



JUNE 2023
Volume 28, Issue 2

Arrowsmith Naturalists NEWS

President's Report

While Terry Taylor loves mosses, he won't find any growing on Arrowsmith Naturalists!

We are one active group of nature-engaged people. Providing great outings, stewardship activities, excellent speakers for our meetings, a fine club website, and a lively Facebook page, photographers recording and sharing nature images, email announcements to members about special activities or issues impacting local nature—we're a busy group. We also have a presence at most community events, providing club information, educational games, pollinator support displays, and cheerful ANats' table hosts who engage the public, promoting greater awareness of, and caring about, native wildlife and the plants they depend on.

We are also active helping to protect, restore, and advocate for crucially important biodiverse places that remain in our area. We continue to remove invasive plants at the Englishman River Estuary as well as participate in restoration planting and bird surveys at this stunningly beautiful property. ANats members are also a critical part of citizen science efforts including the Christmas Bird Count, Beached Bird surveys, and participation in research projects such as the tree, insect, and aerial insectivore surveys at the new French Creek Estuary Nature Preserve (FCENP) and the Bald Eagle and Great Blue Heron nest tree surveys. ANats members are also working on the FCENP Management Plan and have, along with MVIHES members, provided input for the Parksville Wetlands Management Plan.

Our club and its members are well respected for both the quantity and the quality of our endeavours to inform about and preserve local nature. As a member of the Mid-Island Stewardship Caucus we are connected with the other stewardship groups within the MABR and we are all stronger for it.

With an exciting productive spring behind us and an interesting summer ahead, we may have some creaks, and dings—but no moss!

Looking forward to seeing you at the June general meeting at St. Edmunds and at the always enjoyable club picnic out at Rath Trevor Park in July!

Lynne Brookes

On behalf of the Arrowsmith Naturalists, I respectfully acknowledge that we live within the unceded traditional territories of the Snaw-naw-as people and the Qualicum First Nation, the traditional keepers of these lands.

Today, many First Nations and Métis peoples continue to live, work and play here as do we.

We intend to nurture better understanding and pursue opportunities for collaboration with our First Nations neighbours.

Officers and Contacts

President: Lynne Brookes **Vice Pres:** Derrick Grimmer

Past Pres: Sally Soanes **Speakers:** Committee

Stewardship: Dave Hutchings **Promotion:** Maggie Little

Exec. Secretary: Mark Mazurski

Mtg. Secretary: Elizabeth Salomon-de-Friedberg

Membership: Bonnie Mullin **Treasurer:** Helen Davidson

BC Nature: Antonia Wyckoff **Outreach:** Sue Wilson

Conservation/Enviro. Gary & Ronda Murdock

Directors: Claire Summers, Maggie Green

Archivist(s): Dianne & Jim Goodwin

Email & Zoom: Duncan Campbell **Website:** Kerry Baker

Facebook: Tom Constable **Newsletter:** Sylvia Riessner

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

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

Looking ahead...

- June 2-11** **Ocean Week Canada** – annual celebration of ocean events (June 8 is World Ocean Day)
Get involved in a local or national event – [BC Events](#)
- June 22** ANats June meeting, 7pm at St.Anne's & St.Edmund's church hall – doors open 6:30pm
Pollinators in Your Garden: Not Just Bees, Staffan Lindgren, an entomologist and Professor Emeritus at UNBC, member and past President of Nanaimo Naturalists
- July 20** **ANats Summer Picnic** - tentatively – 4pm Rath Trevor Provincial Park
Bring your own food/drink and something to sell or give away on a nature theme

Where the Mountain Meets the Sea

AGM 2024 – May 9, 10, 11 and 12

Arrowsmith Naturalists are gearing up to host the Spring Annual General Meeting for BC Nature. We will try to make this the most fun-filled event ever. We anticipate 100-150 guests from all over BC.

Lots of ANats have already volunteered and we thank them very much. The more people that get involved, the better it will be. The core committee will be developing the schedule by the end of May and will send out details of volunteer roles as they become available. Recruiting will start in earnest in January 2024. "STAY TUNED" I will try to keep you up to date as time passes.

We have rented the Qualicum Beach Civic Centre for the three-day event; all scheduled events will take place in the Centre, including the banquet.

Everything has to be in-place for the Winter BC Nature magazine as the application to attend will be in it. Hopefully many of you will apply.

Toni Wyckoff, Coordinator

Name Tags for Members

Bonnie Mullin

Members have often asked that we offer name tags that could be worn when attending events or at meetings. We were pleased to find that Gary Murdoch was willing to create wooden nametags at a reasonable cost to members.

