fellow biologist contacted me to show me how he had heard of our work and subsequently used this information to find several new goshawk breeding areas (i.e., forest stand that immediately surrounds

the active nest site, alternate nest tree(s), roost trees and prey plucking-posts) in southwestern BC.

Central to the goshawks use of the landscape, we have learned that goshawks are not that different from us, with a breeding area (home) central to the landscape in which they forage (home range), but that this foraging area shifts and moves dependent of the availability of prey (food) through the seasons and between years—much like us. From what we have been able to observe, they are only territorial around the breeding area, and, within the larger home range, there is a great deal of overlap in use with adjacent goshawks. A pattern of use that may not be that dissimilar in many “territorial” bird species.

Through our annual monitoring of these birds’ breeding areas (nest areas) over the past decades, what also emerged was a stark pattern of population decline linked to harvest within the breeding and foraging areas. Over the last 30 years, there has been an ~ 85% decline in populations based on the occupancy (based on the presence of a breeding pair) of known breeding areas. How can we therefore stop the local or regional extirpation—and potential extinction of the subspecies, as we are now challenged with in the stads k’un population on Haida Gwaii? Simply put, enough occupied suitable territories are needed to support enough individual pairs that produce enough young to survive and thrive and to maintain a population.

What we have learned as scientists over many years of monitoring and research across many forest types across BC is:



Spacing pattern of goshawk breeding areas in the Kispiox Valley. (Yellow circles = 2,400 hectares (ha) centred over core 100 ha breeding areas (average areas ~5-6 kilometers apart).) Picture by Frank Doyle..

- > Goshawks are year-round residents, and their annual home ranges cover several thousand hectares.
- > Birds disproportionately used natural versus harvested forests.
- > Home ranges overlap, but breeding areas are spaced ~5-6 km apart across all forest types.
- > Like the nest of a golden eagle or a peregrine falcon, goshawk breeding areas are used by generations of birds (potentially over hundreds of years). **Most breeding areas have been used for far longer than the timespan of industrial logging and land conversion in BC.** This provides us with both a core management area and allows us to monitor the occupancy and breeding success of each territory/home range area.
- > Juvenile birds disperse and settle within the local regional landscape, resulting in local genetic and morphological variations. On Haida Gwaii, this separation has resulted in a genetically unique goshawk (stads k'un).
- > Territory occupancy is highly sensitive to clearcut harvest at breeding area and home range scales.⁴
- > Across our harvested landscapes, the vast majority of goshawk territories (breeding area and associated home ranges) have been impacted by clearcut harvest, and... the birds are gone.

Sharing this information with the community has led to strong community responses: Folks do not want to lose their goshawks. As we were told by a First Nation's Elder at a planning forum almost 20 years ago, "We want to manage for our goshawks—maintain territory suitability and viable populations across *our* landscape, *our* territory."

What clearcuts do

In forest habitat, it is only in landscapes with clearcut harvest that the spacing pattern breaks down.

What we have learned is that these birds can use *all* natural forest landscape habitats including burned areas, areas of windthrown trees, small wetlands, riparian areas, etc. They are *not* adapted to use large clearcut harvested areas or plantations, and this is shown by strong trends in loss of occupancy in areas that have been harvested.

Unfortunately, from a neat and tidy planning perspective, ecology is messy, and the exact impact of clearcut harvesting on a particular goshawk territory's suitability cannot be predicted ahead of time: Just as the mosaic of habitats at the home range scale is unique to each territory, the threshold



Adult female goshawk in Yukon, 2015. Photo by Cameron Eckert.

for clearcuts is also distinct, likely depending on prey availability and access. All we can say is that with ~20% clearcut harvesting in a territory, 70% of territories stopped supporting breeding.

If we are to manage for goshawks, we must accept that we are dealing with an unknown unique territory threshold. This is compounded with the fact that territories are large areas that cut across the Timber Harvesting Land Base (THLB), licensee and BCTS planning areas, and First Nations' territories—areas that are already largely constrained and planned for wood supply.

Bringing the people together around goshawk: How we built a BMP

Since there is really no legal protection for goshawks (or most any terrestrial species), we wondered if we could find a way to manage goshawks using Best Management Practices (BMPs) (again, not a legal tool) that would keep both the birds and forest jobs and not "unduly" impact the Allowable Annual Cut (AAC).

This was a huge task; however, our community of practice was adamant, they could help us find a way, "Just tell us what the birds need." Encouraged, we teamed up with Registered Professional Foresters (RPFs), forest planners, forest licensees, First Nations, BC Government representatives and GIS forest habitat specialists to see if we could identify goshawk habitat ahead of harvest and investment to subsequently develop harvest strategies that would retain old growth structure within goshawk territories.

In 2016, with an initiative led by industry and supported by the Ministry of Forests' Regional Manager in the Skeena-

Stikine Region through a Letter of Expectation, we then explored harvest strategies that would maintain enough individual suitable goshawk territories at a population-scale, which would thus maintain goshawks across the landscape. Within these identified goshawk territory areas (stewardship areas), we then explored harvest types that would allow for the retention of existing *in situ* old growth species composition and structure (Coarse Woody Debris (CWD), snags, canopy closure, opening sizes, etc.). These structural retention targets were informed through forester-supported research throughout BC, including industry, academia and BC-supported Research Forests. For the first time, goshawks would be the priority for this exercise, and timber would be the second priority.

Over the next six years (2016-2021) this involved input from applied biology professionals, foresters and landscape managers across the region. We had a total of 116 face-to-face meetings, we reached-out and received feedback from First Nations, forest licensees and landscape managers across the region. With the guidance of the biologists (RPBios), RPFs working across five Timber Supply Areas (TSAs) in our region then mapped territories that could possibly work for them. As these areas were individually so large, we focused on ensuring that their design would also help to support other



Forest professionals (from left to right: RPFs Patrick Ferguson, John DeGagne and Jason Bennett) surveying goshawk habitat suitability and restoration in Terrace Community Forest, 2023. Photo by Frank Doyle.

regionally significant wildlife, including rare or endangered species and prey (e.g., fisher, marten, moose, mountain goats, small mammals, coastal tailed frogs, marbled murrelets, songbirds, insects, etc.). Finally, we explored acceptable and implementable harvest activities, focusing on using small patch and partial cutting systems that would keep the *in situ* forest structure that would maintain biodiversity, goshawks and forest jobs.

All this work was then put to the test. With the help of a major forest licensee’s funding and access to a private company, a shadow timber supply analysis was conducted using current TSA net-down criteria in our study area. Using research and field data-derived harvesting targets, the spatial timber

supply model was able to run several scenarios demonstrating that many large [~6000 ha] territories could be maintained without impacting the long-term timber supply and current AAC. In addition, many other areas (required to maintain viable local populations) could be managed with minimal impact to the timber supply. This was the first such TSA-wide tactical plan in the province of BC that we were aware of.

