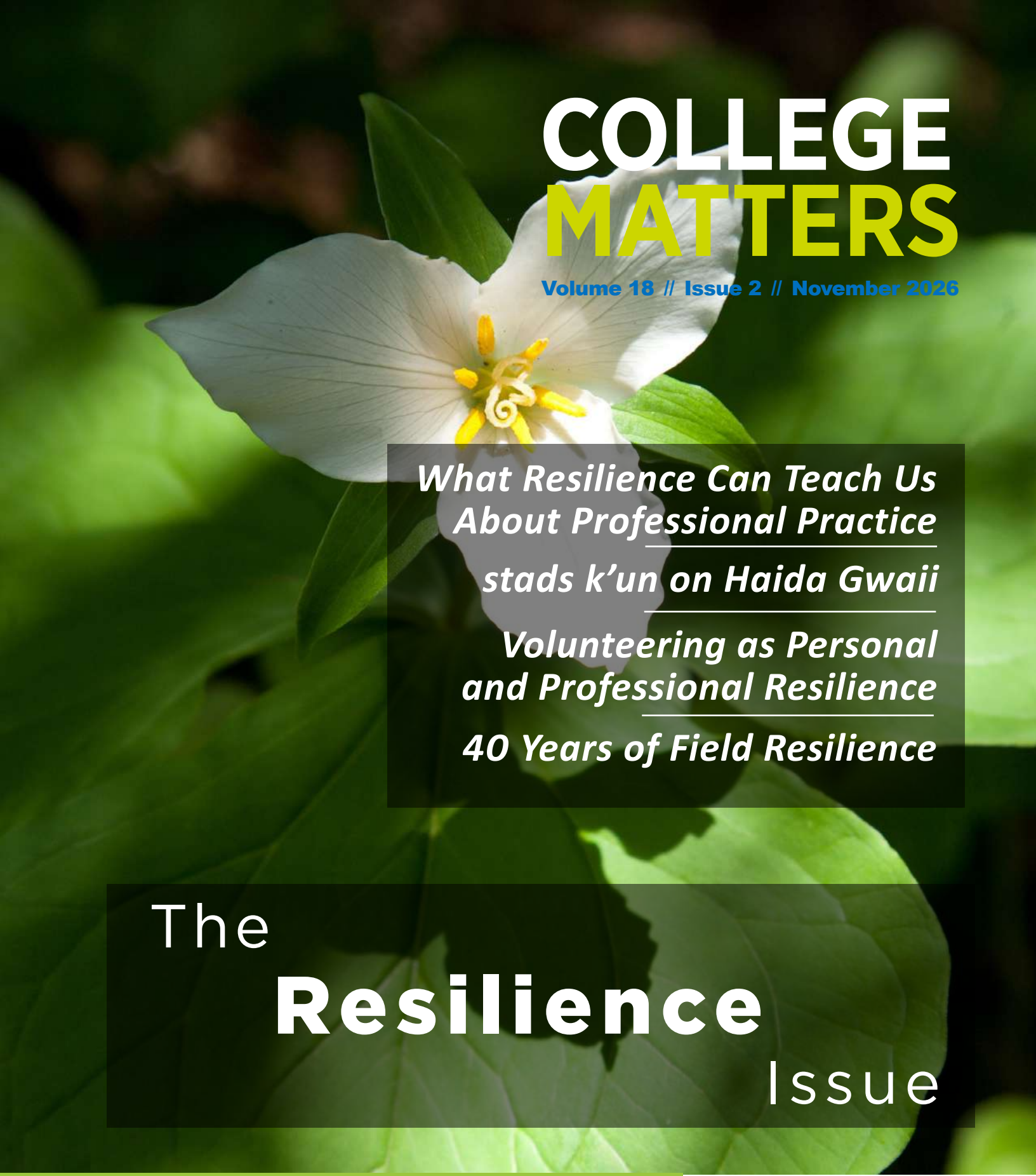


COLLEGE MATTERS

Volume 18 // Issue 2 // November 2026

What Resilience Can Teach Us About Professional Practice

stads k'un on Haida Gwaii

Volunteering as Personal and Professional Resilience

40 Years of Field Resilience

The Resilience Issue

The College acknowledges the territories of First Nations and their enduring relationships with the lands, waters, and ecosystems across what is now known as British Columbia. We recognize the rights, governments, interests, perspectives, and priorities of all Indigenous Peoples, including First Nations, Métis, and Inuit. We respect and honour their distinct cultures, histories, languages, knowledge systems, laws, and ways of life.

COLLEGE OF APPLIED BIOLOGISTS
Professional Accountability



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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: Trillium by Jared Hobbs, RPBio.

Back cover photo: Penticton Lakeside Resort and Conference Centre

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Resilient by Nature

By Debbi Stanyer, MASc., FAPB, RPBio, *Chair*

AS WE MOVE through another productive year at the College of Applied Biologists of BC, I would like to take a moment to reflect on the important work being done by our registrants across the province.

Applied biology professionals play a critical role in safeguarding British Columbia's natural resources, supporting sustainable development, and advancing environmental stewardship. Your expertise and commitment contribute to informed decision-making and resilient communities.

One of the strengths of our profession is the diversity of experience, perspectives, and knowledge that registrants bring to their work. By working together, embracing lifelong learning, and engaging with emerging issues, we strengthen both the profession and the confidence that the public places in us.

> "Resilience will continue to be one of our profession's greatest strengths."

Throughout its history, the applied biology profession has demonstrated an ability to adapt to changing circumstances while remaining grounded in science, ethics, and sound professional judgement. As we look ahead, resilience will continue to be one of our profession's greatest strengths. It is what enables us to navigate uncertainty, respond to emerging challenges, and find innovative solutions in a rapidly changing world.

Ecologist C.S. Holling observed that resilience is the ability to adapt to change and disturbance while maintaining the essential functions and characteristics that define a system. This concept is highly relevant to the work of applied biologists, who help ecosystems adapt to change while maintaining functions and values that support long-term sustainability.

