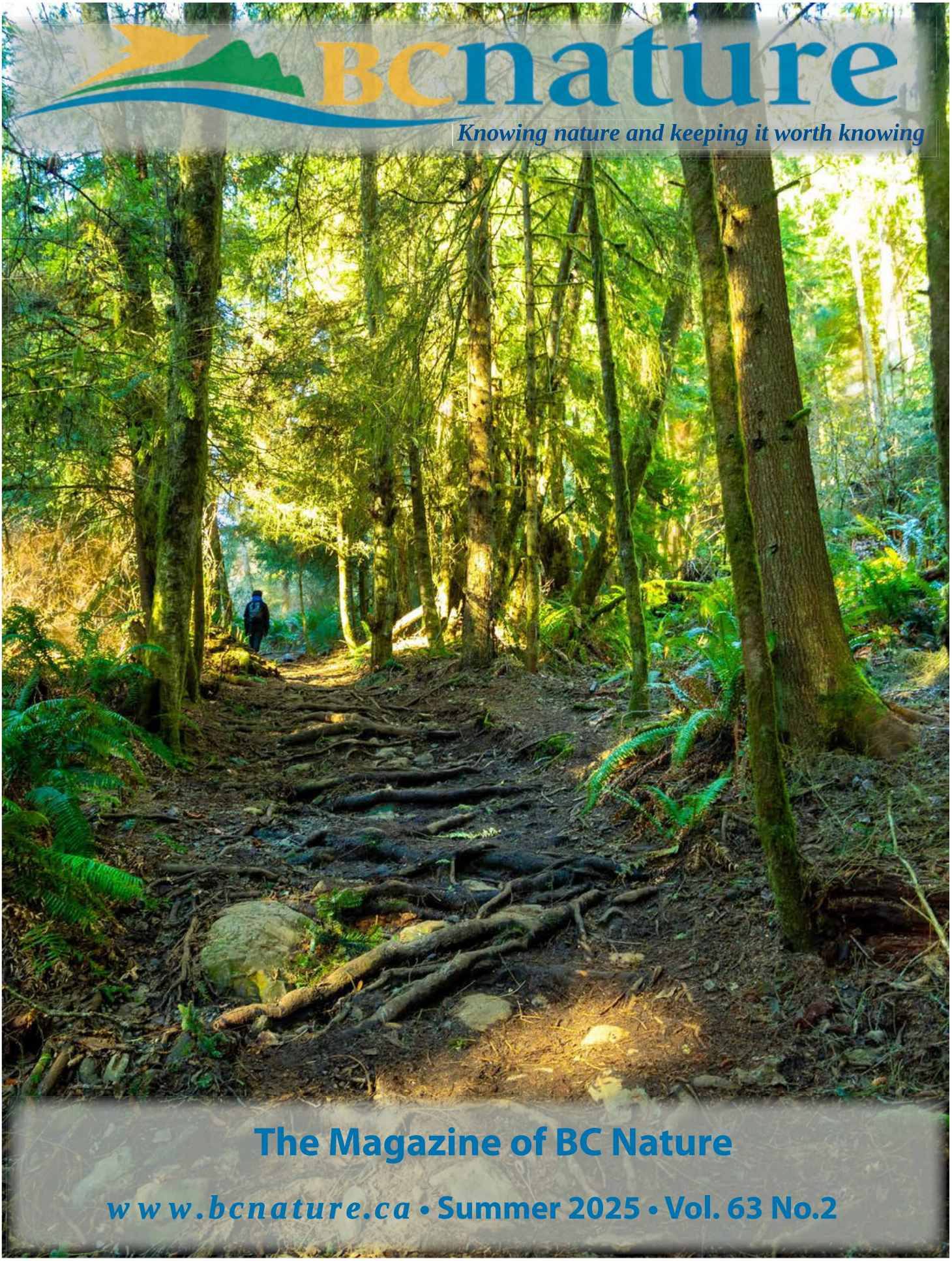
BCnature

Knowing nature and keeping it worth knowing



The Magazine of BC Nature

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BCnature

Volume 63 No. 2

In This Issue:

Regular Columns

Features

Cover Photograph - Photographer Theresa Muth: Iron Mine Bay Trail

Winning Entry in the 2025 Photo Contest - Category "People in Nature"

This is an easy 10-minute hike from a trail head near Sookpoint Ocean Resort that took us to Iron Mine Bay. It is a well-groomed trail that is good for all abilities and ages.

We did not encounter any wildlife along the way, but the the fern lined path is beautiful to photograph, and the ocean bay at the end was a wonderful place to explore at the end of this short trail.

Hikers can stop here or continue along the trail to other scenic points. The paths are extremely well marked and a great way to spend the day.

Articles and advertising in BCnature magazine do not necessarily reflect the views of all BC Nature members.

All article references that were submitted with the articles can be found in the e-version edition.

Objectives of BC Nature (Federation of BC Naturalists)

- To provide naturalists and nature clubs of BC with a collective voice on conservation and environmental issues.
- To foster an awareness, appreciation, and understanding of our natural environment, that it may be wisely used and maintained for future generations.
- To encourage the formation and cooperation of nature clubs throughout BC.
- To provide a means of communication among naturalists in BC.

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We welcome your articles, photos, and letters. Please email them to *communications@bcnature.ca*

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We reserve the right to edit submissions for length, style, and clarity.

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Editorial

It's not *Habitat Lost*- It's Economic Growth!

Submitted by Terri Martin (TM), in collaboration with Neil K. Dawe, Susan Fisher, Luisa Richardson, Dick Hampton, and Allan Hawryzki, Qualicum Institute Society

When I (TM) saw the new Canadian endangered species stamps featuring the Oregon Spotted Frog and Fowler's Toad, I immediately bought the set. I loved the stunning artwork, but I was frustrated by the write-up on the back: it listed the first threat to the amphibians as loss of habitat from human activity...

In government documents and conservation articles, *habitat loss* is commonly cited as a leading cause of biodiversity declines. But that's misleading. *Habitat loss* doesn't happen by itself or by accident; it's an inescapable outcome of economic growth. Economic growth is the root cause.

But where's the harm in ascribing *habitat loss* to human activity?

The problem is that when economic growth is not explicitly cited as the driver, many people assume that if we are just more careful about where, what, when, and how we build, we can stop *habitat loss*. Economic growth just needs to be tweaked by stopping some subdivision or by strengthening legislation or by moving some highway, or by creating more green spaces. Meanwhile, the real cause - economic growth - goes unquestioned and unexamined. And so, we spiral into a never-ending crusade of symptom fighting. If we don't examine and grapple with the root cause of economic growth, then we will never achieve lasting solutions.

And when economic growth as the root cause is obscured, the dangerous myth of *decoupling* gains currency. *Decoupling* advocates claim that with efficiencies and technological advances we can continue to make more stuff, increase Gross Domestic Product without harming the environment and losing habitat. Essentially, this would mean that we could grow the human enterprise forever on a finite planet.

But we're in a rather serious and urgent predicament. A recent research article indicates that the human enterprise has already transgressed six of nine planetary boundaries (including climate and biodiversity). Several climate tipping points are at risk of being breached; if that happens, it could alter the Earth system beyond levels survivable for today's societies. Even the Intergovernmental Panel on Climate Change confirms that economic growth and population increases are the main drivers of today's burgeoning emissions.

I'm proud that BC Nature has already considered this issue in depth. Following the 2007 publication of *Conservation Strategies: are we only addressing the symptoms?*, BC Nature resolved to support in principle the steady state economy as a sustainable alternative to economic growth; it further resolved to specifically undertake five actions including mentioning economic growth as the root cause of biodiversity (and habitat) loss as part of its routine work in conservation.

BC Nature's position statement and commitment to action are important reasons why I continue my membership. But as an organization, are we following up on our promised actions?

One way to do this is to keep challenging the *habitat loss* myth in the Conservation Committee Updates. Consistently pointing out that economic growth is the root cause and talking about a steady state economy as a solution help to build a movement. Maybe we can get to an economic/conservation tipping point instead of a climate tipping point.

Debunking the *habitat loss* myth during conversations with neighbours, friends, and colleagues may sometimes yield immediate rewards. Many people are worried about the state of the planet. Talking about the role of economic growth helps to connect us on a realistic, intellectually honest level. As neuroscientist Sam Harris notes: "...when things matter, people tend to want to understand what is going on in the world. Science delivers this understanding in torrents; it also offers an honest appraisal of its current limitations." The *habitat loss* myth fails on both counts.

As the BC Nature resolution notes, there is a solution to biodiversity loss: steady-state economics, an economic model grounded in science that respects physical and ecological limits. There are many experts across a wide array of disciplines who understand and know how to apply ecological economics and who can help keep humanity within the safe operating limits of planet Earth.

Let's remember the BC Nature position statement and add to the conversation. And let's remember, it's not ***habitat loss*, it's economic growth!**

President's Report

Submitted by Nancy Flood, President BC Nature

Hi all. For some of you, this report may seem familiar, as it is part of my report for the 2025 Annual General Meeting (AGM) held in Merritt at the end of May. (I am looking forward to it as I write.) For those who have not perused the long Annual Report that is provided with each AGM, I hope you will find the contents interesting.

We seem to be having a growth spurt as an organization—at least in terms of the number of groups that are part of the Federation of BC Naturalists (the alternate name of BC Nature). We have added seven new clubs/organizations since the last AGM and an eighth is in the process of coming onboard. So, we will soon have 64 member groups! It is interesting to look at BC Nature's pattern of growth over the years. We celebrated our 50th anniversary in 2019 and the nine clubs that originally founded the Federation in 1969 are all still members. Sixteen clubs joined before 1975; they have had golden anniversaries, having been members for 50 years or more. Another 16 joined during the next 25 years, signing up in 2000 or before; they would have earned silver BC Nature pins (if we had them!). Since then, typically one or two, sometimes three, organizations have joined every year. Adding seven member groups in one year is thus a leap forward! And although in the beginning most groups were local naturalist clubs, today BC Nature includes wider-ranging organizations, such as the Native Bee Society of BC, the Friends of Ecological Reserves, WildResearch, and the Northern Amphibians Naturalists Society. We hope this bodes well for the future, both for the organization and for the state of nature in B.C.; the more people who are interested in knowing nature, the more we hope we can keep it worth knowing.

It is also interesting to think about the individual members of BC Nature. Now numbering close to 7,000, most belong via their membership in a federated club. Some, however, have joined directly, supporting our goals even if they are not members of a B.C. group with an interest in some aspect of nature. We celebrate all these people! And, with the help of the colleagues who have nominated them, over the years we have been able to celebrate them indeed, with one of a flock of BC Nature awards (*https://bcnature.org/bc-nature-awards/*). The oldest of our 11 different awards is the Elton Anderson; it was established in 1977 and has been received by 36 worthy individuals since then—only one is given out annually. In contrast, we give out several Club Service awards each year—for outstanding service at the local level. Since 1978, when it was first given out, 178 deserving people from diverse groups have received this award. That is a lot of people who have demonstrated remarkable dedication to helping others to know nature—still more reason for hope!

And of course, the best reason for hope is the activities that you all carry out! Clubs organize garbage clean-ups or weed pulls, document invasive species (like European Green Crab), plant trees or native forbs, and do all manner of things that help preserve and/or restore the environment. They band birds, monitor nests, track amphibians, build structures to help protect turtle nests or allow snakes to cross the road—and do many other things that help maintain biodiversity. They create brochures or signs that help educate people and they attend or hold events to do the same. They build structures or trails that allow people to get close to nature and they visit classrooms, or partner with a local NatureKids group to share nature with children. They write letters, make phone calls and advocate for conservation in a myriad of other ways. For all of this, I say BRAVO! Together, we are a force of—and for—Nature.