As a result of continued monitoring and reporting of new nests by forest workers, we were also able to show that we could identify and map occupied suitable management territory areas *before* harvest, planning and investment (2023 [SERN](#)). With this *predictability* now



Frank Doyle, RPBio, and Mike Buirs, RPF(Ret). Mike is a Forester and Planner, and an inspirational lead as to how the *community of practice* can work together to support both goshawks and jobs. The mounted juvenile goshawk that appears in the photo is used as a training tool and in the presentation they deliver to professionals and the public—What is a goshawk? Photo by Frank Doyle.

available, we then focused on the development of BMPs for entire goshawk territory areas (foraging home ranges).

Goshawks still need help from our community of practice

Unfortunately, all this work may still not be enough. Even though we have endeavoured to strike a stewardship balance that maintains both biodiversity and forestry jobs, there are still no implemented territory- or population-scale management areas in interior BC (and no full implementation yet anywhere in BC). Individual forest managers, First Nations and forest professionals are doing what they can to protect some individual breeding areas and manage for forage habitat. Unfortunately, while there is intent to manage (e.g., through the collaborative development of these BMPs), there is no effective implemented management of this species, and virtually no legal protection. What we have learned as RPBios in BC, is that by providing acceptable BMPs, or even by providing science that results in the Conservation Data Centre’s red and blue listing, these efforts do not automatically manage for a species, unless the extra work and planning required is supported. The reality is that goshawk home ranges are large and often cut across existing forest plans and jurisdictional boundaries, and thus maintaining a viable

population will therefore require work and continuing support. A realistic solution probably includes some legally-binding requirements.

They need us

For the goshawk, we have reached the population tipping point. Their continued persistence in many landscapes is now totally dependent on us, and every territory now matters. Collaboratively we have tried to ensure that the opportunity exists—maintenance of viable goshawk populations is no longer a game of chance, or indeed hoping that people will do the right thing. We have more knowledge and effective management tools available to us than for most other species in BC. As RPBios, we have a legal and ethical obligation to uphold the College’s Code of Ethics and Professional Conduct and to protect the public interest by upholding the College’s Principles of Stewardship, “with the goal of maintaining resilient ecosystems into the future.” In particular, with respect to goshawks, we refer to Code of Ethics Principle (1): “Provide objective, science-based, unfettered, forthright and intellectually honest opinion, advice, and reports in applied biology;” and (3): “Ensure they meet a professional standard of care by practicing applied biology with attention, caution, prudence, and due diligence.”

From an RPBio’s perspective, we have learned that signing-off on a clearcut within a known goshawk home range is problematic: Clearcuts do not support the continued suitability (occupancy and breeding success) of a goshawk home range.

In applying this to advice and management of the goshawk, we are beholden to use best scientific knowledge—and the precautionary principle—to support, indeed save, this magnificent species and everything under its umbrella. [CM&E](#)



Breeding area before (top) and after harvest (right). A nest can be seen in the background on top photo. At that time in the Interior and at this stage, this is not illegal as long as there are no birds with eggs or chicks in the nest. Photo by Frank Doyle.



Collaborative Research to Fill Mesocarnivore (Fisher) Knowledge Gaps

By Alexia Constantinou, BIT, PhD student, University of Victoria,
Francis Johnson, RPF, BIT, Forest Manager, Alkali Resource Management, and
Dr. Joanna Burgar, RPBio, Carnivore Conservation Specialist, MWLRS

MANY MONTHS AND years ago, I (Alexia) met a postdoctoral researcher at the University of British Columbia, Dr. Joanna Burgar. I was a new MSc student, just 22 years old, unsure of what the first day of school is supposed to look like when you don't have any classes, just a humongous project ahead of you. She was incredibly kind and shared helpful resources with me to start off my journey in a good way. I made it through my Master's project—500,000 camera trap photos and 800 small mammal captures later. Fast forward to the fall of 2022, when Joanna and another wonderful colleague, Scott Yaeger, emailed me about a potential contract. This work was intended to examine the scope and feasibility of launching a large-scale mesocarnivore monitoring project entirely led by

First Nations. There were three key elements to this: how do we ensure that a project of this magnitude 1) informs population and distribution estimates for threatened species, 2) provides valuable wildlife data across many taxa for all communities, and 3) outlasts us all?

A few important details: mesocarnivores are small-statured (< 30 kg) carnivore species, and they contribute significantly to ecosystem function through their predation of small mammals, birds and other prey (Levi & Wilmers, 2012), their contributions to scavenging (Beasley et al., 2015) and their mediation of trophic cascades through inter-specific competition (Prugh et al., 2009). Changes in mesocarnivore populations can also serve as indicators of broader ecosystem

Common Name	Scientific Name	Provincial Status
Wolverine	<i>Gulo gulo</i>	S3
Canada lynx	<i>Lynx canadensis</i>	S5
Bobcat	<i>Lynx rufus</i>	S5
Fisher	<i>Pekania pennanti</i>	S3 (Columbian population S2; Boreal population S3)
American badger	<i>Taxidea taxus</i>	S2
American marten	<i>Martes americana</i>	S5
Pacific marten	<i>Martes caurina</i>	S5
North American river otter	<i>Lontra canadensis</i>	S5
American mink	<i>Neovison vison</i>	S5
Coyote	<i>Canis latrans</i>	S5
Red fox	<i>Vulpes vulpes</i>	S5
Raccoon	<i>Procyon lotor</i>	S5
Striped skunk	<i>Mephitis mephitis</i>	S5
Western spotted skunk	<i>Spilogale gracilis</i>	S2S3
Least weasel	<i>Mustela nivalis</i>	S4
Haida ermine	<i>Mustela haidarum</i>	S3
Ermine/Short-tailed weasel	<i>Mustela richardsonii</i>	S5 (<i>anguinae</i> subspecies S4)
Long-tailed weasel	<i>Neogale frenata</i>	S5 (<i>altifrontalis</i> subspecies SH)

Table 1: Common and scientific names for the 18 terrestrial mesocarnivore species of BC, including provincial conservation status rankings for species/sub-species/populations. Provincial conservation status ranks follow the [NatureServe](#) framework: S1 = critically imperiled; S2 = imperiled; S3 = special concern, vulnerable to extirpation or extinct; S4 = apparently secure; S5 = demonstrably widespread, abundant and secure, SH = possibly extirpated.

health—monitoring these species can provide insights into the overall well-being of BC forest ecosystems (Crooks & Soule, 1999).

Mesocarnivores in general use a wide variety of habitat types (especially depending on life phase and sex), but there are significant gaps in the literature about how anthropogenic (e.g., forest harvesting and fur harvesting) and natural (e.g., wildfire and forest damaging insect outbreaks) disturbances impact them. The weasel family, Mustelidae, is critically understudied in BC, with little known on how habitat alteration and human activity impact species' ranges, population sizes, and inter- and intra-species interactions (Belant et al., 2009).

