

President's Report

Hello Everyone,

Well it's a new year but we seem to have the same problems. "Twas ever thus." The days are noticeably longer and the bulbs are emerging, so we will too. We kind of emerge like the bulbs; slowly, but with determination!



Thank you to all who took part in the Christmas Bird Count (CBC) this year. Not the best weather, which kept the count low but it didn't rain until the end. Lynne found

the number of people taking part in the feeder count was a lot lower this year, which was a surprise. Jim Goodwin and Susan Knoerr did an amazing job organizing and tabulating it all.

There's lots of action on the stewardship front. Dave Hutchings will be starting up soon at the Englishman River Estuary – weather permitting. He's hoping we will get a tour of the new Nature Trust property on the other side, at the end of Mariner Way. The house has to be moved first, as well as the riprap and non-native plants. But there's broom!!

At the moment there's a lot of grant money being applied for by various agencies. If that money flows we will have lots of projects on the go to help improve our beleaguered area. Nothing is firm as yet.

The Brant Festival is scheduled April 1st (no joke!) to 10th with various activities before and after.

The tour will be on Saturday, April 16th (Easter weekend.) We're hoping for lots of visitors and volunteers. Raising awareness of the Marsh may help the chance of purchasing and protecting it. Who knows where we will be in April, but please consider volunteering. The events take place outside, are free (for the most part) and our area is blessed with so much beauty so let's enjoy it.

We have David H., Duncan C. and Sylvia R. to thank for keeping us all connected via Zoom. Nancy R. has been lining up speakers for web meetings but, if and when it is possible, we'll meet again in person. Sylvia's newsletter has been invaluable and is just a gift to all of us.

Thanks to Kerry Baker and Ceri Peacey for updating and streamlining the ANats website. It's a huge job and Lynne B. and Elizabeth F. are helping via committee. Thank you all!

I'd like to welcome Maggie Green and Elizabeth Salomon-de-Friedberg to our Board. Great additions. We still have room for another director if you'd like to help out in some capacity. It's great fun with great folks.

We were very sad to see Sue Wilson, Terry and Rosemary Taylor leave. Thankfully they're all still involved in many ways so their expertise, experience and enthusiasm will still be with us.

Please let me know if you'd like to be involved in any way. I'm usually available. Email or call 250-954-2063. Putting your hand up will reap great rewards (not monetary!) for you and your community.

I hope to see you all soon in some capacity.

Stay well, safe and happy. *Sally Soanes*

Officers and Contacts

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Email & Zoom: Duncan Campbell **Website:** Kerry Baker
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Club/Membership Information

Check our [website](#) or [Facebook page](#) or request information by writing to:

Arrowsmith Naturalists, Box 1542,
Parksville, BC V9P 2H4

[Arrowsmith Naturalists Facebook Group](#)

Go to the page and sign up to see contributions from members. Hosted by Tom and Claire

In Memory

A. Wyckoff

With sadness we announce the passing of Kent Anders.

Kent joined ANats in March of 2017. He led and attended many outings, educating us on all aspects of plants, flowers, and trees. His love of Biology was always apparent when pointing out rare species.

Kent will be greatly missed!



Well, it has certainly been a challenging 5 months as far as our Outings go. In spite of all the cancellations, we have managed to explore some of the lovely spots on our Island: McLean Mill, Cook Creek, The Raptor Centre, Little Qualicum Falls, Port Alberni Lighthouse, Morden Collier Park and Big Qualicum Fish Hatchery trails. All have been well attended and enjoyed.

If February goes as planned, we will have a tour of the Qualicum Museum, with Graham Beard*, a curator of paleontology at the Museum and a president of the Vancouver Island Paleontology and Museum Society, as our presenter.

During March, we'll walk out to the Englishman River Estuary with Dave Hutchings as our leader. Check the website for the March schedule.

*Curious about Graham? Check out this Community Story, [Pockets Full of Rocks – The Evolution of Amateur Paleontologist Graham Beard](#)

OUTINGS Claire Summers

A Change in Outings for Summer 2022

Since December and January deprived us of our outings, I would like to extend our hikes to July and August. The focus will be on day trips such as: Elk Falls, north of Campbell River; Saysutshun (Newcastle) Island, and possibly down toward the Cowichan area, to Skutz Falls. If you have a suggestion or a desire to go to a specific place, please contact me at 4csummers@gmail.com.

I will be ending my term as Outing Coordinator as of Aug. 31, 2022. Again, contact me if you wish to take on the role or if you are curious about what the responsibilities are in this role. I have found it easy enough to plan the schedule as we have so many interesting locations from which to choose. This is **your opportunity** to take us to your favourite places, and to explore new areas. Needless to say, I will be available to ease you into the role.

Claire Summers
Outing Coordinator

Wildlife Encounters by Claire Summers



SPEAKERS

Nancy Randall

Mark your calendars for these excellent presentations on the *fourth Thursday* of each month. Presentations will be via Zoom until further notice.

February 24 Thursday, 7pm-Climate Change

Speaker: Carrington (Cary) Pomeroy, Canadian Centre of Climate Services (CCCS), Environment & Climate Change Canada

Cary has a background in Physical Geography with an MSc from UBC. At CCCS, he is part of the Data and Products team where he is involved in climate index computation, science translation and other product development to support Canadian climate adaptation decision-making. His presentation will include an overview of Canadian climate services, future projections and relevant impacts.

Cary will discuss key climate science concepts, tools and communication methods. He will also touch on available resources, how this information can be used to inform climate adaptation decisionmaking and examples of regional work that has been undertaken in BC.

March 24 Thursday, 7pm-Climate Change

Speaker: Kari Tyler, Pacific Institute for Climate Solutions, University of Victoria

Kari will build on Cary's presentation and share regionally specific elements, as well as developing principle and practice in climate change adaptation and resilience building.

April 28 Thursday, 7pm-Forest Therapy

Speaker: Tara Brown

Tara Brown is studying the impact of Forest Therapy on health and well-being. Tara is completing a Masters degree at UBC. Tara learned about forest therapy while in Japan and will describe a citizen science project involving perspectives on forest therapy.

Thoughtful Environmental and Climate Change Resources

* **Hawken, Paul. (2021). *Regeneration: Ending the Climate Crisis in One Generation***. Penguin Random House LLC.

* **Hayhoe, Katherine. (2021). *Saving Us: A Climate Scientist's Case for Hope and Healing in a Divided World***. One Signal Publishers: New York.