The years ahead will undoubtedly bring new challenges. Climate change, biodiversity loss, increasing pressures on natural resources, evolving technologies, and changing societal expectations will continue to shape the context in which we work. These challenges are complex, interconnected, and often unprecedented.

These challenges also present an opportunity for our profession to demonstrate leadership. Applied biologists are uniquely positioned to bring evidence-based thinking, professional judgment, and a long-term perspective to decisions that will shape British Columbia's future.

I am confident that, by remaining adaptable, collaborative, and committed to the highest standards of professional practice, we will continue to meet these challenges with resilience, integrity, and purpose. Together, we can help build a future that is environmentally sustainable, socially responsible, and informed by sound science for the benefit of generations to come. CM



Building Resilience Together

By Laura Plante, *Chief Executive Officer*

IN ADDITION TO a tremendous sense of awe, I was drawn to a career in natural systems because of my appreciation for their interconnectedness and resilience.

Across British Columbia, ecosystems are constantly responding to disturbances. Their ability to persist comes from relationships, diversity, adaptability, and the capacity to renew and reorganize when conditions change.

As I read the articles in this Resilience Issue of ***College Matters***, those same themes appear often in the experiences of applied biology professionals.

In her article, Dr. Jennifer Psyllakis describes resilience as the ability to retain the relationships, processes, and functions that matter through disturbance and change. That idea resonates well beyond nature. Many of the stories in this issue point to a similar conclusion.

> "The qualities that make ecosystems resilient are some of the same qualities that strengthen professions, communities, and organizations."

Eva Boehringer reflects on volunteerism as making meaning and purpose in the context of environmental challenges and economic uncertainty. Bob Redden describes a sense of accomplishment and connection through volunteering on the College's Credentialing Standard Review Task Force. New members of the Editorial Board speak about sharing knowledge, contributing to the profession, and learning from the perspectives of others. Ed Desson draws on more than four decades of experience in the field to discuss adaptability, continuous learning, and avoiding complacency.

While each author approaches the topic differently, together they remind us that resilience is strengthened by relationships, diverse perspectives, continuous learning, and a shared commitment to contributing to the profession and the communities it serves.

That observation is relevant to the College as well.

This past year has brought significant change, including a CEO transition and the continuing evolution of the College under the Professional Governance Act. Like many organizations, the College must be prepared to adapt to changing circumstances and expectations. Building resilience within the organization means strengthening the relationships, systems, and capacity that allow us to continue serving the public interest and supporting the profession through change.

As CEO, one of my priorities is to continue building our capacity. The College's future strength will come not only from our regulatory framework, but also from the people who contribute their expertise, ideas, and time in support of the profession.

What gives me confidence is seeing resilient qualities reflected across the applied biology community. Every day, registrants contribute their expertise and commitment to stewardship in service of healthy ecosystems and the long-term well-being of those living in British Columbia. The articles in this issue provide examples of that contribution in action.

Welcome New Editorial Board Members

SOHEIL BAHREBAR IS a Registered Professional Biologist (RPBio) based in Vancouver and Chilliwack, British Columbia, with a PhD in Marine Biology and Ecology and a professional background spanning fisheries science, aquatic ecology, environmental monitoring, research, and scientific communication.



He currently works with Fisheries and Oceans Canada in salmon enhancement and fish culture, where his work involves practical hatchery operations, fish health, biological monitoring, and activities that support Pacific salmon conservation and enhancement. He values the connection between applied science and hands-on fisheries work, particularly where sound biological knowledge can directly support conservation and resource stewardship.

Before coming to Canada, Soheil worked for many years in academic and research settings, including as a lecturer and researcher, and later as a guest researcher at the University of Malta. His research interests have included marine and freshwater ecology, fisheries biology, macrobenthic communities, environmental monitoring, and aquatic ecosystem health.

Scientific communication has also been an important part of his career. He has published research papers, authored four books related to aquarium science and aquatic biology, and holds four U.S. patents. He has also served as a scientific reviewer and editorial board member and currently reviews articles for Ocean Yearbook at Dalhousie University.

Beyond his regular work, Soheil values opportunities to contribute to the broader biological community. He has participated in invasive species monitoring in British Columbia, serves on the Advisory Board of the Windsor Aquarium, and recently joined the College of Applied Biologists' Editorial Board Working Group.

He sees professional biology as a combination of scientific knowledge, sound judgment, continuous learning, and responsibility to the public and the environment. He looks forward to contributing his experience in fisheries, aquatic science, research, and scientific communication to the Editorial Board while learning from the diverse perspectives of other College members.

Welcome New Editorial Board Members



HAMED DANESHFOZOUN, MSC, RPBio, P.Biol., is an Environmental Specialist with Spectrum Resource Group, currently based in Calgary, Alberta. He holds a Master of Science in Aquaculture Engineering and a Bachelor of Science in Natural Resources Engineering. His graduate research focused on rainbow trout physiology and stress responses during transportation, which developed his long-standing interest in fish biology and aquatic ecosystems.

After moving to Canada, Hamed joined Carleton University as a Research Assistant. His work included literature reviews, experimental planning, laboratory research, data analysis, quality control, and technical documentation. He contributed to research related to food-waste management, upcycling, and biomaterials.

Hamed later worked with Lake Babine Nation Fisheries in northern British Columbia, supporting sockeye salmon monitoring and conservation programs. In this role, he supervised field crews, coordinated remote field operations, conducted fish sampling, managed biological data, and contributed to technical reports and funding proposals. He particularly valued the opportunity to work alongside Indigenous technicians and learn from the knowledge, experience, and perspectives of local communities.

In his current role with Spectrum Resource Group, Hamed supports construction-related environmental monitoring, fish salvage, water quality monitoring, regulatory compliance, and technical reporting. Working in both British Columbia and Alberta has given him the opportunity to experience different ecosystems, regulatory requirements, and approaches to environmental management.