Back to our journey: I began the scoping element of this work and (maybe audaciously) wrote to Joanna and Scott saying that this should be a whole PhD—mine, in fact. Fast forward one more time to January 2024 and this project has become the greatest professional privilege of my life so far—with a team that I feel confident and supported working alongside, who I know will be there with a kind word when I make mistakes, and who I love being in the field with. The team that has emerged for this project, and has made it at all possible, includes two other key members—Francis Johnson of Alkali Resource Management (ARM), the forestry and fire company for Esk'etemc Nation, and Dr. Jason Fisher, my supervisor and lead of the Applied Conservation Macro Ecology Lab at the University of Victoria. Collectively, we determined the appropriate scope for a PhD project.

Meaningful collaboration requires trust and time; we decided to focus efforts in one area of the Cariboo Region, overlapping our study area with concurrent mesocarnivore-focused projects, partnered with the BC

Government, Esk'etemc, Stswecem'c Xget'tem and T'exelc First Nations, and Thompson Rivers University.

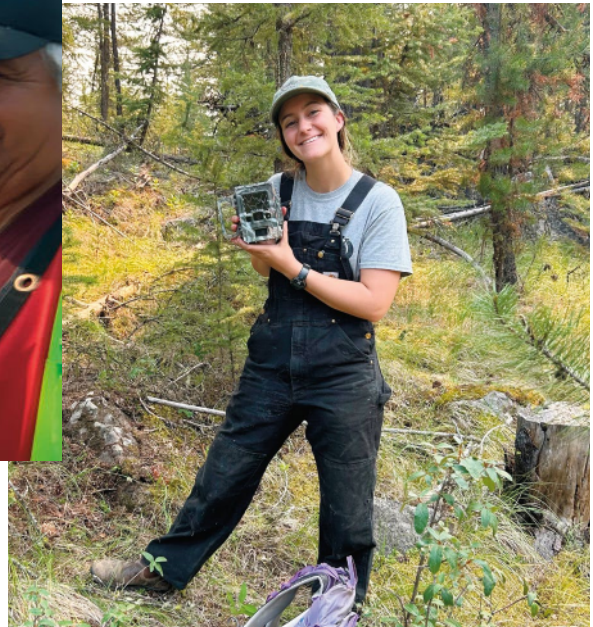
Another biology interjection: one of these understudied mesocarnivore species that likely requires immediate intervention for maintenance of quality habitat and population recovery is the fisher. Fishers in central BC (i.e., the Columbian population of fishers) are declining at a rapid pace and are predicted to become extirpated in the next decade (Fogarty et al., 2022). The most pressing threats to Columbian fishers are direct mortality from fur harvest and indirect mortality from habitat loss—due to wildfire, forest harvesting and salvage logging of forests hit by the mountain-pine beetle.

Our research questions are many, currently framed as the following (each designed to be one chapter of the dissertation):

- A. What makes Columbian fishers unique from other fisher populations, and is this related to their decline? Through a decadal systematic literature review, we will identify and synthesize the varying impacts of anthropogenic and natural disturbances on North American fisher populations, examining field and desktop studies to elucidate similarities and differences between populations and their respective responses to disturbances.



Left: A motion-triggered camera trap photo of a fisher from the 70 Mile House area in the Cariboo Region of BC. These cameras were deployed in December 2023 and remained out until July 2024 as part of the Mesocarnivore Monitoring Project led by the WLRs Mesocarnivore Team. Image captured on a Reconyx PC900 camera.
Right: A motion-triggered camera trap photo of a fisher. This photo was taken less than two minutes after a capture of a snowshoe hare (*Lepus americanus*) bounding in the same direction that the fisher is diligently following! These cameras were deployed in December 2023 and remained out until July 2024 as part of the Mesocarnivore Monitoring Project led by the WLRs Mesocarnivore Team. Image captured on a Browning DarkOps BT6 camera.



Left: Alexia (left), Chad Paul (centre) and Eric Dick (right) checking out a 2018 burn near Esk'et to determine camera placement.

Right: Alexia holding a Reconyx PC900 camera in the field. Photo taken on the unceded territories of the Esk'etemc, T'exelc and Sts'wecem'c Xget'tem Nations. Photos by Alexia Constantinou.

- B.** How does landscape change, wildfire and co-occurring species affect fisher occurrence and distribution? On Esk'etemc, Stswecem'c Xget'tem and T'exelc Territories we will use camera trap and habitat (e.g., LiDAR) data to inform occupancy models, produce maps and evaluate fisher habitat use throughout the region. This work will contribute to ongoing and concurrent provincial mesocarnivore population and distribution modeling efforts, which includes estimating fisher density at the regional (Cariboo) and population (Columbian) levels.
- C.** What framework for data sharing, sovereignty and relationship-building can be created for wildlife monitoring trap data between First Nations' governments, the provincial government and academia? We will answer this through a thorough case study examination of the process of working with the Esk'etemc Research Ethics Board and the Alkali Resource Management team to create a culturally-appropriate data flow, sharing and sovereignty agreement, and an information dissemination plan that places Esk'etemc worldviews and ecosystem values at the core. This framework will be specially tailored to the vast volume of data and storage that camera trap images require.
- D.** Using a space-for-time substitution approach and data-informed predictive modeling to explore fishers' response to multiple forms of disturbance, we will ask whether prescribed and cultural burns focused on retention of large Diameter at Breast Height (DBH) wildlife trees can

be an effective habitat restoration method for the benefit of fishers and other mesocarnivores. Space-for-time study designs will allow us to compare fisher detections, frequency of use and other mesocarnivore detections across low-severity fires in the Cariboo, particularly focused on Esk'etemc territory.

None of this work is possible without community collaboration and shaping the project to accurately, and with good heart, reflect the values and worldviews of the Esk'etemc community. This approach is predicated on respecting Indigenous data sovereignty and building this into each aspect of the project.

For the data sovereignty and management segment, this project will follow the First Nations Principles of OCAP (Ownership, Control, Access, and Possession; First Nations Information Governance Centre [FNIGC], 2024), which represents a vital framework for Indigenous research in Canada. These principles, established by First Nations, reflect the Indigenous right to self-determination and control over their data and information. One of the critical elements of being a data steward for First Nation's data is having a shared understanding and expectations of the use, storage, access and security of the data, as well as the destruction or the closure of data flow (FNIGC, 2024). Implicit in this, for wildlife data in a tri-party project, is an agreed upon data flow, or data management system. For camera trap projects, this involves careful consideration and planning the entire project from initial study design conversations to placing Secure Digital (SD) cards in cameras, and through to

the dissemination of results—the plan must span field work, analysis, community engagement and writing.

