



"Know nature and keep it worth knowing"



The Magazine of BC Nature

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BCnature

Volume 56 No. 2

In This Issue:

Regular columns

Guest Editorial.....	3
Natural Mistakes.....	4
President's Perch.....	5
Conservation Report.....	6
Recent Conservation Science in BC and Beyond.....	12
Focus on IBAs.....	15
NatureKids BC Update.....	22
BC Naturalists Foundation Update.....	24
Book Reviews.....	25
North in the Spring - Vernon to Lillooet.....	32
Spotlight on Distinguished Naturalist Mentor.....	36

Feature

How a Passion for Birding Inspired One Canadian Volunteer in Guyana.....	9
Harnessing Nature Knowledge.....	10
Willband Creek Park Viewing Platform.....	11
Nicomel NatureKids Planting Along the Little Campbell River.....	13
Kay Bartholomew.....	14
Peter Blokker.....	14
Soft and Sweet: My Love Affair with Chickadees.....	16
Columbia River Westlands for Birds, Bears, and Badgers.....	17
FWCP Announces 118 Fish and Wildlife Projects for 2018.....	18
Mountain Goats on the Move.....	19
Living Stumps.....	21
Great Bear Rainforest: A Global Treasure.....	23
Become a Habitat Guardian.....	25
Requiem for a Venerable Garry Oak Prairie.....	26
Our Trip to the Cloud Forest.....	28
Sea Stars Diminish, But Purple Martins Thrive.....	30

Notices

Dates of Note.....	17
Central Okanagan Naturalists Host FGM 2018.....	20
Harrison Hot Springs Camp.....	29
FGM 2018 - Schedule of Events.....	34
FGM 2018 - Registration.....	35



By Colin McQuillan

Heritage Centre (Office of BC Nature, NatureKids BC and Elders Council for Parks BC) has finished installing wheelchair-friendly sidewalk. A work-bee to spruce up the green space with native plants was held in early May with volunteers from all three tenants.

Objectives of BC Nature (Federation of BC Naturalists)

- To provide naturalists and natural history clubs of BC with a unified 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 natural history clubs throughout BC.
- To provide a means of communication between naturalists in BC.

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

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

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Guest Editorial

Mountain Bike Trails and the Cost to the Environment

By Elise Roberts

Mountain biking has gained popularity in the past two decades, with trail networks expanding over vast areas of parkland, wilderness areas, and urban forests. Visit <https://www.trailforks.com> and search any area in the province to

see where they are. Mountain biking is a healthy recreation activity that attracts tourism dollars, but at what cost? Members of BC Nature cherish nature appreciation, so important to life-long learning, health, and socialization. But will the ecological integrity of those wild areas we love to explore and want to protect be negatively impacted as bike trails expand everywhere?

Land managers are doing their utmost to prevent unauthorized trail-building by creating agreements with bike groups who have historically built trails without permits. Due to limited public funding, well-organized mountain bike lobbyists are, in essence, becoming land managers through public-private partnerships. Bike clubs are funded by profitable bike businesses, who consequently benefit from advertising on mountain bike websites, thus creating a kind of corporate-funded monopoly in natural areas. And electric bikes are coming that will go faster, further, and have greater capacity to travel off-trail.

The issue of unauthorized bike trails is especially prevalent on Crown Land. Recreation Sites and Trails BC are doing a great job of legitimizing trails. However, professional environmental assessments are not required in this process. There does not appear to be a democratic public outreach process to other trail users, including local natural history groups. We have expertise about sensitive areas, and would be a valuable resource. For example, Sumas Mountain is an extremely biodiverse area due to the convergence of several different ecosystems. This area is inhabited by at least 40 species-at-risk and 27 ecosystems-at-risk. The late Glenn Ryder spent years in this area and contributed extensive natural history records. Yet www.trailforks.com shows a vast network of bike trails there.

To create bike trails, borrow pits are dug for gold dirt, the layer of compacted gravel soils underneath the topsoil. The organic and top duff layer of soil is an essential component to a healthy forest, containing tree roots and important fungal networks. Digging around trees can negatively impact important dependencies between trees and fungi. Soil compaction adversely impacts air flow to tree roots and fungal mycelium. Cutting critical tree roots can interrupt the tree's water and nutrient uptake and compromises its stability. Salal and other forest understory plants are being impacted, an important berry source for wildlife.

Removal of coarse woody debris for trail construction results in another micro-habitat being lost for wildlife such as salamanders, beetle larvae, and many other invertebrates, which in turn are an important protein source for bears. Decomposed woody debris is a principal component of soil necessary for future plant growth. Due to heavy use, bike trails must be maintained indefinitely, so this woody debris is never allowed to accumulate and rot. Over time, soils will degen-

erate and new forests suffer. Young live trees are used for construction material, interrupting forest succession.

Skidding down steep slopes not protected by rock placement results in the excavation of a water channel. This channel becomes a stream during heavy rainfall. Bike trail builders have tried to overcome that by building "Roman Roads". While well-intended, this type of construction involves removal of boulders from the forest floor, impacting moss and lichen species that only grow on rock. The reconfiguration of the forest drainage system can result in siltation of mature wetland areas, and impact amphibian habitat.

While large mammals sometimes use these trails, smaller species treat trails as barriers because they result in open areas that make them vulnerable to predation. They become confined to islands of suitable habitat, restricting breeding and gene flow. Intensity of use of bike trails is much greater than for hiking trails, driving wildlife away and depriving it of quiet areas of refuge. This is particularly true for larger species such as deer. Bike trail building, done by large groups of well-intended volunteers, happens right through bird nesting season.

Heavily used mountain bike trails are not sustainable because trails have to be repaired once or twice a year due to weather factors. Re-alignment actually means a new trail. Mountain bikes need more and more trails, whereas natural history groups use existing trails. Improved public consultation measures are needed for legitimizing bike trails, especially on Crown Land.

I urge members of BC Nature to share their expertise when bike trails are legitimized in their community. ♦

Elise Roberts is a community organizer and activist and has delivered nature interpretive puppet shows for over two decades.

Natural Mistakes

How Not to Advertise

By Clive Keen

In the spring a naturalist's fancy lightly turns to thoughts of distant places; all those exotic species exert a magnetic pull. Chambers of Commerce have taken note. Reports about the benefits to the local economy from visiting birders and suchlike have made the economic-development people shovel funds to advertising agencies. And what an utter pig's ear those agencies are making of it.

In front of me is a copy of *Bird Watcher's Digest*, March/April 2018. Turning to page 7, I see an advertisement depicting a Great Blue Heron, which apparently will give me a strong urge to visit Baytown in Texas. Someone really ought to tell the agency that the Great Blue Heron is one of the most widespread species in North America. Great Blues are a short bike-ride away from nearly all of us, and since you can hardly miss them, are already on the life list of the most inexperienced bird watcher. The Baytown folks might just as well have shown a House Sparrow.

Proof that Baytown's advertising agency does not monopolise incompetence comes when I turn to page 11 and find that Gulf Shores, Alabama, wants us to visit to see – surprise, surprise – another Great Blue Heron. Turning to page 23, though, I find that Lake Charles in Louisiana wants us to see their Great Blue Heron. But they'll have to fight it out with Fairfax County, Virginia, who on page 69 offer a full-page picture of a Great Blue along with the caption "Find Unexpected Things in Unexpected Places." Actually, Great Blues are so expected in watery places that birders just mutter "GBH" and look away. Fairfax County compounds the damage by telling us that it is a place to which birds and bird watchers are flocking. Please. Birders have enough trouble with bird-related puns thrown at them by alleged friends.

If I were in charge of the Advertising Police I'd ban not just bird-related puns but all variations on "This is a bird paradise!" Martin County, Florida, assures us that it applies to them, and moving to page 73 of the *Digest* I find Odessa, Texas, telling us not just that

they are also a paradise for birds, but trying to prove it with a photograph of a Sandhill Crane. I strongly suspect that the agency thought it was a Great Blue Heron and used the wrong picture.

Fortunately, some advertisements are created by people who actually know something about whatever they are selling. Grayling, Michigan (*Digest* page 19) tries to lure us with a photograph of a Kirtland's Warbler, which is a fair try, since it can only be found thereabouts. Lake Erie, Ohio (inside front cover) goes one better with nice photographs of four of the best-looking warblers, adding that they've got 31 more. Not bad, and almost tempting. Colombia, though, goes for a knockout. "Number 1 in bird species on earth. 1920 species and still counting." That's how to do it. The back page of the *Digest* could still have gone one better, as the Tropical Birding company shows with a diagram that it understands the varying needs of birders. It's a shame, though, that their home-made ad proclaims that their tours are "specifically (sic) designed for birders."

Advertising agencies do get the spelling right, though they have an unshakeable belief that a photo with a motto is the way to go. That being so, for a modest fee I will let them know which birds would genuinely attract people (I'd start with quetzals and motmots) and combine it with a motto that actually means something. "Montezuma's Revenge Optional," for instance, would work for those of us who have spent too much time in the smallest rooms of exotic places. And "Guaranteed Chigger Free!" would put a location on many a wish list. A really clever advertisement, though, blowing away the competition, would say "Beyond the Great Blue", and show photos of Purple, Tricolored, Boat-billed, Squacco and – to turn the knife in the wound – a Little Blue Heron. Discriminating naturalists would surely take such an ad seriously. ♦



Boat-billed Heron ~ definitely worth the travel.

Letter to the Editor

The Hicks family would like to make the following minor clarification regarding the article "The Anne Hicks Conservation Area: a protected place a century in the making" published in the Spring edition of BC Nature.

Anne Hicks died in 1972 in the family's log home. Her husband, George Hicks Sr., died in 1982. The land then passed to the four children. George Hicks Jr. (Buddy), who died in 2016, had long planned to bequeath his share to The Nature Conservancy Of Canada.

Trudy (Hicks) Frisk



President's Perch

By Alan Burger

This magazine will go to press just after our AGM in Vancouver. I anticipate an excellent meeting and I thank Nature Vancouver and its many volunteers, especially Bev Ramey and Helen Aqua, for all the time and effort in organizing this meeting. I expect those who attend will be reminded why the Fraser Delta remains one of BC's biodiversity hot-spots, despite the human encroachment.

For those who were not able to attend this year's AGM, I'll summarize some of the major events in BC Nature (BCN) over the past year. Our Conservation and Education committees have produced detailed reports of their activities and I urge you to read these – it is remarkable how much these volunteer committees achieve. Increasing knowledge and appreciation of nature and working towards protecting our wildlife and habitat are two of BCN's primary objectives and we're seeing increasing efforts in all these fronts from BCN members and many of our clubs.

Our Communications Committee works behind the scenes and is responsible for producing our ever-improving *BCnature* magazine, our enews (Nature's Voice), and our website. Our office manager Betty does the lion's share of all this work. Headed by Heather Neville, the Camps Committee has done sterling work in organizing camps over the past year, with others coming up in 2018. These camps are very popular, bringing together naturalists from across the province and also generating some funds for BCN and the clubs that host the camps. Something to consider; when last did your club host a camp?

There have been several changes in BCN's executive; Joyce Tomboulion is taking over as Treasurer from Reda Akladios; Hilary Miller joins the executive as co-regional representative (with Jude Grass) for the Lower Mainland Region; Claudia Copley is stepping down as chair of the Communications Committee and has been replaced with Helen Aqua. Claudia remains on the executive as secretary replacing Vivian Birch-Jones who is stepping down as recording secretary. Some other changes; Rick Gee replaced Fred McMechan as chair of the Resolutions Committee; Margaret Cuthbert replaced Pat Westheuser as chair of the Awards Committee; Hilary Miller replaced Penney Edwards as BCN's designated representative to the BC Outdoors Recreation Council; and Heather Neville has stepped down as chair of the Camps Committee and has been replaced by Harry Crosby.

BCN is very ably served by several special representatives; Roger Emsley is our representative on the Roberts Bank Container Terminal Expansion (threatening the most precious mudflats in all of Canada); Vice President Virginia Rasch is our representative on the Columbia River Treaty Environmental Committee; Virginia is also chairing the committee reviewing BCN's Strategic Plan; Joan Snyder represents us at Caribou Recovery Stakeholder meetings; and Greg Ferguson represented us at the Wildlife and Habitat Forums held recently. BCN continues to have a close working relationship with NatureKids BC (Executive Director Louise Pedersen); and the BC Important Bird and Biodiversity Areas (IBA) program headed by Krista Kaptein. Krista is also responsible for drafting grants that provide essential funding for BCN.

A big thank you to outgoing Reda, Vivian, Claudia, Heather, Pat, Fred and Penney for your major contributions to BCN and also to those continuing on the

executive, committees and as special representatives.

Our bylaws called for the appointment of a Harassment Officer and a three-person Disciplinary Committee. I'm very pleased that Gwen L'Hirondelle from Squamish has agreed to take on the Harassment Officer position. Gwen has experience as a senior administrator for the City of Vancouver and has dealt with some harassment issues in her career. The BCN executive also voted to have the Harassment Officer, current President and immediate Past President form the Disciplinary Committee. In past years we have experienced very few issues of harassment or lack of discipline in BCN or in our member clubs, but it is useful to have the ability to deal with such issues should they arise.