Hamed joined the College's Editorial Board Working Group in August 2026. He is interested in effective science communication and sharing practical knowledge from fieldwork, research, and environmental consulting. As an internationally trained professional, he is also interested in the experiences of other internationally trained and early-career biologists as they build their careers in Canada. He looks forward to learning from other Editorial Board members and contributing to the College Matters publication.

Outside of work, Hamed enjoys travelling, swimming, discovering new places, and experiencing the natural beauty and diverse landscapes of Canada. CM

Shaping the Profession: Insights from the Credentialing Standard Review Task Force

In Conversation with Bob Redden

By Elizabeth Zajc, RPBio, Co-Chair, Editorial Board
Stantec Consulting Ltd.

THE BOARD OF the College of Applied Biologists convened a Credentialing Standard Review Task Force in February 2025 with the objective of ensuring that registration requirements are robust and relevant to the practice of applied biology, and do not create unnecessary barriers to becoming a professional. The Board approved the Task Force recommendations at the February 2026 Board meeting. More details on the Credentialing Standard changes are available here: Credentialing Standard Changes as of June 1, 2026.

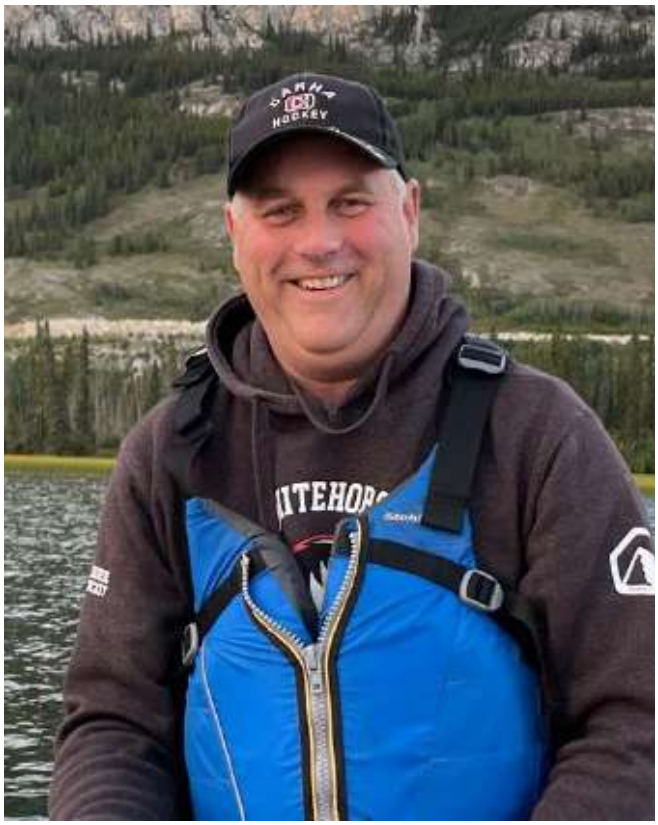
In this Q&A, Bob Redden shares his personal experience volunteering with the College of Applied Biologists on the Credentialing Standard Review Task Force. Bob is the Vice Chair of the Board of the College of Applied Biologists. He is a senior partner and professional biologist at EDI (Environmental Dynamics Inc).

Q: To start off, could you tell us about your experience volunteering with the College?

Bob Redden: I was elected to the Board in the spring of 2024, and I've really enjoyed my time. Over the past couple of years, I've been asked to volunteer on various committees and task forces. I find it incredibly rewarding—it's a way to give back to a profession that I hold dear. In early 2025, I was asked to join the Credentialing Standard Review Task Force, bringing an employer's perspective to the table.

Q: How was the Credentialing Standard Review Task Force structured, and what was its mandate?

BR: The board approved clear terms of reference in early 2025 that outlined our mandate, duties, responsibilities, and meeting structure.



Bob Redden, RPBio, Vice Chair of the Board and Member of the Credentialing Standard Review Task Force. Photo by Bob Redden.

The task force brought together individuals from across the biology spectrum—in industry and academia—including members of the existing Credentials Committee, academic assessors, auditors, and individuals with recent experience hiring biologists. Importantly, participants represented themselves as individual professionals rather than representatives of their employers or associations. That broad depth of knowledge, experience, and viewpoint made for well-rounded debate and considered outcomes.

Q: What specific perspective did you bring to the discussion?

BR: Having been in the biology field and consulting for over 30 years, I've hired hundreds of biologists and mentored many professionals throughout my career. I brought that employer and mentorship lens—looking not only at what employers need but also remembering my own experience as a mentee and considering how we support upcoming generations of biologists.

Q: What do registrants gain personally and professionally from volunteering with the College?

BR: First, there's a real sense of accomplishment in adding value to your profession and knowing you have a voice. Beyond that, it's about connection and continuous learning. Through committee work, task forces, and the board, I've met many colleagues I otherwise wouldn't have encountered. Stepping outside your daily workplace bubble to build a network and learn from peers across different sectors is one of the neatest parts of being a professional.

Q: Were there any aspects of the task force's work that stood out or surprised you?

BR: What really stood out was the foundation of data behind our work. College staff put an impressive amount of effort into conducting background research and structured surveys. Task Force members interviewed a selection of employers and practitioners—from private enterprise and consulting to academia—and staff surveyed recent applicants about what worked and what didn't. Having that field data brought directly to the task force ensured we weren't operating in a bubble. It allowed us to make informed decisions based on genuine feedback rather than assumptions.

Q: Any final reflections on your time with the task force?

BR: I was really impressed by the level of constructive debate. People weren't afraid to put challenging ideas or differing viewpoints on the table, and those ideas were met with respect and detailed, professional discussion. Knowing every angle was thoroughly considered gives me immense confidence in the updated standards. It was a top-notch experience, and I deeply appreciate the effort everyone invested. CM

AI disclosure: this article was drafted by Gemini AI based on a transcript produced by CoPilot. The article was edited by Editorial Board members and reviewed by the interviewee for accuracy.