One main data management component of this project is ensuring that a camera trap data processing framework is standardized and accessible to First Nation partners and, if so desired, academic and government partners, such as the BC Government's Ministry of Water, Land and Resource Stewardship (WLRS) Mesocarnivore Team. This includes a workflow where Esk'etemc Nation has ownership and control of their data, and a shared understanding is built regarding the intentions for data, long-term benefits to the community and maintenance of student project integrity.

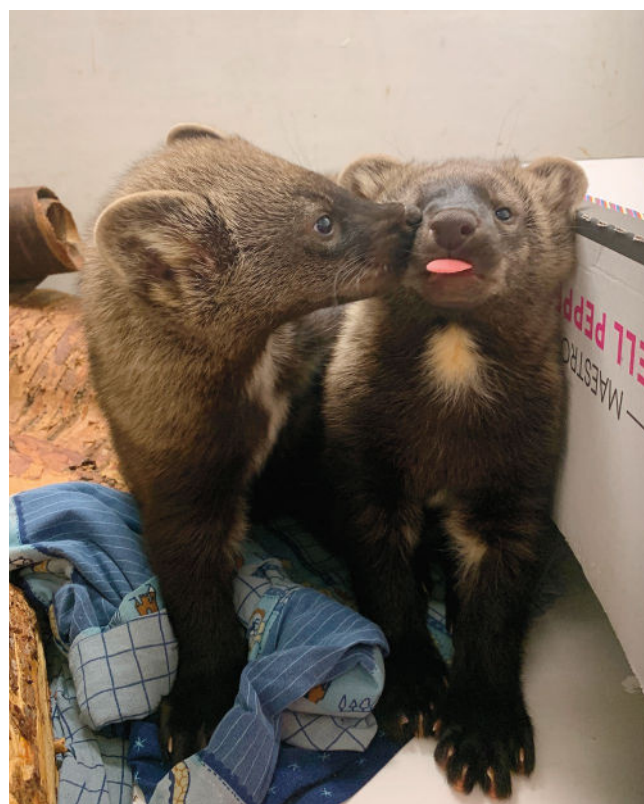
Partner First Nations' worldviews and experiences should inform understandings of pre-colonial occurrences and habitat preferences of fishers, and the relationship of fishers with other mesocarnivore species. Conducting semi-structured interviews with invested community members, First Nation fur-trappers, Land Guardians and other stewardship leaders will allow the information presented to industry and government to be as holistic as possible. However, the methods for the development of a tri-party Data Sovereignty and Sharing Protocol between the provincial government, First Nations' governments and academia will be driven by a collaborative process between all parties.

Now, six months into this PhD project, we are setting up camera traps alongside the Esk'etemc Land Guardians Program (thank you Chad, Rosie, Dale, Eric, Tracer & Sadie) and the ARM Team (thank you Francis, Jim, Clayton, Troy, Dallas, Chevonne, James, Anthony, Maria, Trey, Marcel, David, all of the fire crews and anyone else we've missed here! And a big additional thanks to Darren Stanislaus). We are also deeply grateful to the Habitat Conservation Trust Foundation (HCTF), their staff and adjudication committee for supporting this project via the Together for Wildlife (T4W) Scholarship. The funding support from the Mitacs Indigenous Pathways Accelerate Grant, partnered with ARM, makes the longevity of this project possible.

It is worth noting that we are at the beginning of a (at the very minimum) four-year ride. I will be in community at Esk'et—approximately one week each month—doing field or office work, meeting people, learning first-hand about ARM's work and enjoying the privilege that is spending time on the incredible territory of the Esk'etemc Nation, on the banks of the mighty Fraser River. Everyone has been welcoming beyond what I could have hoped for and excited to share

their sightings of critters. Recently, I was lucky enough to join Francis, Beth Bedard and others for an archeology scouting day. At our very first site, I found myself standing in a pit house¹ deeper than I am tall! These experiences are not necessarily the norm, but they are profound and allow me to feel like I am coming from a place of good heart, obligation and responsibility to do right by the community in our work together, for the generations that came before and for the ones that will come after us.

Thank you/ Kukwstsetsemc. 



Two of three orphaned and rescued fisher kits currently in care at the BC Wildlife Park. These fishers' mother was predated upon (suspected lynx), and Thompson Rivers University MSc student Shannon Werner, who was tracking the female, sprang into action to begin a rescue mission. [Read on here](#). Photo by Alexia Constantinou.



Enhancing Corporate ESG Through Collaboration: The Role of Applied Biology Professionals and Other Regulated Professionals

By Bianca Hersh, RPBio, PMP, MSc, MBA

A PPLIED BIOLOGY PROFESSIONALS such as Registered Professional Biologists or Registered Biology Technologists are instrumental in corporate sustainability and Environmental, Social and Governance (ESG) practices. For organizations committed to best practices, applied biology professionals have been involved in creating and adhering to ESG-related frameworks (including investment, disclosure and strategy frameworks) for many years, and you can find us in corporate strategy roles for that reason.

With the inclusion of biodiversity (joining climate change and water, among other topics) into the corporate mainstream as a non-financial material issue impacting not only the environment but business continuity and stability, collaboration will be increasingly expected and required between applied biology professionals and other regulated professionals. Over the next several years, Canadian businesses, in the short term particularly those with interests and activities outside of Canada, will also be tasked with updating their disclosure mechanisms to fulfill new requirements, such as the European Sustainability Reporting Standards (ESRS), Securities and Exchange Commission (SEC) Climate Rule, and International Sustainability Standards Board (ISSB)'s IFRS S1 and IFRS S2.¹ Many of these requirements will include increased reporting on biodiversity and other nature-related concepts, including the creation of targets.

The Competition Bureau of Canada's amendments to the *Competition Act* (Bill C-59) pertaining to greenwashing were also added to the increasing sustainability and ESG reporting requirements. Corporate environmental claims (from June 20, 2024, and onwards) are now considered "performance claims" with greater visibility, and claims require "adequate and proper tests" or "internationally recognized methodologies."² It has never been more vital for organizations to ensure that their environmental targets are science-based, aligned with best practices, and created in collaboration with applied biology professionals.

The Environmental Perspective

Applied biology professionals can often be found on a company's sustainability team, environmental compliance team (particularly managing aspects of a company's Environmental Management System, such as ISO 14001), construction and design teams and facilities teams. The more impact the organization may have on the natural environment, or the more impact that the natural environment may have on the business over time, the more likely they are to have applied biology professionals working in collaboration with other environmental professionals.