Finally, this is an opportune time to thank Betty Davison, our office manager, for her continuing hard work and wisdom. Dealing with memberships, bookkeeping, magazines, and communication in such a diffuse organization as BCN takes a lot of patience and skill. Thank you Betty! ♦

Dates of Note

September 9 - 15, 2018 -
Tatlayoko Lake Camp - Full

September 20 - 22, 2018 - FGM
- Central Okanagan Naturalists',
Kelowna

September 23, 2018 - World
Rivers Day

November 22-25, 2018 -
Harrison Eagle Camp

Conservation Report

By Peter Ballin and the Conservation Committee

It seems that environmental issues such as the Kinder Morgan pipeline (At time of print may not be called Kinder Morgan due to the sale to the Federal Government) and its associated risks, salmon farms, Southern Caribou extirpations, the plight of Southern Resident Killer Whales, and old-growth forest depletion, to name only a few, are often in the media and on our collective minds. Are we as a society moving closer to a future with a more sane regard for our future? Or are we in a bubble masked by good company that shares our knowledge and values as naturalists? We do seem to be increasing the volume and the surface tension of the bubble (if it is one) with a greater number of links between environmental organizations. Sometimes I feel that we are living in Fern Gully (the film), with increasing frustration with those who pursue what I consider to be destructive pathways. BC Nature (BCN) is working to increasingly represent us naturalists with positive suggestions for an environmentally friendly life. Really, wouldn't we all be happier watching birds, smelling flowers, and bringing home nature photographs?

Find postings of conservation correspondence on the BCN website under "Conservation" (Letters Sent and Received).

Since the last issue of *BCnature* Magazine, conservation correspondence was sent on these issues:

- the Kinder Morgan pipeline
- urgent action to protect southern BC mountain caribou, drafted by Greenpeace and Y2Y, and signed on to by BCN and a number of Environmental Non-government Organizations (ENGOS)
- the pursuit-only cougar hunt
- bat habitat conservation in Delta
- Water Sustainability Act - proposed livestock watering regulations
- Agricultural Land Commission and Agricultural Land Reserve policies
- Deltaport 2

And BCN attended these meetings/conference calls-

- Caribou Recovery Stakeholder Teleconference Call (Joan Snyder)
- Renegotiation of the Columbia River Treaty (Virginia Rasch)
- Fraser Basin Council: Caribou Recovery, Species at Risk, Wildlife Management & Habitat Conservation (Greg Ferguson and Peter Ballin)

Kinder Morgan Pipeline - BCN sent the following letter to the Prime Minister, copied to the Premier, the leader of the provincial Green Party, and the federal and provincial environment ministers on April 20:

BC Nature (the Federation of BC Naturalists), representing over 50 naturalist clubs and more than 6000 members throughout British Columbia, stands behind the intent of the current BC Government in its opposition to the Kinder Morgan pipeline expansion.

As naturalists (and British Columbians and Canadians) we deeply value the quality of our air, water, land, and their inhabitants. From our perspective, the pipeline and the consequences of its operation gravely threaten the integrity of BC's coastal, river and stream ecosystems as well as the long-term economy and quality of life for human residents in one of the most livable places on earth. With climate change upon us, we should be spending our money to fund alternative energy projects to achieve a post-carbon economy rapidly, rather than subsidizing or investing in a sunset industry. We believe that we in BC and all Canadians have a right to a healthy environment: one that we can pass along to our progeny and they to theirs. We also believe in a truly sustainable economy, and that requires an optimally functional environment.

Many of our ecosystems and their inhabitants are at risk – the dwindling Orca population off our coast is but one example. We do not know at what point the consequences of added anthropogenic pressures to them will become irreversible. We urge that the precautionary principle be applied to reduce the risk of oil spills on land and water, to reduce the amount of carbon entering our atmosphere, and to reduce negative habitat-alterations that threaten our biota, including, ultimately, ourselves.

We respectfully ask you not to continue your support for the Kinder Morgan pipeline expansion or to use taxpayer money to support this misguided climate-damaging project.

The pursuit-only cougar hunt - BCN took a strong stand opposing the establishment of a 4.5-month pursuit-only cougar hunt season in the Okanagan and elsewhere, during which cougars are chased by dogs and hunters, but not killed. The practice flies in the face of other wildlife protective legislation, including the recent ban on Grizzly Bear hunting. Like fox hunting in England, the sport is fun for the pursuers but certainly not for the pursued. The letter that BCN received in reply failed to address our concerns. Why does government support the sport hunting of apex predators anyway?

Bats in Delta - The largest known bat colony in Metro Vancouver lives in the Burr Villa in Deas Island Park. The 3,000 individuals include two species that spend their days there from March through October, when they migrate to warmer climes. One of the species, the Little Brown Myotis, is a species at risk. Bats perform a valuable public and ecological service with the vast quantities of insects that they consume. These bats and their health are carefully monitored, and their quarters are cleaned when they are absent. The letter to the mayor cautions the Delta municipality against their relocation, and suggests that their presence offers a great educational opportunity. The BCN letter even made the *Delta Optimist*.

Continued Page 7

Proposed livestock watering regulation modifications under the Water Sustainability Act – BCN advocated that the Province provide strong leadership by directing the livestock industry to adopt greater shared responsibility to protect and conserve our water resources and associated environmental values. BCN's letter outlined negative effects of cattle watering:

- eroding the shorelines and decreasing the water quality of streams, rivers, dugouts, lakes, and wetlands
- polluting streams and other water bodies with their feces
- trampling and grazing riparian vegetation, which in turn leads to reduced plant cover and diversity necessary for bank stability, stable water temperatures, and habitat for fish and wildlife
- contributing to the loss of valuable farmland (e.g., increasing erosion during high water events)

We expressed our concern that the Province is not proposing effective regulations that will manage livestock access and water use to meet appropriate water quality and quantity objectives.

Caribou recovery - Joan Synder attended a Stakeholder Teleconference in April. Notes from the teleconference below:

The Provincial Recovery Plan is almost ready to go to a higher level for BC government review, with the more than 1,600 submissions grouped into four key areas:

- Federal Government Recovery Strategy
- BC's Provincial Recovery Plan
- Possible adjustments to the Section 11 Agreement from the specific comments
- Requests for involvement on caribou recovery which would include some refinement of the draft Section Agreement to spatially encompass all southern mountain caribou in BC and not just the Central Group

The government hired an experienced consultant to develop a strategy for Indigenous engagement in legal areas of Indigenous rights, cooperative management and reaching reconciliation objectives. Government comments at the conclusion of the call were discouraging, because the path to action will be slow. The letter that BCN signed on to (see page 6 for Caribou Urgent Action) requests "an immediate moratorium on activities that cause further degradation and disturbance of habitat in caribou ranges, or that displace caribou from critical habitat. This includes, but is not limited to, logging, mining, oil and gas activities, wind farms, and both ground- and air-based motorized recreation."

Columbia River Treaty : Virginia Rasch reported that the committee on the renegotiation of this treaty completed their discussion paper and distributed it widely, along with numerous presentations, interviews with the media, and a favourable reception from the minister responsible. They have met with their US counterparts and presented five main points:

- Include ecosystem function as a Treaty purpose
- Ecosystem function must be effectively represented in Treaty governance and implementation at all levels
- Create flexibility in Treaty provisions to allow for active adaptive management
- Reduce US dependence on Canadian storage for flood control through floodplain restoration in the US
- Provide payments to BC for environmental mitigation

Fraser Basin Council: Caribou Recovery, Species at Risk, Wildlife Management and Habitat Conservation-

Greg Ferguson and Peter Ballin participated in two sessions in April, with what appears to be a wide-open, useful, informative process to gather input to formulate policies. We received primers on caribou and species at risk. BCN joined the largest stakeholder group: ENGOs. We believe that BCN has a good opportunity to play an important role informing future legislation and policy, especially with respect to wildlife management and SAR. Please write down your ideas about ways the government can take action on wildlife management and pass them along to us.

ALR Revitalization Committee Announced - As part of the BC Government's initiative to gather input into formulating better policies around agricultural lands, it requested input from stakeholders and the public. Since BCN considers itself a stakeholder in decisions that affect the well-being of BC's natural landscapes and their inhabitants, we have responded to the Advisory Committee's survey on issues pertinent to us as naturalists. While we acknowledge and respect the goals of the Agricultural Land Commission (ALC) and the Agricultural Land Reserve (ALR) to provide opportunities for farmers and food producers, we provided input on how best to make agricultural lands and uses compatible with "natural" ecosystems and protect their inhabitants and their services, and their neighbouring communities.

In 1980, our organization made submissions to the young ALC. Some of the relevant considerations from them, with some updating, follow.

1. BCN recognizes that the best agricultural land in BC lies at low altitudes and in the rarest and most threatened ecotypes, where good soil and favourable climate is very limited and uniquely distributed. Therefore BCN believes that its exploitation and development requires the utmost care, restraint and intelligence.

Continued Page 8

2. The ALR constitutes essential “back up” land for waterfowl, other migratory birds, and many native animals.
3. The ALR protects prime winter game ranges essential to the maintenance of some species in decline.
4. The ALR (in spite of some conflict with non-farm renewable resources) maintains habitat that contributes to the diversity of some plant and animal groups.
5. Establish a more open, transparent appeal process that will help minimize concern over decisions on ALR exclusions.

Some of our recommendations follow:

- Make ecological stewardship thematic alongside increased productivity and improved legalities, intermeshing general ecological well-being with economic sustainability
- Simplify and synthesize rules and regulations regarding land and water use, waste disposal, and wildlife conservation across the various jurisdictions so that farmers can more easily see both constraints and opportunities for their operations
- Protect sensitive areas and species
- Conserve and enhance wildlife and their habitats on and beyond the confines of the ALR parcel by first assessing ecosystem health with inventories of

landforms, ecological functions, species, habitats, and interfaces, especially riparian

- Identify and classify wetlands within the ALR. Recognize their importance and develop guidelines for the management of each wetland type. Consult with the Wetland Stewardship Partnership.
- Promote habitat restoration that addresses what has been lost, and what can be enhanced
- Locate industrial scale greenhouse/warehouse buildings that do not use the underlying soil on less productive land
- Minimize impact of solar arrays on agriculturally productive land
- Ban Neonicotinoid pesticides
- Encourage habitat for pollinators within agricultural lands
- Encourage agricultural practices that reduce the emission of greenhouse gases

The Conservation Committee is working on and discussing-

- Halting Robert’s Bank port expansion
- Site C
- LNG
- Salmon farming
- Climate change
- Old-growth forests
- Ocean protection ◇

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How a Passion for Birding Inspired One Canadian Volunteer in Guyana

By Karen Leivia

Inspired by her passion for birding, 72-year-old Merle Kindred, originally from Penticton, BC, is using birds as a bridge to connect Guyana's native rainforest communities with tourists.

The CUSO International volunteer had already been working in Guyana, based in Georgetown for six months as a strategic planning advisor. Her placement was wrapping up, but before returning to Canada, she decided to spend some time in Region 2 along the Atlantic Ocean coast to indulge in her hobby: bird watching.

With more than 900 migrant and resident bird species, Guyana is a birding paradise. Kindred spent 2.5 days in the rainforest and savannah scoping out exotic tanagers and crested oropendolas, and while there, she realized there was an opportunity to boost tourism in the area by supporting local Indigenous communities.

Staying at a small eco-lodge called Adel's Rainforest Resort, Kindred travelled by river to Indigenous villages and learned of their aspirations to build small eco-resorts, similar to Adel's, which could inspire increased appreciation of the natural world and encourage tourism interested in experiencing authentic Indigenous life.

Next, Kindred took her idea to create a new volunteer placement for an eco-development advisor through CUSO International; the organization accepted her proposal. She's been on this placement for three months now, and estimates she's already had an impact on at least 50 people, who then share what they have learned with their family and neighbours.

She tries to spend as much time as possible integrating with the communities. "I do a lot of listening and watching," Kindred says. "As an example, I do embroidery and beadwork, so I brought things with me to sit with the villagers. It's a way to show them handicrafts that I know how to do and get discussions going."

In the two Indigenous villages where Kindred spends her time, one has a population of about 3000 people; the other is about 1,500. The communities survive primarily by growing cassava and fishing. They have to travel 1.5 hours by boat to reach the main town where they can stock up on vegetables and fruits. Kindred is working alongside the communities to improve their agriculture productivity by encouraging villagers to visit



By Merle Kindred

Blue-grey Tanager

Adel's shade house. It has a plastic roof and raised beds to keep the ants away. This can be replicated at relatively low cost in the villages.

When it comes to tourism, Kindred has been exploring options with the locals to showcase their land with activities such as canoeing and, of course, birding. She has been photographing the species she has seen so far – about 150 – with the goal to create a book that includes the local names for the birds. She is helping to organize training for villagers about bird-guiding, teaching tourists about other flora and fauna, and business management skills to operate an eco-resort.

Having the resources to attract and host tourists is one thing, but getting them to a country like Guyana is another issue. "I've suggested to the Ministry of Business - Department of Tourism a new slogan geared especially toward the million plus Guyanese diaspora who've left the country: *Give Guyana another chance*," she said. "I'm certainly glad I did."

Read Kindred's blog (<https://mekindred.wordpress.com/about/>) about her volunteer work in Guyana. ◇



By Merle Kindred

White-winged Swallow

Harnessing Nature Knowledge: the online BC Nature Viewing Guide

By Krista Kaptein



By Krista Kaptein

Monarch Mountain, Atlin BC

Whether you are an expert or beginner naturalist, if you have travelled around the province in search of flora, fauna, and other nature pursuits, you may already have made use of the BC Nature online Nature Viewing Guide - one of the education and outreach projects of BC Nature ongoing since 2012.