If you, as a member of Arrowsmith Naturalists would like one you can order through me. Please send an email indicating:

- how you want your name to appear on the tag (full name, initial and last name or?)
- whether you want a magnet or pin closure

Cost is \$15.00 Payment can be made by cash, cheque (made out to Bonnie Mullin) or e-transfer directly to me at live2hike@shaw.ca



ANats Photographers featured at TOSH

Sally Soanes

We have often thought it would be great to showcase some of the amazing photographers in our club. An opportunity came up during the Brant Festival in April when I got a call from the lady organizing the Brant Festival photo display at The Old School House Arts Centre. She needed additional photos to complete the Brant Festival display so I put out a call to members who wanted to share their images and, as usual, they responded quickly.

Parks West gave us a good rate and prepared 10 photos mounted on foam backing that were light and easy to hang. Penny Marshall added her exquisitely mounted photos and the display looked wonderful.

I hope that we can expand on our collection and feature them at our upcoming AGM in 2024. When you've got it, flaunt it! And we've got it.

NEWS FROM THE OUTINGS COMMITTEE

Toni Wyckoff

Mar25 Thames Creek



A. Wyckoff

Apr5 Jack Point



A. Wyckoff

Apr5 Jack Point



B. Mullin

Spring has sprung and so have the flowers. This is one of the best years for blooms. The walks have concentrated on wildflowers, but we suggest that you still bring your 'binocs' as the happy birds are singing from the tree tops.

June brings out the oddballs, so we have scheduled a saprophyte walk at Steve's Loop in Whisky Creek on the 7th. I find I have to hike this loop four weeks in a row to see all the species. Last week the groundcones were up an inch and the Calypso orchids were sprinkled throughout the forest.

June 17th is the [Beaver Pond Loop](#) in Port Alberni. June 28th is the ever popular [Cable Bay Trail](#) in Cedar.

Stay tuned as the possibility of outings may pop up through the summer and we still owe you a beach walk.

Please note: When answering Mark back, DO NOT just hit the return button. Click on his email address, which is in front of you. Type the name of the Outing in the Subject field of your email reply. Then give him your answer.

When hitting the return button, you send it back to Arrowsmith gmail. The ANats gmail is monitored by Duncan, who is currently Ontario (a different time zone.) Duncan is very good at passing the messages on but when the outing has an attendance limit, your chances become slimmer.

Be aware that the estimated time of a walk will vary with the number of people who attend.
We suggest you always bring a snack, in case it runs into lunch or afternoon tea.

STEWARDSHIP REPORT

Dave Hutchings

AT THE ENGLISHMAN RIVER ESTUARY...

Cool, damp weather hampered an early start to our work at the Estuary this winter and spring. When we did "get back at it", we soon realized that we needed to change our focus as the remaining broom was small, easily managed and would soon be hard to find. Any remaining plants would signal their location during May's blooming period.

So we shifted our focus to the other invasives; holly, daphne, ivy and so on. David Helem and I quickly located several large holly trees and, with David's electric chainsaw and the smaller saw which the ANats had purchased, we cut down the trees—a number of which were 4-5 meters in height. However, the problem now will be how to control the regrowth (coppicing) of the holly from the remaining root system.

The rest of our stewardship team has fanned out and located particular areas where immature holly and other invasives grow abundantly. We plan to clear each area of as many of the plants, seedlings and roots as is possible. It's difficult work, what with pin-sharp holly leaves, the toxic sap of the daphne and root systems determined to stay put. Sue Wilson brought along a heavy, steel "friend" ([Extractigator Junior](#)) to help out. "Junior" makes short work of stubborn root systems.

A recent walk around the ERE revealed that our old friend, spotted knapweed is ready to send up flower stalks. By mid-June we will shift our focus to pull off the flower stalks and dispose of them off-site.



Spotted Knapweed

Stewardship Report *(continued)*

For those who feel unable to engage in the more physically demanding work of removing holly and daphne, snapping off the flower stalks of knapweed is light on the body and highly satisfying.

THE NATURE TRUST MARINER WAY PROPERTY...

Nature Trust's project manager, Shawn Lukas informed us that the next phase of shoreline work to remove the remaining rip-rap is awaiting permissions from DFO and the completion of archeological studies. During very low tides, signs of ancient indigenous fish traps were observed and the studies will provide more information. DFO only permits work to take place when fish are not spawning in the area.

Although the whole process of rehabilitating the property is taking longer than expected, the naturalizing of much of the shoreline seems to have gone well.

NEW STAFF AT THE NATURE TRUST...