Below are some examples of the types of registered professionals who may work in tandem with applied biology professionals in a corporate setting:

- > **Professional Geoscientists (P.Geo., Engineers & Geoscientists BC)** can work in collaboration with applied biology professionals to complete environmental impact assessments for projects or company assets, contaminated sites issues either emergent (e.g., spills and releases) or chronic (e.g., real estate), and complete scenario analyses for physical risks contributing to climate change, water security, etc., that feed into ESG disclosures.
- > **Professional Engineers (P.Eng., Engineers & Geoscientists BC)** can collaborate with applied biology professionals at the design stage to form a shared understanding of a project scope to inform how each of the respective professionals work. The professional engineer may assess risks from the environment on the project (e.g., bridge scour), while the applied biology professional may assess risk of the project to environmental values and guide teams with best management practices (e.g., erosion and sediment control) to mitigate it.
- > **Registered Professional Foresters (RPF, Forest Professionals BC)**. Depending on the scope of the company's environmental impact, foresters may work with applied biology professionals to determine impacts of the organization on forest ecology or implement programs that drive corporate biodiversity goals.

Using nature-based solutions, such as tree planting, is an innovative way in which companies can reach their corporate sustainability goals.³ Foresters have full responsibility for the implementation of any silviculture-related initiatives.

The Financial Perspective

New requirements for ESG disclosure and, in some cases, integration into existing corporate reporting involve key finance professionals who have significant experience in assessing financial materiality in organizations and in disclosing financial metrics. Auditing firm KPMG describes the challenge of reporting on ESG: “With [financial] compliance, you’re dealing with financial information typically generated by finance professionals and accountants, yet it still took companies many years to implement robust [financial and accounting disclosure] programs. With ESG metrics, you are generally dealing with nonfinancial data generated by various groups that aren’t as experienced being audited and implementing repeatable internal controls processes.”⁴ Collaboration between financial professionals and applied biology professionals is critical during this evolution.

- > **Chartered Financial Analysts (CFA, CFA Institute)** are instrumental in working with applied biology professionals to incorporate biodiversity considerations into financial analysis and reporting. They assess how biodiversity-related risks and opportunities might impact financial performance, including potential risks from regulatory changes or supply chain disruptions, and translate ESG metrics into financial terms relevant to investors and stakeholders. They may also work with applied biology professionals to quantify sustainable investment opportunities. At a general level, CFAs are extremely experienced in all aspects of financial disclosure and can guide non-financial ESG disclosures using that experience.
- > **Chartered Professional Accountants (CPA, CPA Canada)** play a critical role in ensuring the accuracy and compliance of ESG disclosures. They are responsible for auditing and verifying data provided by applied biology professionals and sustainability professionals, providing assurance about the credibility and reliability of the information. This role is essential for maintaining trust in ESG reporting and ensuring that companies are accountable for their impacts on the environment.

The Strategic Perspective

Applied biology professionals work in tandem with corporate strategy professionals throughout organizations to embed ESG and sustainability considerations into business models and strategic planning.

- > **Project Management Professionals (PMP, Project Management Institute)** are essential in translating ESG strategies into actionable projects. They are experts in planning, executing and monitoring projects, ensuring that sustainability initiatives are completed on time, within budget and to the required quality standards. With applied biology professionals on their team as technical experts, PMPs can manage corporate sustainability projects, such as resource use compensation schemes, habitat restoration and cross-business sustainability integration. PMPs are critical in ensuring that sustainability projects are completed on time, on budget and in cooperation with a range of external and internal stakeholders; applied biology professionals are critical in ensuring that projects result in a positive environmental impact and are scientifically sound.
- > **Canadian Risk Managers (CRM, Risk and Insurance Management Society)** work with applied biology professionals to identify and manage nature-related risks within the broader enterprise risk management framework. Risk management is a key aspect of corporate governance (the “G” in ESG) and how organizations impact and are impacted by the natural environment (e.g., through flooding, drought, seismic activity), and how this can affect business continuity, regulatory compliance, and reputation. By working with applied biology professionals and financial experts, CRMs can help develop comprehensive risk management plans and mitigation strategies, such as enhancing biodiversity conservation practices and managing supply chain risks.
- > **Competent Boards Sustainability & ESG Designation (GCB.D, Competent Boards)**. Governance is the often-overlooked aspect of ESG that can make or break an organization’s sustainability and ESG strategy. At the Board of Directors level, GCB.Ds have specific training in climate change, anti-corruption, disclosures and more. Applied biology professionals are critical in gathering, reporting on and advising on data that feed into an organization’s Board governance mechanisms. They are also critical in working with GCB.Ds and other Board members to validate ESG and sustainability information (e.g., climate, water, or biodiversity scenario analyses) presented in major governance documents, such as a company’s Information Circular, Annual Report and Annual Information Form.

Strengthening Collaboration Moving Forward

Develop robust metrics: Collaborate to develop and standardize robust environmental (e.g., climate, water, waste) and biodiversity metrics for effective reporting. This joint effort ensures that metrics meet the needs of all stakeholders and provide meaningful insights. The inclusion of applied

biology professionals in this process also reduces the risk of a target or statement being categorized as greenwashing, which Bill C-59 seeks to eliminate. Third-party verification and oversight, such as the Science Based Targets Initiative (SBTi), can also be an effective avenue to ensure target veracity.