Save the date!

2027 Conference in Penticton, BC

The College's Annual Conference will take place April 7-9, 2027



COLLEGE MATTERS



The Resilience Issue

FEATURE ARTICLES

Article notes & references are on page 23

Resilience By Design: What Nature Can Teach Us About Professional Practice

By Jennifer Psyllakis, PhD.
Assistant Deputy Minister, BC Ministry of Water, Land and Resource Stewardship

RESILIENCE IS THE capacity to persist, adapt and retain what matters through disturbance and change. It is not stability nor is it simply the ability to withstand more.

Several years ago, while travelling in Boston, I visited a science museum exhibition on biomimicry. I was fascinated.

The premise was simple: instead of always trying to invent solutions from scratch, what if we looked more carefully at how nature has already solved problems? The Biomimicry Institute describes nature as offering models that can inform solutions across fields and industries. It invites a subtle shift in perspective: not simply learning about nature, but learning from it.

That idea has really stuck with me since then, and as "resilience" becomes increasingly common in our professional vocabulary, I explore what we actually mean by it, and what nature might teach us about resilience.

We talk about resilient ecosystems, communities, economies, organizations and people. Often, however, we use the word when what we mean is endurance: the ability to withstand more pressure, recover quickly and keep going. Alternatively, we might mean stability: the ability to maintain or return to a specific state. I think nature can provide a richer definition or interpretation of resilience, as it is not the same as stability or the ability to "bounce back." It is a more ecologically complex picture.

In his influential 1973 paper [1], Canadian ecologist C.S. "Buzz" Holling distinguished ecological resilience from stability. He argued that when systems are continually confronted by change and the unexpected, constancy becomes less important than the persistence of relationships. That is a powerful distinction.

For professional biologists, I expect this is familiar territory. For example, a point-in-time inventory of a population or community can tell us something important about its current condition. But understanding processes such as recruitment and mortality, predation, movement, and access to habitat and food can tell us something different: how and why the system may be changing, and how it might respond to future conditions. In this example, the emphasis shifts from understanding "state" to understanding "relationships" within a broader system.

> "Resilience is the capacity to persist and adapt through disturbance and change while retaining the relationships, processes and functions that matter."

Later work expanded resilience theory to include alternative stable states, renewal and reorganization, and the adaptive capacity that influences how systems respond to change [2]. Put more simply, this leads me to think of resilience as the capacity to persist and adapt through disturbance and change while retaining the relationships, processes and functions that matter.

So what creates resilience? Looking across ecological systems, four qualities strike me as especially useful principles for thinking about resilience in professional practice: diversity, redundancy, reserve capacity and relationships.

Diversity. Ecological systems contain different species, functions, responses and strategies. In our professional world, diversity can mean bringing together field knowledge, quantitative analysis, policy expertise, lived experience, Indigenous Knowledge and Western science in respectful relationship. Different ways of seeing a problem do more than broaden the conversation. They expand the range of responses available when circumstances change, helping us notice what we might otherwise miss. Without

that diversity, we risk narrowing both what we see and how we respond.

Redundancy. In organizations, we are often encouraged to eliminate duplication in the name of efficiency. Ecology offers a useful caution: apparent redundancy can provide insurance when conditions change. Professionally, that might look like peer review, cross-training, succession planning, good documentation and multidisciplinary networks. If critical knowledge, authority or capability resides in only one person or one pathway, the system may be efficient, but it can also be brittle.

Reserve capacity. A system operating perpetually at maximum capacity has little ability to absorb a shock. The same is true for people and organizations. A fully allocated calendar, workforce or workload leaves little room for the unexpected, particularly when life outside work makes its own demands. Rest, reflection, learning and uncommitted capacity can look inefficient when measured against immediate output. Yet some margin may be a condition for sustained good work.

Relationships. Perhaps most importantly, resilience lives in connections, not simply in individual components. In professional systems, those connections determine whether knowledge moves, whether concerns are surfaced, whether people or organizations can ask for help or partnership, and how perspectives influence decisions. Strong relationships turn a collection of capable individuals or organizations into a connected network capable of learning and responding together. Therefore, trust, credibility and psychological safety matter both to individuals and at a system level.

This last principle matters because conversations about resilience can too easily place responsibility on individuals: be more resilient, manage stress better, adapt faster.

Individual practices certainly matter, but if the connections or conditions around people are failing, asking individuals simply to become more resilient misses an important ecological lesson. Indeed, when a person has exhausted their capacity, asking them to be more resilient is likely detrimental to their well-being and

Recovery from forest fire in BC's Thompson-Okanagan.
Photo by Anneo8, iStock.



can risk confusing systemic failure with individual responsibility. We may ask: does the system, not just an individual, possess the diversity, redundancy, reserve capacity and relationships to absorb or adapt to the disturbance?

Let's now consider these concepts with the relevant example of forest fire continuing with the comparison between ecosystems and human systems.

Fire can result in profound loss, and I do not mean to diminish the consequences of wildfire for people and ecosystems. But ecologically, disturbance can also initiate processes of release and reorganization. Conditions change. Resources move. Surviving organisms, biological legacies, seed sources and refugia can influence what follows. Changes in light, nutrients, competition and available space create new conditions for establishment and succession. The emerging ecosystem may carry important continuities from the one before it without becoming a reconstruction of the past. In professional systems resilience can involve recovering, learning, and thoughtful reorganizing.

There is also a very human dimension to resilience, and that is how we communicate with one another about disturbance or change. Continuing with the fire example, I was recently part of a conversation where people were asked to describe their experiences with fire. Many spoke of fear, grief and permanent loss. Others also acknowledged fire as an ecological process and challenged the group to think differently about how we live with fire on the landscape and our relationship with fire to reduce risks and improve ecosystem and community well-being. Both perspectives are true. Fire can be devastating, and resilience should never be used to minimize hardship or loss. But how we understand disturbance can influence what we see afterward and how we respond to what comes next.