The Harnessing Nature Knowledge project - the online resource at <http://www.bcnatureguide.ca> features nature viewing sites throughout BC. The guide uses maps to assist in finding nature sites to visit in any area of BC, with the ability to obtain directions to the site, and with links to more detail for each site. There are even some bird sounds, courtesy of John Neville, to accompany browsing the website pages!

Each nature site page includes descriptions and photos of the site; plant, animal, and birding highlights; links to relevant local club websites, tourism sites and other resources; and much more detail. Through this website, members of BC Nature have shared their nature knowledge with a broader community, both residents and visitors, in a way that is user-friendly to access.

More than 300 nature sites to date can be explored on the website, and more sites are added every year. Nominations of further sites can be made using the form on the website <http://bcnatureguide.ca/nominate-a-nature-viewing-site/> or alternatively, contact the project coordinator at krista.coordinator@gmail.com

Additional member input is always welcome, to update existing information on the website, or to add further nature viewing sites, particularly in remote regions of BC. Harnessing this nature knowledge involves working with active, engaged members of BC Nature to contribute their time and expertise to this ongoing project.

One of the next steps could be to develop an app for this guide and optimise it for use on mobile devices. Expertise to develop this option is welcome! Please contact: manager@bcnature.ca if you can help explore this endeavour. ♦



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Cell 778 928-9206, home 604 272-9206

Cost: TBA (approx. \$5700.00 CAN) from Delhi

Costs include accommodation (16 nights), meals, domestic flight, overnight train ride, seven guided jeep safaris in Bandhavgarh Park and four in Jim Corbett Reserve, all guide and park fees.

Leaders: John Vander Dol, Thomas Plath and local guides

Summary: With a passion for mammals and 26 visits to India, John knows where and when to find the country's star mammal and birds. This tour takes you to the best birding sites and excellent Tiger safaris along with the iconic Taj Mahal, visiting Agra, Bandhavgarh Park, Himalaya foothills and Jim Corbett Reserve. Enjoy the beautiful landscape, architecture and lifestyle of central & North India, spectacular mammals and many bird species (300-350 species).

Highlights: Mammals - Tiger, Leopard, Jungle and Leopard Cat, Asian Elephant, Sloth Bear, Golden Jackal, Striped Hyena, Indian Fox, Himalayan Palm Civet, Honey Badger, Terai and Himalayan Langur, Sambar, Spotted and Hog Deer, Indian Muntjac, Blue Bull (Nilgai), Himalayan Brown Goral, Himalayan Serow, Blackbuck, Yellow-throated Marten Birds - Cheers and Koklass Pheasant, Lammergeier, Pallas's and Lesser Fish Eagle, Tawny and Brown Fish Owl, Great Hornbill, Great Slaty and Rufous-bellied Woodpecker, Grey-bellied and Chestnut-headed Tesia, Rufous Sibia, White-browed Shrike-babbler, Black-lored Tit, Snowy-browed Flycatcher, White-capped Bunting etc..

Willband Creek Park Viewing Platform

By Herman Venema

In 1995 the City of Abbotsford invited the Central Valley Naturalists (CVN, now Abbotsford-Mission Nature Club) to join in the planning of a new retention pond/nature park on farmland that flooded annually because of urban development in the surrounding uplands. Johanna Saaltink, our club's founding member, joined the committee to help with the planning. The late Glenn Ryder contributed artwork for the interpretive kiosk at the park entrance. Their vision was to seize the opportunity and enhance the retention pond function with habitat restoration, trails, swallow nestboxes, signage, and an interpretive centre.

Construction took place from 1998 to 2000 and the following year CVN birders counted 47 species of birds using the new habitat. The interpretive centre remains a dream but the retention pond/nature park has become a popular place for many Abbotsford residents.

Our club's request to Shawn Gurney at city Parks to install additional swallow, chickadee, and Wood Duck nestboxes led to an invitation by the city to partner with them in a (successful) TD Green Streets grant application for native tree and shrub planting with student volunteers from Abbotsford Christian Middle School. Subsequent partnerships with the Fraser Valley Conservancy and Fraser Valley Watershed Coalition resulted in the planting of more than a thousand additional trees and shrubs. These partners joined us in a meeting with Shawn Gurney to plan future projects, interpretive signage, and educational opportunities at Willband. Together we chose the viewing platform for the next significant project. We anticipated that the platform would provide viewing opportunities of wildlife, wetlands, and mountains, and become a destination and place to linger.

Fundraising now became a priority. Aware of that, Alanna Carmichael of city Parks informed us about a Co-op Community Spaces grant. Since the Co-op Community Spaces grant application required that the applicant be a registered charity, we partnered with BC Nature. We applied in February 2016, but were unsuccessful. The next year, encouraged by an invitation from Co-op Community Spaces to do so, we applied again. We simplified the budget part of the application, added a locational map showing proximity of the park to the core of the City of Abbotsford, and added more letters of support. This time, to our delight, we were successful!

With funds in place we were eager to begin construction. As per our schedule, construction was to begin July 1st and be completed by the end of August. However, we



Willband Creek Park (it's rarely referred to as a retention pond anymore) is well-used.

learned that our project was subject to the provincial Water Sustainability Act Regulations which required that they be given a "notice of project". We engaged Madrone Environmental to help out with this process. They gave notice in the beginning of July, and if we received no objections by August 19 we could begin work. Instead instructions specified that all "in water" work be done between September 1 and September 15.

To our frustration, the pile driving contractor did not begin work till September 6. Our resolve was tested by a major setback on the first day. Pile length needed to be increased from the planned 45' to 135' to achieve required bearing capacity. More piling materials needed to be sourced and brought to site. An unwelcome delay. And a major cost increase. We decided our budget could absorb the cost increase, and continued driving piles. By mid-September "in water" work was complete. We informed Fricia Construction, our general contractor, that November 30 would be the ribbon cutting day.

Project managing and site supervision included choosing materials, budgeting, meeting with architect and engineer regarding design requirements and *pro bono* work donated by them, obtaining quotes from suppliers and the general contractor, designing the kiosk and raised seating areas of the platform, coordinating with city Parks staff, and arranging supplies and delivery. Estimated time invested: two months several hours daily by the project manager and the site supervisor.

Building the kiosk and raised seating area, designing and printing signage, installing platform railing took about 150 journeymen hours. Volunteers devoted 50 hours to removing invasive blackberries from the site and to plant trees and shrubs.

Willband Creek Park (it's rarely referred to as a retention pond anymore) is well-used. Many visitors enjoy the new viewing platform. It's universally accessible with easy access for small children and wheelchairs. Naturalists, photographers, dog walkers, joggers, and families with strollers use it. It has become a favourite place for many. ♦

Recent Conservation Science in BC and Beyond

By Paul Levesque and Christine Rock

The most pressing questions facing scientists today are how climate change is affecting our world and how to best manage these effects. In biology, there are three climate change-driven effects that are emerging:

1. Populations are being redistributed on the landscape. The ranges of many species are gradually shifting towards the poles (the north or south poles), or shifting altitudinally (up-slope). The concern is that populations cannot continue to shift north or up a mountain indefinitely. This effect is now well documented.
2. The mismatch of natural events in time and space, or more specifically phenological mismatches. As the climate changes, the timing of natural events are shifting to keep up with the pace of climate change. For example, as insect emergence occurs earlier in the spring due to climate change, this causes a mismatch with the arrival time of a migrant bird species that has not shifted its migration timing, and the bird species misses the opportunity to feed on the insects. The timing of the insect hatch and the timing of the bird's arrival is now mismatched to the detriment of the bird.
3. Reduced body size in animals. In laboratory experiments, the body size of invertebrates can be manipulated by increasing or decreasing the temperature during the development period. Increased temperatures cause a reduction in body size. Recently, biologists have taken this knowledge and started comparing historical measurements of wild species to current day measurements of the species. Turns out some species in the wild are getting smaller over time and the reduction in body size is a function of increasing temperatures due to climate change. This third effect is an emerging area of study.

The first paper we review provides an interesting example of beetle species that are getting smaller in BC. ¹

Assistant Professor Dr. Michelle Tseng and nine undergraduate students at the University of British Columbia looked for evidence of reduced body size in the beetles housed in the Beaty Biodiversity Museum collections. They collected measurements from 7,000 individual beetle specimens from eight species in the family *Carabidae*. The beetle specimens were originally collected from the Lower Mainland and the South Okanagan between 1915 and 2015. They also collected historical weather data from the both study sites between 1915 and 2015. To eliminate other possible influences on body size, they compiled a data set of pub-



By Dr. Philina English

The Eastern Whip-poor-Will has large rictal bristles projecting from the base of the bill to aid in directing insect into the bird's mouth

lished results on the effect of increased temperature on body size of beetles reared in controlled laboratory experiments.

The beetles in the museum collection showed that the beetles were getting smaller over time. But the reduction in body size was greater in the larger-bodied species, and less so in the smaller species. The change in body size had the strongest relationship to increased temperatures in the fall and reduced temperatures in spring. The reduction in body size seen in the museum collections also matched the reduction in body size of the laboratory studies. This makes a strong case that increasing temperatures are causing reduced body size in wild beetles.

Why would increasing temperatures cause beetles to be smaller? It is thought that higher temperature speeds up the metabolic rate of developing beetles, leading to a shortened development time and smaller size at maturity. Are other species of insects experiencing similar reductions in body size? What are the implications for animals that feed on these smaller prey items? ²

Aerial insectivore species are declining dramatically throughout North America. In Canada, Barn Swallow, Bank Swallow, Black Swift, Chimney Swift, Common Nighthawk, and Eastern Whip-poor-Wills have been assessed as Threatened or Endangered by COSEWIC, and some are now listed federally under the Species at Risk Act. The cause(s) of these declines are not well understood, but scientific evidence now suggests that decreases in flying insect populations is likely a major driver in the declining bird populations. Untangling this problem is very challenging, but researchers at Simon

Continued Page 13

Nicomekl Nature Kids Planting Along the Little Campbell River

By Marg Cuthbert

On a rainy Saturday in March, 11 Nicomekl NatureKids, including parents, and NatureKids leaders Anthea Farr and Lynn Pollard, spent time at Little Campbell River assisting with the planting of 250 native plants in the riparian area. Thank you to project partners – A Rocha's Brooksdale Education Centre team, Jesse Wildman, Brent and Kieran, Little Campbell Watershed Society's Phillip Milligan and David Riley. I appreciated everyone's great commitment to nature on a dreary day. Special thanks to Jesse Wildman, A Rocha's Environmental Restoration Biologist, who sourced the plants and organized the planting.



By Marg Cuthbert

Planting for nature with the NatureKids at Little Campbell River

In the cold and rain, our cheerful group planted four Sitka Alders, four Grand Fir, six Swamp Currant, three Red Elderberry, six Cooley's Hedge Nettle (for hummingbirds), 18 Tall Fringecup, two Alumroot, and three Wapato in the riparian area. In the pollinator meadow area, we planted Wild Ginger, Common Camas, Great Camas, Shrubby Penstemon, Menzies Larkspur, Yellow Monkeyflower, Evergreen Trailing Yellow (Wood) Violet, White Fawn Lily, Sitka Valerian, Henderson's Checkermallow, Twinflower, Bunchberry, and Western Trumpet Honeysuckle.

After everyone got good and muddy, we gathered to warm up to have some juice, cookies, and apples before departing from a job well done! ♦

Recent Conservation Science in BC and Beyond Continued from Page 12

Fraser University and the University of New Brunswick used some cutting-edge methods to determine dietary shifts in one aerial insectivore in Ontario, the Eastern Whip-poor-Will.

As part of her doctoral work, Philina English investigated what was causing the decline of Eastern Whip-poor-Wills. Food availability was a good place to start her investigation, but one challenge is the lack of baseline data on insect populations. Nitrogen isotopes are concentrated as they move up food webs. The concentration of nitrogen isotopes is low in vegetation, a bit higher in herbivores, and higher yet in the herbivores' predator. Philina compared the concentration of nitrogen isotopes in Eastern Whip-poor-Will tissue samples collected from her study site with samples from specimens collected during 1880-2005, housed at the Royal Ontario Museum and the Canadian Museum of Nature.

Results of the study showed that present-day Eastern Whip-poor-Wills have lower concentrations of nitrogen isotopes than the birds in the museum collections. Over the last 130 years, their diet has shifted to insects at lower trophic levels and thus lower-quality food. The study also suggests that dietary shifts could result in nutritional stress. The hypoth-

esis that food availability and quality of food resources are an important component to declining aerial insectivore populations is supported by this study. The paper did not look into the causes of declining food availability but, if declining insect populations are resulting in declining aerial insectivores at a continental scale, the problem(s) must be occurring on a similar scale.

Both of these studies emphasize the importance of museums as time machines to look at the impacts of climate change and implications for wildlife species. Museum collections' documentation of biodiversity will be increasingly important over time as we lose species. ♦

¹ Tseng M., Kaur, K.M., Soleimani Pari S., Sarai, K., Chan, D., Yao, C., Porto, P., Toor, A. Toor, and H. 2018. Decreases in beetle body size linked to climate change and warming temperatures. *Journal of Animal Ecology*, 87:647–659.

² English, P, Green, D. and Nocera, J. 2018. Stable isotopes from museum specimens may provide evidence of long-term change in the trophic ecology of a migratory aerial insectivore. *Frontiers in Ecology and Evolution*, Vol. 6. 14 pages.

Kay Bartholomew – 1920 - 2018

By Rod Drennan

Long-time member and secretary of the North Okanagan Naturalists' Club (NONC), Kay Bartholomew passed away in Vernon on March 2, 2018 in her 98th year. Although Kay was not a founder, she was certainly a pillar of NONC. She first joined in 1953 and she remained a stalwart member until her death. Her family owned and operated a printing company in Vernon called Wayside Press, where Kay maintained an office until Monday, February 26. She worked for the firm, including its new owners, for 80 years!