Conservation Committee Updates

Submitted by Peter Ballin and the Conservation Committee

Writing letters takes time and care...and crafting skills. It's surprising what you can teach yourself if you keep going at it. Often, our BC Nature advocacy letters go unanswered or receive glib responses. Do the recipients really take it in? But we need more letters to those who write policy and draft legislation, and those letters need to come from you. As a constituent of an MLA, you matter to that elected representative: they want your vote. Write to them in a way that will establish common ground and offer support for doing the right things to address your environmental concerns. Be positive. Be an influencer!
In this issue we report to you about:

- Tripartite Framework Agreement on Nature Conservation
- Tilbury FortisBC Expansion
- Grasslands Protected near Kamloops
- Cats Kill Birds
- Wind Turbines and Threats to Wildlife
- Shoreline Advocacy at Esquimalt Lagoon: A Conservation Update
- Responses from Ministers to BC Nature's letters Regarding Premier Eby's Mandate
- Letters and Meeting with Jagrup Brar, Minister of Mining and Critical Minerals
- Fish, Wildlife, and Habitat
- Cougars, Wolves, and Bears
- Wildfire Mitigation Projects in Urban Parks and Reserves
- BC Environmental Assessment Process & the FortisBC Expansion Project
- Taking Flight on Bird Safety: A Promising Meeting with BC Hydro

Tripartite Framework Agreement on Nature Conservation - Peter Ballin
I thought that an introduction and summary of this framework, with some comments, would interest you. Most of it is lifted from the B.C. government website: *https://bit.ly/3YQTqjM*. This site hosts many links to get to the details.

The Tripartite Framework Agreement on Nature Conservation, announced on November 3, 2023, is an agreement between the First Nations Leadership Council (FNLC), the Canadian government, and Government of British Columbia. It intends to advance ecosystem health and biodiversity conservation through a cooperative approach that respects and integrates the rights and stewardship roles of First Nations and intends to be consistent with their commitments to the United Nations Declaration on the Rights of Indigenous Peoples.

The Framework Agreement includes objectives for nature protection in four key areas:

- Habitat and ecosystem conservation and protection
- Habitat enhancement and restoration
- Species-at-risk protection and recovery
- Foundational knowledge and information sharing

The Framework Agreement intends to contribute to the sustainability and the well-being of people and economies by:

- Protecting and conserving habitats
- Restoring and enhancing ecosystems and habitats
- Helping species at risk recover
- Using nature-based solutions to mitigate and adapt to the effects of climate change, while also supporting biodiversity

It includes goals and objectives in four key areas that aim to:

- Increase the percentage of B.C.'s land base that is protected to at least 30% by 2030
- Enhance and restore habitat
- Improve protection for and recovery of species at risk
- Enhance data and information sharing related to nature conservation

This may be a way to sidestep the lack of provincial species-at-risk legislation. It may also provide avenues for us naturalists to bring more of our observations into the decision-making process and more of our conservation actions into the bigger picture.

The tone of this document matches that of the *Biodiversity and Ecosystem Health Framework* and the *Coastal Marine Strategy*. All, along with the *Old Growth Strategic Review,* represent a more integrated, collaborative and landscape-based approach to ecosystem health and biodiversity than previous government policy documents, enshrining true stewardship of our lands and waters. Its values dig deep into the history of people taking care of where they live.

The priorities of the agreement allow for alignment to more efficiently pursue funding for conservation, beginning with a combined $1 billion and potential for more. Most of the federal government's $500 million has already been allocated, including tree planting, Indigenous-led area-based conservation (but explicitly not Indigenous Protected and Conserved Areas) and other protected areas, old-growth, climate solutions, and more. The B.C. government is matching Canada's funding through existing programs and funding commitments, such as those related to:

- Land use planning
- Caribou recovery
- Together for Wildlife Strategy

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Barred Owls

- Collaborative Indigenous Stewardship Framework

Note: the BC Parks Foundation receives money through the BC Conservation Fund.

A joint progress report on the implementation of the Framework Agreement was published in February 2025: *Tripartite Framework Agreement on Nature Conservation: annual report 2025 (English)*

Tilbury FortisBC Expansion - Anita den Dikken
The proposed expansion is at the stage where FortisBC needs to develop an application for an Environmental Assessment Certificate in conjunction with participants, including comments received from the public. Also included in this process is the provincial Environmental Assessment Office.

Is there a potential conflict of interest for the provincial Environmental Assessment Office in their involvement at this stage? I am asking because I don't know. (BC Nature, under the leadership of President Nancy Flood, submitted comments within the required comment period. We received a thank you from the Project Assessment Director of the Environmental Assessment Office.) Refer to the last issue of the *BCnature* magazine for an explanation of the environmental review process. As far as I know, there is no established date of completion for the draft environmental assessment certificate.

On the good news side, *Stand.Earth* with its marine LNG shipping protagonist, Anna Barford, will be taking a lead role on raising further community awareness. I wholeheartedly support her on this.

Grasslands Protected near Kamloops
Coordinated by the BC Parks Foundation (BCPF), more than $1 million has been raised to permanently protect 210 hectares of rare grassland near Juniper Ridge, thanks to the generosity of people across the province. Local groups, including the Kamloops Naturalist Club, the Grasslands Conservation Council, and Juniper Ridge Community Association, are leading the way, with major support from Kamloops residents Rendal and Leah Tschritter and a key anonymous donor from Kelowna. Hundreds of others stepped up to make this campaign a success. Next up, BCPF will be working with community partners to create a stewardship plan that ensures this special place is cared for and enjoyed for generations to come.

Cats Kill Birds - Anita den Dikken
In my previous article on this topic, I focused primarily on the role of feral cats and bird mortalities. Feral cats are an issue. I received no comments from readers on this topic. Regarding pet cats, it is desirable to keep them indoors, both for their own safety and that of wildlife, including birds and rodents. Animal organizations such as the SPCA have extensive information on humane treatment of cats.

As well, the SPCA and other animal welfare organizations have guidelines on how to approach civic governments on the issues of banning free-roaming cats.

Committee member Ben van Drimmelen joined a very useful webinar on actions and bylaws that local governments can undertake to encourage cat owners to reduce the impact of cats on local wildlife. I have found nothing which advocates killing feral cats. The accepted protocol is to capture-sterilize-release. But there is much encouragement to get female kittens spayed before they reach five months of age.

Wind Turbines and Threats to Wildlife - Ben van Drimmelen
Until recently, proponents of wind farms were required to examine site conditions and collect baseline data to identify, eliminate, or mitigate potential project-related impacts. Larger wind projects' environmental impact assessments were reviewed by the Environmental Assessment Office. However, such assessment was eliminated in late 2024 when the provincial government announced that all future wind projects in B.C. would be exempt from environmental assessment. Given that the government's regulatory agencies are no longer ensuring that proponents eliminate or mitigate the impacts of their projects on the public's resources, a small group began to research the potential impacts of wind farms on wildlife, particularly bats and birds. I assisted Ron Long in integrating research results into a document that could be a report or letter stating concerns and recommendations to the provincial government.

Fish, Wildlife, and Habitat - Ben van Drimmelen
BC Nature signed on to a letter with some 42 other Environmental Non-governmental Organizations (March 28) to Water, Land, and Resource Stewardship Minister Randene Neill to support the implementation of the Biodiversity and Ecosystem Health Framework (can be found here: *https://bit.ly/4jsaiox*), and to sponsor the draft policy into legislation.

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Representing BC Nature on the 30-member Fish, Wildlife, and Habitat Coalition, I took part in virtual meetings with both the Assistant Deputy Minister and Minister of Water, Land, and Resource Stewardship and am anticipating a meeting with the Minister of Environment and Parks in June. I requested a meeting with my new MLA (for familiarization) and registered to take part in the "Select Standing Committee on Finance and Government Services' Annual Budget Consultation" later this summer.

In response to a letter from the Fish, Wildlife, and Habitat Coalition, Minister Randene Neill of Water, Land, and Resource Stewardship expressed government commitment to preventing invasive mussels from establishing themselves. Tabled amendments to the Wildlife Act are designed to allow Conservation Officers to enforce rules to mandate owners of watercraft to lessen the probability of transporting mussels between water bodies.

For those of you interested in the January 2025 Wildlife Dialogues, hosted by the Minister's Wildlife Advisory Council and reported about to you in the last magazine, you can find the "official" summary here: *https://bit.ly/432yWXQ*.

Cougars, Wolves, and Bears - Jacqueline Sherk

Cougars: In February we learned that two cougar kittens in neighbouring Alberta were orphaned after their mother was killed by a trophy hunter. The incident brings into focus an ethical question as to whether it should even be legal to hunt female cougars since a female cougar spends up to seventy-five percent of her life either pregnant or with her young. In both B.C. and Alberta, it is legal to kill a female cougar provided she isn't with spotted kittens, although it's well known that mothers leave their young concealed while foraging. Cougar cubs lose their spots as early as three months, but at that age are not at all able to hunt and survive on their own. The two kittens, a male and a female, estimated to be about five months old, were captured. They will spend their lives in captivity due to their young age and lack of survival skills. Orphaned young cougars often starve to death, or if older, find themselves in conflict with humans as they seek out prey small enough to hunt successfully.

Wolves: In January this year, we learned that our province was involved in an agreement with the state of Colorado to capture Grey Wolves from B.C. and send them to Colorado for reintroduction. We have since learned that the seven males and eight females were taken from packs in interior regions where the province's predator reduction program (wolf cull) is taking place. The ages and reproductive status of the wolves weren't disclosed. Colorado covered all expenses of the capture, veterinary care, collaring, and transportation, and we've learned that they also received 10 wolves from Oregon.

Photo: P. Ballin

Great-horned Owl

By the end of April, six of the total 25 wolves had been found dead – three from B.C. and three from Oregon. Two of the males from B.C. had crossed into Wyoming where wolves are not protected and can be legally killed, and a third (female) was found dead in Colorado's Rocky Mountain National Park. The cause of that death is under investigation because hunting is prohibited in the park. (Wolves are classified as an endangered species in Colorado under both state and federal laws.) As in Wyoming, wolves are not protected in B.C. and can be legally hunted without a specific license, tag, or even 'bag' limit.

Black Bears: News of young Black Bears being orphaned because their mothers were killed seems to be becoming all too common across the province, and we humans are almost always a factor. Most adult Black Bear deaths result from having been deemed 'nuisances' and being euthanized (shot) by conservation officers. Second is by vehicle collisions, and third by legal hunting. Illegal hunting and poaching incidents rank fourth, and finally, habitat destruction (notably logging during denning season). Least likely are natural causes such as disease, predation, and environmental issues and disasters.

In April, the B.C. government released an updated set of guidelines for orphan Black Bear cub protocols; the message seems to be that too much intervention is considered counterproductive. When the Conservation Officer Service moves to intervene, the process involves several professionals (biologists, veterinarians and rehabilitators) who all become part of the decision-making process. The guidelines clarify that cubs on their own will be monitored for 48 hours before any intervention, and a cub in poor or injured condition is likely to be euthanized, while yearling cubs (second year of life) are not eligible for rehab even if in fair condition, and are either destroyed or left for nature to 'take its course'.

Grizzlies: In parts of the province where people coexist with Grizzly Bears, researchers found that both species are finding ways to adapt. Biologists are studying human-bear interactions in the Elk Valley

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of southwest B.C., a beautiful landscape made up of small towns, rural properties and family farms, not to mention railroads, mines and resorts. The survival rate for Grizzly Bears here are the lowest recorded in all of North America, with most bears living less than four years. It would be a declining population if not for the recruitment of bears that continually wander into the region. The intelligence of the bears has allowed them to adopt a nocturnal lifestyle. Scientists noted that only bears coexisting in human habitations made this shift while bears in the wilderness did not. As the bears prove they can learn, people in the valley have learned as well, shifting their attitudes about their 'neighbours' and learning to 'get along'. For humans, the most successful strategies in coexistence have proved to be the use of electric fencing and having bear spray ready in case of encounters.

Grizzly Bears having a play fight

Shoreline Advocacy at Esquimalt Lagoon - Jennifer Dowd

In March and April, I began advocating for better protection of the Esquimalt Lagoon's shoreline—an ecologically sensitive area that supports a wide array of migratory and resident bird species, including Great Blue Herons, Black Oystercatchers, Greater Yellowlegs, and Dunlins.