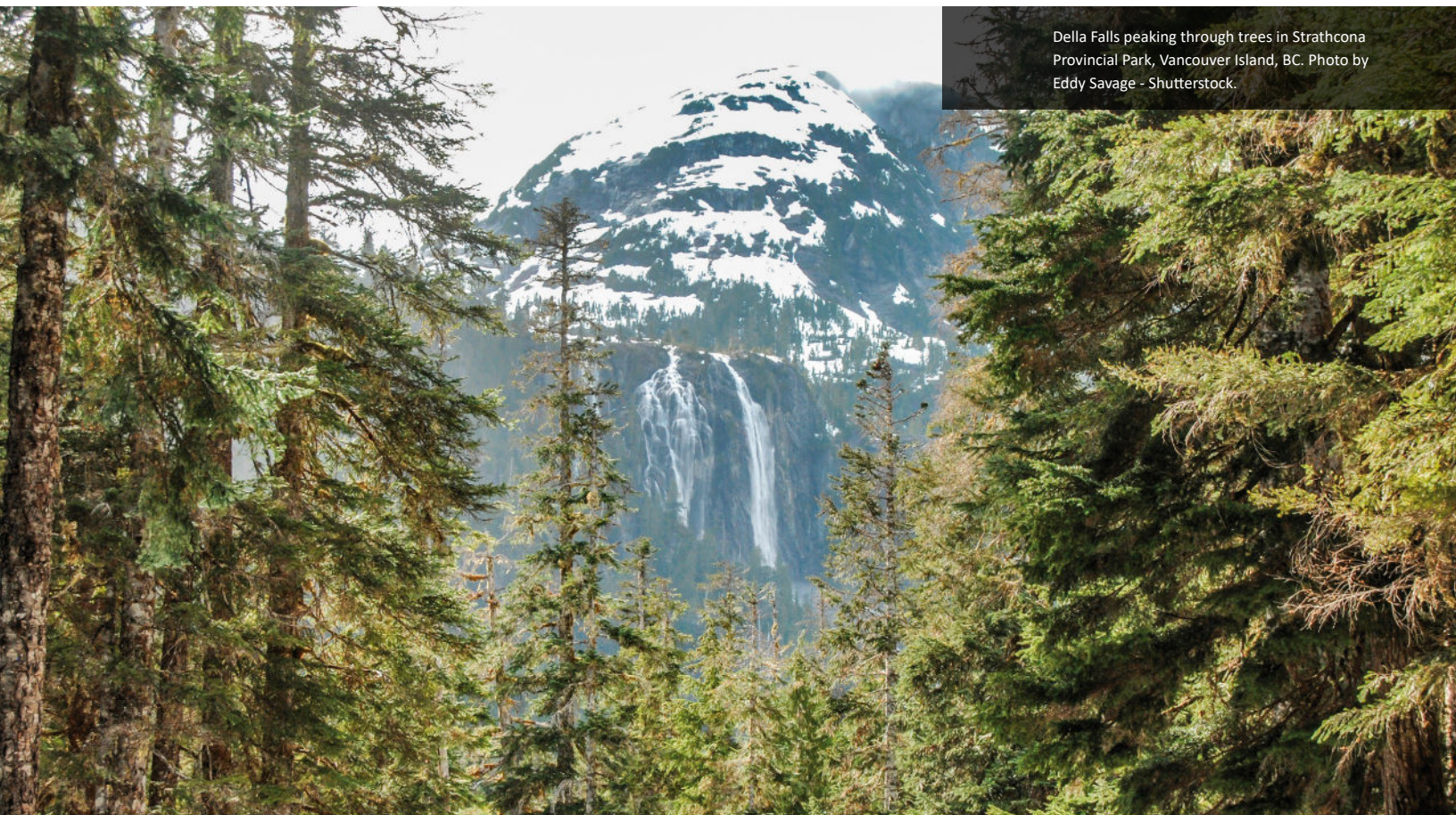
Share best practices: Exchange best practices and case studies to provide valuable insights for integrating biodiversity into ESG reporting. Collaborative platforms and industry initiatives can facilitate the sharing of knowledge and experiences, such as the various United Nations Global Compact (UNGC) country-specific organizations and initiatives (e.g., Sustainability Report Peer Network through UNGC Canada), or disclosure networks, such as CDP (formerly the Carbon Disclosure Project).

Build capacity: Invest in training and capacity-building programs to help professionals across sectors understand and address sustainability and ESG issues, with a focus on the material issues in those specific sectors that arise from impacts on and from the natural environment, as well as social initiatives and governance practices. Capacity-building also extends to the academic environment, such as post-secondary institutions including business concepts in science courses, and vice versa. Now is the time to take a holistic view of sustainability in business, so that future regulated professionals are empowered look outside of their area of

practice to other professionals for integration of valuable concepts and professional insights.

Monitor changing legislation and disclosure requirements: It is critical to ensure that registered professionals from all disciplines are collaborating when it comes to monitoring upcoming legislations and disclosure requirements, particularly those which span both financial and non-financial reporting. It would be impossible to fulfill the requirements of these upcoming changes without a collaborative approach by registered professionals in various organizational roles.

While collaboration between applied biology professionals and other professionals seems like a no-brainer when it comes to ESG and corporate sustainability, it can take effort to ensure that this collaboration takes place. Applied biology professionals can be seen as newcomers to the corporate environment, unlike financial and corporate strategy professionals, who are well-embedded into organizational processes, such as enterprise risk management. Thus, it is critical that both applied biology professionals and the more traditional regulated business professionals collaborate to translate their key deliverables, Key Performance Indicators and role requirements, demonstrating the parallel positive impacts of a solid sustainability program with financial growth, winning strategy and ethical governance. [CM](#)



Della Falls peaking through trees in Strathcona Provincial Park, Vancouver Island, BC. Photo by Eddy Savage - Shutterstock.

Bringing Professional Practice to the Public: Why Giving Our Time to the Community Is Not Working for Nothing

By Dr. Mike Simpson, PhD, RPBio

PROVIDING SERVICE TO the community is something every registered professional biologist in BC should embrace. If it's worth 30 Continuing Professional Development (CPD) points, it has to be important, right? However, giving the benefit of our knowledge and experience to the public isn't something we should be doing only to ensure we pass muster in our annual CPD assessment. We work in a profession where we can have a profound impact, not only on our communities' interests but also on those of the public at large, a principle embodied in the College of Applied Biologists' Code of Ethics and Professional Conduct.

Moreover, we operate in a world where public trust in science is being eroded by misinformation about globally important issues, such as COVID-19 and climate change, and by skepticism about the objectivity of businesses that profit through science. Connecting directly with the public is vital if we are to counterbalance negative press and affirm public trust. Bringing our professional practice to the community *pro bono* should help with that and it can be fun, too.

When I started my PhD at the University of Alberta, I didn't want to be an academic or a consultant. I wanted to teach and write, so I could communicate science to non-scientists. These days, as an environmental consultant, I certainly do the latter, but not in the form that I had originally envisaged. While I try to write ecological assessments in plain, uncluttered and readable language, I nevertheless default to a standard considered typical of other professionals who are practicing in the same or similar fields when describing existing information and methodologies and providing quantitative/qualitative justifications for residual effects criteria and potential

mitigation measures. (If you followed that last sentence, there is a career for you in regulatory reporting too!)

Because technical writing leads me to adopt terrible writing habits, community outreach activities can be a tonic, an opportunity to throw off the formalities involved in technical work and do science with a smile. And when you do science with a smile, people smile back. As biologists, we are in the fortunate position of working with things that the public can connect with easily. Who wouldn't get a kick out of seeing creepy crawlies, furry animals or wildflowers? Similarly, if you offer to drive people out to a fungi foray, you'll almost certainly find there's not "mushroom" in your vehicle for everyone who wants to go.

“We work in a profession where we can have a profound impact, not only on our communities' interests but also on those of the public at large, a principle embodied in the College of Applied Biologists' Code of Ethics and Professional Conduct.”

Of course, not every opportunity to give the community an insight into our professional practice should involve telling bad jokes. In general, we should welcome opportunities to demystify our profession in ways that avoid the worst elements of our professional work, like aloof-sounding academic jargon and acronyms, the use of which is often OTT in BC's EIAs, EMPs and OEAs, IMHO (see below for definitions).