Similarly when we speak about challenges within organizations, how we discuss challenges and create space for learning can also take this type of approach. Consider the statement:

"This has almost broken our team."

That may be entirely true. Resilience is not about denying difficulty or covering pain with forced optimism. But another question can follow:

"What has this experience revealed about where our team needs stronger relationships, greater diversity, more redundancy or additional reserve capacity?"

The questions do not invalidate the statement. They turn experience into information and creates the possibility of learning and adaptation. For professional biologists, there is something particularly relevant here. Applied biology requires professionals to remain responsive to evidence, context and different forms of knowledge. Hypotheses are revised or rejected, and recommendations change when new information alters our understanding. We do not consider that a failure of science; it is part of how science works. Perhaps we should afford ourselves and our institutions the same capacity to learn, reconsider and adapt.

There are questions that we can ask that help to frame or create distinction between resilience from endurance, or stability that feels increasingly important in professional life. During times of pressure, change, or even as part of forward-looking organizational planning, perhaps ask:

- What matters most, and what needs to be retained?
- What can be released, retired or adapted?
- Where do we need greater diversity, redundancy or reserve capacity?
- Which relationships and connections need to be strengthened or expanded?
- What have we learned, and how should that change what we do next?
- What new conditions or opportunities have emerged, and what is needed to move toward what comes next?

To that end, biomimicry and the compelling proposition that the living world contains strategies from which humans can learn seems appropriate to our understanding of resilience. Ecological resilience reminds us that persistence does not require constancy. Systems can absorb disturbance, reorganize and continue because important relationships, functions and sources of renewal remain.

Professionally, resilience is not simply something we possess or lack. We can cultivate the conditions that support it: diversity, redundancy, reserve capacity and strong relationships.

Seen this way, resilience is less a trait than a design choice.

Acknowledgements: My sincere thanks to Raychl Lukie for her insights and contributions to earlier versions of this article, and to Pam Doerksen and Dennis Paradine for their thoughtful and critical review. Their perspectives substantially improved this article.

Note: Jennifer Psyllakis, PhD is a former RPBio.

Resilience in a Changing Landscape: A Story of stads k'un on Haida Gwaii

By Alison Grover, Ecosystems Biologist; Jennifer Smith, Engagement Specialist;
and Mary Toews, Senior Ecosystems Specialist
BC Ministry of Water, Land and Resource Stewardship

Resilience in the field: stads k'un

STADS K'UN IS a genetically distinct and exceedingly rare population of the coastal northern goshawk (Accipiter atricapillus laingi) found only on Haida Gwaii, where it evolved in isolation over thousands of years. Both stads k'un and the people working to protect it have demonstrated remarkable resilience in the face of ongoing challenges. As a forest-dwelling hawk, stads k'un rely on mature and old-growth forests containing trees with large branches to support their robust nests, sheltered by deep, dark canopies for their surprisingly fierce and efficient ambush hunting style. On Haida Gwaii, changes in forest structure associated with historical and contemporary forest harvesting, together with the introduction of invasive species such as k'aad (deer), have contributed to the loss and fragmentation of critical habitat used by stads k'un.

Although stads k'un face compounding challenges, the people sharing their landscape continue to support their recovery through stewardship, partnership, and long-term commitment. In 2017, the Haida House of Assembly declared stads k'un the national bird of Haida Gwaii, affirming the Haida Nation's close

Boat people (L to R): Nathan Peck, Jonus Pollard, Morgan Schofield, Alison Grover
Working together means sharing resources (like boat and captain), learning from each other, and covering more ground than we could alone. Photo by Alison Grover.



relationship with this unique avian predator. Stads k'un are known as a symbol of prestige and esteem in Haida culture and the Haida Nation continues a long record of leading stewardship, now working alongside provincial and federal partners. Under the 2010 Haida Gwaii Land Use Objectives Order, when a nest or confirmed breeding site is located, a 200-hectare reserve is established that protects the highest-quality nesting habitat. Pre-dating this are two Wildlife Habitat Areas that protect other known stads k'un territories and an extensive network of reserves that safeguard known nesting areas and other important habitat.

Surveys to monitor known stads k'un breeding areas and to find new nesting sites have been conducted on Haida Gwaii since 1995 through collaboration among the Council of the Haida Nation (CHN), the provincial government, Ministry of Environment and Climate Change Canada (ECCC), and Parks Canada. This work takes crews across islands, requiring hours-long drives on remote logging roads, boats and ferries, and strenuous hikes across dense forests – all in pursuit of knowledge to inform recovery of these elusive and cryptic birds.

In the past 20 years of surveying, three or fewer active sites have been recorded in any given year. In 2026 alone, five active sites were recorded. While still a small number, it represents a hopeful sign. Stads k'un have many factors stacked against them, but they are still here and proving resilient in the face of a changing landscape and climate. Their fight for survival requires many people pulling together to support the existing population and recover this incredible raptor and its habitat on Haida Gwaii.

Haida Gwaii skyline. Photo by Jen Smith.





Lack of understory on Haida Gwaii makes for easy hiking. Photo by Jen Smith.

Relationship resilience: Working together toward a common goal

Jen (Ministry of Water, Land and Resource Stewardship, WLRS)

In 2024, I had an opportunity to travel to Haida Gwaii for a week, as part of "Team Stads K'un". It was my first time to the islands and I was not disappointed! The islands themselves have a rugged beauty and the strength of the Haida culture was palpable. I was also blown-away by the marble-sized huckleberries, the sweeping beaches, the incredible agates, and the rivers that run almost black from being steeped in the forest tannins.

We were a team of biologists and field technicians from the Ministry of Water, Land and Resource Stewardship (WLRS) and the Council of the Haida Nation (CHN) and we were working out of a remote CHN camp on the northern part of Graham Island to search for nesting sites and a glimpse of the secretive raptor. It was close quarters and intense days. We visited previously known sites and looked for prime forest stands where new sites might be found. While hiking through old growth patches, looking for signs of stads k'un in the fragmented landscape, there was a noticeable lack of undergrowth, which made the hiking easier, but was a sign of the damage that an overabundant and introduced deer population was causing to the island's ecosystem.