I met with representatives from the City of Colwood to present my conservation proposal, which outlines concerns around off-leash dogs, speeding traffic, and harmful human interactions such as feeding birds bread or junk food. To my surprise and encouragement, the city reviewed my proposal and shared that many of the concerns I raised are already identified within their existing Waterfront Stewardship Strategy. They expressed genuine interest and were impressed by my observations, noting that these issues are slated for action within the next few years.

I also spoke with Environment Canada, who were supportive and expressed a willingness to collaborate with the city. However, they emphasized that because they do not own the land, they are unable to take initiative and must follow the City of Colwood's lead. Similarly, while the local First Nations have been invited to participate and ensure cultural representation in the area's stewardship, engagement has been slow to materialize.

While I was excited to learn that my ideas align with long-term municipal planning, I also left these meetings feeling the weight of red tape. Multiple layers of approval, timelines, and funding structures make implementation a slow process. Meanwhile, issues persist on the ground: dogs continue to roam freely along the sensitive lagoon side, cars regularly speed through posted areas, and people still feed wildlife inappropriate and dangerous food.

Although I don't have authority to enforce change, I remain committed to advocating, observing, and sharing what I see. I will continue to monitor the area and use my photography, writing, and voice to push for respectful coexistence between people and the incredible wildlife that calls Esquimalt Lagoon home.

Responses from Ministers to BC Nature's letters: Regarding Premier Eby's Mandate Letters and a meeting with Jagrup Brar, Minister of Mining and Critical Minerals.

BC Nature received responses to the letters that we sent ministers regarding their mandate letters and other issues, which you can find on the BC Nature website at *https://bcnature.org/letters-briefs/*.

A thoughtful reply came from Minister of Agriculture and Food Laura Popham (*https://bit.ly/4j87Va7*). After a statement valuing BC Nature's work she outlined the conservation initiatives of her ministry, including the B.C. Environmental Farm Plan, the Beneficial Management Practices, and the Resilient Agricultural Landscape Program. Some of the practices include

- Planting of trees/shrubs on marginal or high-risk cropland (e.g., hedgerows).
- Increased frequency of perennials in annual rotations (e.g., grassland set-asides).
- Establishing pollinator strips or other perennial cover for pollinator habitat.
- Developing and relocating infrastructure to protect wildlife and species at risk.
- Establishing or expanding buffers (grasses, trees, shrubs) along surface water in agricultural fields and protecting riparian areas, invasive species removal.
- Establishing shelterbelts or tree buffers.
- Enhanced riparian area grazing management, and more.

We received an invitation to meet with Jagrup Brar,

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Minister of Mining and Critical Minerals. Executive Director Stewart Guy, who formerly worked in this ministry, and Board members Jennifer Dowd and Peter Ballin met virtually with the minister and two of his staff on May 6. Following introductions, the Minister read his platform. We responded with a theme of offering BC Nature's services, by emphasizing that we wish to support his actions for ecosystem health and seek to collaborate. We urged stronger communication from the ministry about how its workings link to the Biodiversity and Ecosystem Health Framework, our wish to see explicit directions to maintain and protect land and water around mining and energy projects in light of the reduction of environmental assessments, improved collaboration with the Ministry of Water, Lands and Resource Stewardship, and asked if there are ways in which BC Nature can help make energy and mine development projects minimize negative environmental impacts. Minister Brar ended an excellent meeting (shorter than the half hour that we expected) by expressing his wishes for further meetings.

To follow up, we submitted "Recommendations to Address the Gap":

- Partner with conservation organizations such as BC Nature
- Integrate sustainability into the permitting processes
- Collaborate with the Minister of Water, Land, and Resource Stewardship to incorporate robust sustainability requirements into the streamlined permitting process. This approach ensures that environmental conservation, consistent with the Biodiversity and Ecosystem Health Framework, becomes a core component of mining approvals.
- Adopt landscape-level planning
- Employ integrated land-use planning that carefully balances mining interests with the preservation of wildlife corridors, protected areas, and Indigenous stewardship priorities

Utilize tools such as biodiversity assessments in land-use agreements to:

- Identify and prioritize critical areas for conservation. This strategic approach ensures that resource development proceeds in harmony with environmental protection, fostering sustainable practices while respecting ecological and cultural values.
- Promote local and Indigenous-led conservation initiatives and establish a sustainability advisory panel to support Indigenous guardian programs to monitor and protect natural areas impacted by mining operations, fostering partnerships with First Nations to integrate Traditional Ecological Knowledge into sustainability practices.
- Additionally, form an advisory group composed of First Nations representatives, as well as others, including industry representatives, conservation experts, and community members. This group could provide guidance on sustainable mining practices, monitor progress, and ensure that development aligns with both environmental and cultural stewardship priorities. Together, these initiatives would enhance collaborative decision-making and promote long-term ecological and community well-being.

Aurora borealis in northern B.C.

Wildfire Mitigation Projects in Urban Parks and Reserves - In December, championed by Glenda Hanna's thorough research and assessments, BC Nature wrote to B.C. Ministers about long-term fire suppression efforts in forested areas within urban municipalities. We received a reply from Tamara Davidson, Minister of Environment and Parks in March that was generic and dismissive, essentially saying that they've got this covered. She ignored the strong case that we made for maintaining biodiversity while remaining "fire smart". We will deliberate on where next to pursue this important issue.

Taking Flight on Bird Safety: A Promising Meeting with BC Hydro - Jennifer Dowd, with contributions from Liam Ragan, Dave Leman, and Wayne Ray

At the beginning of the year, I set an intention to focus my conservation efforts on reducing bird fatalities caused by hydro infrastructure—particularly collisions with power lines and electrocutions from power poles. With the support of our BC Nature president, Nancy Flood, I drafted a letter outlining our concerns and requesting a meeting with BC Hydro. After several weeks of waiting, we were thrilled to receive a response. Even better, they appointed one of their senior wildlife biologists to speak with us in person.

Harry van Oort, the wildlife biologist, shared that he's been working with the organization for some time to minimize the impact of hydro infrastructure on wildlife. He brought a wealth of knowledge to the conversation and introduced us to some of the

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innovative mitigation strategies they have developed. For example, BC Hydro now uses diverters on certain power lines to help birds detect and avoid the wires—an important step in preventing mid-flight collisions. They also install wildlife protection caps on power poles, which are especially crucial for large perching birds like eagles, osprey, and owls. These caps prevent fatal electrocutions when birds inadvertently bridge energized components.

Joining me at the meeting were Dave Leman from the Prince George Naturalists Club and Wayne Ray from Fort Fraser. Together, we discussed several key incidents, including a significant swan fatality event in 2018 that resulted in multiple power outages, as well as potential protections for garter snake hibernacula at the base of power poles. Harry van Oort was engaged, attentive, and took detailed notes on all the areas we brought forward, promising to investigate each one and develop plans to address them. The outcome of the meeting exceeded our expectations. Not only did Harry van Oort commit to looking into the locations we flagged, but he also expressed interest in collaborating with us on future conservation initiatives. While it's still early days, we're optimistic and encouraged by the openness and proactive attitude BC Hydro brought to the table.

As we await updates on the commitments made, we remain hopeful that real progress is underway. A huge thank you to Dave and Wayne for contributing their local expertise and passion to the conversation.

Photo: G. Drozda

Nechako River Migratory Bird Sanctuary, Vanderhoof

Bonus Update: The area of Fraser Lake is globally recognized as an Important Bird and Biodiversity Area (IBA) which is a significant wintering area for more than 1% of the world's Trumpeter Swans. This Fall, BC Nature is working to support our IBA Caretaker Wayne Ray and Dave Leman with the Prince George Naturalists Club to do the first comprehensive swan survey on the lake since 1997. If you'd like to be involved or donate to make this possible, please email the IBA Provincial Coordinator at *iba@bcnature.ca*.

Natural Justice
That Development Problem

Submitted by Ben van Drimmelen

A real estate developer bought a beautiful piece of waterfront acreage on Vancouver Island and planned an environmentally sensitive and ecologically conscious development of an eco-lodge, a marina, a nine-hole golf course, public access hiking trails, and several homes. However, several residents did not see his plans in the same light. This was 100 hectares of undeveloped second growth wilderness, right beside a large park and included three kilometres of spectacular ocean waterfront. They opposed the proposed development, keeping an eye on the property, and publicizing apparent violations and environmental damage in letters, petitions, and articles, with letters sent to the local newspaper.

Neighbours of the property began hearing logging trucks – some clearing was already taking place for the planned lodge. There were reports of burn piles and some trees on the ground. Two residents wrote a letter, delivered as bulk mail to all the residents of the community, alerting them to an environmental crisis as a "wrecking crew" was "ripping the heart out of (the park)". They reported that intensive logging and road building were in full swing, with many dozens of loads of logs being hauled away in the wee hours of the mornings. The developer's lawyer wrote the authors to complain that their information was false, and the authors promised to apologize publicly for any emotional distress and to not make any exaggerated or untrue public statements. Nevertheless, a month later one was quoted in the local newspaper as saying that government had been "inundated with hundreds, even thousands, of letters from opponents".

Other residents became concerned. They formed a society to oppose the development and asked the provincial government to do an environmental assessment, but government refused. Meanwhile, the opponents continued to report ecological damage and that invasive grasses had been introduced with the use of nitrate fertilizers. They claimed that the developer had "annihilated" almost the entire foreshore ecosystem, including more than 100 flowering plants, 50 rare plant communities and almost 100 native food plants. In their complaints, this undisturbed tract of wilderness was being made useless for mammals, reptiles, amphibians, and birds.

A part of the land was in the Agricultural Land Reserve (ALR) and would need to be removed from the reserve. The newly formed citizens group sent a series of newsletters to all local citizens pointing out that the developer had, through a numbered company, contributed to the unsuccessful re-election campaign of a regional director who had tried to get the land excluded from the ALR reserve without a public hearing. The local government protested that this was untrue (there was a $500 contribution, but it was by personal cheque) and demanded an apology. The group maintained that the statements were true and refused to apologize.

The local newspaper published a letter from another citizen who had walked part of the property and noted that the incredibly beautiful forests along the shore were gone; the entire area had been hacked down and bulldozed. It was now "devoid of all life".

At that point, the developer sued the citizens for defamation. The citizens thought that the demands of the developer's lawyers and the local government were just political intimidation and harassment, that the lawsuit was just a tactic to stifle public opinion. They continued to make unflattering comments about the developer. They distributed another newsletter to the local public complaining that the developer's lawsuit was a "blatant act of intimidation" which had disrupted fifteen innocent lives. The developer was accused of vilification and legal intimidation of those who dared to rise to the defence of the rural environs of the community. One citizen went further, sending another letter to all residents accusing the developer of lying, misleading, bullying, and character assassination, that he was deceitful and manipulative. He suggested that the community should cleanse itself of the sickness of the developer's unseemly behaviour.

After hearing all the witnesses and parties at trial, the court concluded that the accusations made by the citizens were uninformed, grossly exaggerated, and untrue. They had painted the developer as corrupt, dishonest, and unethical, but had not bothered to check whether what they had published was or was not true. No retraction or acknowledgment was ever given, no apology made. That constituted defamation – expression that lowers a person's reputation, exposes them to hatred, contempt, or ridicule, or causes a person to be shunned or avoided.

In this case, the five citizens who had most strongly opposed the development had gone well beyond fair comment, getting into malice. They had defamed the developer and were fined $50,000. Sometimes public opposition groups can go too far. ❁

BC Naturalists' Foundation Update

Submitted by Stephen Partington, President, BC Naturalists' Foundation

The BC Naturalists' Foundation is a registered charity formed under the Societies Act in 1990 by members of the Federation of BC Naturalists (BC Nature). In the early 2000s, the BC Naturalists' Foundation was granted the federal designation of a Public Foundation. Its purpose is to build a strong capital base, the future income of which provides an increasing source of funds for the preservation of the natural environment through conservation, education, and research projects.

As an investment and granting agency, the BC Naturalists' Foundation invests donations within accounts held at the independent brokerage firm, Odlum Brown, and at the Vancouver Foundation.