At a recent coffee meeting with members of our stewardship team, Shawn Lukas introduced two new staff who we will be working with from time-to-time:

- Taylor Koel, Field Operations Technician, is Vancouver Island born and raised. She has a Bachelor's of Science in Environmental Science from Royal Roads University and a diploma in Environmental Technology at Camosun College. Taylor will coordinate projects with partners (such as the ANats), stakeholders, volunteer, and school groups.
- Sam Smith, Field Maintenance Technician, hails from England and has been living in Canada for over 15 years. He has a wealth of knowledge and trades experience in construction and carpentry, and a degree in Geography from Vancouver Island University. Sam is tasked with managing and maintaining TNT's facilities, trails, and infrastructure.

JOIN US AT ERE...

Those members who would like to join us at the beautiful Englishman River Estuary on a regular basis or even occasionally, you are more than welcome. Having said that, I'd like issue a warm welcome to Yana Maltais who has joined us recently. If you want to be on our call-out list for the ERE, contact me: dhutchings40@shaw.ca

CHAMPIONS OF NATURE

Dave Hutchings



At our General Meeting in April, long-time ANats members Toni and Ron Wyckoff were recognized for exceptional service to the Club, as well as their dedication to learning, exploring and supporting Nature. Current President, Lynne Brookes presented the annual "Champions for Nature" award to the couple with a brief congratulatory speech.

We were also informed that Toni had been awarded the BC Nature Regional Award for her exceptional service at the recent BC Nature AGM in Langley. Although she was unable to attend the AGM, she was recognized during the session and her award was on its way to her via an attendee who lives on the Island. Congratulations, Toni.

If you haven't had the pleasure of getting to know Toni and Ron, here's a brief history:

In 2006, after retiring from the hurly-burly of life in the Lower Mainland, Toni and Ron purchased their own little piece of heaven—a small acreage in Errington. Toni had retired from a career with Canada Post; Ron, from the business of repairing other people's appliances. It wasn't long before they joined ANats.

Both Toni and Ron are "outdoors people". Hiking, camping and kayaking occupied much of their spare time living on the Mainland. Toni had spent many of her formative years near Whitehorse, a place where Nature was on her doorstep. At one point in her hiking adventures, she hiked the Chilkoot Trail. Ron is an "island boy" who had grown up in Ladysmith, so the Island beckoned him to return.

Since joining the ANats, Toni and Ron have become indispensable members. In 2015, Toni jumped right in by taking over the demanding task of Membership, while Ron joined Dave Erickson in organizing Refreshments. Toni organized Membership for 6 years, then became the liaison person with BC Nature and now serves on the Outings Committee, leads outings, contributes columns to our Newsletter and, with Ron, has been a vital organizer for the Mushroom Festival and Nature Festival. And if all this were not enough, Toni and Ron have for years been stalwarts in the work of our stewardship team at the Englishman River Estuary.

Congratulations, Toni and Ron, you are truly "Champions for Nature".

POLLINATOR PROJECT PROGRESS

Rosemary Taylor

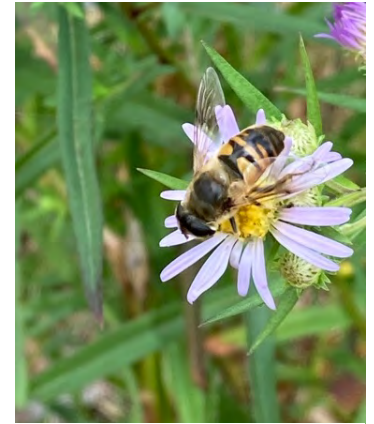
Local interest and awareness of the importance of supporting bees and other local pollinators has been increasing steadily since we began to focus on this issue several years ago.

I was delighted to hear that the Regional District of Nanaimo was supporting the idea of 'No Mow May' in recent community email notifications about the RDN WaterSmart program. And there is a rumour afoot that QB councillor(s) may be putting forward a motion to establish local pollinator pathways.

I have continued to email and contact local politicians and staff to encourage them to allow public green spaces to get a little untidy and allow the potential wildflower blooms to support bees during our long cool spring. I even found a BC Hydro website recently that was offering grants to municipalities for pollinator plantings, among other things. Unfortunately we missed the deadline for applications but Sally and I have both sent the information to our respective councillors in case BC Hydro offers funding again next year.

Sally has been sending pictures of any environmental garden signs she sees around the community to Parksville staff and we both participated in the recent public event at Rosewall Creek, The River Never Sleeps, sharing bee posters and information about ways to support pollinator species. We hope to feature similar information at the June fete at St. Andrews Lodge in Qualicum Beach.

In early May, Terry and I attended an informative presentation by Bonnie Zand, an invertebrate biologist, at the QB Garden Club's monthly meeting. Bonnie is the author of the iNaturalist site: [Vancouver Island Pests, Pollinators and Beneficial's Project Journal \(VIPPB\)](#), a board member of the [Native Bee Society of BC](#). She shared her fieldwork that involves the health of local native and introduced bees. She showed us how identify the main types of bees, and explained their different reproductive cycles, suggesting easy ways to we could provide a variety of habitats and pollen-nectar sources in our gardens or green spaces.