Although we didn't find any active nests in that area, I was impressed by the breadth of knowledge, the passion, and the enthusiasm packed into that small remote cabin! I was equally struck by the resilience demonstrated by everyone involved in the work. Long days in challenging conditions, combined with the uncertainty that come with searching for such an elusive species, never seemed to diminish the team's commitment. I was also impressed with the strong relationships that my colleague, Alison Grover, has built over time with the CHN stads k'un crews. Those relationships are an important source of resilience in this work,

creating trust, shared purpose and the ability to continue moving forward together despite ongoing conservation challenges. I counted myself lucky to be involved in such a meaningful project with such passionate and like-minded people.

Alison (WLRS)

I've been living and working on the beautiful archipelago of Haida Gwaii since 2023. In these three years since then, I've come to recognize and share in a deep sense of care and responsibility for the natural world here. Unlike anywhere I've lived before, the land and waters of Haida Gwaii and all of its wild occupants stand at the forefront of what is important to the residents here. In what has often seemed like a race against time I have worked with the Haida Nation and the federal government in trying to both monitor this incredible species and track down new breeding sites in order to give as much protection to stads k'un as possible.

This bird, while important in its own right, also acts as an indicator species, reflecting the health of forest ecosystems across Haida Gwaii. Where stads k'un thrive, we see other species such as grouse, woodpeckers, squirrels, and berry species thriving as well. We see forests with diverse species compositions and healthy understories. In working to protect and restore these forest types, we are supporting not only stads k'un, but also the long-term resilience of the entire forest ecosystem across the archipelago. The commitment and stewardship demonstrated by CHN technicians has been highly apparent throughout this work, and it has been a privilege to work so closely with them.

Often working more like one team, we combine our resources and energy to achieve more than we could separately. Where one government provides shared expertise or infrastructure, the other provides equipment and analytical support. Through conducting surveys together, we learn from one another, build lasting relationships, and strengthen our collective capacity to respond to ongoing conservation challenges. These relationships are a form of resilience in themselves, helping sustain the long-term stewardship efforts needed to restore and support healthy ecosystems and populations. It has been an inspiring few years and I know that the work we are all putting in is making lasting changes for stads k'un and the places they—and we—call home. CM



Juvenile stads k'un, exploring the neighborhood. Photo by Nathan Peck.

Speaking for Those Who Can't: Volunteering as Personal and Professional Resilience

By Eva Boehringer, RPBio

WE ARE LIVING through a period when resilience—economic, professional, personal, and ecological—is being tested from multiple directions. Climate change is accelerating, with direct impacts (e.g., increasing forest fire frequency and smoke) affecting people and communities across the province. Biodiversity and habitat continue to decline, even while governments are under pressure to expedite major projects and reduce regulatory barriers. These environmental challenges are unfolding alongside economic uncertainty, which is affecting industries, communities, and the people who work within them.

For applied biologists, there may be an additional burden because we often acutely understand what is happening. It is difficult to remain detached from biodiversity loss when your professional life has been spent working within ecosystems and with the species that depend on them. Knowledge can sometimes make environmental grief harder, not easier.

> "Resilience means remaining affected, and continuing to act anyway."

For me, volunteering has become one way of responding to that.

I volunteer professionally with the College of Applied Biologists as a member of the Editorial Board Working Group for College Matters. I also volunteer locally with the Kimberley Nature Park Society in the East Kootenay region, where I serve as Vice-President and contribute my expertise as a Registered Professional Biologist. The latter role involves wildlife monitoring, conservation issues, trail and land-management decisions, and the sometimes difficult task of balancing recreation pressures with the protection of sensitive ecosystems. At a time when environmental problems can feel overwhelmingly large, local conservation allows me to see a direct connection between effort and outcome.

But community organizations depend on people being willing to contribute their time, and recruiting and retaining those people has become increasingly difficult. This is not simply a Kimberley phenomenon; Statistics Canada [1] found that formal volunteering fell from 41% of Canadians in 2018 to 32% in 2023, while formal volunteer hours declined by 28%. Particularly striking was the change among 25- to 34-year-olds: their formal volunteering rate declined by 24%, and their volunteer hours by 42%—the largest declines of any age group.

I am sometimes tempted to interpret these data as a generational retreat from community responsibility, but perhaps it's more complicated than that. Younger Canadians have historically been more likely to volunteer than older Canadians, although they contribute fewer hours individually [2]. The recent decline coincides with a period of extraordinary pressures: a pandemic, inflation, housing costs, labour market uncertainty, and increasing demands on people's time. Perhaps what has changed is not people's capacity to care, but their capacity to translate caring into sustained, unpaid commitment.

This seems like an important distinction, one that challenges organizations to think differently about what motivates people to volunteer. Professional volunteering can offer tangible benefits: College registrants, for example, can earn Continuing Professional Development (CPD) credits by volunteering their time, while also learning how the College operates and contributing to its work and governance. Community conservation organizations often have less to offer beyond the experience itself and the satisfaction of contributing to something larger than oneself.

I volunteer because I believe that being a professional biologist carries responsibilities beyond paid employment. I want to give something back to my community, but also to the non-human communities (i.e., flora, fauna, and ecosystems) whose interests are so easily overlooked, because they cannot advocate for themselves. And perhaps unexpectedly, volunteering also gives something back to me: working alongside people who care deeply about the natural world lets me combat the sense of hopelessness that creeps in when I spend too much time "doomscrolling" and not enough time outside in my home-

turf ecosystems. Getting outside, monitoring wildlife, protecting habitat, solving a local conservation problem—none of these will stop global biodiversity loss or climate change, but they replace despair with agency.