A working agreement between the BC Naturalists' Foundation and BC Nature was first ratified in 2009. This agreement has been revised at least twice with the latest iteration approved by the Board of the BC Naturalists' Foundation in August 2023.

The BC Naturalists' Foundation is a registered society separate from BC Nature, but members of the Foundation are appointed by the BC Nature Council of Club Representatives. Directors of the Foundation are nominated by the Council of Club Representatives but elected by the BC Naturalists' Foundation members at the Foundation's AGM for three-year terms. The Foundation directors elect their president, vice-president, secretary, and treasurer for one-year terms.

A joint Club Support Grant Applications Review Committee, comprising two members appointed by the BC Naturalists' Foundation Board and two members appointed by the BC Nature Board, reviews the Club Support Grant applications, and allocates grants using the available funding. Additional Board members of either society may participate as non-voting observers. Along with the Club Support Grants, the Foundation also supports the two scholarships awarded by BC Nature. Scholarship funding held steady in 2025 at $4500.

BC Naturalists' Foundation has supported BC Nature with scholarship and Club Support Grant funding with an increase of 7.4% versus 2024. In 2025, a record number of grants were fulfilled to the clubs/organizations in the Federation.

Since 1991 a total of $376,482 has been granted to clubs/organizations for a total of 231 grants and scholarships.

BC Naturalists' Foundation/BC Nature - Club Support Grants Awards in 2025

- Capitol Hill Tree Keepers Society - Capitol Hill Forest Community Engagement
- Comox Valley Nature - CVN Trees-of-the-Year Pamphlet and Permanent Plaques
- Friends of Holland Creek Society - Web Page and Media Development
- Friends of Semiahmoo Bay - Forage Fish Spawn Monitoring in Boundary Bay
- Kitimat Valley Naturalists - Big Tree Quest
- Langley Field Naturalists - Butterflies in Langley - Brochure - Redesign and Reprinting
- Native Bee Society of British Columbia - Mini Bee Schools in Williams Lake
- Nicola Naturalists Society - Sandhill Crane Monitoring on the Douglas Lake Plateau
- North Okanagan Naturalists' Club - Western Painted Turtle Nesting Survey
- North Okanagan Naturalists' Club - Habitat Enhancement - Swan Lake Nature Reserve Park
- Prince George Naturalists Club - Reptile and Amphibian Brochure for PG Naturalists Club
- Rocky Point Bird Observatory - Building Volunteer Skills to Support Migration Monitoring
- Salt Spring Trail and Nature Club - Construction of Bird Blind Viewing Platform
- South Okanagan Naturalists Club - Hummingbird Monitoring in the South Okanagan
- Vancouver Avian Research Centre Society - Bird Banding Net Replacement
- Whistler Naturalists Society - Whistler BioBlitz: School Presentations
- WildResearch – BC Marsh Monitoring Project
- Williams Lake Field Naturalists (WLFN) - Websites Update: Scout Island Nature Centre & WLFN

Back to Basics
Grasses

Submitted by Terry Taylor

There is one family of flowering plants that naturalists tend to ignore. It is the family that is more important to us than any other group of plants. It contains wheat, rice, and corn: the grass family. Without it there could be no large complex societies, as grasses are the basis of our food supply.

Reed Canary Grass

We go out to see the wildflowers with their showy colours and grow many flowers in our gardens. But we may fail to consider that these colours are not for us, but for pollinating insects. Grasses are for the air and the winds. Large, showy blossoms and sweet odours are of no value. Pollination is much more random, so wind-pollinated plants need to produce massive numbers of light-weight pollen grains that blow like dust grains. You can get allergies from windblown pollen but almost never from the pollen of showy flowers.

Look more closely at some grasses, and you will see some of their fascinating features. It is difficult to tell if a grass is in flower or in seed unless you look closely. When in flower there are usually some long stemmed stamens that hang down from the flower bracts. They are exposed to the wind and easily move back and forth in the breeze. In the center of the flower is the stigma, but it is different from the stigma of an insect-pollinated flower. This stigma looks like a little feather and has many tiny side branches to increase the probability of catching a passing pollen grain.

Did you ever wonder why you can mow your lawn, and need to mow it again in a couple of weeks? That is because it is made for mowing - mowing by animals, which we call grazing. Grass leaves have another interesting feature. A blade also has a sheath which is a tube from the bottom of the leaf which encircles the stem. Where the sheath and blade meet, there is a small scale called the ligule. This acts as a seal that prevents debris and infection from getting between the stem and sheath. When an animal eats the top of the plant, the leaf bases just keep growing so that the blades are regenerated. Dandelions regrow quickly after being mowed because they have a strong taproot that can regenerate new plants, even if the above-ground portion is cut off.

The first grasses in the fossil record date from about 100 million years ago, when the dinosaurs were around. They are believed to have been plants of forest edges. By 20 million years ago, the climate had become drier, and grasslands and herds of grazing animals had developed. Grasses produced their basal growth in response to grazing, and the grazers added fertilizer to the soil and removed young shrubs and trees that would outcompete the grass. Grasslands are also subject to frequent fires that add nutrients to the soil and prevent the growth of woody vegetation.

Some grasses, such as Reed Canary Grass province-wide and the annual brome grasses of the interior, can be serious invasive species that are difficult to control.

The Lone Pine Plant guides that most naturalists use have sections on our common grass species. They also illustrate the structure of grasses and explain the special terminology used for grasses.

An Advanced Guide to Being a Beginner Birder
Where to look, what to know, and how to learn

Submitted by Liam Ragan, IBA Provincial Coordinator

One of the greatest assets to conservation is the community of naturalists involved in it. It is like watering the ocean; with more than 64 federated clubs and approximately 7,000 members we make up one of the largest contingents of nature lovers in the country.

The purpose of this article is to support the naturalists and birders who support us by sharing some of the birding resources that have been shared with me. My hope is that they're useful to those wanting to learn more about birds and that we as a conservation community continue to grow.

Birding doesn't take place in a vacuum; it starts and stops with birders. Silent reflection and personal study are terrific, but the best way to learn and grow is to do it alongside others. Local naturalist clubs, a friend or two, or even online groups are there to be joined. There are also larger groups like BC Field Ornithologists, Birds Canada, and BC Nature that can help you know who's up to what, where, and when. If there's nothing where you live, start your own group. You will be surprised how many people respond to an offer to go for a bird walk and a coffee. Don't forget; "there are two types of birdwatchers: the type that

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make mistakes, and liars". I once mistook a Grizzly Bear with all four paws on a fencepost and its back to me for a Golden Eagle; laugh, admit the mistake, and keep on birding.

Finding where to find birds is half the battle, and for that we turn to another form of community: *eBird*. It's one thing to know Black Oystercatchers are found throughout the coast, it's quite another to know that (as of 5 minutes ago) there are 32 hotspots within eight kilometre of your house where they have been seen in the last 30 days. You can gain information on how many were seen, what time of day, and by whom. For the basics, go to *ebird.org/about/resources*. For more detailed information, I recommend "Status and Trends" under the Science tab. Drawing on the contributions from 1.13 million contributors and counting, the *eBird* team has modelled Abundance, Trends, Range, and Weekly Distribution.

Birds are more than winged things, they're members of complex ecosystems in a constant state of flux, now more so than ever. Cornell's *allaboutbirds.org* is a great starting place to understand North American birds in their environment. To dig deeper, Birds of the World is a subscription service that summarizes thousands of publications to present in-depth profiles of every bird on earth. More locally, *The State of Canada's Birds* report by our colleagues at Birds Canada and Environment Canada shows the bird groups by general groupings and individual species and a graph of the trends in how they are doing. More local still, the BC Conservation Data Centre has the *BC Species & Ecosystems Explorer* which democratizes science by giving any person the ability to know the status and wellbeing of every species in the province. Similarly, the *BC Breeding Bird Atlas* shows exactly where every species in the province has been recorded to breed.

No list of birding resources is complete without addressing identification, and no resource is a better starting point than the Merlin app. What it lacks in detail, it makes up for in coverage, with one free app providing photos, audio, identification tips and range maps for nearly every species on the planet. In addition, it can identify bird sounds and photos in the field. While this is an unparalleled resource for birders, it's not perfect and can sometimes misidentify bird sounds. Most birders recommend it be used as a secondary resource and not the be-all-end-all of identification. If it tells you there's a new bird nearby that you're not familiar with, take the time to listen back to recordings and see if you agree, or better yet go get eyes on it to confirm. Once you do have eyes on it, feel free to turn to other resources to dig into why the bird is what you think it is. Field guides come in many flavours; my personal favourite is the Sibley Birds app. For learning vocalizations, Larkwire is a terrific resource to hone your ear and learn bird song from the experts so that you can feel more confident in the field.

There is no "best birder" and the ways to enjoy birds are as diverse as the birds to be enjoyed. The purpose of providing these resources is to send those interested down their respective rabbit holes, not to set up an idea of what one needs to do to be a birder. Good luck, happy birding, and I'll see you in the field; maybe when we do you can share what's worked for you.

Invasive Trees

Submitted by Lisa Scott, Executive Director, Okanagan and Similkameen Invasive Species Society

Invasive trees are becoming a higher management priority in B.C. They are fast growing, produce lots of seeds and can out-compete desirable plants. They can be difficult and costly to manage. They can also be a host for insect pests that threaten crop quality and yield. Characteristics of the four most concerning species are listed below:

TREE-OF-HEAVEN (*Ailanthus altissima*)

- Grows up to 24 metres tall
- Leaves omit an offensive odour when crushed
- Large leaves with lance-shaped leaflets along a central stem
- Female trees produce clusters of seeds encased in a papery wing, often tinged with pink or orange
- Can develop dense thickets of cloned trees
- Roots can damage sewers, foundations, and sidewalks
- Can cause allergic reactions and sap can irritate skin
- Releases a chemical into soil that is toxic to surrounding plants

Tree-of-heaven (Ailanthus altissima)

Tree-of-heaven is a preferred host plant for **two invasive insect pests**, Spotted Lanternfly and Brown Marmorated Stink Bug. Spotted Lanternfly is not known to exist in Canada but was added to the regulated pest list in 2018 to prevent the introduction from infested areas. If this species spreads to Canada, it could be

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a formidable threat to various industries and the economy. Particularly at risk are the horticulture, tender fruit, and grape product industries. A second insect pest, Brown Marmorated Stink Bug, has already been confirmed in British Columbia. It was first detected in the province in 2015 and is now established in urban areas of southwest B.C. including Vancouver, Fraser Valley, Vancouver Island, and Kelowna. This invasive stink bug attacks tree fruits, berries, grapes, vegetables, and ornamental plants. Some people call this **Tree-of-Hell.**

BLACK LOCUST (*Robinia pseudoacacia*)

- Grows up to 25 metres tall
- Large leaves with oval-shaped leaflets arranged alternately around a central stem
- Fragrant white flowers grow in drooping clusters
- Smooth dark red-brown seedpods
- Young trees have long, sharp spines that can cause injury
- Toxic to humans and livestock
- Dense, interconnected stands dominate disturbed soils

Black Locust (Robinia pseudoacacia)

RUSSIAN OLIVE (*Elaeagnus angustifolia*)

- Grows up to 9 metres tall
- Reddish-brown branches have long sharp spines
- Leaves are lance-shaped and light green with silvery hairs
- Flowers are small, light yellow and aromatic
- Berries are silver to light green or yellow
- Forms dense stands that alter nutrient cycling/hydrology
- Threatens riparian and wetland ecosystems

Russian Olive (Elaeagnus angustifolia)

SIBERIAN ELM (*Ulmus pumila*)

- Grows up to 18 metres tall
- Oval, pointed leaves with toothed margins are dark green in summer and dull yellow green in fall
- Seeds are round with papery wings and hang in clusters
- Outcompetes shade-intolerant species and reduces biodiversity

Siberian elm is a preferred host for the Elm Seed Bug. This invasive pest is a concern for property owners when it invades homes and structures in large numbers.

Siberian Elm (Ulmus pumila)

What can landowners do?