Kay's "other" family was the Naturalists' Club and the many friendships she made through its activities. Many Club presidents took their marching orders from Kay over the years! As Club secretary/treasurer for decades, Kay kept the pressure on Club executives for the benefit of wildlife, natural habitat preservation, and birds. One of her favourite activities was hosting mid-week socials in her home with 25 or 30 NONCers to view a film or slides, or hear a talk on any interesting subject. A "toonie" was collected from each attendee and a contribution made to NONC. Kay was also a member of the Greater Vernon Water Advisory Committee, a founding member of the North Okanagan Parks and Natural Areas Trust, and a member of the board of the Bishop Wild Bird Sanctuary in Coldstream.

Kay traveled widely and enjoyed trips to foreign destinations well past her 90th birthday. In 1992 Kay was awarded the Commemorative Medal on the 125th anniversary of the Confederation of Canada. In 1989 she received the Club Service Award from the Federation of BC Naturalists for long service to her home Club. Kay was a "life member" of NONC, an honour she shared with only a few other members. In 1983 Kay was proud to have been invited to attend a formal dinner in Vernon with the Queen and Prince Philip during the royal tour of British Columbia that year. Naturalists Club meetings are already different without Kay in attendance as her presence was so much a part of every meeting and Club activity. She had a good long run and will be missed. ♦



Kay celebrating yet another milestone birthday!

Peter Blokker – 1934 – 2018

By Rod Drennan

Peter (Pieter) Blokker of Vernon passed away unexpectedly on January 11, 2018 in the Netherlands while visiting family. He was on his way to compete at the World Master's Speed Skating Championships in Italy later in the month. Peter had emigrated to Canada as a young man and worked his whole career for the Provincial Ministry of Highways in northern BC. He and his wife Gerda retired to the North Okanagan in the early 1990s.

Peter's passions were the great outdoors and physical activity. He was the founder of the Vernon Vortex Speed Skating Club and continued to coach and mentor young skaters there until his untimely death. He had a long involvement with the North Okanagan Naturalists' Club (NONC) and was an active participant in its activities. Peter was a keen birder. He was the key player in 'pulling it all together' at the conclusion of the Club's Christmas Bird Count during an afternoon social where the observations were discussed and then tabulated. At our monthly meetings Peter took the microphone to lead the wildlife observations from Club members. He often provided the answer to a club member's query about the sighting of a particular bird or animal.

Peter could be seen cycling in the greater Vernon area during at least three seasons. He was remarkably lean and fit at the age of 84. NONC members and our community will miss this wonderful man. ♦



Peter participating in one of the sports that kept him active and fit.

Photo credit for Peter Blokker and Kay Bartholomew - Family photographs

Focus on IBAs: Squamish River Area IBA

By Krista Kaptein and Chris Dale

Along the Sea-to-Sky corridor north of Vancouver, between the spectacular Stawamus Chief and the Tantalus Range, is the Squamish River Area Important Bird Area. Centred on the village of Brackendale, which is located about eight km north of Squamish, the site includes the rivers and shorelines of the Squamish, Mamquam, and Cheakamus rivers, which flow through narrow but relatively flat floodplains in deep mountain valleys. These rivers have an important winter run of Chum and Coho Salmon, which attracts large numbers of Bald Eagles from December through February, feeding on the spawning salmon. This concentration of eagles is among the largest in Canada.

The Squamish River Area IBA is lucky to have two dedicated volunteer Caretakers since 2008: Chris Dale and John Buchanan. Both are members of the Squamish Environment Society, a member club of BC Nature. The Squamish Environment Society (SES) came into being in 1982 in reaction to a proposal by BC Rail to construct a coal port facility which would have filled in and destroyed the estuary completely. Since then, the Society has been dedicated to wildlife and habitat preservation in the Squamish area, and from 1991 has held monthly bird counts. There is also an eagle count that is held in early January in which local birders participate, covering all the rivers in the IBA area.

Co-Caretaker Chris Dale is an accomplished photographer and videographer. He birds in the IBA several times a week, leading birding walks and submitting his checklists to *eBird*, contributing to the online bird data that keeps the IBA Canada webpage up to date. His Youtube channel *Woodfibre-birder* features superb videos of such charismatic birds as Northern Pygmy-owl, American Dipper, and Rufous Hummingbird. Chris has even captured a Bobcat on film in the Squamish Estuary!

“My wife, Bev, and I have always been outdoors people and have always been interested in nature photography and wildlife in general,” says Chris, “but it wasn’t until February 1999, when Bev suggested we join friends on the Squamish Environment Society’s monthly estuary bird counts, that I really started to get involved in birding. I didn’t want to go out counting birds but reluctantly agreed to participate and was hooked immediately and have hardly missed a monthly count since that first time. Now that I am retired, I am out in the estuary every couple of days counting birds and documenting any wildlife I see.”

Co-Caretaker John Buchanan has mostly concentrated on the environmental aspects of the area, including monitoring herring spawn and dealing with the effects of pollution on the estuary. After a few Purple Martins were noticed nesting at pilings in the central river channel, John, along with Vanessa Isnardy and other SES volunteers of all ages, built 29 Purple Martin nestboxes during a work-bee in 2016. Of the 14 boxes installed so far, the ones on the pilings further out in the Central Channel were used immediately by Purple Martins while the boxes attached to pilings further inland on the Central Channel were used mostly by Tree Swallows. Plans are underway to install more this year.



By Chris Dale

A common sight during the annual Eagle count.

New birds for the Squamish River Area IBA list are added every year. In 2017, Tufted Duck, Wandering Tattler, American White Pelican, and House Wren were new additions to the list. Total bird species seen in the IBA since 1991 now stands at 256.

The main concerns that the Caretakers have for the Squamish River Area IBA come from the rapid increase in population and development in the Squamish Valley. “Housing and condominium development is encroaching on the estuary. With the increased population comes greater use of the trails and rivers by outdoor enthusiasts. There is a very active windsurfing organization that uses the end of the Squamish River training dike, which is also used by large numbers of ducks at certain times of the year,” says Chris. “There are wonderful trails throughout the estuary that are being used by more and more people. People also like to walk their dogs and unfortunately there have been many instances of off-leash dogs harassing ducks and geese during breeding season. Because no action has ever been taken regarding off-leash dogs in the estuary and other trails along the rivers, dog walkers have

Continued on Page 16

Soft and Sweet: My Love Affair With Chickadees

By Lois Weninger

I noticed the wind had blown the bird box helter-skelter on the tree trunk over the winter, and the chickadees were eyeing it. I just knew they were in spring mode when that pleading “cheese-burger” mating call wafted into the bedroom. We scrambled out of bed, and bolted to the window to check on our favourite feathered friends. There, in the shrubbery were two black caps genuflecting to and fro, calling repeatedly. I pleaded with my husband to take down their nestbox so we could clean it. I knew he was just as excited, as he dashed out to the tree trunk in his pyjamas, watching for prying neighbourhood eyes.

Chickadee call is pitch perfect, innocent and just a little bit sad. Yet that descending fee-bee minor third seems to embody a child-like jocularity and mischief. It’s a hopeful clarion that draws me to the garden and I have spent hours admiring whimsical chickadee antics, whistling back to their busy intonations, imagining that we were really communicating.

I grew to appreciate birdlife as a child in rural Manitoba where, as most Canadians know, getting through winter can really whet your appetite for the comfort and joy of returning birds. A scrubby area of trees often provided seasonal avian action as we welcomed the spring melt. We were always in awe at the arrival of sprightly yellow goldfinches and bobbing robins that guided our steps as we walked. It felt like a privilege to us that birds would revisit year after year.

Dawdling on the way to school was when I first discovered that chickadees are true adorable comedians. Their ability to hang upside down from a pliable thin branch in a stern wind is acrobatic and wondrous. They are curious and coy, the first to flit in and try a new food treat. A favourite summer treat is observing them lining up single file to splash



Black-capped Chickadee *Poecile atricapillus*

in our water fountain. Their jolly “dee-dee” probes the air: “What are you doing today?” – and I wonder “Who is observing whom?” A chickadee fledgling often hoarsely tries their “dee dee” song only to become stuck at a laryngitic “chick-a”. We always chuckle at this valiant effort to wear those big bird feathers, knowing it will master it in a week or two.

Birds are a great testament to nature’s brilliance and fortitude.

Although they are buffeted by habitat loss, predation by cats, and climate change, they continue to endure, comforting us with their perennial song and call their resilience and joyfulness.

My husband and I slowly opened the cedar box and peered inside at last season’s leavings. There it was: the most beautiful soft mossy nest; perfectly constructed with all sides adhering to the square box shape and a lovely wee indentation in the middle. We were gaping like children, awestruck at the miraculous engineering feat. I gently touched the nest; it was as soft as cashmere... and throughout the luscious green complement, were strewn three or four florescent orange strings of wool. I’m sure the chickadees scored that from someone’s dryer lint, possibly ours that we had set outside as nesting material. My friend thought it unlikely that anyone would have florescent orange laundry; I didn’t dare tell her that birds will also use pet hair to line a nest.

The really marvelous part, though, is their chickadee genius. To keep the nest off the rain-soaked floor of the cedar box, they knew to suspend it right at entrance-hole level. The entire intact nest clung to the walls half-way up the box! We looked it over and over, shaking our heads in wonder and astonishment. We carefully scrubbed and cleaned the precious chickadee homestead. With hopeful hearts and a tiny prayer, we returned it to the mock orange tree. ♦

Focus on IBAs: Squamish River Area IBA Continued

assumed that it is all right to have dogs off-leash. More signs along the trails may be needed to educate dog walkers about how dogs and wildlife do not mix.”

Chris and John’s annual reports outlining the achievements and issues in the IBA contribute vital information to the IBA Program. Several IBAs often have similar concerns and sharing information can help lead to finding solutions for conservation.

More information can be found at the following websites: <https://www.youtube.com/user/Woodfibrebirder/featured> and <https://www.squamishenvironment.ca> ♦

Columbia River Wetlands for Birds, Bears, and Badgers

By Robin Rivers

The Nature Trust of British Columbia is working to conserve a key property for wildlife in the Kootenays and we need your help. The Columbia River Wetlands-Edgewater property near Radium Hot Springs covers 171.5 hectares (423 acres) and features outstanding habitat for Grizzly Bears, American Badgers, and a variety of birds. It also provides winter range for Mule Deer, White-tailed Deer, and Moose.

The property has a rich mosaic of habitats. The upper bench terrain has gentle rolling slopes with predominantly west and southwest-facing aspects. It includes habitats such as forest (primarily Douglas-fir, with some Trembling Aspen and Engelmann Spruce), shrub-steppe, and grassland intermixed; as well as steep clay banks, wetlands, and riparian floodplain.

“The Columbia River Wetlands-Edgewater property has incredible diversity, ranging from wetlands to grasslands and open forest habitats,” said Chris Bosman, Kootenay Conservation Land Manager for The Nature Trust of BC. “From the upper benches, the views across the Columbia Valley and up and down the Rocky Mountain Trench are stunning. As a multi-generational family ranch, the land has been well cared for over the years by a conservation-minded family. The Nature Trust looks forward to securing this important property complex and carrying on the tradition of responsible land stewardship.”

One of The Nature Trust of BC’s goals is to add new properties to existing ones to create larger complexes which are beneficial for the health of wildlife and plants. The Colum-



By The Nature Trust of BC.

A stunning view of the Columbia River Wetlands-Edgewater property

bia River Wetlands-Edgewater property will be added to 539 hectares (1,331 acres) of Nature Trust conservation lands that are part of the Columbia National Wildlife Area.

An additional benefit to conservation is that the property’s wetland complex is contiguous with wetlands in the Columbia Wetlands Wildlife Management Area (WMA). This WMA is a Ramsar Site, designated as a Wetland of International Importance because of the significant migratory bird habitat. The WMA contains regionally unparalleled diversity: 16 habitats for more than 200 bird species. Help us acquire this important property for birds, bears, badgers, deer and more. Every dollar helps. You can donate via credit card by calling our office (604-924-9771 in the Vancouver area or 1-866-288-7878 toll free), online at www.naturetrust.bc.ca ♦



Leave a Lasting Gift

Donate to The Nature Trust of BC in your will to help conserve the natural diversity of wildlife, plants and their critical habitats for future generations.

For more information, contact Deb Kennedy
at debkennedy@naturetrust.bc.ca
or call 604-924-9771 or 1-866-288-7878

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Fish and Wildlife Compensation Program Announces 118 Fish and Wildlife Projects for 2018 – 2019

By Lynne Bettes

While some of us are heading outdoors to enjoy the spring weather, across the province stewardship groups, biologists, First Nations, and others are heading out to start work on the 118 new projects announced by the Fish and Wildlife Compensation Program (FWCP) this spring.

The FWCP's three regional boards approved \$10 million for fish and wildlife projects in the Coastal, Columbia, and Peace Regions for 2018 – 2019. "The projects we fund benefit many species at risk, support habitat and ecosystem conservation and enhancement, and improve the science and understanding that's often a critical gap in conservation planning," says Trevor Oussoren, FWCP Program Manager.

Trevor explains that the FWCP is funded annually by BC Hydro and the FWCP directs those funds towards priority actions across its three regions to fulfill its mission and work towards its vision of thriving fish and wildlife populations in watersheds that are functioning and sustainable.