For me, resilience doesn't mean learning to become less affected by what is happening. It means remaining affected and continuing to act anyway. One of the most useful responses to environmental grief is to go beyond ourselves, find the place where we can still make a difference, and get to work. CM

Snowshoe Hare are found in Kimberley Nature Park. Photo by Jared Hobbs.



Lessons From the Edge: 40 Years of Field Resilience, Near-Misses, and Hard-Won Habits

By Ed Desson, Former Senior Ecologist with SLR Consulting (Canada) Ltd. and Veteran Fisheries Biologist (Retired)

A **40-YEAR CAREER IN** applied biology is, by definition, an exercise in resilience. Fieldwork in remote natural resources demands more than technical competence—it requires psychological adaptability, situational awareness, and the willingness to learn from close calls.

In this three-part reflective series, a recently retired fisheries biologist shares real-world field safety accounts spanning four decades. Each narrative explores a different facet of field resilience: overcoming expert complacency, recognizing the internal pressures that drive unsafe decisions, and maintaining tactical adaptability when conditions deteriorate.

Late September 2025. Ed Desson angling at Scottie Mine.
Photo by Shayna Trousdell, SLR Consulting (Canada) Ltd.



Part I: The Drifting Boat (James Bay, 1996)

In 1996, I was conducting a whitefish spawning assessment on a vast northern lake that drained into James Bay. The location was remote enough that we spent three weeks without seeing another person. My colleague, Mike, and I had established a camp in a sheltered bay on a long peninsula and spent our days travelling by boat to netting sites, tagging fish, and collecting data.

By the second week, winter was beginning to tighten its grip. Every morning, our small bay froze over, and we had to push the boat through a thin sheet of ice before heading out. We had plenty of supplies, but after nearly two weeks of camp food, we decided to supplement our menu with a few grouse. While travelling through a long stretch of narrows, we stopped at an old clearing where a Hudson's Bay post had once stood. A narrow

channel, barely wider than our boat and about 20 metres long, cut into the bank nearly parallel to the shoreline. It looked like an old boat slip. We eased into it and immediately spotted grouse farther inland. At the end of the channel, I jumped ashore and headed up the hill. Mike pulled the boat forward until the bow rested on land and joined me.

After shooting a couple of grouse a short while later, I turned toward the water and saw that the boat was in the middle of the channel, drifting along. For a moment, I couldn't make sense of what I was seeing. Then, I realized that the impossible was happening —our boat was actually floating down the middle of the narrows! I shouted for Mike, and we sprinted to the shoreline. The current was much stronger than either of us had realized, and the boat was already moving away at a surprising speed. Mike immediately started to strip off his clothes, but I stopped him. The water was near freezing, and even if it had been warm, there was no guarantee he could catch the boat.

So, we started walking, following the boat for hours, watching it drift steadily down the centre of the narrows, always just out of reach. As daylight faded, my thoughts turned dark. The boat carried our gear and the means to complete the contract. Losing it would be financially devastating. The lake would have frozen before we could return with another boat. Oddly, I never worried about whether we would make it out alive, even though it would probably take a week to get back to our vehicle, since we had wilderness survival experience. What worried me was everything that would be lost—and that the nets were still in the water.

Eventually, it got dark, and we lost sight of the boat entirely. Still, we kept walking toward the main basin, hoping the wind or current might somehow work in our favour.

Long after dark, we reached the shoreline of the basin. Moonlight shimmered across the water, and then we saw it: far out on the tip of a long sandbar sat the boat. We ran, splashing across the sandbar, and raced to the boat as if it might suddenly change its mind and drift away again. When I finally laid a hand on the gunwale, a wave of relief washed over me. I realized just how lucky we had been. A different wind, a different current, and the outcome could have been very different.

We climbed aboard, and Mike looked at me and said, "We never tell anyone about this." I agreed, and for years, we did not...

October 10, 2024. WAC Bennet Dam near Hudson Hope, Ed Desson with juvenile Sockeye Salmon. Photo by Sarah von der Weld, SLR Consulting (Canada) Ltd.



Resilience Takeaway: Overcoming Complacency & Enforcing Protocols

- **The Core Dimension:** Professional Resilience & Operational Discipline
- **The Risk Driver:** Expert complacency. Decades of boat and wilderness experience created a false sense of security, leading to a missed fundamental step—securing the line.
- **Redundant Safety:** Equipment stored in a vessel or vehicle is useless if you become separated from it. True field readiness means carrying basic survival gear (fire starter, knife, multi-tool) directly on your body.
- **Uncompromising Habits:** Real professional maturity is the willingness to enforce personal safety habits regardless of peer reaction. Tying off boats or setting anchors firmly on shore may draw laughs from colleagues, but standardizing non-negotiable safety habits prevents catastrophic failures.

Part II: The Ice Narrows (Solo Stocking Contract)

This story took place before the age of cell phones, in an era where little emphasis was placed on health and safety. Working alone, I took more risks than I would have with a partner—I would push limits, because I wasn't subjecting anyone else to the risk. I'm very frugal, and that mindset contributed to some bad decisions.

The sun was setting as I got my snowmobile ready to go and loaded the tanks on the sleigh with 1,000 Lake Trout. Determined to get the fish stocked into the lake before the day's end, I decided to press on, relying on familiarity with the area and the knowledge that the fish wouldn't last overnight. As I sped across the first lake, I approached a set of narrows connecting to Turtle Lake. Though familiar in summer, the winter conditions were uncharted territory.

Halfway through the narrows, my heart skipped a beat upon encountering a patch of open water. Instinctively, I hit the brakes, causing the snowmobile and sled to jack-knife and slide uncontrollably on the ice toward the open hole. Bare ice surrounded the open water, indicating recent refreezing. Just metres from disaster, the snowmobile hit a rough patch where blowing snow had frozen, providing some traction. I hit the throttle, the machine snapped straight, and I took off down the narrows at top speed, heart pounding.



One of the good days!
Photo by Marissa Heppner, then with Palmer Environmental.