Invasive trees are challenging and costly to manage. The earlier landowners take action, the better. The first priority in invasive tree management is early detection and control to prevent widespread establishment. Single trees or small infestations should be highest priority for treatment.

Make sure you know how to identify these invaders. Regularly patrol your property for invasive trees and remove new seedlings. All of these tree species thrive in disturbed and bare soils. It is therefore important to minimize soil disturbances and re-vegetate with ecologically suitable species to prevent their establishment.

There are several techniques that may help to control infestations. An integrated management approach is the most effective strategy to eradicate invasive trees. Removal techniques include manually pulling seedlings and cutting or girdling mature trees. Chipping can be a safe and efficient means of disposal for limbs and trunks. Physical removal is most effective when combined with herbicide treatment. After treatments, it is important to monitor for re-growth and re-treat as required.

ALWAYS take safety precautions when managing invasive trees. Consult with a professional or your local government office to ensure proper permits or qualifications are obtained.

To learn about invasive species in your region, go to https://bit.ly/3T5YKfz

The B.C. Ministry of Forests' Invasive Plant Program and the B.C. Inter-Ministry Invasive Species Working Group have created a list of invasive trees that are either invasive or potential species of concern to British Columbia. While invasive trees are not provincially regulated, the planting, selling, or trading of these species is strongly discouraged. Removal and replacement with an ecologically suitable species is recommended.

Old Growth Birders and Bioblitzers

Submitted by Royann Petrell (Assoc. Prof. Emerita, UBC)

I was shocked to learn that wildlife surveys are not mandated before considering timber cutting licenses on Crown Land in BC, and only species placed on an outdated 2006 list of species affected by logging have any hope of protection. Many of the 400 old-growth dependent species, like these species at risk: Western Screech-owl, Old-growth Specklebelly Lichen, and Large-flowered Fairy Bell, are out of luck.

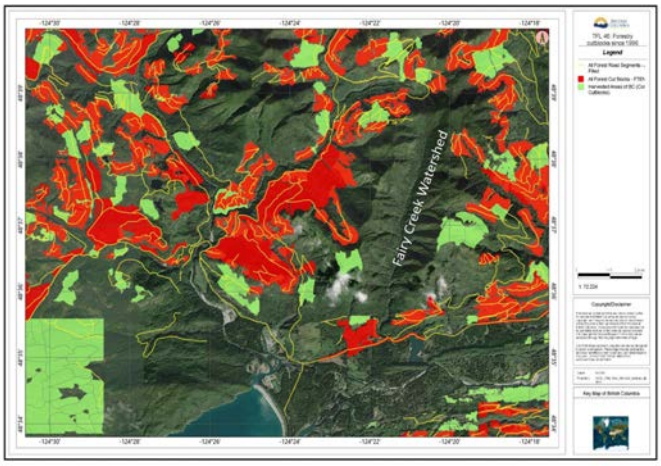
In combination with Ecojustice, I went to court for access to conduct surveys within old-growth forests in Tree Farm License (TFL) 46 on Crown land behind the licensee's closed security gates during nesting seasons. The court ruled that I should file a complaint with the Forest Practice Board (FPB). The FPB later claimed the forestry company had the right to determine who could pass through the gates. The FPB report contained little information about the significance of wildlife surveys or the reasons for their findings.

BC Nature and Sierra Club BC provided automatic recording units (ARUs) and handheld recorders in 2022/24. Volunteers hiked to install ARUs in old-growth forests on Crown land. Handheld recorders captured Marbled Murrelet calls before dawn and coastal Western Screech-owls at night. During daylight, Bioblitzes were conducted. Hence, the volunteers and I named ourselves "Old-Growth Birders and Bioblitzers" (OGBB).

We have become a group in the new BC Nature-affiliated club, Friends of Fairy Creek Society (FoFCS). The Society's mission is to promote the permanent preservation of the remaining old-growth forest ecosystems in B.C. (currently about 23% of forested areas, 80% of which consists of high elevation small trees), and through that effort, preserve the habitat of many threatened old-growth dependent species, like the Marbled Murrelet. The murrelet, a seabird, mostly relies on the upper mossy horizontal branches of the largest coastal old-growth trees to lay one egg per year. FoFCS is committed to using only lawful means, such as advocacy, education, research, and in-field data collection and reporting to public databases.

OGBB's data has been used in court, and to propose Key Biodiversity Areas (KBAs) and new or expanded Wildlife Habitat Areas (WHAs) for Marbled Murrelet. A pair of murrelets requires 10 to 40 hectares of old-growth forest habitat. Unfortunately, neither KBAs nor WHAs are protected from industrial activities.

In 2021, I was the first to report threatened coastal Western Screech-owls in the 83,545 ha TFL 46. Even though a nesting pair was observed within an old-growth area being logged, logging was permitted to continue. No governmental recovery plan for these threatened owls exists. Since 2013, the goal has been to find out where they reside.



Red and green areas show where logging has occurred since 1996 (Red) and 1978 (Green) near Port Renfrew, B.C. Old-growth dependent species definitely need friends to help preserve their little remaining habitat.

In 2021, OGBB recorded more than 100 Marbled Murrelets flying to nest in an old-growth forest near the Fairy Creek watershed. Western Canada Wilderness Committee and Sierra Club BC verified the count using conventional radar counting. Despite the high bird count, that forest stand was logged. A 2024 federal court decision and order, partly based on this event, said in essence that the federal Minister of Environment and Climate Change needed to do more to protect the habitat of species listed under the Species at Risk Act. Yet no new standard or practice has been released by the Minister's Office.

Most of the old-growth forest that the Marbled Murrelet requires for nesting has already been logged (see map). Research predicts that the Marbled Murrelet population will decline by 2.4%/year if old-growth forest logging in coastal areas continues. FoFCS has filed to stop the unlawful destruction of old-growth forests based on the Canadian Migratory Bird Convention Act, which prohibits disturbing, dismantling, or destroying nesting habitat. Marbled Murrelet are dependent on old-growth trees as they don't build nests; they simply nestle their single egg on a wide, mossy branch of a large, old-growth tree.

The Attorneys General of Canada and B.C. filed to have the case dismissed as irrelevant and of no value. The B.C. Supreme Court, after deliberating for 12 months, dismissed the case. FoFCS filed an appeal. The results of this appeal will be a litmus test on such legal action and the evidence supporting it. Stay tuned.

Sandpiper's Last Supper

The story of a tiny shorebird's epic journey, powered by an invisible fuel in the mud

Submitted by Isabelle Groc

Every year in springtime, Western Sandpipers migrate thousands of kilometres north along the Pacific coast from overwintering areas as far south as Peru to their breeding grounds in Alaska. These tiny shorebirds that do not weigh more than 35 grams stop at just a handful of places along the Pacific Flyway to refuel.

Roberts Bank is one of these stopover sites, located on the Fraser River estuary in B.C. It is a top biodiversity hotspot in Canada that is globally classified as an Important Bird and Biodiversity Area. Between 42 and 64 percent of the entire Western Sandpiper species relies on Roberts Bank to rest and refuel, and it's estimated that almost every Western Sandpiper will use the site at least once in their lifespan.

To most people, Roberts Bank is nothing more than a vast landscape of barren mud, but it is the site of one of the most important ornithological discoveries of the past century. For a long time, scientists had assumed that Western Sandpipers fueled their long journey by feeding on invertebrates. Then it was discovered that the shorebirds are also sucking up intertidal biofilm, a thin, sticky "slime" that coats the surface of the mudflat and is produced by microscopic algae called diatoms. The birds scrape biofilm off the surface of the mud with a specialized toothbrush-like tongue with long, fine bristles.

Biofilm contains a high concentration of omega-3 fatty acids generated by the diatoms right at the time when hundreds of thousands of shorebirds arrive at the migratory stopover site in the spring. Biofilm is the special energy drink the sandpipers need, just like marathon runners, to complete their journey.

Sunset murmuration

Spring feeding - sandpipers

I have been photographing the spectacular spring migration of Western Sandpipers at the mudflats of the Fraser River estuary for the last 15 years. Watching tens of thousands of migrating Western Sandpipers blanket the exposed mud of Roberts Bank in the spring is one of the great spectacles of the natural world. Sadly, this may all come to an end if we don't protect the birds' habitat.

In 2023, the federal government approved a proposal by the Vancouver Fraser Port Authority to build a second container ship terminal at Roberts Bank, which will destroy 177 hectares of intertidal mudflats. More than 100 species at risk depend on this habitat, the largest remaining intact estuarine mudflat in Western Canada.

If the Roberts Bank Terminal 2 (RBT2) project goes ahead, Western Sandpipers will lose access to the essential nutrients contained in the biofilm of the mudflats and likely become endangered within 30 years. RBT2, if built, will have cascading effects on the entire ecosystem, impacting commercial fisheries such as salmon and crab, and charismatic predators such as the endangered Southern Resident Killer Whales.

We are making a documentary to raise awareness about the ecological value of intertidal mudflats and the urgency to save these vital habitats for shorebirds, one of the fastest disappearing groups of birds in the world.

To learn more about the film and how you can support: *https://bit.ly/3ZH9R2e*

Author bio: Isabelle Groc is an award-winning writer, conservation photographer, book author, and documentary filmmaker focusing on wildlife conservation, environmental science, marine ecosystems, and the relationships between people and the natural world.

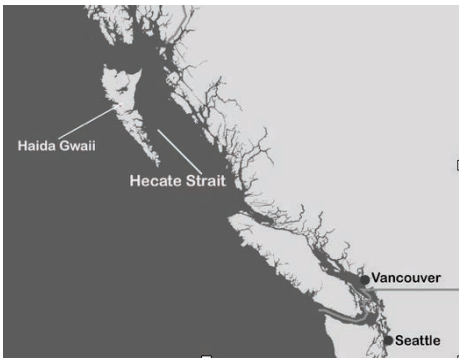
Winds of Warning

What Wolfe Island Can Teach Us About Protecting B.C.'s Birds

Submitted by Jennifer Dowd and Ron Long

Photo: R. Long

Wolfe Island, Ontario—once a marsh-lined migratory haven—is now infamous for the second highest bird mortality rate from wind turbines in North America. It's tragic transformation is a cautionary tale for British Columbia. Today, we stand at a similar precipice.



A proposed wind project in B.C.'s Hecate Strait, an internationally significant bird migration corridor, could become our own Wolfe Island disaster. Millions of birds use the Strait annually. The sheer volume and diversity of birds that pass through this waterway should give any energy developer pause.

But the threat is deeper than turbine blades. It lies in the way environmental data are gathered and interpreted—or rather, seemingly manipulated.

Peter Hamel and Margo Hearne, seasoned naturalists from Haida Gwaii, have devoted decades to monitoring local bird populations through Christmas Bird Counts, Breeding Bird Surveys, and ferry-based seabird monitoring. When NaiKun Wind Energy Inc. submitted their environmental assessment application for a wind farm in Hecate Strait, Hamel and Hearne's, work was cited more than 85 times, used not to protect birds but to justify development. The company even claimed the naturalists' data "skewed" averages when bird counts were unusually high, while ignoring the fact that low counts on other days were equally anomalous.

Rather than engage with naturalists as respected field experts, the wind developers suggested their observations were inherently flawed—questioning observer skills, cherry-picking numbers, and ultimately discounting decades of dedicated, volunteer science. Yet when those counts revealed high bird abundance such as approxmately 12,000 Common Goldeneye on a single count, the company dismissed the findings as "anomalies" or "skewed data." They even questioned the observers' skill levels, despite Peter and Margo's combined 70+ years of field work.

This contradiction—using the data when it suits the project's narrative and discrediting it when it doesn't—calls into question the integrity of the entire assessment process. More broadly, it raises a dangerous precedent: if seasoned data collectors can be dismissed, what hope is there for scientific integrity in environmental review processes?

The scale of bird life in Hecate Strait is not abstract, it is vividly documented. In one survey alone aboard BC Ferries, Peter and Margo recorded more than 50,000 birds in a single day. On another winter count, they recorded approximately 21,000 birds in just one Christmas Bird Count (CBC), including approximately 1,200 Red-throated Loons and approximately 700 Red-necked Grebes, the highest numbers ever recorded for these species on a North American CBC. They have tracked more than 200 Yellow-billed Loons, a rare Arctic species, along with high counts of other species.