* **Kimmerer, Robin Wall. (2013). *Braiding Sweetgrass: Indigenous Wisdom, Scientific Knowledge, and the Teachings of Plants***. Milkweed Editions: Canada.

* **Wagamase, Richard. (2016). *Embers: One Ojibway's Meditations***. Douglas & McIntyre: Madeira Park, BC.

* **BC Nature <https://bcnature.org/>** Very active work on environmental and climate change issues.

* **West Coast Climate Action Network (WE-CAN) <https://westcoastclimateaction.ca/>**

WE-CAN is the network of organizations in BC working on climate crisis issues. The WE-CAN newsletter is an excellent source of relevant articles, initiatives, events and webinars. On the WE-CAN website click on the Join Us button and scroll down to Newsletter Sign-up. Arrowsmith Naturalists club is a member of WE-CAN.

* We encourage you to investigate the climate solutions at [Project Drawdown](#). View one or several of the six short videos in the **Climate Solutions 101** section.

Vancouver Island University
ElderCollege

Detailed info on courses: [Climate Change Learning](#)

Mar 8-29 How to Talk to Anyone About Climate Change (ELDJO45-S22W01) 4 sessions, Patricia Lane

Apr4-May9 Climate Action Workshop (ELDJO69-S22W02) 5 sessions, 1-3pm, Nancy Randall, Joan Gillies

VIU's Science and Technology Community Lecture Series: Climate Change

This is an opportunity for scientists to engage with VIU faculty, students and community. Register online. [View the list of speakers here](#). Dates: **January 9, 2022 to April 6, 2022** - Wednesday evenings, 7-8 pm.

Virtual (Zoom) free. Register through link above. Vancouver Island University, Nanaimo Campus, Arts & Sciences Building 355, Room 203.

Engaged Citizens Speaker Addresses Climate Change as a Human Rights Issue:

Tuesday, **February 8, 2022** Time: 6:30 pm – 8:00 pm [Zoom registration](#). Free.

Sheila Watt-Cloutier *Silla* is one of the most influential indigenous environmental, cultural and human rights advocates in the world. She will expand on her own experiences and stories to put a cultural face and human voice on climate change and talk about meaningful actions.

Champions of Nature Award by Sally Soanes

This year’s recipients of our Champions of Nature Award join quite a distinguished group of Arrowsmith Naturalists who have added so much to, not only our group, but to the community at large.



Terry and Rosemary Taylor have given so much of their time and expertise over the years and the entire community has benefited. Both have just finished a seven year term on the Board where their ideas, insights and counsel contributed so much to our group. Terry proposed starting the first Mushroom Festival. When we began planning the first MushFest, together with the North Island Wildlife Recovery Centre (NIWRA), no one knew what the response was going to be. Well. At that time I wasn’t a member but was volunteering at NIWRA and so I was there on the day. We were gobsmacked by the response and not quite prepared! Over 800 people showed up to everyone’s delight and dismay. Parking at NIWRA is limited, as you might know, and there were cars everywhere. But we also had an abundance of smiles! Everyone was smiling and so happy.

Both ANATS and NIWRA benefited that day and we’ve grown from there. All thanks to Terry’s amazing idea and our generous volunteers. Our coffers filled and the Club’s profile in the community also grew.

Terry has also given a great deal of time and energy to the many bioblitzes he’s either initiated or taken part in. When the environmental report was given to Parksville council about the Despard site, the Arrowsmith Naturalists bioblitz was mentioned numerous times. Because our members did such an amazing job and with such experts behind that report, the consultants relied on much of that data. Both Terry and Rosemary have regularly contributed stories and images to the Club newsletter, shared their expertise in Outings or the occasional presentations during winter meetings and are never hesitant to answer questions or assist with ANats projects.

Rosemary has been an active Board member and her thoughtful suggestions and counsel have been appreciated. In 2020, she took on a more active leadership role by speaking out about the importance of protecting pollinators who face so many challenges from human development. She worked tirelessly to spread the word, encouraging people to plant “bee and butterfly-ways” and involved local Westcoast Seeds in promoting pollinator-friendly planting. She was brave enough to go before Qualicum Council to ask for their endorsement and help. She got smiles out of each Council member when she presented them with a packet of flowers seeds so they could get started.

This year she’s active again with a broader mandate; she’s encouraging people to adopt a UK-originated approach called “No Mow May”. Allowing lawns to grow a little longer before the first cut can make a big difference for native pollinators and other insects. She plans to address Council again this year and seek their support. Rosemary’s not easily discouraged and that quality is gold.

This is a couple who are kind, generous, caring and so knowledgeable we have all benefited. They deserve this award for all they’ve done, not only ANATS but for the entire community as a whole. Both are Champions of Nature.

WHY ?

Why is a dogwood tree called that? It doesn’t look like a dog.

Construction nails were made from the tree; they were referred to as ‘dogs’;

Which animal on the [Weird BC Animals](#) list was labelled the “Lean, Mean Dancing Machine”?

Short-tailed weasels (a species at risk on Vancouver Island) are known for doing a “maniacal boogie” to draw curious snoring rabbits closer for the kill.

BC’s WEIRD ANIMALS?

Join us February 18-21, 2022.

A reminder from Lynne Brookes:

The annual Great Backyard Bird Count is coming up this month. The opportunity to contribute to a better understanding of bird species and their distribution at this time of year will run from February 18-22.

See <https://www.birdcount.org> for more information and a free webinar on February 16th.



THE STEWARDSHIP REPORT

Dave Hutchings

“STEWARDSHIP” is a term that has become increasingly familiar to most Canadians.

As with many other generic terms, there are various interpretations: ecological, religious and political, to name a few. But I feel that stewardship has much to do with our values and our active pursuit of those values. We can advance our stewardship values in our daily lives through being mindful of our personal impact on the world we inhabit, in how we treat our fellow humans, of how we act politically and so on. Stewardship can also involve more direct action, such as campaigning and writing letters, helping to clean up shorelines, removing invasive plants (e.g. scotch broom, etc.), working to restore damaged ecosystems, taking part in the NO-MOW-MAY project or simply engaging with our neighbours on issues important to us. There are other ways too numerous to mention here. However you approach it, stewardship has never been more important.