BC Hydro has water licence obligations in the Columbia and Peace regions, and has made voluntary commitments to address the impacts of dams of the Coastal Region. BC Hydro fulfills these obligations through the work of the FWCP.

FWCP projects funded in 2018 – 2019 will among other things: support at-risk caribou herds; improve habitat and fish passage for salmon and other fish species; restore and map wetlands; enhance habitats for many species including deer, Moose, and Bighorn Sheep; monitor birds, and so much more. Learn more about projects and the work of the FWCP at <http://fwcp.ca/>. ◇



We're Growing Results

A maternity pen for two endangered caribou herds in our Peace Region has improved calf survival and, together with other recovery efforts, has helped the combined herd size increase from 36 to 67 animals in the last four years.

Each year, we invest nearly \$10 million across our Coastal, Columbia, and Peace regions to help restore habitat, improve fish passage, and support species at risk.

Learn more about our projects and grants. fwcp.ca



The Fish & Wildlife Compensation Program is a partnership between BC Hydro, the Province of B.C., Fisheries and Oceans Canada, First Nations and Public Stakeholders to conserve and enhance fish and wildlife in watersheds impacted by existing BC Hydro dams.

Mountain Goats on the Move

By Jim Easterday

When most people think of Mountain Goats, they think of high rocky cliffs in the open alpine. But there are times when Mountain Goats travel down all the way to the bottom of the valley. One time is on the way to eat soil at a mineral lick located low in the forest. The other time is to move to a different mountain, a process known as dispersal.

Any time Mountain Goats venture into a forest, they are at risk. Their legs are short compared to the long legs of deer or Moose or any other ungulate swift enough to outrun a predator. Short legs are excellent for balance and a low centre of gravity but they make a Mountain Goat slow. A bear or wolf can run at twice the speed of a Mountain Goat. But slow is fine in the alpine. A Mountain Goat simply scrambles to a nearby cliff so steep that a predator cannot follow. In most forests, there is no safe cliff nearby and a Mountain Goat is easily ambushed or chased until caught.

Most Mountain Goats live their entire lives on their home mountain. But each year a small number of goats leave their home and travel to another mountain nearby. A dispersal can be a few kilometres or as many as 30 km. The dispersal can be for a day, a month, a year, or for life. A dispersing goat may return to their home mountain or may continue to disperse again to another new mountain. The record for dispersal distance is 300 km and 100 km is not unusual. It's not clear why Mountain Goats disperse, but most goats that disperse are two to three years of age, the "teenagers" of the goat world.

The majority of dispersing Mountain Goats are young males which may explain why so many young males simply disappear from the record. You can imagine the hazards. Not only does a dispersing goat have to avoid predators, they have to swim swift rivers or wide lakes where drowning is a risk. And they have to reach a new mountain before snowfall in the fall. Otherwise they may flounder in soft powder snow, due again to their short legs.

Dispersing is high risk but necessary, even vital. Most Mountain Goat herds are isolated from other herds. Isolation over a long time can result in inbreeding and a lack of genetic diversity that can weaken the herd and trigger a local extirpation. Dispersal helps that. A new goat that arrives from another mountain can contribute their genes to the mix and "save" a herd suffering from inbreeding.

Dispersal makes it possible for Mountain Goats to inhabit mountains that have good habitat but no existing herd. Dur-



Mountain Goat sighting in the Smithers area.

ing the last ice age 14,000 years ago, most of BC was covered with glaciers up to 1,500 metres thick. Research shows that Mountain Goats at that time lived in an ice-free corridor in Yukon to the north of BC and in the United States to the south. As the ice melted, the Mountain Goats dispersed into BC from the north and south from one mountain to the next until today, when most Mountain Goat habitat is occupied.

Today, if a herd of Mountain Goats suffers a catastrophic loss or extinction, other dispersing goats may take over that mountain and save the day. So it is important that Mountain Goats are able to easily disperse across valleys, even those valleys filled with farms, roads, and people. Barbed-wire fences must be built so that goats can pass through without injury. Multi-lane highways may need overpasses or underpasses to allow Mountain Goats to cross without being hit by vehicles, especially in dispersal corridors where goats frequently move in a predictable path from one mountain to another.

Our BC Mountain Goat Society recently surveyed local residents in the Bulkley River valley to record sightings of dispersing Mountain Goats. In two weeks, we received 23 reports that stretched back over the last ten years. Thankfully we did not receive any reports of injury or death of dispersing goats, but the numbers suggest that people witness only a small portion of the total number of dispersing goats. On one occasion, a local trapper tracked three Mountain Goats that walked down residential streets through the heart of the town of Smithers to reach a rocky bluff near the train station. What an adventure for that trio! ♦

Jim Easterday, co-founder and director of the BC Mountain Goat Society, Smithers BC. Website <http://www.mtgoats.ca> for more photos and videos

Fall General Meeting and Conference (FGM) "Connections" September 20 - 22, 2018



By Harvey Abraham

The Central Okanagan Naturalists' Club (CONC) would like to welcome you to BC Nature's Fall 2018 General Meeting, to be held September 20 - 22, 2018 in Kelowna. Registration and schedule Page 34 and 35

The weather will be sunny, the colours (possibly including those of *Larix occidentalis*) will be changing, the birds will be passing through, the wine will be ready, the temperatures will be moderate. Planned outdoor activities include hiking and biking along the rail trails (both low-elevation and high-elevation), early-morning birding, the opening of a long-planned bird viewing platform, a look at conservation projects in Kelowna, and creekside walks. Planned indoor activities include a series of presentations on the theme "Connections" and wine tours (at an extra cost).◇

CONC looks forward to seeing you in September.

Cowichan Valley Naturalists' Society AGM 2019

"Nature in the Warmland"

May 2 - 4, 2019



The Cowichan Valley Naturalists' Society is extending an invitation to all member Societies to join us May 2-4, 2019, for the BC Nature AGM. The theme of the meeting will be Nature in the Warmland.

We anticipate that the spring flowers in our Garry Oak meadows will be putting on a show at that time. Outings will be offered to view not only the flowers but also our spring birds - come see how our Bring Back the Bluebird Project is going. ◇

Email: cvns@naturecowichan.net

Website: <http://www.naturecowichan.net/wp/>

Living Stumps

By Terry Taylor

If you frequent Douglas-fir forests, you have probably seen them. Even if you did not realize what they are. These are stumps with rounded bark-covered tops, or rounded edges. They are stumps grafted to nearby trees.

When a tree is cut down, the stump that remains is flat across the top, with sharply defined margins. Occasionally, however, the roots of neighbouring Douglas-fir trees make contact, and form a root graft. Water and sugars can then be transported from one tree to another. If one of those trees is cut down, the stump that remains is still grafted, with the result that food and water can still be supplied to it. Douglas-fir shows this phenomenon, but our other trees do not appear to. True firs are reported to root graft, but the only living stumps I find are Douglas-fir.

The nutrients from the live tree keep the cambium layer of the stump alive. Cambium is a very thin layer of cells between the bark and the wood. It is the only component of a tree trunk that is still growing. When cambium cells divide, some of them become bark, and most develop into wood. This is the reason that trees show annual rings each year. The rings are apparent because the cells produced in the spring are softer, larger, and have thinner walls. In the dry summer the cells are small, with thick walls. The contrasting difference produces an annual ring.

Since the cambium layer is maintained by the living neighbour, it continues to produce bark and wood. This is first apparent by a rounded rim of bark around the periphery of the stump top. The dead wood surface occupies the centre of the stump top. If the cambium continues to live, eventually it overgrows the entire top of the stump, resulting in a rounded or ball-shaped apex.

The stump, however, can never be a tree again. There are no buds present that are able to produce leaves or branches. It takes many years before the top is covered by bark, and decay fungi are able to enter this exposed surface. The weakened root structure is also susceptible to root rot fungi. A stump that is not grafted is eventually



By Rosemary Taylor

A fine example of a living stump.

recycled into the soil by fungi. If the stump is attached to the tree next to it, when the stump rots, the infection can be transmitted to the previously healthy tree through the attached roots.

Although these living Douglas-fir stumps can never again become trees, there are some trees that can re-grow after they are cut down. These trees are able to form buds that become new trunks. In Europe such trees are used in a process called coppicing. The trees are cut and the new trunks and branches are used in furniture production. It is usually willows that are utilized this way. The species that comes to mind in our coastal areas is the Big-leaf Maple. Once it is cut, several branches grow upright from the stump, eventually forming a multi-trunked maple. If you see such a maple tree, with many trunks, it has probably been cut down decades ago and re-grown. Most conifers do not re-grow after cutting, although California Redwood will. Other ways that trees share resources are through their Mycorrhizal Fungi. These are the fungi in tree roots. They collect soil nutrients and supply them to their tree partners. There are a lot of things going on underground that we never see. ♦

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NatureKids BC Update

By Christina Chowanec, Program Coordinator NatureKids BC

Pollinator Citizen Science Project - This year's citizen science opportunity for NatureKids BC families is about all that buzzes and flutters in the flowers around us. We invite families, clubs, and schools to learn about and get involved with pollinator citizen science through surveys and stewardship action. Citizen science is a great hands-on learning tool to get children and youth involved in real science and helps them learn new things about the world around them. The stewardship component engages youth in stemming the decline of pollinators by planting with plants that produce food for pollinators: pollen and nectar.



By Wikipedia

Hairy Belly Bee

Through our pollinator citizen science project, youth will learn about wild pollinators, species identification, and data collection methods.

They will collect data on the abundance and diversity of bees, wasps, and butterflies in green spaces in their local area through data collection events, and be encouraged to get involved in stewardship activities that increase pollinator habitat. Data is analyzed by our project biologist, Erin Udal, and final reports are presented to our partners, who can use the findings to make informed choices about habitat management and how to support pollinator diversity.

We have created some great new resources, including our Life in the Flower ID card, which you can download from our website. Thanks to our project supporters: Habitat Conservation Trust Fund (HCTF), TD Friends of the Environment (TD FE), and Nature Canada (NC).

Planting Event - Did you know that NatureKids BC and BC Nature shares the same office in the Heritage Centre at the foot of Mt. Seymour Provincial Park? The building is one of only two remaining park ranger buildings within the BC Parks system and is leased by BC Parks to the Elders Council for Parks. In late April we all spent a Sunday working together on a sustainable landscaping project. We spread out hundreds of kilos of nutrient-rich soil and planted Pacific Dogwood, Sword Fern, Bunchberry, and other native plants.

Nature Club Updates: We have new clubs in Langley (Langley@naturekidsbc.ca) and in South Peace (southpeace@naturekidsbc.ca - serving Dawson Creek, Tumbler Ridge, and Fort St. John). If you have a club in one of these communities, please feel free to introduce yourself! We are still looking for leaders for Comox Valley, Cowichan Valley Home Learners, Kelowna, Nelson, Oceanside (Parksville and Qualicum), Ridge Meadows (Maple Ridge and Pitt Meadows), and Tri-cities.

Nature Mentors: We are always looking for people in communities with NatureKids clubs who can share their nature expertise and knowledge with our young members on outdoor Explorer Day field trips. If you are interested in supporting your local NatureKids club as a nature mentor or club leader, please visit our website to learn more or get in touch with Christina Chowanec at coordinator@naturekidsbc.ca.

Support Us in Getting More Kids Outdoors - Become a monthly donor and help us get more children across BC outdoors to explore, play, learn about, and take action for nature. Monthly donations are one of the easiest ways you can support our



By Colin McQuillan

Heritage Centre planting event

work and let you have a larger impact by spreading out your donation across the entire year. You can start, change, or stop your gift at any time. Your gift provides us with critical, predictable revenue that help us plan and deliver programs that get more children learning and exploring outside. For as little as \$10 per month, you can support NatureKids BC in getting more kids outdoors and connected with nature through our network of volunteer-led nature clubs. As a monthly donor, you will receive a copy of NatureWILD magazine each quarter and regular e-news updates. Tax receipts for the full donation amount will be mailed to you each spring. Visit <https://www.naturekidsbc.ca/donate> to learn more. ♦

Great Bear Rainforest: A Global Treasure

By Angela Gnyb

Covering 6,394,033 hectares, the Great Bear Rainforest is recognized as a global treasure. On February 1, 2016, the BC government proclaimed it to be the province's gift to the world, and, with its diversity of native wildlife it truly is a priceless gift.

Situated on the northwest coast, this stretch of temperate rainforest is home to large and majestic Grizzly Bears. Brown, rugged, and photogenic, they have finally been protected from trophy hunting with a province-wide ban announced last November. It is a decision that many environmental groups, First Nations, conservationists, and ecotourism businesses have long waited to hear.

The opportunity to view and photograph Grizzly Bears in their natural habitat draws many international visitors to the North and Central Coast each year. Arriving from Europe, the USA, and beyond, it is often a dream come true to see these bears as they feed on salmon in the coastal rivers and munch on vegetation in the estuaries.

The Great Bear Rainforest is also famous for its Spirit Bears. They are considered sacred animals and are also known as white bears, moskgm'ol, Kermode, or ghost bears. Pale and ghostly in appearance, it is a special genetic trait that makes just one in every ten bears light-coloured. This rare subspecies of Black Bear was designated as the official mammal of British Columbia in April 2006. Today, there are only an estimated 400 Spirit Bears living in the wild, particularly in the vicinity of Gribbell and Princess Royal Islands. Here they are safe from hunters and survive among the green mosses and lush conifers growing by the sea. Shy and reclusive, they are occasionally spotted by respectful watchmen, local wildlife guides, and their accompanying guests.