This is not just a bird habitat, it is a vital, world-class migration superhighway. And yet, the wind farm proponents suggest the only way to measure the project's impact on birds is to build the first 120 turbines and then start counting casualties.

The Wolfe Island wind farm was approved despite an environmental assessment, and no mitigation measures were attempted. How could this happen? The example from Hecate Strait, illustrates exactly how data are distorted by wind companies and ignored by governments.

Let us be clear: this is not an argument against wind power. We need renewable energy to combat climate change, but it must not come at the cost of silencing nature's voice. This is

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an argument against sacrificing critical bird habitats and decades of trusted data collection for the sake of unchecked industrial development. It's a plea for environmental assessments that are rigorous, transparent, and grounded in science. It's a call to respect the role of trained observers, naturalists, and citizen scientists who have spent lifetimes documenting the birds we now risk losing.

British Columbia stands at a crossroads. We can lead the way in responsible, biodiversity-conscious renewable energy or we can repeat the catastrophic oversight of Wolfe Island.

Let's not let Hecate Strait become B.C.'s next cautionary tale. The birds are watching. So must we.

The Hecate Strait offshore wind project, proposed at 2,000 MW, is in early development. Oceanic Wind Energy Inc., with new partners Elemental Energy and Coast Tsimshian Enterprises, received site investigation approval in December 2024. Environmental reviews and First Nations consultations are ongoing.

Our next step as BC Nature is to advocate for stronger protection of the Hecate Strait and surrounding migratory corridors before any wind energy development is approved. This includes calling for:

- Conducting independent environmental impact assessments focused on bird migration and strike risk.
- Protecting critical habitats and flyways as no-go zones for turbines.
- Enforcement of legally binding monitoring, mitigation, and transparent public reporting.
- Partnering with Indigenous Nations and local naturalists to integrate traditional knowledge and field observations.

Featured Key Biodiversity Areas (KBA) Species

Flathead West BC311, Elder Creek BC312, Yahk Gilnockie BC313, Elmer Creek BC314.
Species: Rocky Mountain Tailed Frog (*Ascaphus montanus*)

Submitted by Ian Adams, BC KBA Coordinator
From the Unceded territory of Ktunaxa speaking peoples

British Columbia is home to eleven species of native frogs and toads, plus an additional two introduced species. Most of these are either associated with ponds, wetlands, and small lakes, or are more terrestrial, such as treefrogs, wood frogs, toads, and spadefoots which, come to water to breed in the spring.

However, two species – the tailed frogs – are unique. Indeed, they are distinct from other frogs worldwide in many ways. Tailed frogs inhabit small, mid-elevation streams, are long-lived and, along with some distant Kiwi cousins, are the oldest frogs in the world.

Coastal Tailed Frog (*Ascaphus truei*) are found throughout the Coast Mountains from California to the Nass River area near Terrace, BC. Rocky Mountain Tailed Frogs (*A. montanus*) have a much more restricted Canadian range. In British Columbia, they were previously known from two populations of the southeast corner in the Flathead and Yahk river drainages. Recent work with eDNA identified five new drainages in the area that support this species.

Rocky Mountain Tailed Frogs are relatively small and quite variable in colour from brown to olive green. Their eyes sparkle gold with vertical pupils. The species is listed as *Threatened* under the federal Species at Risk Act and Blue-listed by the B.C. Conservation Data Centre. KBAs are designated based on specific, measurable criteria, which are grouped into five categories: threatened biodiversity, geographically restricted biodiversity, ecological integrity, biological processes, and irreplaceability. These listing and their restricted Canadian range make Rocky Mountain Tailed Frogs eligible for this area to gain Key Biodiversity Area (KBA) status.

There are four KBAs for Rocky Mountain Tailed Frog: Elmer Creek, Yahk – Gilnockie, Flathead West, and Elder Creek. KBAs are sites of disproportionate importance to the preservation of global and national biodiversity, and Rocky Mountain Tailed Frogs are worthy of such recognition.


Photo: © Ian Adams

Rocky Mountain Tailed Frog tadpole

So why are they so special? Tailed frogs have evolved apart from other frogs and toads for at least 170 million years, with some estimates more than 200 million years. This isolation, combined with specializations for their step-

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Elmer Creek - East Fork

pool stream habitat, creates frogs quite unlike most others. "Primitive" traits not shared with other frogs include additional vertebrae, ribs that do not attach to the backbone, lower body musculature that affects their hopping and kicking ability and vestigial "tail-wagging" muscles.

Ah yes, the eponymous "tail"! We need to address the "tail" because it is only found on the male. In fact, it's not a tail at all, but a copulatory organ, because one of the adaptations to their stream habitat is internal fertilization, an uncommon trait in frogs. External fertilization in a fast-moving mountain stream simply would not work.

They do not vocalize, nor do they have an ear drum (tympanum), or middle ear bones. This makes sense for their relatively noisy stream environment. In the USA, they are commonly referred to as "sucker frogs" because the tadpole's mouth is located underneath the head (ventrally) to allow them to attach to rocks and cobbles in their stream. This provides an anchor against the stream's current, especially during floods and freshet.

The tadpoles do not metamorphose for three to four years and then wait another three to four years before they are mature to reproduce. They live up to 14 years in the wild, among the longest lived North American frogs.

Because of this protracted development, tailed frogs can only persist in permanently watered streams. If they dry up at any time, the tadpoles are done-for. The hotter, drier summers and earlier spring freshets resulting from climate change, therefore, are a clear threat to tailed frogs.

Another main threat is water quality. Spaces between cobbles in the stream are an essential habitat component that provide shelter to both tadpoles and frogs against flood events and predators such as dippers. Increased sedimentation of streams, typically from road crossings, fills in these spaces, reducing habitat quality.

Identifying Key Biodiversity Areas helps publicize poorly-known and under-appreciated species, such as Rocky Mountain Tailed Frog, and their ecosystems. These frogs and their ancestors have persisted for some 170 million years, living through the rise of mountain ranges, the infamous mass extinction that wiped out dinosaurs, and the millennia of ice ages. It would be a shame to lose them now. ❁

For more information on KBAs in Canada, see: https://bit.ly/4507XNZ

Rocky Mountain Tailed Frog habitat in Elmer Creek Key Biodiversity Area

What are the Eligibility Criteria to Become a Key Biodiversity Area (KBA)?

An area becomes a Key Biodiversity Area (KBA) by meeting specific, globally standardized criteria related to biodiversity importance. These criteria assess whether an area supports a significant portion of globally threatened species, geographically restricted biodiversity, or is crucial for essential ecological processes. ❁

A Rocky Mountain Tailed Frog tadpole attached to a cobble in its stream habitat.

The Hidden Threat in Your Firewood

Submitted by Veronica Panama, Coordinator, Invasive Species Council of BC

Invasive species from left to right: Spongy Moth, Emerald Ash Borer, Dutch Elm Disease, Asian Long-horned Beetle, Spotted Lanternfly

Tiny invasive insects, spores, or seeds could be hiding in the most unexpected places, including firewood! When firewood is moved between sites, even just a few kilometres, it can carry invasive pests and diseases that threaten the forests we love to explore.

With summer here, many of us are packing up for camping trips, heading to local parks, or prepping our backyard setups. Firewood often comes along for the trip, but without realizing it, you could be accidentally spreading invasive forest pests and diseases and harming the natural places we value most.

Check Fire Restrictions first: With wildfire season underway, fire bans or restrictions may be in place in many parts of B.C. Always check local fire regulations before using firewood, whether in parks, at campsites, or at home.

Why It Matters

Forests across B.C. are among the most biologically diverse in Canada. Each region supports a unique mix of native trees, plants, and animals. These forests provide habitat, support cultural traditions, offer space for recreational activities, and help maintain clean air, water, and local economies.

Invasive species put all of this at risk. They can outcompete native species, change the makeup of the forest floor and canopy, in some cases kill trees, and even alter natural fire patterns. Across North America, invasive forest species have already damaged millions of trees. Some, like the Emerald Ash Borer, have caused widespread die-offs of ash trees in other provinces. Once established, these forest pests can be extremely difficult, or impossible, to control.

What Might Be Hiding in Your Firewood

Invasive forest pests are excellent hitchhikers, and firewood gives them a free ride. People often move these without realizing it, especially when moving logs from one place to another. A single infested piece of firewood can spark a new infestation that is costly, sometimes impossible, to control.

Here are some of the tiny travellers that could be hiding in your firewood:

- Spongy Moth – These moths are not picky. Their caterpillars feed on more than 300 different trees and shrubs and can quickly strip a tree of its leaves. The goal is to keep them from establishing in B.C.
- Emerald Ash Borer – Found in B.C. in 2024, this shiny green beetle goes after ash trees. Once inside, the tree does not recover and will eventually die. Work is underway to contain them to infested areas.
- Dutch Elm Disease – First found in B.C. in 2024, this fungus spreads by beetles and can wipe out an elm tree branch by branch. It has already caused major issues in other provinces. Please do not move elm wood to new areas.
- Asian Long-horned Beetle – Not in B.C. yet, but a serious concern. These beetles love maples and other hardwoods. Their larvae hide deep inside the wood, so you might not notice them until it is too late. This beetle was eliminated from Ontario with no detections in the past five years!
- Spotted Lanternfly – Not in B.C. yet, but spreading fast in the U.S. It lays eggs on firewood and feeds on more than 100 plants, including fruit trees and grapes.

Invasive forest pests may be tiny, but their impact can be serious—killing trees, disrupting ecosystems, and threatening biodiversity. It is critical to prevent introductions and the movement of forest pests. Keeping it this way depends on us! With a few simple actions, we can all help protect the forests we love.

Small Actions, Big Impacts

Before transporting or using firewood, consider these simple actions to help protect forests:
Plan – Moving firewood out of regulated areas or into national parks is illegal. Before you travel,

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check for any restrictions with the Canadian Food Inspection Agency.

Buy Local – Pick up firewood from campgrounds, local suppliers, or certified pest-free sources near your destination.

Burn Local – If you brought firewood from somewhere else, burn it first and completely. Do not leave logs on the ground, where pests could spread. If you need to store it, keep it inside your vehicle.

Leave It Behind – Unused local firewood should be left behind. This helps prevent the spread and supports others in using local wood.

Talk About It – Spread the word, not invasives. Many people do not know the risks of moving firewood. Share what you have learned with family, friends, and fellow campers!

Even small actions can have a big impact. By choosing to buy and burn local firewood, you are helping protect the trees and ecosystems that make B.C. special.

Plan, Buy Local, Burn Local, Leave Local. It is a simple choice that helps protect forests for the future.

Science Fair 2025

The important thing is to never stop questioning - Albert Einstein

BC Nature provides $3,100 – $3,600 annually to the Science Fair Foundation of British Columbia for distribution of awards of the following amounts in each of the participating Science Fair regions:

- $100 Cash Award to be split between Grades K-Grade 3, Grades 4 - 6 students
- $100 Cash Award to a Junior (Grades 7 - 9)
- $100 Cash Award to a Senior (Grades 10 - 12)

These awards will be awarded at each British Columbia Regional Science Fair, to the best natural history project done by a student(s). This includes studies of any aspect of natural history, conservation of natural habitats, and/or natural species. An outdoor, nature monitoring, or conservation project is strongly encouraged.