AT THE ERE

Once the weather is a little more comfortable, the ANats stewardship project at the Englishman River Estuary (ERE) will begin again....and on a glorious sunny morning the ERE is a great place to be. Since our bodies will require some re-conditioning to the rigours of bending, pulling and cutting scotch broom, we will begin by focusing on some of the smaller seedling plants. These younger seedlings will require less effort and, in time, we can transition to the more mature plants in the western portion of the ERE. Our work in this area last year made some serious inroads. David Helem, with his electric chainsaw, toppled swathes of the older plants; some of the crew bushwhacked their way into broom hiding in the thickets, while others tackled the more accessible sites. Every year brings a noticeable change in the amount of broom in the ERE landscape.

Any ANats member who wishes to take part in this important and rewarding stewardship project is more than welcome. The project can involve whatever time you can commit; an hour or two a couple of times a year, a regular schedule of twice each month, or something in between (conditions being favourable of course.) In poor weather, or when the heat is too intense, the work will be cancelled. Also, for those who require them, tools are always available for loan.

Please come and join our “merry band” as often as you can. Typically, we work in the morning on the **first and third Thursdays** of each month; a club-wide notice will go out to announce our 2022 start. If you are a newcomer to the project, please email me at dhutchings40@shaw.ca or phone 250-752-1613 so that you can be informed of the start time and the meeting place.

THE BRANT FESTIVAL

“Covid” willing, a walk-and-talk tour of the ERE and the adjoining new acquisition on Mariner Way in San Paniel will be one of the events on the Brant Festival calendar. The tour, on April 9th, will be led by both ANats members and representatives of The Nature Trust of BC (TNT). This will be an opportunity to view and walk the new property (formerly the Englishman River Gallery) and learn of the exciting plans TNT has for the site. If you’re not familiar with the ERE, this event will be a great time to see and learn about the land the ANats have lovingly tended for the last 15 years.



Stepping Forward: New Board Members

Welcome to **Elizabeth Salomon-de-Friedberg** and **Maggie Green**, who are stepping forward to 'fill the gaps' left as Sue Wilson, Terry and Rosemary Taylor step down to pursue other interests. There's still room for more volunteers – please think about participating in the Club to make it more interesting and enjoyable for everyone.

Elizabeth Salomon-de-Freiberg is the new General Meetings Secretary. She joined the Club so she could learn more about the area (she had moved to Parksville from Merritt) and to get to know people.

Elizabeth first 'stepped forward' to become active in the efforts to protect the Parksville Wetlands and the City's important drinking water wells that would have been impacted by the proposed Pool and Multiplex. She took time to carefully review all the project documents and then develop an informative brochure for ANats. She also wrote letters to Council and volunteered to pass out brochures at the Despard site with other Arrowsmith Naturalists. Thankfully, the Pool project is on hold for the time being.

When Elizabeth was asked to volunteer for a Board position, she thought about it carefully. "I have previous experience serving on a Board," she explained. "I wanted to 'get my toes wet' and thought the role of secretary would be a good way to do that." Elizabeth is looking forward to her first General Meeting and plans to follow the model of succinct, informative minutes established by Sue Wilson (and Mark Mazurski). She has also volunteered to assist the Committee that is reviewing and redesigning the ANats website and is looking forward to participating in other Board initiatives in the future.

Maggie Green was also contacted about stepping forward to volunteer and agreed to become a Director-at-Large. Many of you may already know Maggie Green as she has been a member for 7 or 8 years and previously published the ANats newsletter. She recalls signing up to be a member of ANats because of the various Outings and informative speakers that were featured at monthly meetings, and the friendly, informal atmosphere.

When asked why she volunteered to be a Director-at-Large, Maggie chuckled and related the brief phone call she received from another Board member. "I wanted to help," she explained. "I'm planning to take my time and see how I can help with some of the interesting projects underway."

Currently Maggie is developing her skills in bird identification, particularly the sea birds she sees on her shoreline walks. She participated in the recent Christmas Bird Count, which she thoroughly enjoyed. When I mentioned that I hadn't stepped forward as I didn't feel I had enough knowledge, Maggie was quick to encourage me (and other members) to step forward at the next opportunity. "Just be clear and tell them that you are a beginner," she said. "I've always found the members of each group are very supportive and I learn a lot."

Restarting Nature Kids

During the November 2021 Annual General Meeting, Sheri Plummer and Dianne Anderson stepped forward and offered to re-establish the Nature Kids program. The program is run by BC Nature, so Dianne and Sheri have been spending time connecting with BC Nature representatives to learn more.

For anyone who isn't familiar with Nature Kids BC, they offer a nature discovery program that supports children (usually 5-12 years of age) to form meaningful connections with nature. (see <https://naturekidsbc.ca>)

Sheri wanted to restart Nature Kids because she is an eager conservationist and a long-time educator and member of ANats. Dianne Anderson joined ANats about 5 years ago but stepped forward because she's always been interested in helping kids discover and enjoy nature. She shared some of the challenges of restarting the program but reported that they have connected with local Nanaimo Nature Kids leader, Marnie who's agreed to let them 'shadow' her to learn how she organizes activities – especially during COVID times.

A request from the new leaders (email Sheri through arrowsmithnaturalists@gmail.com):

"One of the first tasks is to get a list of those who would join Nature Kids. If any members know of families who we could approach, or have them approach us, it would be very helpful."



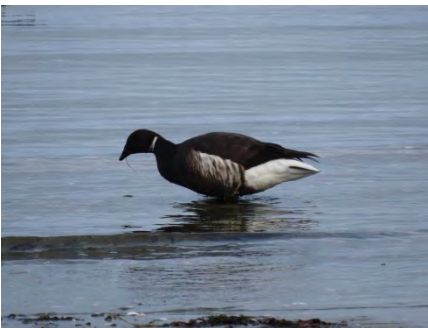
Spring Migration Brant Count

By James Goodwin

Each spring, Brant migrate from their wintering grounds in Mexico to their nesting grounds in the Arctic tundra of western Canada, Alaska, and eastern Russia. The migration period at the [Parksville Qualicum Beach Wildlife Management Area](#) starts in early February, peaks mid-March to mid-April, and tapers off by early May. This time period coincides with the spring Pacific Herring Spawn along the shores of Parksville and Qualicum Beach for three weeks in March.

Brant are almost exclusively dependant on eelgrass for nutrients and the reserves accumulated at staging sites are used to fuel northward migration. Pacific herring roe broadcast on eelgrass and beaches provides a pulse of nutrients for migrating water birds.

Brant staging on the Fraser River Delta and at Parksville Qualicum account for more than 75% of all Brant staging in the Strait of Georgia. Length of stay varies with early birds staying longer and May stragglers hurrying north but the average stay is 1-2 weeks.