Black bears are valued by coastal First Nations such as the Kitasoo/Xai'xais, Gitga'at, and Heiltsuk, and are embodied in their art, their stories, and their way of life. Their culture and traditions have never been based on hunting any of the bears for fun, sport, or game. Instead, they have always respected the presence of these impressive animals that dwell in their surroundings.

Black bears might be considered widespread throughout parts of North America, but in the Great Bear Rainforest, some carry the distinct trait that separates them from all others. When both parents carry this genetic trait, there is a 25% chance of female black bears giving birth to white cubs. Thus,



It's about saving
all animals from
trophy hunting in the
Great Bear Rainforest.

Please make a donation at my fundraiser page:
www.canadahelps.org/me/6tSAu32



for Coastal First Nations & Raincoast Conservation Foundation

every bear with this special gene vitally increases the number of spirit bears in the wild. Despite this fact, black-coated spirit bears are not legally protected from trophy hunters, and, for every black bear killed in the Great Bear Rainforest, it is putting future spirit bear populations at risk.

Bears may be the reigning omnivores of the Great Bear Rainforest, but they are not the only mammals worthy of our protection. Wolves, wolverines, and mountain Lions also belong in this rainy, isolated wilderness. Raincoast Conservation Foundation and coastal First Nations are focused on protecting all of these animals from trophy hunting (not just Grizzly and Spirit Bears), and I am fundraising to help them buy out their fourth commercial hunting territory in the Great Bear Rainforest.

The vision is to end trophy hunting in this global treasure forever, so please join me in making this happen. Please make a donation online at my fundraiser page at: <https://www.canadahelps.org/me/6tSAu32> . ♦

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BC Naturalists' Foundation Update

By Bob Handfield

The BC Naturalists' Foundation annually supports projects of BC Nature clubs through the Club Support Grants program. In February 2018 the Foundation provided \$13,500 in new money for Club Support Grants. Combined with some funds left from previous years there was a total of approximately \$17,600 available. This amount was awarded to the following nine club projects:

- Cowichan Valley Naturalists' - Bring back the Bluebird Project: an on-going multi-year project to re-establish bluebirds in their historic range in the Cowichan Valley.
- Comox Valley Nature - First Nations' Pollinator Gardens: two educational native plant gardens to emphasize pollinators in the Comox region.
- Delta Naturalists - Barn Owl Nest replacement project: replacement of old and now decrepit nestboxes first placed in the 1990s and to situate some new boxes.
- Friends of Semiahmoo Bay - translation of a Boundary Bay brochure: to provide a Mandarin translation of the highly successful *Boundary Bay – A special place* brochure.
- Rocky Point Bird Observatory - Owl Migration Monitoring project: a project started in 2002 seeking to understand the migration patterns and biology of the Northern Saw-whet owl.
- South Okanagan Naturalists' - Nature photo Contest and Nature Journal: a photo contest emphasizing the natural heritage of the south Okanagan and Similkameen valleys and a nature journal using the contest photos. Spread over two years
- Lillooet Naturalists' - Lion's Trail maintenance Project: in addition to maintaining and cleaning up a popular hiking trail this project will emphasize removing invasive weeds, in particular burdock.
- Vermillion Forks Field Naturalists - Hummingbird banding project: this is an on-going project started in 2017 studying the migration patterns of southern interior BC hummingbirds.
- WildResearch Society - Iona Island Bird Observatory spring migration monitoring project: another multi-year on-going project studying song-bird migration along the Pacific flyway.

All of these projects involve considerable volunteer time on the part of club members. In most cases the Club Support Grants provide only a portion of the total project budgets but the clubs are often able to use the Foundation's support to leverage funds from additional sources. The successful clubs have all agreed to recognize the Foundation and BC Nature in publicity about their projects. The annual grant from the Foundation to BC Nature for club support is made possible through the investment earnings from the capital of the BC Naturalists' Foundation. Over the 25 years since its formation, the Foundation has distributed nearly \$190,000 in grants to BC Nature and its member clubs for conservation and education projects. As the Foundation's invested

capital grows, its earnings are able to provide increasing amounts of grants to support naturalists' projects.

The Foundation's AGM and Directors meeting was held Friday, May 11, 2018, during BC Nature's AGM and Conference in Vancouver. At the meeting the annual financial statements for year-end 2017 were reviewed. Combined, the funds now held in the name of our Foundation total nearly \$700,000.

Regarding the appointment of members and election of Directors of the BC Naturalists' Foundation, the Club Directors of BC Nature appoint the members of the Foundation and nominated its Directors. The Foundation Directors also elected its officers at the May 11 meeting. If you are interested in volunteering with the Foundation, please contact Bob Handfield, soncbob@shaw.ca. The Foundation welcomes new members, as appointed by BC Nature. The Foundation greatly appreciates the contributions and support from naturalists throughout BC. ♦



BC Naturalists' Foundation
A Strong Foundation is Good for Nature and Supports Club Projects

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BC NATURALISTS' FOUNDATION

Become a Habitat Guardian

By Ashlea Veldhoen

Imagine walking along a beautiful nature trail through a tall grove of mature Douglas-firs. It's spring-time and the forest is full of new life. Overwhelmed by the magnitude of the forest's beauty, you stop to observe your surroundings. Looking around, you begin to notice a flurry of activity. Songbirds flit about, plucking insects from moss-covered branches. Closing your eyes, you hear the sounds of the forest: the soothing babble of a nearby stream relaxing you with its calming rhythm. Taking a deep breathe, the fresh scents: wildflowers and trees in bloom are comforting. You feel a cool spring breeze gently caressing your face as it moves wispily through, dancing with the leaves and propelling small clouds across the cerulean sky.

Now imagine that beautiful space gone. The trees replaced by apartments and outlet malls. The babbling stream now a sterile drainage ditch. The soft dewy trail and spring wildflowers paved over with an impenetrable layer of tarmac. The cool spring air thick with smog and pollution. The only life remaining here are the patches of foreign trees and grasses scattered across the barren landscape, devoid of the diversity of life that once thrived.

If this sounds familiar, it is because it has been the unfortunate fate of all too many natural areas on southern Vancouver Island. As our populations grow, development continues to push further into our natural areas, reducing habitat for our wildlife, decimating the natural resources upon which we humans also rely. However, we at Habitat Acquisition Trust (HAT) believe that this does not have to be the fate of the natural areas that remain.

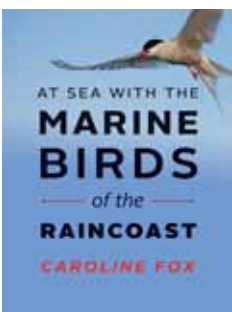
Through our Land Protection Program, we work to conserve natural areas on South Vancouver Island and the Southern Gulf Islands through covenants with landowners to ensure that their land is man-



aged in an ecologically sound way and protected in perpetuity. To achieve this, we rely on public donations to raise funds for management, monitoring, and legal costs associated with the formation of a covenant. To date, we have been successful in securing 30 covenants with landowners across the area thanks to growing support of community members and donations.

This year, HAT's focus is to protect a large forested acreage just north of Victoria, BC. Once protected, this property will form an important permanent natural wildlife corridor between Gowlland Tod and Goldstream Provincial Parks. To successfully protect this we need to raise \$10,000 by July 31, 2018. If 100 people gave \$100 today, we could reach our goal in just 1 day! So, if you envision a future in which nature thrives, please consider contributing to our Land Protection Program by becoming a HABITAT GUARDIAN to support the formation of this new covenant.

This is your opportunity to help nature today. Become a HABITAT GUARDIAN by emailing hat.bc.ca/habitatguardians. or call HAT at 250-995-2428 ♦



Book Review

At Sea With The Marine Birds Of The Raincoast
Author: Caroline H. Fox
Copyright 2006, Rocky Mountain Books, 272 pages
Paperback, \$24.67 to \$31.86
Reviewed by: Heather Neville

This informative new compendium shines a welcome spotlight on common but still unfamiliar bird species grouped under the heading of "marine birds" which includes seabirds, shorebirds, raptors, and waterfowl. Dr. Caroline Fox is a conservation scientist and postdoctoral fellow with Raincoast Conservation Foundation and the Department of Geography at the University of Victoria (visit <https://www.raincoast.org/>). The foreword was written by Paul C. Paquet

The book follows Caroline and the vessel Achiever through the seasons of four years, surveying the density and distribution of BC's coastal marine birds and mammals, many of which are listed as species at risk in Canada.

They travelled between Dixon Entrance and Queen Charlotte Strait, encompassing the Great Bear Rain Forest and Haida Gwaii, approximately

75,000 km². West of Prince Rupert she describes the flocks of Northern Shovelers by the dozens, thousands of Surf Scoters blackening the water and popping up here and there, Red-throated Loons, mergansers, and cormorants. They are feeding on Pacific Herring eggs in the near shore each spring.

She talks about pelagic waters, rough seas, and encounters with Sooty Shearwaters, Black-footed Albatross, and the rare Short-tailed Albatross. The colonies offshore, such as Triangle Island and the Kerouards, host Cassin's Auklets, Tufted Puffins, and Common Murres. As well there are the accompanying raptors: Bald Eagles and Peregrine Falcons. Caroline encountered 69 different marine bird species over these years and has woven a delightful and informative read. ♦

Requiem for a Venerable Garry Oak Prairie

By Loys Maingon

Comox has just lost the last remains of the 6,000+ year-old Cape Lazo Garry Oak prairie. Until last year, when the Department of National Defense (DND) took an active interest in this site, it was a poorly-stewarded .4 - .8 hectare corner of land at the bottom of the Comox Valley airfield fronting Knight and Kye Bay Roads. This original part of what must have been Dr. Walter Gage's father's farmland was converted on the eve of World War II into the airfield that we know today as CFB Comox.



By Sharon Niscak

Pre-destruction of the Camas Field

Before 1860, most of that was a rich traditional Pentlatch Garry Oak meadow. It was, together with the lower Tsolum Valley "Comox Prairie", the original wealth of the valley in which British pioneers settled. These last .81 hectares (two acres) were all that remained of 65 square kilometres (25 square miles) of a northern Californian flora and fauna that we know today as "Garry Oak ecosystem". It even had some stunted, wind-blown Garry Oaks.

From a floristic point of view, this site was a charm. It was a site I regularly took visiting botanists to. They came from the USA and Victoria to view the native flowers and grasses amidst the Comox garbage and vandalism. New plants, often no longer found in and around the rest of Comox and Courtenay, such as Red Maids (*Calandrinia ciliata*) would be spotted about every second year and added to the local species lists. This species is otherwise only found locally on Hornby Island. So we are still uncertain as to what lay hidden in the site's seed bank. A one-day count in April 2017 identified 28 species of native flowers (Camas, Harvest Brodiaea, Hooker's Onion, Chocolate Lily, Scouler's Popcorn Flower, and the list goes on): a carpet of purple and gold. Nobody had time to study the pollinator populations, and the Western Bluebirds have been long-gone (about 1960), probably with insects unknown. We will possibly never know the full extent of our children's losses.

For years, everybody, including DND who put signs up to limit trespassing, thought that this was DND land. For conservationists, this was a boon. Although it limited access, DND has an excellent record of responsible stewardship. Indeed, last year when it was pointed out that the site was being vandalized by ATV's and was becoming an unmanageable and illegal dumping site overgrown by Scotch Broom, DND mobilized soldiers to remove the Scotch Broom and garbage, and then erected a gate to limit illegal access. We had every reason to hope that with responsible stewardship, this site would one day be an important regional conservation legacy.

As it turns out, the land is private. It is within the administrative boundary of the Town of Comox, whose uncontrolled development policies have laid waste to the Lazo Sand Dunes ecosystem area over the past two years. Garry Oaks on private land have been extirpated and native flora replaced by Kentucky turf grass. That is largely because Comox mayor, council, and staff either don't care, or are ignorant of Comox's natural heritage, or are hell-bent on development vandalism, which they seem to have a well-honed reputation for. Sadly, they are the town's "representatives".



By Sharon Niscak

The post-destruction photograph of the Camas Field

In either case, DND learned indirectly that it was not the owner of this piece of land, and was unable to buy it from the new owner, who it seems had no problems obtaining building and development permits from the Town of Comox on what any other town would have classed "ecologically sensitive habitat with significant heritage values". Comox, after all, has no real tree by-laws or special environmental permitting requirements that would encourage landowners to manage land responsibly, for the benefit of all Canadians. If the political leadership is lacking and only exhibits a tendency to systemic ignorance, reckless vandalism, and disregard of the public interest, one should not dare expect private landowners to meet a higher standard.

So the new landowner did what every almost every other landowner in the Comox Valley before him has

Continued Page 27

Harrison Hot Springs Camp - November 23 - 25, 2018



By Janne Perrin

Mark your calendars! The Harrison Hot Springs Camp is in the final stages of planning for November 23 - 25, 2018. This camp is filling up quickly with members eager to participate in the many interesting outings. Accommodation is in the Harrison Hot Springs at the Harrison Beach Hotel with mountain views, fireplace, mini kitchen and big screen TV's.

This camp will showcase the greatest gathering of Bald Eagles in North America (up to 10,000) that return to dine on the largest run of Chum salmon in British Columbia.

The Harrison-Chehalis Flats is designated an International Important Bird Area (IBA) and a North American Salmon Stronghold. The area supports 179 species of birds, five species of salmon, three species of trout, and is rich in White

Requiem for a Venerable Garry Oak Prairie Continued from Page 27

done: he hired an excavator to strip the topsoil and "improve" the building site; undoubtedly assuming it was a valueless field, and never having been told otherwise. He is not to blame. We all do it, and he sought permits and guidance from the Town of Comox.