Member naturalists are encouraged to participate in this program as mentors, resource people, and judges. Junior members can participate through their school programs. email: *info@bcnature.ca*

Fort St. John Science Fair:
Top Left: Abigail Kress: "Cheep or Not"
Gabriel Kress: "Who's There"
(Right) Swas Ghosh: Testing Nature Derived Hydrogels as Solid Electric Sodium Ion Batteries

Presenter: Kevin Hunt

South Fraser Science Fair
Ishmeet Kaur: "Biomelt"
Amare Pooni: "Reef Revive"
Presenter: Kristy Harrison, Friends of Semiahmoo Bay

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Cariboo Mainline Regional Science Fair
Francis and Joey Piva: "Gamble Pond"
Oliver Bosde: "Stopping Soil Erosion With Plants Experiment"
Paxton West: "Bee City or Wannabee City"Jack
Presenter: Gary Hunt, Kamloops Naturalists Club

East Kootenay Regional Science Fair
Rylan Veikle: "The Future of Sustainable Farming"
Sydnie Northey: "How Do Organisms Affect Each Other?"
Presenter: Stewart Wilson - Rocky Mountain Naturalists

West Kootenay Regional Science Fair
Hutton Baird (Far left): "Effects of Soil on Plant Growth"
Lilah Relkov-Weberg: "The Greenhouse Effect"
Sadie Bruen (Top left): "What Effect Does the Aerial Application of Fire Retardants Have on Nearby Aquatic Ecosystems?"
Kail Keyes: "Waves of Change: A Novel Approach to Recycling Motor Oil with Microwave Energy"
Presenter: Sarah Prade, the Executive Director of the BC Science Fair Foundation

2025 BC Nature and Habitat Conservation Trust Foundation Photo Contest Results

Category 1 – People in Nature: Hiking
Winner: Along the Iron Mine Trail
Runners up: Successful Fishing Trip
Sunset at Mt. Currie
Landon above Creston
View over Howe Sound
Snowshoeing in Cypress

Category 2 – BC Biodiversity
Winner: Dunlin Landing
Runners up: Coopers Hawk at sunset
Porteau Cove Gulls at sunset
Coyote – West Dike
Common Loon and Loonlet
Sea Level Sax Point
Kootenay Lake Dreamy Reflection

Category 3 – Conservation Lands
Winner: Eskers – Circle Lake
Runners up: Lupine – Pitt-Addington Marsh
Turkey Tail Fungus
Alaksen Nat'l Wildlife Area
Steller Sea Lions – Gwaii Haanas
Kitt Car NCC Conservation Land
Buttertubs Marsh - Hummingbird

Category 4 – BC Youth Photographers
Winner: Steller's Jay
Runners up: Peacock
Ladybug on Yellow Flower
Pileated Woodpecker
Black-capped Chickadee

Thank you for all your entries!

BC Nature Volunteer Merit Awards

Every year, BC Nature encourages clubs to nominate a worthy volunteer from their club for recognition of their efforts in nature conservation and education, and dedicated club service. Our awards are handed out at our AGM in May of each year.

2025 was another banner year for nominations received and awarded to our naturalists community. Full write-ups can be found on our website*: https://bit.ly/4jr8rQu* Please join us in celebrating these worthy volunteers for their genorosity in sharing their time and knowledge by assisting nature. The balance of the 2025 award winners will be noted in the fall 2025 magazine. All award winners will be posted to our website *https://bcnature.org/bc-nature-awards/*

Loys and Alison Maingon

Ian McTaggart-Cowan Outstanding Naturalist Award
Alison and Loys Maingon, Comox Nature

Life-long naturalists and educators, Loys and Alison Maingon are hard-working volunteers dedicated to the conservation and restoration of natural ecosystems. The Maingons are richly deserving of this award for the life-time accumulation of support and education they have brought to BC Nature, the Comox Valley Naturalists, the Strathcona Wilderness Institute, and numerous other organizations. Their great passion for our animal and plant relations is matched by their knowledge of, and sense of curiosity about, the living world. Both have strong empathy for nature, as well as the ability to convey their sense of wonder about it to others. Loys and Alison are both respected scientists, who have for many years tirelessly led hikes into natural habitats, instructing participants on numerous topics.

BC Nature Regional Award
Gary Hunt, Kamloops Naturalists

After a long and productive career teaching at Thompson Rivers University, Gary retired in 2015—which gave him more time to volunteer. He joined the BC Nature board in 2018 and has served as Regional Coordinator for the 10 Thompson-Okanagan-Shuswap clubs for five years. Gary also reviews award nominations and adjudicates applications for club support grants. He is an active member of BC Nature's Education Committee, has liaised with the Science Fair Foundation to ensure that the BC Nature awards are given out across the province, and has served as a judge himself. He has been a member of the Kamloops Naturalist Club for more than 30 years, where he has had many roles: assisting with the club newsletter, leading field trips, and currently, serving on the KNC executive. Basically, every club needs a Gary Hunt!

Nancy Flood, President BC Nature and Gary Hunt

Nancy Flood, President BC Nature and Denis Knopp

BC Nature Regional Award
Lee Larkin and Denis Knopp, Nature Chilliwack

Lee and Denis have volunteered for more than four decades with Nature Chilliwack. Both have served on the executive, including as President, Field Trip and Speaker coordinator, and newsletter editor. Since 1994, they have led the restoration and maintenance of the Camp Slough Wildlife Area, an 8.1-hectare Nature Trust BC property, acquiring grants, organizing public planting events and bioblitzes, hosting environmental groups, and leading the monthly work to remove the ever-invading Himalayan Blackberry.

Denis is a well-known naturalist, known for his work with rare plants, small mammals, reptiles, amphibians, butterflies, and dragonflies, and Lee is a horticulturalist with an established native plant nursery, B.C.'s Wild Heritage Native Plants where she propagates rare plants. Together, they find all sorts of rarities on their excursions. You can find their names on many government publications, and their media contributions, including brochures,

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Facebook posts, newspaper articles, and items in the BC Nature Magazine, are important educational assets.

Denis and Lee are both lifelong learners who love to share their knowledge. Their scientific knowledge of the Eastern Fraser Valley—and their advocacy for nature have made a huge conservation impact.

Sharon Niscak

BC Nature Regional Award
Sharon Niscak, Comox Nature

Sharon Niscak joined Comox Valley Nature (CVN) after moving to the valley in 1991. She has been a dedicated member of the board, providing CVN with an invaluable and irreplaceable First Nations voice, generously sharing a wealth of Indigenous knowledge. A long-time president says, "CVN would not be what it is today without her. I can think of few people more deserving of public recognition".

She served as BC Nature Club Representative from 2012 to 2024, was newsletter editor for several years, and was actively involved in projects related to Garry Oak preservation and Salish Camas Gardens. She gave presentations to the Aboriginal Education Council and made a display at the Band Hall of the K'ómoks First Nation. She has given presentations on Indigenous plants and foods at schools and for the public. She and her good friend Norma Morton conducted the winter shorebird survey together for years and she helped organize a highly successful Scotch Broom bash. As a member of the photography group, she provided and made display panels for events, conferences, and general meetings. Sharon's multiple talents and dedication have made a huge difference for nature on Vancouver Island.

BC Nature Regional Award
Kathy Masse, Langley Field Naturalists

The Langley Field Naturalists (LFN) are saddened by the loss of long-time member, Kathy Masse, who passed away on December 23, 2024. Kathy contributed much over her 25 years in the club, including serving on the executive. She was Conservation Chair for five years, sat on the Membership Participation Committee, and was BC Nature Representative from 2012 to 2024.

Kathy organized and participated in the LFN Christmas Bird Count for several years. She was very involved in the set up and hosting of the 2010 BC Nature Fall General Meeting and the 2023 BC Nature AGM.

Kathy also participated with the Yorkson Watershed Enhancement Society and represented both clubs in the BC Nature Council of Representatives. For 20 summers, she volunteered at the Campbell Valley Regional Park Nature House. She will be sorely missed by many.

Kathy Masse

Chris Dale (right)

Important Bird and Biodiversity Area (IBA) Caretaker Award
Chris Dale, Squamish Estuary IBA

Chris passed away at the end of 2024, but the impact he made on the ornithological community continues to resonate locally and throughout the province. As one of the longest-serving IBA Caretakers in Canada, he proved the value of local insight for safeguarding global bird populations.

Chris had been a dedicated birder since 1999 when he first joined the Squamish Estuary Monthly Bird Counts and quickly came to lead them. As well as his work as a Caretaker, he was instrumental in Purple Martin recovery efforts throughout the Squamish Estuary IBA, a project which was a turning point for the species in our province, producing hundreds of martin hatchlings.

Chris was a steadfast advocate for the sensitive estuarine system in the

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heart of urban Squamish and held local government to account for its natural heritage. He was also a humble leader and trusted educator within his community and beyond. He is sorely missed.

Lilianne Fuller

BC Nature Club Service
Lilianne Fuller, Langley Field Naturalists

For more than 10 years, Lilianne Fuller has served enthusiastically as Director of Publicity and Promotion for the Langley Field Naturalists (LFN). She promotes events, field trips, and achievements through her numerous contacts with local media, local government, and other organizations. She has successfully applied for grants which allowed the LFN to publish educational nature brochures, such as Birds in Langley and Butterflies of Langley, for the public, local schools, and libraries.

Lilianne took on the job of project coordinator for LFN's book, *On the Trail: 50 Years of Engaging with Nature*. Besides organizing meetings, taking minutes, and providing direction, Lilianne also worked closely with the graphic designer and publisher to bring the book to life. She then actively promoted and distributed it so that the first printing sold out and a second was needed. Her dedication, commitment, and organizational skills were instrumental in this success. Her valued contributions have helped foster awareness and greater understanding of the natural environment. Any naturalist club would be lucky to have a member like Lilianne.

BC Nature Club Service
Terry Carr, Delta Naturalists Society

Terry Carr

Terry Carr has made outstanding contributions to the Delta Naturalists Society (DNS) for well over a decade. As Display Coordinator, he steered the development of displays and coordinated appearances at several events and festivals, reaching thousands of adults and children annually, highly public appearances that raised DNS's public profile and recruited new members. In 2022, Terry became the DNS Casual Birding Coordinator. He plans and coordinates participation in weekly birding outings, generously shares his extensive knowledge of birds, and takes responsibility for writing an outing report—with photos.

Terry is also an integral member of the Birds and Biodiversity Committee. This group was instrumental in shepherding the City of Delta's development of a Birds and Biodiversity Conservation Strategy several years ago. The committee now advises the city on implementation of this conservation plan. Terry was heavily involved in the recent production of an award-winning ten-part series of pamphlets on Delta wildlife and was lead author of three pamphlets, illustrating them and others in the series with many of his own photographs. Terry continues to be one of the pillars of the DNS.

Nancy Flood, President BC Nature and Wendy DaDalt

BC Nature Club Service
Wendy DaDalt, Abbotsford Mission Nature Club

In 1992 Wendy was a founder of the Central Valley Naturalists—now the Abbotsford Mission Nature Club (AMNC)--and has been a key member for 33 years. She was instrumental in developing club projects and activities and was the program coordinator until 2012, sharing knowledge of nature by planning and leading many field trips. In 2013, she chaired the committee for the BC Nature AGM and her organizational skills resulted in a very successful event.

Wendy was instrumental in connecting the Hogan family to the City of Abbotsford with the result that their property was set aside in perpetuity as a Nature Park in 1995. AMNC adopted the park, and she continues to monitor the area for the club. In 2017, Wendy's expertise writing grant proposals resulted in the club receiving $96,000 to build a viewing platform in Willband Creek Park. She is also an advocate for Sumas Mountain Regional Park and McKee Peak in Abbotsford. Wendy has

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kept the executive functioning effectively and efficiently, facilitating successional training discussions and identifying executive members' strengths. She has strong communication and collaboration skills and is well connected to many other environmental organizations and experts. Her commitment to environmental protection and education makes a real difference and sets an example for others to follow. The Abbotsford Mission Nature Club can't imagine the club without her!

BC Nature Club Service
Murray Little, Comox Nature

Murray and his wife Gillian arrived in Courtenay in 2006 and joined Comox Valley Nature (CVN) in 2007. He has provided outstanding service as a board member, coordinating projects, and volunteering. For six years, Murray was the CVN representative on the Comox Valley Conservation Partnership and for three years, was co-coordinator of the Wetlands Conservation Group.

Murray Little

Murray has volunteered at Little River rescuing Rein Orchids from proposed development and has helped CVN and the city plant trees in the "150-year park" at the confluence of Lerwick and the Malahat. He participated in B.C. Rivers Day in 2014 and 2015, leading the CVN "Air Park Cleanup". In 2016/17, he identified the need for an organized rescue of 1200 *Erythronium* from a proposed bridge site—which he then led. In 2018 Murray rescued Camas at Point Holmes. He continues to volunteer at Little River, Air Park, and Vanier Woods engaging and mentoring others in respecting these sensitive ecosystems.