Since 2015 members of the Arrowsmith Naturalists have been conducting the Spring Brant count. We begin the first week of March and continue weekly until the end of April. Counts are held near

low tide, when possible, while the Brant have access to the exposed eelgrass.

Early February we will begin seeking volunteer observers with binoculars, preferably also with scopes, and who are familiar with our coastal water birds. We will develop a schedule, based on the volunteers, and teams of 2-3 observers will be assigned to one of three survey areas.

The surveys are usually 2 hours in the morning or afternoon, depending on tides. Due to Covids precautions, there will be no social gatherings with this event; observation results will be emailed to the coordinator each week.

While the time and day each week is critical there is no commitment required to attend each week. For more information contact:

James Goodwin good_one@telusplanet.net



Mark your calendars:

April 1st – 10, Brant Wildlife Festival 2022

The Brant Wildlife Festival is on for 2022 (pending any pandemic restrictions.) The official festival dates are April 1 through 10, with a popular shoulder event on April 16th – The Hamilton Marsh Tour! March will be thought of as Brant Month with regular Brant counts and reports coming in.

- The Festival begins with a Brant “Lift off” event sponsored by the Nature Trust of BC.
- We will again feature a “Spot the Brant” contest where painted geese will be distributed at various businesses throughout Oceanside (details to follow.)
- We will put on our first ever nature-related mini-film Festival in Qualicum Beach.
- Other events: Little Qualicum River Estuary Tour, two Bio-Blitz events (one with a tidal emphasis), a basic bird ID workshop, a digital Eagle Release video, Englishman River Estuary Tour, Hamilton Marsh Tour.
- Qualicum Beach Museum will have a special Brant Display

Watch for details on our website <https://brantfestival.bc.ca> or <https://www.facebook.com/BrantWildlifeFestival>

MOLDY CANTALOUPE

BY Terry Taylor

Did you know that a rotten cantaloupe produced one of the major discoveries of the twentieth century? This took place at a U.S. Department of Agriculture laboratory in Peoria, Illinois in 1943.

Virtually everyone knows that Dr. Alexander Fleming discovered penicillin by accident in 1928. He was culturing bacteria in a Petri dish. His sanitation procedures were inadequate and a fungus spore of *Penicillium rubrum* contaminated his culture. This spore produced a spot of fungal mycelium on the agar in the dish and Fleming observed that the mold had created a bacteria-free circle around itself. He realized that the mold had produced a substance capable of killing pathogenic bacteria, and therefore could be used to treat infections due to those bacteria. Since it was produced by the genus *Penicillium* he called it penicillin.

The genus (*Penicillium*) is named for the way it produces spores. They grow in chains clustered together in the shape of a little brush. The Latin name "penicillus" refers to this brush shape.

Further research showed that penicillin was not toxic and could be used to treat infections. However, this species only produced small amounts of penicillin. The first person with a serious illness to be treated showed improvement but so little penicillin was available that it was not possible to save his life. So there was this amazing wonder drug, but nobody knew how to produce enough of it to be effective.

That is where the laboratory in Peoria comes in. During the Second World War the United States government had set up this facility to search for a *Penicillium* species that produced large enough amounts of penicillin to treat infections suffered by injured soldiers. One of the technicians in this lab was Mary Hunt, who became known as Moldy Mary because one of her responsibilities was to go around town looking for moldy fruit. The blue mold on oranges and other fruits is *Penicillium*. The penicillin it produces is used to kill other organisms competing for its food supply.

One day the local grocery store gave her a cantaloupe with a moldy skin. She took it back to the lab, where the fungus was cultured. The new species, *Penicillium chrysogenum* produced 200 times the amount of penicillin than the original *P. rubrum*. The fungus was then treated with x-rays, and this resulted in a mutant strain that produced 1000 times that produced by *P. rubrum*. This mutant strain was then grown in large fermentation vats. Such fermenters are the way industrial quantities of antibiotics are currently produced. The Peoria lab was the first to develop this technology. The penicillin we use today came from the mold growing on that single cantaloupe.

Since that time many other antibiotics have been discovered. Most of these come from soil dwelling bacteria in the genus *Streptomyces*. These antibiotics have saved the lives of millions of people. Unfortunately there has been an unwelcome side effect of overuse of antibiotics - antibiotic resistance. Bacteria reproduce and evolve very rapidly. The more antibiotic use the greater the mutation rate giving protection to the pathogen.



Compounding the problem is the fact that most antibiotics are not used for medicine. They are used in agriculture. Cattle and other animals are treated with large amounts of antibiotics. They are used to protect against disease, but also for an economic reason. Cattle treated with antibiotics gain more weight, so they produce more meat.

Not only is there more research needed to produce novel antibiotics, but also to develop ways to disable resistance genes within newly emerging superbugs.

We did not have an image of blue *Penicillium* on rotten fruit, so I have shown the *Penicillium* growing in blue cheese. Not to worry the blue cheese species does not produce penicillin.

THE NATIONAL YEAR OF THE GARDEN AND NO MOW MAY

Rosemary Taylor

We are continuing with our campaign (that began last year) to raise awareness throughout the community of the rapid decline in the bee, butterfly and other insect populations. When birds disappear, people notice. However, bees, butterflies and the many beneficial insects we rely on often have a lower profile and *fly below the radar* (pun intended, many insects do of course have wings). What would birds do without caterpillars and other 'bugs' to feed to their chicks? How could we predict next winter's weather without the Woolly Bear's different coloured stripes (<https://www.almanac.com/woolly-bear-caterpillars-and-weather-prediction>), and where would we be without the iconic Monarch butterfly?

This year has been declared the **National Year of the Garden** so we'll look at ways to work with their events to promote the pollinator initiative and, at the same time, we encourage everyone to consider the **No Mow May** movement, which is taking hold in many countries (<https://www.theguardian.com/environment/2021/jul/10/went-to-mow-but-stopped-how-uk-cities-embraced-meadows-revolution-aoe>). While we are currently working on joining forces with as many local community groups, organizations, business and tourist associations, and individual gardeners as we can, Sally has been successful in wrangling bookmarks for publicity purposes from various sources, and now has 1,000 of these beautiful and informative keepsakes for distribution to nurseries and other places, to be handed out to the general public.

The word 'garden' can be defined in so many different ways. We want to extend the idea of a garden being on private property to include the concept of small areas on public property in urban settings - community pathways, trail and roadsides, roundabouts, public parkland, etc. where wild flowers, including those commonly known as 'weeds' would be encouraged. This would tie together both gardens in public places and No Mow May, if local authorities would leave some natural areas to grow until the end of May before mowing, where safe to do so.