Common Drone Fly on Aster
[iNaturalist Bonnie Zand](#)
CC-BY-NC 09/2022

Did everyone know that May 20th was World Bee Day? I sent a very positive letter to the PQB News, encouraging community members to start pollinator pathways between gardens on small, suitable areas of land outside their properties. As June 19-26 is Pollinator Week I'll do the same, again.

And finally, I encourage you to continue sharing your pollinator observations, images, stories, poems, songs, etc. by emailing them to me so that I can collect them and summarize them for a fall newsletter (November).

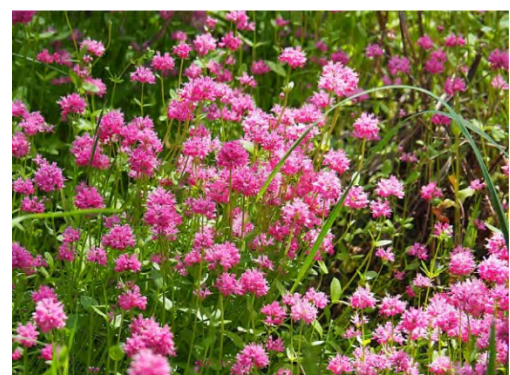
Nature's Pollinator Places

Kerry Baker

A rocky oceanside slope in Nanoose – Garry oak and arbutus



Sea Blush -
native annual that
provides excellent
forage for early-
flying insects, like
mason bees.



THE AFTERLIFE

Sally Soanes *(still missing my gavel)*

Ever wonder what happens to old presidents?? Life speeds up! I'm as busy as ever (plus a little bit more) which I can only blame on my apparent inability to say "NO." Looking back over the last few months...

JANUARY: Lynne and I attended a meeting in Parksville, organized by MABRI to bring stewardship groups together to share how their organizations contribute to local communities. We brought along a group of VIU Geography students; it was a real eye-opener for many. Plus Lynne was able to get many tree surveyors from that group to help with French Creek surveys, so bonus!

We also participated in MABRI's roundtable discussions at Tigh-Na-Mara, to help identify different areas in need of protection or restoration within the biosphere.

And I threw myself into the public protest (organized by Communities Protecting Our Coast) against the ship-breaking going on in Baynes Sound. (I'm also a member of CPOC.)

FEBRUARY: Mostly quiet for me because of health issues But all improving daily.

MARCH: Spent time preparing for the Brant Festival. Lynne and I met with the City of Parksville about the state of the Wetland Park. We stopped them from doing the restoration work in June; they're now doing it in August. My current concern is what they'll do with the ridiculous road they've elevated with no culverts. We will let you know.

APRIL: I focused on the Brant Festival and all that entails. Helped Lynne with the bird ID course (which was excellent). I got photos from ANats members to display at The Old School House Arts Centre (TOSH). The photos are just wonderful and we will use them at the next Mushroom Festival.

We did the Hamilton Marsh tour then went to Union Bay to support the [Shipbreaking Protest](#). You'll be interested to know that the Arrowsmith Naturalists got a "shout out" from Gord Johns, our local MP.

Lynne and I then shot off to Departure Bay Park in Nanaimo to promote ANats and raise awareness about environmental issues. The park is absolutely gorgeous

and we'd never been there. The event was hosted by the RDN's Team WaterSmart. Lynne's environmental games entertained all ages and I spent a lot of time gazing out at Departure Bay watching the ferries come and go.

MAY: This month we attended The River Never Sleeps Festival up at Rosewall Creek. So beautiful, so chaotic, so worthwhile. Worked on Hamilton Marsh issues and spoke at the Parksville Council against even more development. Lynne and I and many more went to the "It's Your City" Open House at the Parksville Community Park in mid-May. What amazed me was that we were invited! That's a first and welcome step for the City.

May 30th, Claire Summers and I went to a meeting with BC Environment minister, the [Honourable George Heyman](#). Chaired by our MLA Adam Walker, with reps



Photo: Claire Summers

from 30 other nature/stewardship groups, we were each allowed one question and a follow-up. Topics ranged from ship-breaking (it's being looked at by three levels of government) to water and climate change.

My one question related to the damage Mosaic has done to the lands above ER Falls. He seemed surprised! He alluded several times to changes coming to forestry practices (control and enforcement.)

Although nothing concrete came out of the meeting, most felt that the Minister was listening. One hopeful thing—Heyman said the government recognized that it's virtually impossible now for citizens to save places that are critical to save—due to rising real estate costs. Government is looking to help fund some efforts.