Murray is quietly passionate and knowledgeable about nature and a true pleasure to work with. CVN is lucky to have such an outstanding volunteer in their midst.

Nancy Flood, President BC Nature and Bob Scafe

BC Nature Club Service
Bob Scafe, (Nicola Naturalists)

Bob is an enthusiastic and valuable nature mentor. Even without formal training as a biologist, he has developed his interest in butterflies and moths to an exceptional level. Photographing moths that arrive at night at his porch light, he has identified more than 800 species in just eight years–astounding the expert lepidopterists he regularly consults. Bob is an active participant in the Butterflies and Moths of North America web group and uses a variety of strategies to observe moths including pheromone traps, UV light traps, and even wine ropes! He generously shares his knowledge, leading butterfly outings and giving presentations to our club, at the BC Nature 2017 AGM and at the Merritt Library. The webpages that he provided on butterfly and moth identification in the B.C. Interior are among the most popular on the Nicola Naturalists' website.

Bob and his wife Bev have been active members of Nicola Naturalists for 15 years, volunteering in many capacities. Bob was a club director for many years, is a prolific contributor of wildlife photos to our monthly meetings and is a regular and popular naturalist mentor at several

The following award recognitions with profiles and photographs will be listed in the fall *BCnature* magazine:

Gail Loughridge, Education Award (North Okanagan Naturalists)
Allan Garland, BC Nature Club Service (South Okanagan Naturalists)
Ray Hornby, BC Nature Club Service (Williams Lake Field Naturalists)
Janet McIntosh, BC Nature Club Service (White Rock & Surrey Naturalists)
Ann Scarfe, BC Nature Club Service (Rocky Point Bird Observatory)
Dr. Ian Walker, BC Nature Club Service (Central Okanagan Naturalists)
Gareth Pugh, Ryan Usenik, Wim Vesseur, Tom Wildeboar, BC Nature Club Service (Friends of Semiahmoo Bay Society (FoSBS)

A Naturalists Remembered
John Neville 1944 - 2025

John Eric Neville, age 81, passed away peacefully on Salt Spring Island, B.C. on April 20, 2025. A dedicated and passionate naturalist, husband, father, grandfather, and friend to many, he generously shared his love and deep knowledge of the natural world with warmth and humour. He travelled across Canada, the UK, and New Zealand recording thousands of bird songs, and producing a body of work that includes 17 albums.

Born in 1944 in Walsall, England, John's fascination with nature was sparked in childhood. He roamed local fishing holes, hunted with his grandfather and on warm mornings watched robins flit through open kitchen windows to peck at the butter. At college in London, he often swapped reading for rock'n'roll, witnessing legends like The Beatles, Beach Boys, and many more. In the '70s John moved to Canada and worked at Neville Physiotherapy Clinic in Nelson, B.C., raising his family beside Kootenay Lake. He served his community through Rotary Club and was a City Councillor for 23 years, crafting legislation to conserve the town he loved.

In 1998 John moved to Salt Spring Island, lured by its natural beauty and wealth of "critters". John and Heather's many adventures recording the birds, inspired his writing; he authored two books and numerous articles. John was also a regular contributor to *BCnature* "North in the Spring", a chronicle of all his nature travels throughout B.C.

John was an active member of both Salt Spring Trail and Nature Club and Nature Salt Spring. Joining the board of BC Nature as Vice President in 2008 he stepped up to President from 2010 to 2014. After his presidency John served as both past president and Regional Coordinator for Vancouver Island, and spent many years on the BC Naturalists' Foundation Board. John was instrumental in invigorating clubs with declining memberships and was instrumental in reopening the now-lively Prince George Naturalists Club. He had a knack for forming new clubs by travelling throughout the province and inviting the public to his talks and presentations on owls or birding.

John loved a good game of Bridge, an early morning walk, or a swim in the lake. He was a loving, playful, and warm grandfather to his grandkids with legendary hugs, awful jokes, and a wily chuckle that could warm a room.

He will be lovingly remembered by his partner Heather Neville, daughters Deborah Neville (John Adams) and Fiona Leblanc (Jamie Leblanc); grandchildren Sophia, Aiden, Rosie, and Fergus; and faithful dog Arlo.

Donations in John's memory can be sent to:
BC Naturalists' Foundation *https://www.canadahelps.org/en/charities/bc-naturalists-foundation/* or mail a cheque made out to the BC Naturslists' Foundation: c/o BC Nature, 1620 Mt. Seymour Rd., North Vancouver, BC V7G 2R9

John accepting his "Elton Anderson" award in 2014

North in the Spring #31: The Salish Sea Part 2

Submitted by Heather Neville, Author - John Neville

The Salish Sea comprises three arms: south is Puget Sound, north is Georgia Strait, and west is the Strait of Juan de Fuca, connecting them with the Pacific Ocean. On the mainland side, the Cascade mountains in Washington and the Coastal mountains in B.C. protect the inland sea. To the west the mountains of the Olympic Peninsula and Vancouver Island shelter this rich habitat. The international boundary divides the area, down the middle of the Strait of Juan de Fuca. The San Juan Islands are below the line, and Gulf Islands above.

I am privileged to enjoy the Salish Sea from my yard every day. In the spring, Bald Eagles and Osprey patrol along the shore looking for fish. Belted Kingfisher and Black Oystercatcher with their distinctive calls also fly past. In the winter, Surf Scoter make their whistled wing sounds when moving to their next diving site. Harbour Seal often start a splashing cycle in the shallows to corral fish. If I sit quietly by the shore in summer, the flightless, molting geese paddle close, making quiet contact calls. Occasionally, a family of otter use a narrow trail from the shore through our yard, and we get the loud barking calls from migrating California Sea Lions as they pass. Another special sound is a long "wail" note given by wintering Common Loons out in the channel. Because of the surface freshwater, the smell of salt, crabs and iodine is faint, except after a storm or a very low tide. So, let's dip below the surface, starting with seaweed, eelgrass, kelp beds, saltwater flats, and marshes.

Sheltered bays and estuaries produce eelgrass beds. Tiny invertebrates feed on the leaves. Crabs, perch, flatfish, herring, and small salmon feed and hide in the beds. The grass is essential food for migrating Brant. Eelgrass fixes CO_2 by photosynthesis forming a natural carbon sink. On the B.C. coast, eelgrass sequesters more than 180,000 tonnes of carbon annually! These beds stabilize the shoreline and prevent coastal erosion. Because garbage, anchor chains, and anchors scrape the bottom and destroy eelgrass, the Seachange Marine Conservation Society has created a two-buoy system on Bowen Island, that avoids the damage that can be caused by these items. They are, even now, planting new eelgrass beds!


Photo: A. Donahue

Lion's Mane Jellyfish

Kelp forests have supported the marine ecosystem in the Salish Sea for thousands of years. Shrimp, clams, salmon, whales, all need kelp. The decline of kelp has resulted in the loss of abalone and sea urchins that feed on it. At the south end of Puget Sound,

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Giant Pacific Nudibranchs

only about 20% of kelp remains compared to precolonial times. Settlement here by Europeans was relatively late, around the 1870s. Fortunately, University of Washington labs at Friday Harbour, San Juan Island are studying the problem. The kelp anchors itself to the rocks with root-like structures called holdfasts. Like eelgrass, kelp also fixes large quantities of carbon. Kelp beds in the Strait of Juan de Fuca have remained relatively stable. More than 40 organizations are cooperating to try and understand the more than 20 species of kelp and find ways to restore some of the beds. Information is being shared with local First Nations.

Estuary flats are critical for many birds such as Western Sandpiper, staging on their spring migration to feed on biofilm. Other parts of river estuaries are very valuable for wintering ducks, geese, herons, and their predators. Boundary Bay is an amazing place to view thousands of over-wintering waterfowl.

Scuba divers can see other life forms in shallow water. Ann Donahue has spent many hours photographing amazing creatures around Salt Spring Island. Through her beautiful pictures she has revealed to us a whole kaleidoscope of undersea life. See her website: *anndonahue.ca*

If we used a submersible, with lights and cameras, we can go deeper. For example, there are 27 kinds of rockfish, and Kelp and Rock Greenling living among rocks, reefs, and kelp. Unfortunately, many have been fished out and need protection in order to revive their numbers. Some of these fish can live for more than 100 years if they have protected status.

The surface animals, like Harbour Seal, loons, and cormorants all descend 50 metres and may pass us on our descent. Also, in the deep is the Giant Pacific Octopus. They have a short 3–5-year life span but can grow up to 6 metres across!

White Sturgeon can grow up to 3.5 metres long and can live to be 100 years old! They are found in the Fraser River, where they search along the muddy bottom using their lower lip and four small protuberances called barbules, for touch, smell, and taste. They also have an electronic device in their snout for detecting other animals. Yes, you could say "there be dragons below", as these sturgeons have been around for 200 million years, like sharks. Also, like sharks, they have cartilaginous skeletons. Feel the last segment of your nose to appreciate the flexibility of cartilage. We associate them with rivers, but one recently tagged in the Fraser, was next tagged in the Klamath River, in California, showing that they are also present on the sea floor.

In 1987, glass sponges were discovered off the B.C. coast, in Hecate Strait. Paleontologists had believed them extinct for 40 million years. More recently, several other glass sponge reefs have been

Opalescent Nudibranchs

found in deeper parts of the Salish Sea. They are delicate, easily damaged by fishing gear, and need protection.

We all need this beautiful Salish Sea environment, as well as the creatures that live in it! I truly hope that the senior levels of government will show the necessary responsibility to stop the destruction of more habitat and practice sustainable fisheries. By restoring salmon habitat, so that artificial rearing is not necessary, Southern Resident Killer Whales could again be common summer

Painted Anemone

Naturalist Mentor
Frank Hovenden: Comox Valley Nature Mentor

Submitted by Royann Petrell, Comox Valley Nature

Comox Valley Naturalists are fortunate to have Frank Hovenden on their side in advocating for nature.

Frank has mentored naturalists in many ways: He has led a team of up to 15 volunteers per year, who over spring and summer have averaged 140 volunteer hours, learning how to deal with and remove invasive plants and replant native ones at the Courtenay Airpark. One volunteer says "It is always a learning event with Frank. He knows and explains the history of the Estuary so well". Another of his volunteers says "It is a pleasure to work and study nature with Frank Hovenden no matter if we are weeding in the Airpark, discussing a restoration strategy, or strolling together on a botany walk in another natural area. His knowledge of plant ecology, power of observation, and steadfast commitment to learn from and steward the Airpark have inspired us all. His measured voice and positive approach are summarized in his 2023 Airpark report."

Visitors from all over as well as residents learn about the natural history of coastal meadows through his endeavours. For example, ten years ago, he worked to develop signage, five years ago, he updated these signs and next year, he will update them again. These signs, are posted along the popular Courtenay River trail that meanders around the Courtenay River Estuary. The signs describe the various native plantings along the trail.

Frank leading another informative walk

In the last few years (post-COVID) Frank has worked with local government to carry out public walks. In these walks, Frank and some of his volunteers take members of the public around the Courtenay River Airpark. The walks describe what has been done in the past, point out how the coastal environment has changed due to restoration, and provide basic information on the importance of native coastal plants, the negative effects of invasive plants, and management techniques used to control them.

While at the Fairy Creek Blockade, he taught people about the forest, the various types of work foresters do, the environmental costs associated with forestry activities like road building, and the value of the forest both environmentally and economically. He pointed out the difference between an old-growth forest and a tree farm. His interest in forests extends to wildlife. He is a lifelong birder. At Fairy Creek, he helped a science-based group by conducting a Western Screech-owl night-time survey along a decommissioned logging road.

Years ago, Frank authored the column "On the Wild Side" in the local paper.

BC Nature salutes Frank for his dedication in mentoring. He certainly has done a lot to "keep nature wild." ❁

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