This is our little wild garden beside a road. The crocus have either escaped or been planted, but grow happily without attention. We're hoping to see similar pop-up garden patches around our communities.

Insects need the early blooming wild flowers; clover, dandelion, small geranium family 'weeds' such as Herb Robert and others. I'm sure many of you have referred to plants along the wayside or in rock crevices as 'gardens', small and wild though they may be. Community gardens also help to fill a crucial spot in providing urban insects with the food, habitat and shelter they need throughout the year. First Nations have their own unique definition of 'garden', and of course we are hoping that they will join us in celebrating the Year of the Garden by sharing their knowledge and understanding.

We welcome anyone who would like to help spread these ideas far and wide through the community. Do contact me, rtaylor99@shaw.ca with ideas, or offers of help in any way, or just plant a few native wildflowers where they can not only be seen and enjoyed by many, but will strengthen urban corridors that all insects not only need, but can depend on.

Mushrooms on the Move

We recently discovered a travelling mushroom exhibit, currently on display at the Cowichan Valley Museum in Duncan (on until March 11th). The exhibit was developed by the Royal BC Museum to complement the 2021 publication of a new mushroom identification handbook, *Mushrooms of British Columbia*, by Andy MacKinnon and Kem Luther. Although the exhibit is quite small and compact, it is well worth visiting.

The exhibit consists of a series of well-illustrated hanging panels, with photos and general information about different mushrooms in BC. We learn of the many uses of mushrooms; which are edible and which are NOT, their use by many indigenous cultures for ceremonial and health purposes, the beautiful natural dyes that are still used today, and, recalling the Hippy era of magic mushrooms.

Mushrooms on the Move (cont'd)

There are also display cases with 'actual' specimens, that are in fact 3-D printed specimens placed realistically in small earth-filled display boxes. Who knew - mushrooms no longer need to be collected and displayed in the flesh; the models have been carefully checked down to every last minute detail to be correct in every way.

<https://www.cheknews.ca/this-week-in-history-royal-bc-museum-dedicates-exhibit-to-the-edible-mushrooms-of-bc-911949/>

So if you're a mushroom fan and happen to be in Duncan, do drop by the museum during their winter opening hours on Thursdays and Fridays, enjoy this small exhibit <https://royalbcmuseum.bc.ca/visit/exhibitions/bcs-marvellous-mushrooms>, and while you're there, the rest of the museum is full of fascinating and well displayed information about Duncan past and present.

Results from 2021 Parksville Qualicum Beach Bird Count

James Goodwin

The 31st annual Parksville-Qualicum Beach Christmas Bird count took place on a cloudy cold Sunday, December 19, 2021. Sponsored by the Arrowsmith Naturalists, 98 volunteers spread out across a 24km diameter count circle centred at French Creek Marina and began counting, despite the challenging weather conditions.

Weather was a significant factor on count day. The sky was mostly cloudy; the temperature was zero to four degrees Celsius, with showers mid-day. Inland there was two inches of snow, the roads were slippery, the fields were flooded and covered in slush, and ponds were partly frozen. The upland forest lands were inaccessible due to locked gates.

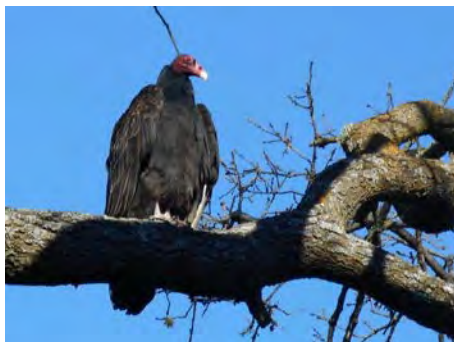
The 58 field observers and 40 feeder counters surveyed 12 zones in the French Creek area circle and reported a total of 113 species on count day. Final numbers at the end of January were: total birds 25,304, total species 120 (an additional 7 species were seen during count week).

Highlights from this year's count

High counts:	Brant 652	Hooded Merganser 68	Song Sparrow 234
Uncommon Count Week birds:	Eurasian Teal	Redhead (Duck)	Common Redpoll (4)
Unusual Count Week bird:	Turkey Vulture		



Hooded Merganser Kevin Hintsa



Turkey Vulture Kevin Hintsa



Redhead Judy Gallagher

**Images from iNaturalist – details final page of newsletter*

Feeder count participants make an important contribution to the overall success of this endeavour. Much of our count circle contains private residences where 40 observers put in 79.7 hours of effort; identified 47 species; and counted 2093 individual birds. This was no easy task as the Spotted Towhee's (125); Dark-eyed Junco's (644) and Chestnut-backed Chickadees (174) are robbed by Stellar's Jays (62) and hazed by Cooper's Hawk (7) and Sharp-shinned Hawk (3).

Our Christmas Bird Count results contribute to the 122nd [National Audubon Society Christmas Bird Count](https://nabcc.org/), North America's longest-running citizen science project. Each year, upwards of 2000 circle counts are held in the Western Hemisphere by volunteer groups; British Columbia conducted more than 90 counts. A summary of the Christmas Bird Counts held in British Columbia can be found on the BC Field Ornithologists website <https://bcfo.ca> click on CBC's.

The success of the 31st annual PQB Christmas Bird Count is due to hard work by Lynne Brookes coordinating the Feeder Count, organizing and compiling by Susan Knoerr, and the commitment and experience of the team leaders.

Support for the feeder count was provided by **Buckerfields, The Mulberry Bush Bookstore, Cultivate Garden & Gift, and North Island Wildlife Recovery Centre.**

NATURE PROJECTS

Check out the Wildlife garden and 'mini-marsh' at the [North Island Wildlife Recovery Association](https://www.niwra.org/) site in Errington – established to educate people about the role of native plants and wetlands in providing habitat and food for a broad range of pollinators and other animals. Watch a 2020 introduction video: <https://youtu.be/xcr0ZrPKLI?t=16>

NIWRA Wildlife Garden Update Winter 2022

Sally Soanes & Lynne Brookes

A real challenge the last several years, and I can tell you it came as a big surprise, was dealing with the Douglas Fir trees that grow along the east side of our garden. In recent years we noticed that the plants in the two beds closest to these trees seemed to be needing more and more water—odd, and a real problem when you're on well water. We were also finding that plants on that side were becoming stunted, no matter what we did; and the soil—dark, moist and loamy in all the other beds--was compacted and increasingly difficult to work. We soon realized those pushy, insatiable trees were sending their roots 76cm (30in) *up into* the garden beds!