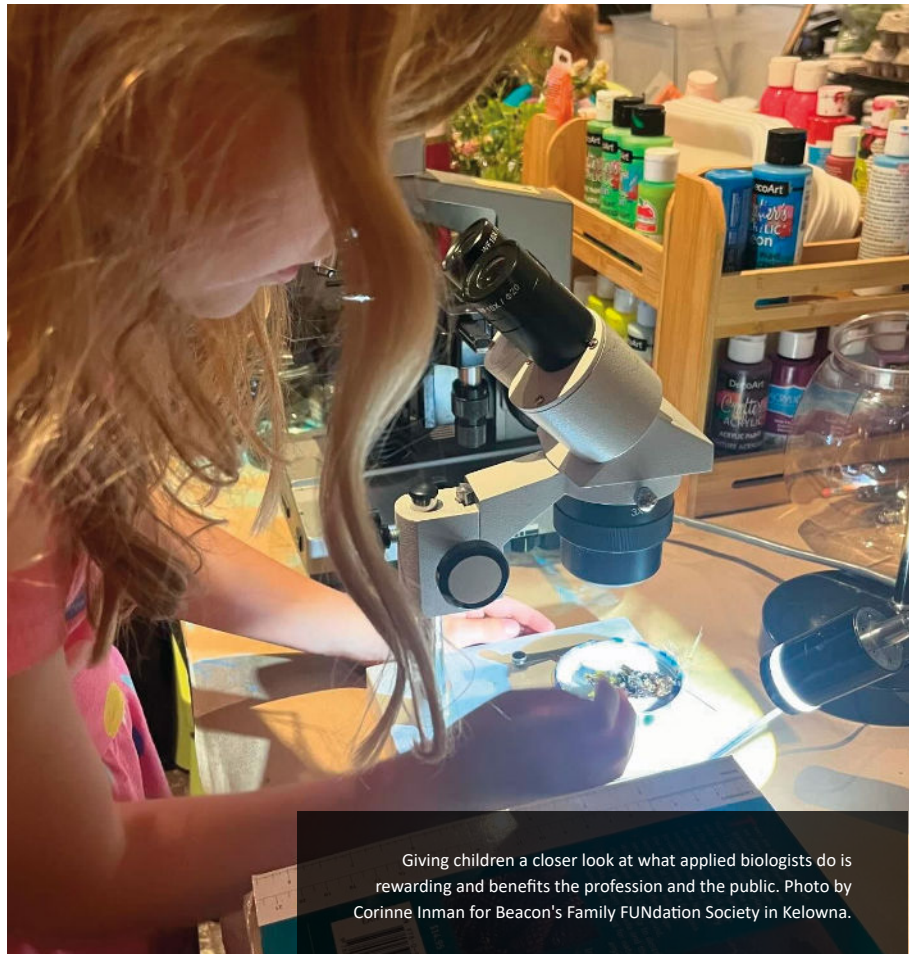
Keeping things simple is essential when kids are involved. A couple of years ago, NatureKids BC invited me to be on the editorial board of their members' magazine, *NatureWILD*. It was the perfect opportunity to pursue one of my goals at university. *NatureWILD* is aimed at kids in the age range of 5–12, so I had to learn to adapt esoteric knowledge for a readership that is eager, insatiably curious and far from dumb.

The mission of NatureKids BC, in its own words, is to “help BC children get outside with their families to explore, play, learn about and take action for nature” (NatureKids BC 2024).

They have local groups throughout BC that are always looking for experts to enthuse kids about everything from annelids to eagles. Similarly, almost any non-profit organization that organizes summer camps or other activities for kids welcomes guest appearances by professional biologists. I recently did a plant camp with Beacon's Furry FUNdation Society (BFF 2024), a Kelowna-based non-profit dedicated to supporting low-income families. The kids had a blast collecting leaves and looking down microscopes. In the same way, schools sometimes like to welcome experts to talk to students about their profession.

These days, I mostly restrict my community outreach to the activities mentioned above, because I get to share what I love about nature as much as what I know. I have volunteered on nature- or environment-focused boards and committees, but that was dealing with grown-up stuff and mostly involved sitting behind a desk, which I do every day. Serving on local government advisory committees and boards of interest groups can be tricky too, especially if you are the only practicing professional involved. Your credentials can appear to validate a position that other board members support, even if you do not. It may also lead to questioning whether your fellow volunteers, with the best intentions, should be giving advice that, under a strict reading of the [Applied Biologists Regulation](#) of BC's *Professional Governance Act*, meets the definition of "applied biology" and should only come from a qualified environmental professional.

These grey areas of professional governance will need time to navigate. In the meantime, I avoid appearing to support anything that could be political. As a practicing professional, doing something for free does not free me from my obligations under Section 2 of the [College's Code of Ethics](#). Even informal dealings with the public, employers, clients and other registrants of the profession must be "objective, science-based, unfettered, forthright and intellectually honest." That goes for sharing knowledge with kids too. It is another reason why I love doing so: if they are engaged, they ask lots of questions



Giving children a closer look at what applied biologists do is rewarding and benefits the profession and the public. Photo by Corinne Inman for Beacon's Family FUNdation Society in Kelowna.

and it's surprising how often they spot hokum. Moreover, they are the community to come, so if I get them excited about science now, I hope it will shine a positive light on biology and its practitioners long into the future. [!\[\]\(ef62519991500c3a77af2e8766280b93_img.jpg\)](#)

ACRONYMS

OTT: Over the top

EIA: Environmental Impact Assessment

EMP: Environmental Management Plan

EOA: Environmental Overview Assessment

IMHO: In my honest opinion



Results from 2024 *College Matters* Content Survey

By College Staff


In July and August 2024, the College surveyed registrants about *College Matters* magazine. This publication is a key communication tool for advancing registrants' understanding of the profession and what it means to be a regulated professional. It also contains informative features about the work that applied biology professionals do.

The survey asked registrants to report what sort of content they would like to see appear in *College Matters* going forward. It's a question that the College asks from time to time to verify that the magazine continues to be useful for registrants.

This year, respondents to the survey identified regulatory information as it pertains to updates to legislation in resource management to be the most desirable topic for features in the magazine. This topic could include updates to statutes at Indigenous, federal, provincial or municipal government

levels. At almost exactly the same rate, respondents identified that professional interest stories covering the work that applied biology professionals do—particularly if innovative practices are used—are a key area of curiosity. Rounding out the top three most common responses, respondents pointed to regulatory information related to professional regulation and governance as being an important topic for inclusion in *College Matters*.

Overall, professional practice and regulatory information are the two themes that respondents preferred to see in *College Matters*, which affirms that the magazine is an important medium for registrants to learn about the profession.

The College would like to thank all those who completed the survey, as their contribution is important for us to provide relevant content for all our registrants. 

Content Options by topic



→ If you're interested in contributing to *College Matters*, contact the College at cab@cab-bc.org with your proposed topic. Submissions that are printed in an issue of *College Matters* can be claimed for Continuing Professional Development points!

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Volunteer with the College of Applied Biologists

Because the College is committed to bringing diverse backgrounds and expertise to College activities, we invite all registrants to consider applying for open volunteer positions. Please review the [positions available here](#) along with their respective terms of reference.