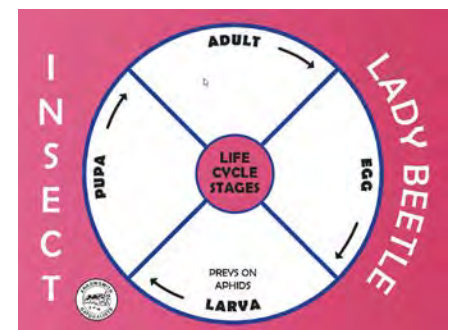
So that is what my afterlife (as a former Prez) is about. Busy, fun, exhausting, exhilarating and worthwhile. Coming up is the Mushroom Festival and the AGM. Boredom is still a long way away.

Life Cycle Learning

Lynne Brookes

Some years ago I found great models of various critters and, over time, built up a collection. I wanted to use them to engage kids who might stop at our displays at various events or for other learning purposes. For years we used cardboard pizza box lids with the different life cycles hand-drawn on them as gameboards at club event displays. Kids and adults really liked the games and we could use them as a springboard for other nature-related learning.

I recently asked the Executive if we could have more durable, and attractive, gameboards made. The answer was yes—and we now have seven colourful gameboards to illustrate the life cycles of lady beetles, frogs, butterflies and moths, spiders, ants, mosquitoes, and honey bees.



Hamilton Wetlands and Forest Tour

Liz Bredberg

The Hamilton Wetlands and Forest Tour is a popular element of the annual Brant Festival. Always well attended, the threat of rain on April 15th brought attendance down slightly to an estimated 100 visitors this year.

The grade 4-7 students of the Arrowsmith Independent School were invaluable, tending one display at the entrance to the event, and a second one at the edge of the large marsh near the dock. An engaging display of insects captured from the water along the dock drew young attendees as well as grown-ups. (All such critters were contained in water, then safely returned to the marsh.)

The insect, frog, spider and other life cycle games at the ANats' table drew enthusiastic players, as did the bird identification game. Ducks Unlimited Canada, the North Island Wildlife Recovery Centre, the Friends of French

Creek Conservations Society, and the Hamilton Wetlands and Forest Preservation Society also hosted informative displays.

ANats members led visitors on interpretive walks through the woods, often referring to the informative plant signs posted at strategic locations along the path (created by Rosemary Taylor). Due to the cooler spring, several of the plants were not yet apparent, or had yet to flower, visitors were appreciative.

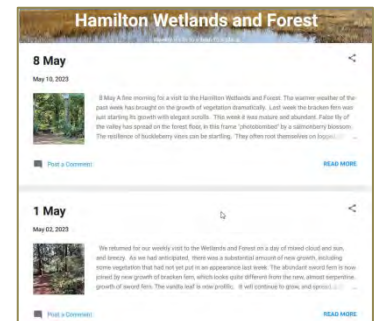
The weather gods smiled upon us and the rain seemed to wait until the event was over and the displays and tents were safely stowed. Thanks to all the volunteers and visitors for taking time to explore this important place.

Learn more...

As a way to continue developing public awareness of this remarkable place, members of the Arrowsmith Naturalists have committed to visiting the Hamilton wetlands and forest frequently, taking pictures and logging their observations on a blog (web log).

Learn more about this important wetland area by visiting:

<https://hamiltonmarsh.blogspot.com>



Spring Brant Count

James Goodwin

One of the annual activities of the Arrowsmith Naturalists is the Spring Brant Count. During March and April each year, migrating Pacific Brant geese visit the shores of Parksville and Qualicum Beach. Their stop here coincides with the annual Pacific herring spawn, the eggs of which provide an energy boost to the Brant on their journey to [Izembek National Wildlife Refuge](#) (NWR), Alaska; the next stop on their way to breeding grounds on the shores of the Arctic Ocean.

This year there were 18 volunteer observers who contributed various amounts of time—a total of 190 hours—to conduct the eight surveys held between March 07 and April 25. Thanks to: Sandra Gray, Dan Gray, Lynne Brookes, Helen Davidson, Bonnie Mullin, David Erickson, James Goodwin, Maggie Little, Duncan Campbell, Toni Wyckoff, Claire Summers, Dennis Horwood, Liz Thorne, Jim Thorne, Liz Bredburg, Marilyn Bilsbarrow, Jeanne Schippers, Rob Schippers.



Image by Claire Summers

There was a good herring spawn at the northern end of our survey area from Little Qualicum River to Qualicum Beach, for one week (March 12 to March 17.) Our reports during this time described rafts of eight to ten thousand diving ducks on the water, mostly Surf Scoters, tens of thousands of gulls on the shore, and herring roe on the beach 30 cm deep.