This past December, you might remember (!!!?!!) it rained a lot. Record rains. When digging down to plant spring-flowering bulbs in these two beds, we found that at about four inches down the soil was just dust. Not just dry. Dust. It was flooding everywhere that month, but these two beds were crammed with roots and incredibly dry. We had to do something. The only solution open to us is to slice the aggressive roots along the on the eastern side of the garden and place a barrier between them and the beds. It won't hurt the trees—they'll go back to using the water available to them before the garden was placed near them six years ago. This will allow us to improve the soil, restore or replace pollinator and bird-friendly plants and give us at least a few years where only regular watering will be required to enable the plants to thrive and support wildlife.

Weather has taken its toll on the original 200+ handwritten plant signs over the years so we're planning a signage "bee" for this spring. While I know what a tulip is (I was so happy when someone asked me and I knew!) but many plants, on the spur of the moment, I may not remember.



We've also expanded to include a flowering herb section that attracts pollinators and these plants need new signage. This new section in the garden provides visitors with the opportunity to see that many herbs left to flower in the garden or in planted in pots—especially on balconies and patios--are soon covered with beneficial pollinators.

Last fall we planted hundreds of bulbs, from flowering miniatures to impressive giants. Be sure to visit us early, mid- and late spring as we will have an abundance of flowers to excite pollinators and delight visitors.

This spring, we will again have our annual plant sale featuring native plants as well as wildlife-friendly common

garden plants. **Spoiler alert:** there will be lots of Tall Oregon Grape, Nodding Onion, Garry Oak seedlings, some Bigleaf Maples, Shore Pines, Doug Fir, and other young native trees as well as some other great pollinator plants and seeds.

We salvaged tons of Oregon Grape seedlings from the garden last fall after re-homing a couple of too-large Oregon Grapes that were shading out other plants. The little darlings shot up all around where their parents had been so we spent hours potting them for spring re-homing. This is a great evergreen native plant that feeds pollinators in the spring and birds in the fall!

We also need to remove a particularly stubborn bullfrog that snuck in when the gate was open. Any volunteers for this duty will be particularly welcome. I'm hoping a heron might take on the task as we humans have so far failed miserably. Outsmarted by a bullfrog. Oh the shame!

We'd love you to consider coming to our garden this spring and enjoy our labour of love. If you'd like a tour just ask Sally. Since she likes to talk so much this fits right in. You'd be welcome anytime we're open--which is every day!

NATURE PROJECTS

New signage created for NIWRA Wildlife Garden

Lynne Brookes

As well as caring for ill, injured and displaced wildlife, the North Island Wildlife Recovery Centre "NIWRA" also provides opportunities for visitors to learn about wildlife and how to better support them. The Wildlife Garden was designed to inform people about plants they can use and things they can do to support pollinators, birds and other wildlife at home. There is now a new large 1.8m x 1.2m (6 ft by 4 ft) "kiosk-style" 3-panel sign at the garden's entrance to provide more information about plants and wildlife—including a novel simplified "web of life."

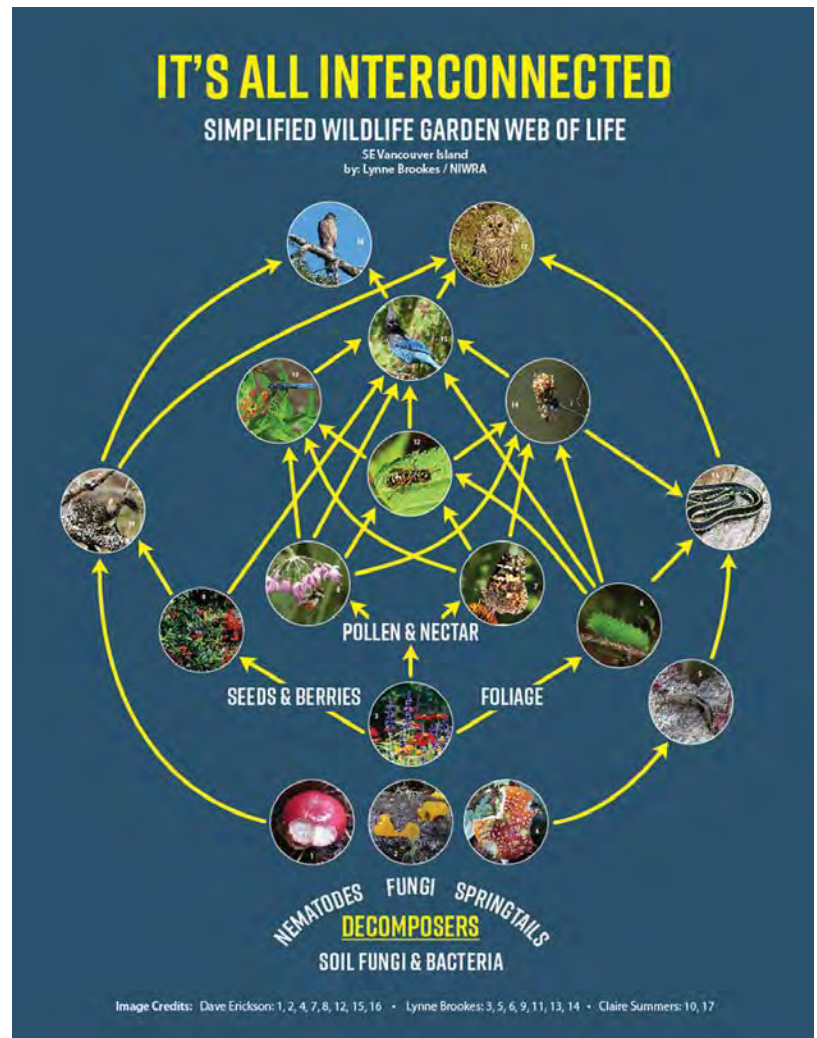
Early in 2021, I was given the go-ahead to develop this new sign to tell "something about flowers." With that wonderful wide-open opportunity, I set about thinking what story or stories I wanted to tell in "sign language." I decided to show what constitutes a wildlife-friendly garden, a web of life appropriate for our area, and have something cool about how diverse plants are.