We have lost the last remnant of our native grass prairie. We have erased a cultural presence. At a time when this planet is experiencing species collapse unmatched since the Cretaceous (65 million years ago), this is more significant than it seems. This prairie survived all the insults we threw at it since white settlers arrived and stole it. It is proof that we have been the worst stewards imaginable. Even those of us who claimed to care, myself included, did not care enough to check the title, we took for granted DND's claims and what local environmental organizations told us. So we failed all those other species whose DNA we share, and handed our trust and future over to Comox council and staff.

It is exactly that ill-placed trust that drives mass extinction, and climate change, every day. ♦

Sturgeon. It is the traditional territory of the Sts'ailes First Nations who are known for their generosity and welcoming spirit.

David Hancock, eagle biologist of 50+ years experience will speak after the locally sourced banquet at renowned "Rowena's on the River resort Saturday." This will complement your Stronghold boat tour with Mr. Hancock and tour of the historic Kilby museum during the day. David Moore, fisheries manager for Sts'ailes, lectures Friday evening and takes us on a tour of the restored Sts'ailes spawning channels. Michael Church, Fraser River Gravel guru, will walk us through the importance of the mighty Fraser for this salmon-eagle spectacle on Thursday evening. A visit to the local Harrison Sasquatch Museum is a possibility for Sunday morning.

Species at-risk such as the Oregon Spotted Frog and Pacific Water Shrew also make this valley home and will be featured prominently in the presentations and outings. Tours include the Chehalis Important Bird Area with the caretaker, Kathy Stewart, and a trip to Oregon Spotted Frog habitat in the Morris Valley with Precious Frog biologist, Aleesha Switzer. For more information and updates on this action-packed weekend check the BC Nature website under Education, Field camps. There are a few spots left. Call Betty at 604 985 3057 or email manager@bcnature.ca - Cost \$725. ♦

"Sts'ailes" is the native spelling of "Chehalis"

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Our Trip to the Cloud Forest: Talamanca Reserve, Costa Rica

By Jim Palmer

In January my wife and I left our normal winter range of Vancouver Island and flew south for the first time in years; for myself, it was 1971 when I was last in Costa Rica. We were taking a step outside our comfort zone. Our destination was away from the usual tourist spots: Talamanca Nature Reserve, high in the Cloud Forest in the southern third of Costa Rica. The government of Costa Rica and its citizens have truly embraced conservation in a big way, and it takes many forms. Talamanca Nature Reserve encompasses 1,600 hectares of diverse Pacific Slope habitat and is owned by a not-for-profit corporation, whose mission is conservation and local employment. The reserve is contiguous with the 50,000 hectare Cerro Chirripo National Park surrounding Central America's tallest peak. There is a lot of room to explore and a bewildering list of species to keep any naturalist busy for as much time as you can manage.

Getting there - After a couple of days getting acclimatized in San Jose we boarded a very modern, comfortable MUSOC bus. We were the only tourists. The three-hour bus ride threads its way south along the mountainous spine of Costa Rica with stunning views to either side, ending in the small city of San Isidro Del General (700 m elevation). Most tourists stick to the coastal route where buses and vans catering exclusively to tourists ply their trade. The mountain route is not served by these companies, but the Costa Rican bus system is very good, very cheap and it is the way most locals get to the city for appointments, visiting family, and shopping. For a larger group it would be possible to charter a tourist van but honestly, travelling with local families on a luxurious bus for \$7 each is hard to beat and it's a good cultural experience. From San Isidro it's a 45-minute climb on ever narrower roads, to the village of San Gerardo de Rivas. There are local buses several times daily but we opted for taxi, which was only about \$20. If you call ahead, the folks at Talamanca Reserve will arrange a taxi, which will be better than the one random selection will get you at the eager taxi stand.

Setting (geographical) and climate - San Gerardo de Rivas is in the southern third of Costa Rica at approximately 1,350 metre elevation. Here in the Cloud Forest vegetation is lush on the steep volcanic slopes; clouds and mist swirl constantly around the complex topography. It's a little bit like Tofino.... if you were to replace Vancouver Island's low mountains with a spine of volcanic peaks and moved the whole thing to the tropics. There is a wetter part of the year (May

through December) and a drier season (December through May) but temperatures are like spring on the BC coast year round. If you start the day very early (like a good birder) you should fit in



By Jim Palmer

Fiery-billed Aracari

lots of exploring before the rains start later in the day.

Accommodations - We stayed in one of the lovely little River Cabins, with a steep mountain river babbling a hundred or so metres down a forested slope to lull us to sleep at night. Each of the bright, one-room cabins (with full bathroom) has its own unique, artful touches crafted in local exotic hardwoods and colourful tile work. The comfortable bed was a treat at the end of a full day hiking mountain trails, and so was the great solar-heated shower. My older and somewhat cranky body appreciates these things. There is a small, covered sitting area outside, facing a forested hillside across a path threading through mostly native landscaping. Great birding without even going anywhere! On our first night we were treated to a firefly light show in the woods just outside our cabin. Donning head lamps we found some most impressive hunting spiders in the landscaping and a tiny frog that spends its life in a small pool of water held by a pitcher plant; it never dries out in the Cloud Forest climate.



Continued Page 29

Talamanca Reserve, Costa Rica Continued from Page 28

The lodge is a five-minute stroll through the woods/landscaping, although it always took us much, much longer; there were always so many fascinating things to see, by day or by night.

Lodge, facilities and staff - The manager, Kenneth, and his family have spent their entire lives caring for this property, so they are intimately familiar with every aspect of the place and its flora and fauna. All staff are locals who are happy to share their knowledge and enthusiasm for this very special place. Meals are deliciously made from fresh, locally grown ingredients.

On our first day we were treated to a Blue Crowned Mot Mot and a pair of Fiery-billed Aracari right outside; great coffee in one hand, camera in the other. Birding here is fantastic.

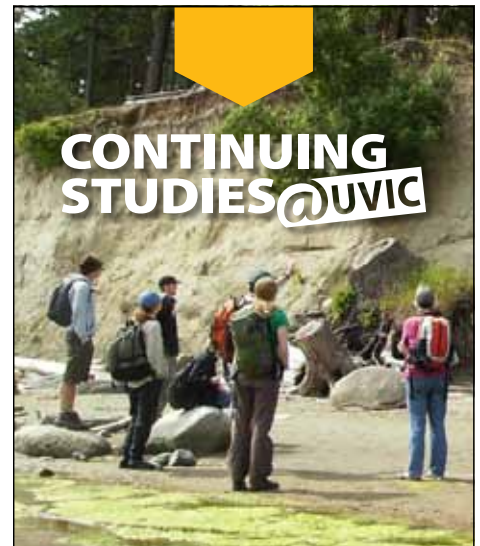
After an early and hearty breakfast we usually set off exploring on our own. Guides are available and if you wish there is a quad to take you to more remote or steep places. We found that there were so many fascinating things to see that our pace was glacial, so even the steeper trails weren't that much of a workout. Honestly, our biggest problem was forcing ourselves to stop looking at amazing things so we could get back to the lodge for lunch! Strangler Figs, birds, butterflies, bugs, bats, botanical wonders, reptiles, amphibians; it can be quite overwhelming after a few days, but also very stimulating. Some of the more popular places in Costa Rica have good wildlife and flora, but you may find yourself part of a herd of tourists and it can feel a bit like going to the zoo. This is never a problem in Talamanca, it feels like you have the place to yourself.

Naturalists, especially birders, from all over the world come to Talamanca Nature Reserve, but for most this is just one of many stops on a too-busy itinerary. We also visited several other places in Costa Rica, but this was by far our favourite and next time I would like to make this the dominant part of our trip. There is a lot to be said for really exploring one place in depth.

We in Canada could learn a lot about meaningful protection of wildlife habitat. The conservation ethic they embrace at Talamanca is inspiring. As we winged our way back to our home range on Vancouver Island we were already dreaming about our next return migration. ♦



Swallowtail Caterpillar



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Sea Stars Diminish, But Purple Martins

Thrive By David Denning

Partner Projects of the Salt Spring Trail and Nature Club and the Salt Spring Ocean Stewards Society

Virtually all seashore enthusiasts know that in the last few years a significant plague has attacked and decimated populations of sea stars along the entire West Coast of North America. The effects of this sea star wasting disease first came to notice in 2013 but the disease really took hold in 2014-2015 when a mass mortality of our common purple sea star (*Pisaster ochraceous*) completely eliminated some populations and reduced most others to a fraction of the pre-disease level. Our citizen science group began a survey of *P. ochraceous* in the early spring of 2014 on a two-kilometre island shoreline. Our first count revealed 3,783 sea stars, but the same survey protocols on this island shore in late summer 2015 revealed only 173 individuals remaining – a loss of 95%!

Sea star wasting disease has attacked at least 19 different sea star species and two sea urchin species with varying levels of mortality. The giant sunflower star and the giant short-spined star were hit very hard by the disease and scientists wonder if these species can ever recover.

Our common purple (or ochre) intertidal star, *P. ochraceous*, might possibly be recovering from the disease but this is difficult to tell. For one thing, adult sea stars can move into new habitats over time. Most, if not all, of the large (greater than 10 cm diameter) sea stars now seen along our shores or on dock surfaces are actually survivors from the plague. We know this because it takes at least four years for a sea star to grow to the 10 cm diameter size. To learn whether sea stars are recovering, we need to look for juvenile sea stars, born (or in this case – settled as juveniles after a period of time developing in the plankton as larvae) after the plague ‘passed through’.

Our citizen science group on Salt Spring Island has undertaken a study of juvenile sea star occurrence and abundance to learn the extent that local sea star populations are recovering. Our first step was to train 15 volunteer observers in how to search for and recognize juveniles of all possible intertidal species. We learned the kinds of habitats they are likely to occupy and how to search these habitats with absolute minimal disturbance.

Once trained in non-invasive data collecting, each researcher, or couple, worked at extreme low tides to collect data at various sites around the island. They monitored habitats searched, duration of effort, and number of each species of juveniles found. A second part of the survey was to monitor adult sea stars (greater than 10 cm diameter) and to observe whether any of the adults showed signs of sea star wasting disease (white lesions on the body, arms falling off, etc.)

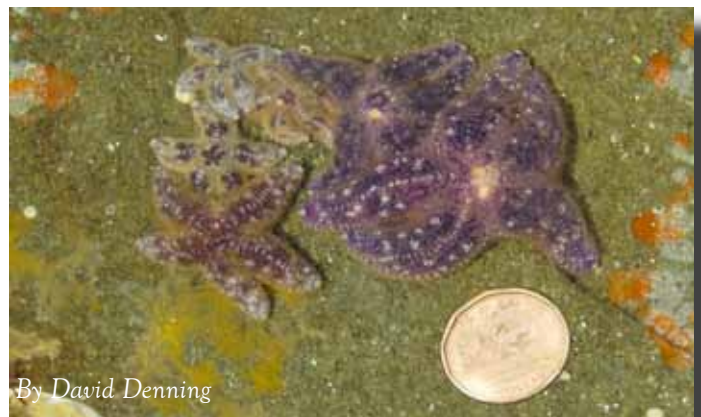
In our first spring/summer of survey work (extreme low tides occur in the daylight only a few days each month, April through August) revealed that most shore areas on our island are not experiencing significant sea star recovery. We are hopeful that results on one stretch of shore – over 60 juveniles located in a two-hour search – indicate a possible acceleration of recovery. Our group will be expanded this May with

further training sessions and increased numbers of observers out on the beach at low tide to monitor juvenile sea stars.

While the fate of sea stars along our shores is hidden from observation by the ocean tides and the obscurity of juvenile sea star habitats, there is no question that another shoreline icon of the region is coming back with a melodious vengeance!

Thanks to the dedicated work of Peter McAllister, Tony MacLeaod, and a dedicated team of Purple Martin enthusiasts, this iconic bird is making a real comeback along the shores of Salt Spring. Since beginning a Purple Martin house building and erection program two years ago, McAllister and his team have built and placed more than 90 nesting boxes at 16 different sites along the ocean shores and have recently erected boxes on our largest lake, St. Mary’s Lake.

So far, the occupancy of these new homes has been near 100%. The wonderful songs of the birds and their active foraging and feeding patterns have inspired many shoreline residents to join in the recovery project, and McAllister and his team are finding it a challenge to keep up with the demand. In the next phases of the project, McAllister plans to continue placing boxes and to develop a program of monitoring nests for parasites and keeping them clean to lessen parasite impact. ♦



One-to-three year juvenile common shore stars (*Pisaster ochraceous*) with loonie for comparison.

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North in the Spring #3: Vernon to Lillooet

By John Neville

"To those who love this land and work for its preservation, that we may realize the future by learning from the past." by David Munch.

The Allan Brooks Nature Centre overlooks the city of Vernon. It has great views of the north Okanagan valley and it's a good place to learn more about nature. When we arrived, two events were happening: a raptor demonstration and a First Nations celebration. An elder captured my attention with some of the technical features of building a pit house.

In Allan Brooks' day, naturalists first shot their specimen, then skinned it, stuffed it, mounted it, studied the result, and finally may have painted it. He was born in India in 1869 and his father collected birds for the British Museum. Allan arrived with his family in Chilliwack in 1894 and purchased a piece of land at Okanagan Landing in 1904 where he was able to count 40 nesting bird species. He sold bird specimens all over the world and his paintings were featured in bird guides. His son and daughter-in-law, Allan and Betty Brooks, are appreciated for leaving us Brooks' Point, a beautiful property at the southern tip of Pender Island.