Total Brant counted during the eight primary counts was 5155. This is historically low but very similar to last year. The decline of the Brant population overwintering in Bahia, Mexico and along the Pacific coast is partly due to the loss of eelgrass from a wasting disease brought on by rising water temperatures.

The Spring Brant Survey is commissioned by [Nature Trust BC](#) and the report is also shared with the Govt. of Canada, Canadian Wildlife Service; BC Forests, Lands and Natural Resources (FLNR) Wildlife Management Areas; and Birds Canada, [Important Bird Areas](#) (IBA). Our results are used in their various wildlife management plans. The full Brant Count Report may be found on the ANATS website www.arrowsmithnats.org under Observations.

Bald Eagle and Great Blue Heron Nest Tree ID Project

Denise Foster

Denise Foster of the Save Estuary Land Society applied for a 25 x 25 Initiative grant from the BC Parks Foundation (BCPF) this past winter. The goal of the project was two-fold. The BCPF wanted to get more people out in nature and for people to make nature observations using iNaturalist. Denise and Sandra Gray were concerned that there was a great need to gather and update information on the number, location and status of eagle and heron nest trees in our area. They teamed up, wrote a proposal, and were awarded the grant. They then set about organizing a terrific group of volunteers—mostly Arrowsmith Naturalists—to provide this much needed update. Knowing where nest trees, "wildlife trees," are located is the first step in protecting them and the provincial data was out-of-date.

Forty-five enthusiastic volunteers equipped with binoculars or spotting scopes and cameras observed eagle and heron nests from Nanoose to Deep Bay from January through March.

Phase I outcomes:

- 73 eagle and heron nest sites documented, mapped and reported to the Ministry of Water, Land & Resource Stewardship and other government agencies involved in their protection.
- 29 new eagle nests discovered and recorded!
- 2 new heron nesting sites discovered and recorded!
- volunteer *Time in Nature*: 1,334 hrs
- observation reports submitted: 829 (original goal was 450)
- iNaturalist posts: 1,712

Phase II

The unfunded Phase II of this project is underway with over half of the volunteers continuing to record nest activity—any hatchlings, their growth, and when nestlings have fledged. Stay tuned for the results in the fall newsletter!



Bald eagle pair in nest (photo: D.Erickson)

Tree Identification and Abundance Survey

Liz Bredberg & Lynne Brookes

The Tree Identification and Abundance Survey that began in January within the French Creek Estuary Nature Preserve is now complete. Funded by BC Parks Foundation's [25x25 initiative](#), the survey was carried out by Arrowsmith Naturalists and other community members, together with Vancouver Island University's Mount Arrowsmith Biosphere Region Research Institute (MABRRI). Participants were guided by MABRRI staff to select, mark and map four 50m x 50m study plots and twelve 5m x 5m subplots. These plots will serve as permanent sites for a long-term longitudinal study of changes that occur over time in the Preserve. Every tree in each plot was identified, tagged, measured, mapped, and GPS coordinates recorded.

During the survey, the participants were introduced to laser measurement of tree height. While this new technology took a bit of learning, it is undoubtedly easier than trotting out old high school trigonometry textbooks. We all became familiar with how to contribute our observations of nature using iNaturalist. MABRRI staff members—the project's technical lead—were great to work with, and very patient with those of us unfamiliar with new techniques or less skilled at bushwhacking.

We also had the opportunity to attend two learning sessions introducing us to indigenous perspectives and traditional uses of trees—one led by Carrie Reid of the Qualicum First Nation; and the second by Bill Helin of the Tsimshian FN. Bill also provided storytelling, singing, and drumming.

As the project was drawing to a close, we were invited to an Appreciation Lunch along with the volunteers in the Bald Eagle and Great Blue Heron Nest Tree ID survey (also funded by BCPF 25x25 initiative.)

Forty-eight of us attended, as did honoured guests, MP Gord Johns and Qualicum FN Chief Michael Recalma. Although not in attendance, local MLA Adam Walker and the BCPF sent messages thanking us all for participating in these projects.



L-R Sandra Gray, Denise Foster, MP Gord Johns, Lynne Brookes (photo: Bonnie Mullins)

Tree Identification & Abundance Survey *(continued)*

Final Notes: Data from this study, and the Insect and Aerial Insectivore baseline surveys continuing into September, will monitor changes in the Preserve over time. Impending changes include the removal of invasive species, replanting native plants and other restoration work and, of course, climate change.

Protocols and study records are held by MABRRI, which has conducted six other such studies within the MABR. Arrowsmith Naturalists will have access. The first comparative follow-up study will take place approximately five years after early site restoration work has begun.