Of these three "stories" I wanted to tell, the most difficult to pull together was an appropriate web of life that would reflect plants and wildlife of the Pacific southwest (PSW). I searched all over the net and in some books for a web of life diagram for our region. I found all sorts of webs of life depictions from England, Ontario, California, Australia--but absolutely nothing for our specific region. I really wanted this for the WG sign--but feared having to create one from scratch as I knew it would take a lot of work and, more importantly, a lot of time to do so.

Finding nothing suitable, I realized that creating a PSW appropriate web of life illustration would be beneficial, not only for the new signage, but also for any other educators, naturalists, or students looking for such a diagram. I bit the bullet and began the adventure.

Resigned but excited, I set about mocking up each panel layout with pencil and paper (don't laugh techies) and decided on a design for each section. I then focused on creating the novel PSW web of life for the central panel (seen above). I was helped greatly by the generosity of many ANat photographers for "photos by request" for specific images that I didn't have in my own photography files. Many good candidate images were sent to me by Tom Constable, Dave Erickson, Claire Summers, Bonnie Mullin and others. It was hard to select! I also called Terry Taylor to double-check the information I had for the panel on methods of plant fertilization—specifically on the moss part of the sign. When I asked, Rosemary helpfully searched for and contributed the image of a moss's reproductive structures to make that section complete.

So, we ANats have again contributed to signage that will provide information to many thousands of people for years to come. And—local teachers now have a PSW specific web of life option to use instead of say, the English oak-->gray squirrel-->red fox based web of life, to use in class!



TAKING ACTION TO PROTECT NATURE

News from the French Creek Estuary

Updates provided by Denise Foster, Save Estuary Land Society (photos, maps & data available at Hancock Wildlife Foundation - <https://tinyurl.com/Hancockforum>)

Tracking the traveling juvenile from Parksville – TERF10

ANats members may recall a story that Sally Soanes emailed to members Nov 29, 2021, about an enterprising young eagle from Parksville. Denise Foster from the Save Estuary Land Society shared the story of TERF10 and the amazing journey he took shortly after he learned to fly. Myles Lamont, Director of Research Programs for the Hancock Wildlife foundation fitted the young eagle with a tiny “backpack” tracker that tracked TERF10’s first flights of exploration: north to Strathcona Park, then further to Princess Royal Island in the heart of Great Bear Rainforest, and then to McCauley Island, 45 km southwest of Prince Rupert. He returned home after visiting both east and west sides of Vancouver Island. Denise shared the link to the Hancock Foundation’s forum (see link above) where you can take a look at the maps and most recent information about this plucky young eagle.

If any members of ANats are able to capture photographs of TERF10, please consider sharing the image(s) and other data with Judy Barrows, a volunteer with the Hancock Foundation at ipbar@myfairpoint.net.



Updates from the Estuary

Many of you have supported the work of the Save the Estuary Society and the efforts to establish Vancouver Island’s first eagle preserve at French Creek. Our past Prez, Dr. Lynne Brookes has led the way and you may have seen the joint presentation she did, with Denise Foster, the Society’s Chair, during the November 2021 Annual General Meeting (by Zoom and in-person). Denise provided a few updates for this newsletter.

- Over \$218,000 of the \$500,000 goal has been raised toward creating Vancouver Island's 1st Eagle Preserve at French Creek Estuary Land.
- Thank You to everyone who bought Eagle Preserve 50 / 50 Raffle tickets! Congratulations Jill Leis of Saanichton, Victoria who won \$2380. Jill loves Bald eagles and donated a portion of her winnings back to support the Eagle Preserve.
- The Save Estuary Land Society has applied to the Habitat Conservation Trust Foundation for funds for removal of invasive Himalayan blackberry and subsequent planting and stewardship of a variety of native plants. This is a vibrantly biodiverse area with three sensitive ecosystems and 19 identified species at risk. Six different Blue-listed aerial insectivores have been found in this area: Barn swallow, Black swift, Common nighthawk, Purple martin, Townsend’s Big-eared bat, and Blue-dasher dragonfly.

This restoration project aims to increase the quantity and diversity of insects for these species and other wildlife. Replanting will be focused on strengthening resilience to climate change by selecting heat- and drought-tolerant plants. Warm thanks and gratitude to Lynne Brookes (ANats) and Barb Riordan (MVIHES) for their contributions to this project.

TAKING ACTION TO PROTECT NATURE

Habitat Restoration and Measuring Success

Arrowsmith Naturalists' Director, Lynne Brookes, has been working closely with Denise Foster, Chair of the Save Estuary Land Society, and Barb Riordan, President of Mid-Vancouver Island Habitat Enhancement Society (MVIHES), to obtain funding to support an important habitat restoration project in the French Creek estuary land. This proposal, submitted to the Habitat Conservation Trust Foundation in November 2021, would provide funds to begin the first year of this restoration effort this fall, 2022.

One section of the 9.3 hectare French Creek estuary land has been degraded by a heavy infestation of invasive Himalayan blackberry. With blackberry overwhelming native plants, there is much reduced biodiversity in this section of the property. The project involves staged removal of the invasive blackberry from the 2.2 hectare section (see the inset map) followed by amending the soil, then replanting with a diversity and abundance of native plant species.



The majority of the Himalayan blackberry is found in the southeastern, more "open" portion of this map. Starting at the letter "G", locate the narrow black line just above the "G". Follow that black line to the right and down towards the light tan parking area. Follow the narrow trail to the more thickly treed area and curve back up past the pond (blue) to the letter "G." (Note: the property above and to the right of the letter "G" is not part of the property of concern.)

Nineteen species at risk have been recorded on the 9.3 hectare French Creek estuary land. While myriad creatures would benefit from restoration of the impacted 2.2 hectare section, the target species for this project are the six Blue-listed aerial insectivores found in the area: Barn swallow, Black swift, Common nighthawk, Purple martin, Townsend's Big-eared bat, and Blue-dasher dragonfly.

By replacing the blackberry with a variety of native plant species, a greater diversity and abundance of insects should be attracted to the area and these in turn should attract and support a greater abundance of the targeted aerial insectivores. To measure the outcomes of this multi-year project, it is important to conduct insect and targeted aerial insectivore baseline surveys within the 2.2 hectare section prior to its restoration.

A second proposal, just completed by Lynne and submitted to BC Nature and the BC Nature Foundation, requests partial funding for the two baseline surveys. These would determine the present diversity and abundance of insects and abundance of the aerial insectivores on the site in its present condition. After the blackberry is removed and the native plants are establishing, one or more future surveys following the same protocol as the two baseline surveys, would be conducted. The results of future survey(s) compared with the baseline surveys would show what changes have occurred over time in the diversity and abundance of insects and abundance of the six aerial insectivores.