Notes, References & Links

You Are Part of the *Community of Practice* — Page 9

Notes

1. Name updated by the American Ornithological Society in July 2023 from Northern goshawk to American goshawk (*Accipiter gentilis*).
2. *Accipiter gentilis laingi*.
3. BC Timber Sales (BCTS) manages 20 per cent of the province's allowable annual cut.
4. For detailed description see Stuart-Smith, A.K., W.L. Harrower, T. Mahon, E.L. McClaren, and F. I. Doyle. (2012). A scientific basis for managing northern goshawk breeding areas in the Interior of British Columbia: Best management practices. FORREX Kamloops, B.C. Series 29, https://www.hcwildlife.ca/uploads/8/4/9/1/84917238/stuart-smith_et_al_2012_bmp.pdf.

Collaborative Research to Fill Mesocarnivore (Fisher) Knowledge Gaps —Page 14

Notes

1. Pit houses are a type of Indigenous underground dwelling, particularly used in cold months. Check out the Indigenous Peoples Atlas of Canada for more information from David Wolfman and Marlene Finn on their family visit to Xaxli'p territory. <https://indigenouspeoplesatlasofcanada.ca/article/origins/>

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Enhancing Corporate ESG Through Collaboration — Page 18

Notes

1. Deloitte Development LLC. “2024 Sustainability Annual Report: Survey findings on ESG disclosure and preparedness,” *Deloitte*, last modified July 2024, <https://www2.deloitte.com/content/dam/Deloitte/us/Documents/audit/2024-sustainability-action-report.pdf>
2. TELUS Corp, *Bill C-59 Competition Act update (confidential)* (2024) and Wright, K. et al. “Bill C-59 becomes law: Competition Act hit by a green wave,” DLA Piper, last modified June 24, 2024, <https://www.dlapiper.com/en-ca/insights/publications/2024/06/competition-act-hit-by-a-green-wave>

3. TELUS Environmental Solutions. "Restoring nature," TELUS, last modified 2024, <https://www.telus.com/en/social-impact/caring-for-the-environment/restoring-nature>
4. Estes, S. and King, S. "The 'SOXification' of ESG reporting," KPMG, last modified 2024, <https://kpmg.com/kpmg-us/content/dam/kpmg/pdf/2023/soxification-esg-reporting.pdf>

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Other Links Featured in This Issue

- > College of Applied Biology website (page 2): <https://www.cab-bc.org/>
- > Past *College Matters* issues (page 2): <https://cab-bc.org/college-matters-digital-edition/>
- > Erosion and Sediment Control professional practice guideline (page 3): <https://cab-bc.org/wp-content/uploads/PP-Guidelines%2%80%94Erosion-and-Sediment-Control.pdf>
- > Society for Ecosystem Restoration in Northern BC (SERNBC) website (page 12): <https://sernbc.ca/>
- > Best Management Practice for Northern Goshawk Foraging Habitat document (page 13): https://sernbc.ca/uploads/library/sern_literature/Goshawk_Foraging_Area_BMP_2023.pdf
- > Code of Ethics and Professional Conduct (page 13 & 22): https://cab-bc.org/wp-content/uploads/cab_schedule_1_coepc_feb13_23_v1.pdf
- > Principles of Stewardship (page 13): https://cab-bc.org/wp-content/uploads/stewardship_principles.pdf
- > NatureServe website (page 14): <https://www.natureserve.org/>
- > "Trio of fisher kits rescued in the South Cariboo" article (page 17): <https://www.wltribune.com/home/trio-of-fisher-kits-rescued-in-the-south-cariboo-7407910>
- > Applied Biologists Regulation (page 22): https://www.bclaws.gov.bc.ca/civix/document/id/complete/statreg/13_2021
- > Committee & Task Force Openings (page 24): <https://cab-bc.org/about-the-college/committee-task-force-openings/>



Dr. Chris Johnson Received the 2024 University Excellence in Professional Practice Mentorship or Stewardship Award by UNBC

Dr. Chris Johnson, RPBio, is the College's Chair of the Credentials Committee. He has been a registrant since 2003. In July, he received the 2024 University Excellence in Professional Practice Mentorship or Stewardship Award by the University of Northern British Columbia (UNBC) and was featured on UNBC's social media:

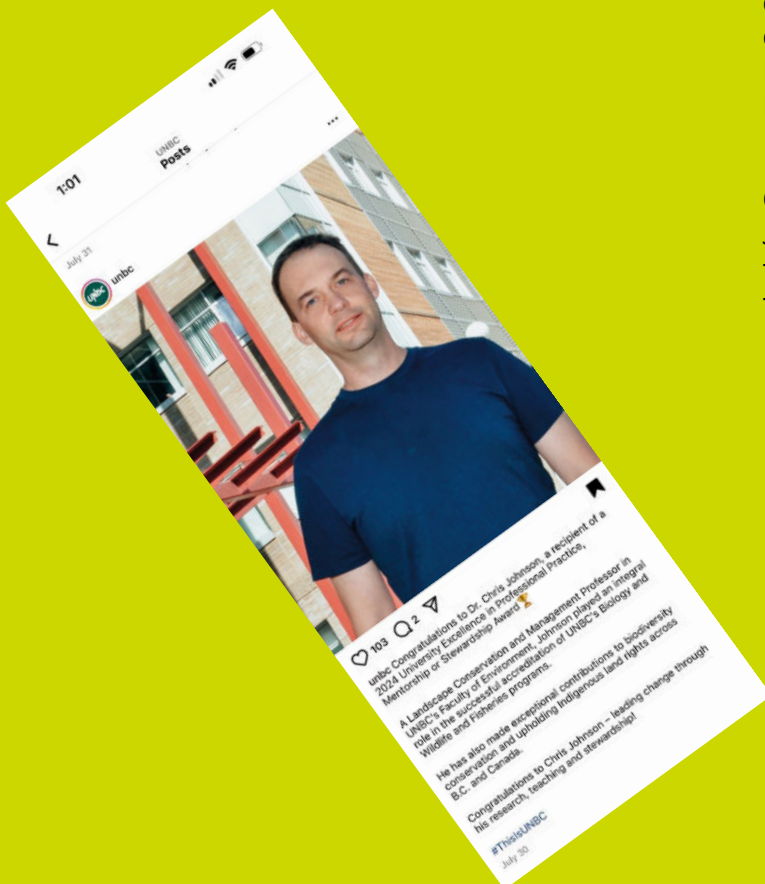


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“A Landscape Conservation and Management Professor in UNBC's Faculty of Environment, Johnson played an integral role in the successful accreditation of UNBC's Biology and Wildlife and Fisheries programs.

He has also made exceptional contributions to biodiversity conservation and upholding Indigenous land rights across BC and Canada.

Congratulations to Chris Johnson—leading change through his reaserch, teaching and stewardship!”



2025 Conference in Prince George, BC

The College's 2025 Conference will take
place in Prince George on April 10 & 11, 2025



PRINCE GEORGE CONFERENCE
AND CIVIC CENTRE

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