This summer MABRRI, ANats and community volunteers will be asked to take part in a brief follow-up survey to identify and count all understory plant species within the twelve 5m x 5m subplots as they were “hunkered down” during the winter months and not “there” to ID.

A HUGE THANK YOU to the hard-working enthusiastic volunteers who helped to make this valuable baseline study possible!

Insect and Butterfly Surveys

by Liz Bredberg & Lynne Brookes

Formally named “Baseline Insect and Aerial Insectivore Survey for the French Creek Estuary Land Restoration Project,” this study is referred to as the “IAI Survey.” Jointly funded by BC Nature and the BC Conservation Foundation, the IAI Survey will run from May through September 2023. The butterfly survey portion of this project is well on its way, thanks to the 17 volunteers (mostly Arrowsmith Nats) who enthusiastically added to their summer schedules.

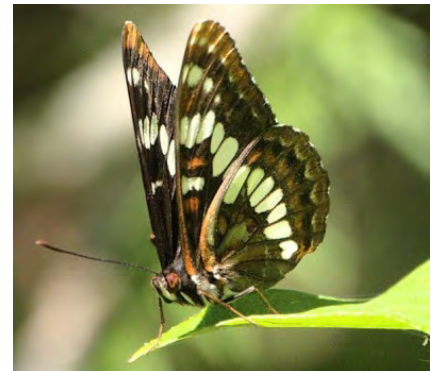
If you are interested in joining this effort, please contact Lynne Brookes (rppsolar@yahoo.com). We would like to add up to three more volunteers.

The IAI Survey was delayed at its outset in 2022 when the French Creek Estuary Land changed hands to become the now protected “French Creek Estuary Nature Preserve” (FCENP).

After a year-long pause, baseline surveys are once again underway with Dr. Scott Gilmore leading the insect surveys. He will be photographing and identifying insects at the FCENP over the next months and, working with Royal BC Museum



Pine White (photo: D.Erickson)



Lorquin's Admiral (photo: D.Erickson)

(RBCM) entomologist, Dr. Joel Gibson, providing voucher insects to be curated at the museum for the FCENP location. Dr. Gilmore selected the five observation sites, developed the butterfly survey protocol and materials—including a video to help volunteers contribute to the survey

Dr. Gilmore, accompanied by his knowledgeable (and agile) son, Zeke, delivered the initial training session for the butterfly survey volunteers on Sunday, May 7. Volunteers, who had been sent materials beforehand, learned how to observe, recognize, and record butterflies seen in the five specific locations within the Preserve.

The first survey was completed during this practice session so everyone saw the steps involved. The surveys will be conducted bi-weekly on Wednesdays and Sundays. The volunteers are organized into four “teams,” each consisting of four to five members. Each team will go out to the FCENP to conduct an hour-long survey every other week on either alternate Wednesdays or Sundays.

One member of each team has a leader to help coordinate the surveys. As insects are most active in warm temperatures, most counts start at 1 pm and generally end by 2:15 pm. There are five fixed locations within the preserve at which team members carry out a five-minute point count. Observations are recorded and sent to Dr. Gilmore after each survey.

The first month of the survey has now been completed and went quite smoothly. Counts have so far appeared to be on the low side—probably due to it being early in the season and with the cooler early May temperatures. The numbers of butterflies observed are expected to increase as the season advances.

Participants in the study report that they enjoy their short (45-60 min) activity in a lovely location with enjoyable companions—and butterflies and birds all around.