Barb and Lynne are presently working on another grant proposal to the BC Conservation Foundation-Small Grants Fund for additional funding to finish covering the costs of the two baseline surveys. The surveys will take place over a period of months this summer (hopefully) or the next.

Excitingly, the two entomologists (Dr. Scott Gilmore, Biologist with the Pacific Field Station and Dr. Joel Gibson, curator of Entomology, at the Royal BC Museum), keen to conduct the insect surveys, are also offering to provide training on the use of iNaturalist and to provide in-field training for community volunteers who wish to participate in the insect surveys. Heidi van Vliet (MSc., BIT, Biological Consultant—recommended by Dr. Eric Demers VIU) who designed and would conduct the avian aerial insectivore surveys is also willing to work with any birders who would like to be involved with some morning and evening surveys.

Habitat Restoration (cont'd)

Another partner in the insect survey effort is the Royal BC Museum. The RBC will contribute \$4,000 of in-kind funding to this project. The museum is seeking more information about BC's insects and they are pleased to support this survey. How exciting is that? Fingers crossed that the funding comes together!

Nature News

About gardening for wildlife

Seedy Saturday events – as of Feb 7th (subject to change due to COVID)

Sat, March 5	10am-3pm	Comox Seedy Saturday	Seed swaps, sales, workshops	Florence Filberg Ctr
Sun, March 6	TBA	Nanaimo Seedy Saturday	Seeds swaps, etc.	TBA
Sat, March 12	10am-3pm	Cowichan Seedy Saturday	Local seed farmers, workshops, seed swap	Charles Hoey Park, Duncan
Sun, March 27	11am-4pm	Coombs Seedy Sunday	Seeds, plants, 4-H Beef Club fundraising compost bags	Coombs Fairgrounds

Sources for native plants (in our area – that I know of ;-)

- North Island Wildlife Recovery Association Native Plant Nursery, Nanaimo & Area Land Trust, <https://www.nalt.bc.ca/native-plant-nursery> – the Wildlife Garden – Lynne or Sally will let us know when!
- Native Plant Nursery, Nanaimo & Area Land Trust, <https://www.nalt.bc.ca/native-plant-nursery> You can order seeds and plants from the inventory list on the website; they are located near the Nanaimo Airport.
- Streamside Native Plants – <http://www.streamsidenativeplants.com/> now under new ownership – Jim Roberts and Cyndi Hampton will re-open for sales in March – check the website or Facebook page.

Note: Sandra Wahlgren gave permission for me to share part of their farewell Facebook post.



January 23 at 3:23 PM · 🌐 "It is time to bid farewell and welcome the new owners, Jim and Cyndi..."

Over the past 21 years our plants have found homes in every corner of Vancouver Island, the lower mainland, up and down the coast of BC and have even travelled to Alaska, Colorado, and Minneapolis.

They have been flown in planes and slung below helicopters, barged up the coast and across to islands, scaled up mountains, packed in trucks too many to count and have been wheelbarrowed, carried and slid down chutes to waiting planters.

There are not that many parks or trails that we visit that don't have plants grown by Streamside. It doesn't seem that long ago that we would go on Sunday walks with our young sons collecting berries for seeding and yelling at our boys to "quit eating the profits!" We also must acknowledge James and Daniel's contributions to the nursery by working after school and weekends, planting, delivering plants and designing and building greenhouses...

We know we are leaving the nursery in good and capable hands. It's Jim and Cyndi's turn to grow, plant and help our environment. We wish them good luck and a very successful future. Thank you, Richard & Sandra Wahlgren

REFERENCES AND IMAGES

List of links from articles

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<https://www.communitystories.ca/v2/paleontology-vancouver-island-paleontologie-ile-vancouver/story/graham-beard/>
- p3 Climate Change Resources, Project Drawdown
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<https://scitech.viu.ca/lecture-series>
 Sheila Watt-Cloutier Silla event registration
https://viu.zoom.us/webinar/register/WN_kMCZJjS8Wkl2Oj_bREmXw
- p4 Weird BC Animals <https://theprovince.com/news/local-news/b-c-s-top-10-weirdest-most-fascinating-animals>
- p5 Great Backyard Bird Count <https://www.birdcount.org/>
- p6 BC Nature Kids <https://naturekidsbc.ca>
- p7 Parksville Qualicum Beach Wildlife Management Area,
<https://www2.gov.bc.ca/gov/content/environment/plants-animals-ecosystems/wildlife/wildlife-habitats/conservation-lands/wma/wmas-list/parksville-qualicum-beach>
 Brant Wildlife Festival website & Facebook:
<https://brantfestival.bc.ca> or
<https://www.facebook.com/BrantWildlifeFestival>
- p9 Woolly Bear's different coloured stripes
<https://www.almanac.com/woolly-bear-caterpillars-and-weather-prediction>
 No Mow May
<https://www.theguardian.com/environment/2021/jul/10/went-to-mow-but-stopped-how-uk-cities-embraced-meadows-revolution-aoe>
- p10 Mushroom exhibit
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 BC Field Ornithologists website <https://bcfo.ca>
- p11 North Island Wildlife Recovery Association
<https://www.niwra.org/> 2020 Intro video -
<https://youtu.be/xcr0ZrPKLI?t=16>
- p13 French Creek news – Hancock Wildlife Foundation
<https://tinyurl.com/Hancockforum>

- p15 North Island Wildlife Recovery Association
<https://www.niwra.org/>
 Native Plant Nursery, Nanaimo & Area Land Trust,
<https://www.nalt.bc.ca/native-plant-nursery>
 Streamside Native Plants
<http://www.streamsidenativeplants.com/>

List of images:

- p1 S. Riessner, crocus bulbs 'emerging'
- p2 C. Summers, boots, take-off, swans
- p4 unknown photographer ;-) Champions of Nature award
- p5 A. Wyckhoff, Dave, broombuster
- p6 Mr. Plummer, new Nature Kids leaders
- p7 J. Goodwin, Brant geese
- p8 Taylors, blue cheese
- p9 R. Taylor, crocus wild garden
- p10 iNaturalist.ca, Hooded merganser, Turkey vulture, Kevin Hints, CC-BY-NC; Redhead, Judy Gallagher, CC-BY
- p11 D. Ericsson, Tiger swallowtail
- p12 L. Brookes, NIWRA Web of Life sign element
- p13 D. Foster, SELS, eagle photo
- p14 L. Brookes, inset map, French Creek Estuary Lands