Continuing our journey north in the spring, we travelled approximately 52 km from Vernon to Falkland, where we turned right onto a gravel road. About 14 km along is a very attractive wetland. I had the pleasure of recording Pied-billed Grebe, Red-winged Blackbird, Marsh Wren, Virginia Rail, American Coot, Common Snipe, and Canada Goose at dawn. The dawn chorus reminds me of the individual instruments in an orchestra as recognizable parts of the symphonic whole.

Another 16 km along Highway 97 at Westwold, we crossed the Salmon River and passed the Douglas Lake Road on our left. If you have time, it's an interesting drive. It starts in Interior Douglas-Fir forest, parallels the Salmon River, passes a canyon left over from the last ice age, skirts Salmon Lake, and passes through reserve land as well as the administrative centre for the Douglas Lake Ranch. We counted six Northern Harriers hunting for voles with their owl-sharp ears in those grasslands! I couldn't help thinking about those tiny salmon that leave Salmon Lake each year, swim down Salmon River to Salmon Arm, across Shuswap Lake, down the Little River to the Little Shuswap Lake and down the South Thompson River.

Highway 97 continued north and blends with Highways 1 and 5. We were approaching Tk'emlups, "the meeting of the waters", also known as Kamloops. After the city, you will see a pull-off on the right, where you can enjoy a panoramic view of Kamloops Lake. Off to the right (or east) the muddy North Thompson and the clear



Fisher Martes pennanti, due to destruction of habitat are now having to occupy Larry Davis' nestboxes.

South Thompson rivers enter the lake. It has been estimated that the silt from the North Thompson will fill the lake in about 4,000 years. The outlet of the lake, to the west, becomes the Thompson River and joins the Fraser River at Lytton.

Travelling along a major highway, we may not realize the origins of our surroundings. The road crosses an intermontane plain that has an amazing geological history. The Quesnel and Cache Creek Terranes joined the British Columbia land mass millions of years ago. The Quesnel Terrane dates back to the early Mesozoic Era. The Cache Creek Terrane originates from near today's China. Long-eared Owls favour this region now. There are good nesting sites in the Trembling Aspen and Black Cottonwoods, while the open grasslands provide good hunting areas for voles.

Highway 97 separates from Highway 1 at Cache Creek. About 10 km further on, we turned left onto Highway 99. The road almost immediately crosses the Bonaparte River. Soon we pass Pavilion Lake with its hidden mysteries. It's a beautiful blue-green colour produced by the calcium carbonate on the bottom. The lake is famous for its underwater coral-like structures. Some are shaped like delicate cauliflowers and others like artichokes. They can rise up to four metres from the bottom. The structures are covered with green and purple microbes called cyanobacteria. To the right of the highway we pass the Marble Range, formed of pale gray limestone that was laid down as coral reefs in ancient tropical seas.

Continued Page 33



By Rich Weir

Wolverine caught on the animal-cam getting ready to jump for the bait, leaving behind some follicles for DNA testing

dens are in Douglas-Fir, Lodgepole Pine, Trembling Aspen and Black Cottonwood. The kits are born in late March and early April and do not emerge from the den for about three months. The female chooses a cavity with an access hole about fist size. This prevents the males gaining access. To counteract the loss of old growth trees, the speaker, Larry Davis, has been building nesting boxes for the Fishers. To date, 41 have been used.

Wolverines can weigh 10 to 12 kg and have yellowish stripes. They are very curious animals and may approach you. Typically, they are scavengers, eating leftover wolf kill, etc. but a wolverine is capable of taking down a caribou. There are about 3,500 in this province favouring undeveloped mountainous habitats, mainly north of Prince George. A male needs about 200 square km for a territory. Our speaker, Rich Weir, counted 15 in the Bridge River watershed near Lillooet. I have a recording from Finland and their growl is quite impressive! ♦

Please join us next time in the Cariboo.

Reference: Cannings, S., Nelson, J., and Cannings, R. 2011. Geology of British Columbia: A Journey Through Time.



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BC Nature Conference and Fall General Meeting

September 20 - 22, 2018

"Connections"

Hosted by Central Okanagan Naturalists' Club (CONC), Kelowna



Thursday, September 20

1:30 – 3:30 pm BC Nature Executive Meeting

Location TBA

4:00 – 6:00 pm Club Directors' Meeting – light dinner provided

Location TBA

4:00 – 7:30 pm Registration – Hotel Lobby with coffee, tea, and refreshments

Dinner on your own

7:30 – 9:00 pm *"Connecting with Nature, from the Perspective of Artists and Community"* by Nancy Holmes, Associate Professor, Creative Writing, Poetry, Faculty of Creative and Critical Studies, The University of British Columbia, Okanagan Campus

Redwood Ballroom

Coffee, tea, and refreshments served following speaker

Friday, September 21

6:00 – 8:00 am Early Morning Birding (pre-registration required)

Meet leaders in Hotel parking lot

7:30 – 9:00 am Registration - Hotel Lobby with coffee, tea, and refreshments

Breakfast on your own

9:00 – 9:15 am Welcome by City of Kelowna representative and by WFN Elder

Redwood Ballroom

9:15 – 10:00 am *"Title to be determined"* by Speaker TBA

Redwood Ballroom

10:00 – 10:15 am Coffee, tea, and refreshments

Redwood Ballroom

10:15 – 11:15 am *"Community Collaboration in Three Major Rehabilitation Projects in the Central Okanagan"* by Wayne Wilson, Executive Director, Central Okanagan Land Trust

Redwood Ballroom

"Parks Planning in the Central Okanagan" by Wayne Darlington, Manager - Park Planning/Capital Projects/Visitor Services, Regional District of Central Okanagan

Redwood Ballroom

11:15 – 12:15 *"Early Childhood Education and the Natural World"* by Terri Russell, ECE, BSW, MSW, Instructor, Early Childhood Education, Okanagan College

Redwood Ballroom

"NatureKids BC: what we do", Christina Chowanec, Program Coordinator, NatureKids BC

Redwood Ballroom

Lunch on your own

1:30 – 4:30 pm Field Trips (pre-registration required)

Meet leaders in Hotel parking lot

Dinner on your own

7:00 – 8:30 pm *"Conservation Northwest Sagelands Heritage Program Overview"* by Jay Kehne, Conservation Northwest Conservation Associate

Redwood Ballroom

Coffee, tea, and refreshments will be served following speakers

Saturday, September 22

6:00 – 8:00 am Early Morning Birding (pre-registration required)

Meet leaders in Hotel parking lot

7:30 - 8:30 am Registration - Hotel Lobby with coffee, tea, and refreshments

Breakfast on your own

9:00 – noon NatureKids BC regional leaders meeting

Location TBA

9:00 - noon Field Trips (pre-registration required)

Meet leaders in Hotel parking lot

Noon Soup & Sandwich Buffet Lunch will be provided

1:30 – 4:00 pm BC Nature Fall General Meeting, Chair Alan Burger

Redwood Ballroom

Coffee, tea, and refreshments will be served

Free Time

6:00 – 10:00 pm Banquet (pre-registration required) - *"Title to be determined"* by Presenter TBA

Redwood Ballroom

Silent Auction Winners, Awards, Closing Remarks by CONC President

No Host Bar throughout evening, Silent Auction (cash or cheques only)

Please check CONC website for field trip descriptions www.okanagannature.org



BC NATURE CONFERENCE & FALL GENERAL MEETING REGISTRATION FORM

September 20 to 22, 2018 – “Connections”

Hosted by the Central Okanagan Naturalists' Club (CONC) at the

Ramada, 2170 Harvey Ave, Kelowna, BC www.ramadalodgehotelkelowna.com/

For changes/updates visit our website: www.okanagannature.org



Name _____ Club _____ Director ☐ Executive ☐

Address _____ City _____

Postal Code _____ Tel _____ Email _____

**** Non-members must join BC Nature (\$20 annual membership) or a Member Club to attend events ****

Options (GST & gratuities included where applicable)	By July 21	After July 21	Amount
Full Registration – all presentations, field trips, birding Note: does not include Saturday Banquet	\$125.00	\$150.00	\$
or Thursday Evening only: speaker, coffee, tea, cookies	\$20.00	\$20.00	\$
or Friday only: early morning birding, speakers, field trips	\$60.00	\$70.00	\$
or Saturday only: early morning birding, field trips, buffet lunch, FGM	\$80.00	\$90.00	\$
Saturday Banquet - Guest Speaker, silent auction, awards	\$45.00	\$45.00	\$
Winery tour	\$79.00	\$79.00	\$
Amount Due - Please enter the total here			\$

Will You Attend ...?

Directors' / Executive Meeting on Thursday afternoon: Yes ☐ No ☐

Early Morning Birding: Friday am - ☐ Saturday am - ☐

Field Trips

Please rank trip choices each day (1, 2 or 3) – will be assigned by order of registration and preference.

Waitlists will be maintained to accommodate participants, but spots cannot be guaranteed once trips are fully booked.

Field Trip Locations (offered on Friday & Saturday, unless otherwise specified)		Rated	Rank Choices	
			Fri	Sat
1)	Beaver Lake Road Birding)	Easy		
2)	Myra Canyon Trestles walking	Moderate		
3)	Myra Canyon Trestles bicycling	Easy		
4)	Okanagan Rail Trail I	Easy		n/a
5)	Okanagan Rail Trail II	Easy	n/a	
6)	Johns Family Nature Conservancy Regional Park	Moderate		
7)	Central Okanagan Land Trust projects	Easy		
8)	Scenic Canyon Regional Park	Moderate		
9)	Black Mountain / sntsk'il'ntən Regional Park	Moderate		
10)	Wine tour (extra cost)			n/a

We recommend good walking shoes/boots; bring water, snacks and hiking poles (moderate-difficulty levels).

Plan to carpool. Are you able to share rides in your vehicle? Yes ☐ No ☐

How to Register

- Registration and Waiver Forms** - available for download on CONC website: <http://www.okanagannature.org>
 - Registration Form – complete **one form per person**.
 - Waiver Form (read carefully & sign) – complete **one form per person**.
- Payment - make cheques payable to Central Okanagan Naturalists' Club Note: NSF Cheques will be charged \$45.00
- E-transfer Payment – this option is also available. For details, please contact Jag Goel at dickandpia@shaw.ca
If using E-transfer, scan registration and signed waiver and email PDF documents to dickandpia@shaw.ca
- Mail registration, signed waiver, and payment to Central Okanagan Naturalists' Club, P.O. Box 21128, RPO Orchard Park, Kelowna, B.C. V1Y 9N8
- Registration will become effective on the date the payment and **all** completed forms are received.
- Registration confirmations and receipts will be sent by email when possible.
- Cutoff date for registration – August 22 or when maximum capacity is reached.**
- No refunds after August 15. Note that earlier refunds are subject to a \$10 administration fee.**

Program, Bird Watching, Field Trips, General Information – details available on CONC website

<http://www.okanagannature.org>

Accommodations – Ramada Lodge www.ramadalodgehotelkelowna.com/

Spotlight On Distinguished Naturalist Mentors

A mentor is a nature enthusiast who helps to make our motto "Know Nature and Keep It Worth Knowing" with emphasis on youth. A mentor devotes time to educate our budding naturalists and scientists by providing services such as tours, lessons, slide shows, camps, Science Fair guidance, Scouting, Guiding, and nature appreciation.

Sue Elwell - Nature Mentor

Sue Elwell is a keen birder, especially when it comes to hummingbirds. With her enthusiasm and knowledge, she has brought new excitement to our club, the Vermilion Forks Field Naturalists. She is all about giving information on how to keep hummingbirds safe and healthy. She has been key in attracting and educating volunteers for the Hummingbird Banding Group. Instructing others on the art of banding, she has done an awesome job in teaching those valuable skills. Her dedication in the pursuit of birding knowledge is most admirable.

During the hummingbird season, Sue is out there three or four times a week doing her "thing". She has gone farther afield to mentor and to set up other banding stations in the Okanagan. She has done this on her own time and spent her own money to set up other groups with equipment. Sue is enthusiastic, energetic, and organized. Her volunteers credit her with a good sense of humour. BC Nature has recognized her and her group's good work and has awarded them grants to carry on their work. ♦



By Joy Finlay

Sue's sense of humour showing through her smile!

Anne Gosse - Nature Mentor



By Bob Puls

Anne Gosse, birdwatching

Anne Gosse brings her enthusiasm and love for nature to the Langley Field Naturalists. This enthusiasm encourages members and the public to more fully appreciate our natural environment. Anne joined the Langley Field Naturalists club 15 years ago and soon became the field trip leader. Her skillful selection of interesting trips and excellent leaders resulted in many memorable nature adventures. As she is an excellent birder, Anne led many of these trips herself. She posted an online blog after each trip, illustrated by her wonderful photos.

Anne also loves the Tofino area and its rich intertidal life, which is why she organized BC Nature's Tofino Field Camp for three years. She successfully planned all the details of the camp: accommoda-

tions, food, speakers and trip leaders. This exceptional camp always had a wait list.

Anne gives generously of her time, bringing her love of nature to kids. She has led many birding walks for Brownies, Sparks, and school-children. At our club's display booth at various public events, she enthusiastically engages kids in hands-on activities. With her ready smile, leadership, and love of nature, Anne is a treasured member of the Langley Field Naturalists and most definitely a Naturalists Mentor. ♦

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