Entering the lake, relief was short-lived. A quick drill revealed that the ice was perilously thin, only about five centimetres thick. Crawling to the sled, I hooked up the drain hose and released the fish and water, feeling a bit of relief as the weight was shed. I then crawled back to the snowmobile and took off toward the shore.

Following the shoreline, I found a path through open hardwood that led back to the first lake, bypassing the narrows. Darkness had fallen by the time I reached the truck, and I stood there, shaking my head at the close call and the risky decisions I had made.

Resilience Takeaway: Deconstructing the Psychology of Risk

- **The Core Dimension:** Personal Resilience & Cultural Evolution
- **The Risk Driver:** Sunk cost, schedule pressure, reputation anxiety, and financial incentives ("I'm already here," "The fish will die," "The faster I finish, the more I earn").



GMS Tunnel, 2024, Ed seining with crew members from SLR Consulting (Canada) Ltd. Photo by Spencer Smith, SLR Consulting (Canada) Ltd.

- **Systemic Progress:** Safety standards evolve over time. Operating solo without check-in procedures, communication devices, or ice-rescue gear was once common; today's resilience relies on institutional safety frameworks, floatation suits, ice picks, and mandatory check-in protocols.

- **Incremental Change:** Overcoming internal risk drivers is an ongoing process. Building resilience means acknowledging past mistakes, learning to recognize when financial or deadline pressures are clouding judgment, and building margin for safety into future work.

Part III: The Screwdriver Fix (February Slush & Broken Suspension)

It was late February and cold. The kind of cold that bites through layers and settles in your bones. I had a contract to collect fish stomachs for a winter diet analysis from a remote lake, 15 kilometers from the nearest road. I would be staying another 10 kilometers across the ice in a cabin on an island. It was supposed to be a straightforward project, but it wasn't.

Locals had pointed me toward an unmarked snowmobile trail that followed a river basin. "Best way in," they said. I believed them.

I parked my truck on a little pullout off the highway just after dawn, unloaded the snowmobile, strapped down my gear, and set off. The trail was faint—just a ghostly impression beneath fresh snow. It had drifted over in places, and I lost it more than once.

Crossing back and forth through the meandering river was a gamble. The slush was heavy beneath the crust, and more than once I found myself mired, the machine groaning as I wrestled it free. Every time I thought I was clear, I sank again. I had spent most of the day in the slush, cursing the locals who suggested that I go this way. The cold and wet seeped in through my boots, my gloves, and pretty much all my clothing.

By the time I reached the lake, the sun had long since dipped below the horizon. I stopped to check my map, breath fogging in the beam of my headlamp. That's when I saw it—metal glinting in the snow. A piece of the snowmobile's suspension lay beside the track. I knelt to inspect it, and indeed, it was broken, with the track and suspension completely askew. No way it was making it to the cabin like this.

Wet and exhausted, I started to dig a snow shelter with a snowshoe, intending to spend the night and walk out in the morning. There was firewood nearby that I could collect without too much trouble, and I had lots of gear. The snow was dense, and the wind picking up. Halfway through, I paused and wondered if there was another way. Although I wasn't overly concerned, I really didn't want to spend the night.

I limped back to the machine and stared at it until an idea came to mind. I jammed a screwdriver through the frame, into the axle, and stood on it, hoping to hold the suspension in place. That brought the track into alignment, and I thought that it might just work—if I didn't go back the way I came.

I remembered a seasonal bush road I had used in the fall and turned the machine toward it. To my amazement, it had a packed trail. I changed out of my soaked clothes, though my outer layers were still wet. Better than nothing.

Standing on the running board with my foot holding the screwdriver in place, I crept down the trail. The machine whined, but it held. I reached the highway, then rode several kilometers along the shoulder, headlights bouncing off the snowbanks.

At 10:30 p.m., I saw the truck. I had made it. No samples, but I made it!

Resilience Takeaway: Tactical Adaptability & The After-Action Review

- **The Core Dimension:** Field-Based Resilience & Resourcefulness
- **The Tactical Pause:** Resilience is found in the pause between reaction and action. Halting the snow shelter build to reassess options allowed for creative problem-solving (improvised axle pin with a screwdriver) under harsh conditions.
- **Mission vs. Safety:** Recognizing when mission objectives (sample collection) must be abandoned in favour of personnel recovery is a core marker of field leadership.
- **Closing the Loop:** The ultimate test of resilience is integrating lessons learned. Returning a week later with a second team member, a verified route, and proper equipment turned a dangerous, near-miss into a safe, successful project.

Series Conclusion

Resilience in applied biology isn't about raw luck, nor is it about being invincible in the bush. It is an evolving mindset built on humility, honest self-assessment, and the willingness to share hard lessons with those coming behind us. By recognizing internal pressures, eliminating complacency, and establishing redundant safety measures, natural resource professionals ensure that every field season ends with the most critical outcome: returning home safely.

Notes, References & Links

Shaping the Profession: Insights from the Credentialing Standard Review Task Force (page 7)

College of Applied Biologists. "Credentialing Standard Changes as of June 1, 2026." June 1, 2026. https://cab-bc.org/credentialing-standard-changes-june-1-2026/

Resilience by Design: What Nature Can Teach Us About Professional Practice (page 10)

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Speaking for Those Who Can't: Volunteering as Personal and Professional Resilience (page 17)

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2. Hahmann, Tara. "Volunteering Counts: Formal and Informal Contributions of Canadians in 2018." Insights on Canadian Society. Statistics Canada, April 23, 2021. https://www150.statcan.gc.ca/n1/pub/75-006-x/2021001/article/00002-eng.htm

Other Links Featured in This Issue

- College of Applied Biology website (page 2): https://cab-bc.org/
- Past *College Matters* issues (page 2): https://cab-bc.org/college-matters-digital-edition/
- Penticton Lakeside Resort and Conference Centre (page 2): https://www.pentictonlakesideresort.com/

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