Protecting the Little Qualicum River

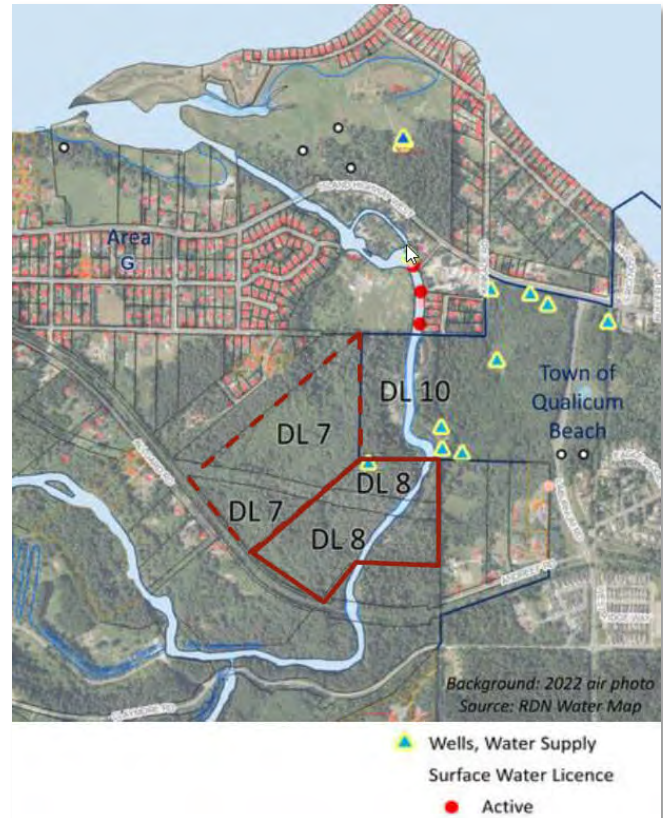
by Pat Jacobson

On May 10th, 2023, Nature Trust of BC announced that it had successfully acquired 36 acres (also known as DL8) of undeveloped land on the Little Qualicum River. This ecologically-significant land is in the endangered Coastal Douglas-fir biogeoclimatic zone, which is one of BC's most at-risk ecosystems. The Little Qualicum River provides spawning and rearing habitat for many species of salmon, supports a significant Indigenous and recreational fishery, and is of significant cultural value to the Qualicum First Nation.

There have been many strong advocates for the protection of this River over the past decades; including Scott and Annette Tanner, Ronda and Gary Murdock, Richard Boyce, Faye Smith, and Michelle Deakin of Qualicum Beach Streamkeepers, to name a few.

The Nature Trust led the recent efforts to acquire DL8, and received widespread support to raise the funds needed to purchase the land. Supporters included a group called Friends of the Little Qualicum River (from the Dashwood area), Qualicum Beach Streamkeepers, Arrowsmith Naturalists, and people from a resident's association in Qualicum Beach. Other key stakeholders: RDN Area G and the Town of Qualicum Beach.

Nature Trust will manage and protect this land to ensure that its rich biodiversity can be enjoyed for generations to come. For more details on the land purchase check out the [Nature Trust of BC press release](#).



Great Canadian Birdathon 2023

Roger Simms

My chosen day for the Birdathon was Wednesday, May 10th. I had set out for the Okanagan Valley on May 8th, which was an adventure in itself as I managed to miss part of the outward journey where there was so much road work going on with insufficient signage. I lost about 45 minutes before sorting myself out and eventually reached the Trans-Canada Highway somewhere near Langley.

After arriving in Osoyoos I needed to find an evening meal; having done so, it was an early night after a long day's travel. The next morning I was out of the hotel by 6:00 am to start scouting the area, which I knew well but wished to see if it was "birdie" enough in the various previous hot spots. Wednesday came and another very early start to see as many species as possible. My Birdathon ended very late in the day with an even 70 species; not as many as I would have wished but enough for those sponsoring me per species. I ended up with a dirty and dusty vehicle, but I was pleased with what I had seen and to where I managed to drive.

I met a few people who were also out birding; one I knew slightly from when Maggie and I had spent eight months in the Valley over winter 2001/2002, and a couple from Smithers, BC who landed at the same spot as me for a few minutes. I directed the Smithers couple to where I had found two yellow-breasted chats, before many folks arrived with cameras large and small. This couple responded by pointing out where I should be able to find a great-horned owl, which I did.

Unfortunately, for some reason, many birds I did not see were the result of a late migration season (confirmed by others) hence no warblers and or other species most often found in the Valley—such as black-headed grosbeak, Bullock's oriole, belted kingfisher, and a host of flycatchers and various wrens.

My personal highlights were Lewis's woodpeckers and Williamson's sapsuckers. The latter made it necessary to drive up Anarchist Mountain; not a thrilling drive but needed to be done.

Places visited included: Chopaka, Anarchist Mountain, White Lake, Green Lake, North Road 22, Camp McKinney Road and Vaseux Lake. I also treated myself to a very large pralines-and-cream ice cream at Tickleberries towards the latter part of the day and as a reward—who else was going to treat me.

So there you have it, another Birdathon completed and now my list is finished for my sponsors.

LICHENS AND ANTIBIOTICS

by Terry Taylor

Lichens usually grow slowly and are long-lived. These characteristics increase the probability that lichens will be infected by pathogens. Lichens have taken this situation seriously, and evolved many chemical strategies for protection. When you walk along the seashore, you may find bright yellow or orange lichens on rocks, in areas enriched by bird droppings. These conspicuous colours are due to the lichen's protective chemicals.

While exploring forest trails, you may notice the common British soldiers' type lichen that has little round red structures (spore-producing) on top of its stalks. The red colour is made by rhodocladonic acid, an antibiotic that protects the spores from infection and ultraviolet light.

The old man's beard lichens (*Usnea*) that often festoon the branches and trunks of coniferous trees on mountain slopes are a shade of yellow-green. This yellowish tint is produced by usnic acid, an antibiotic that is sometimes used in herbal medicine.

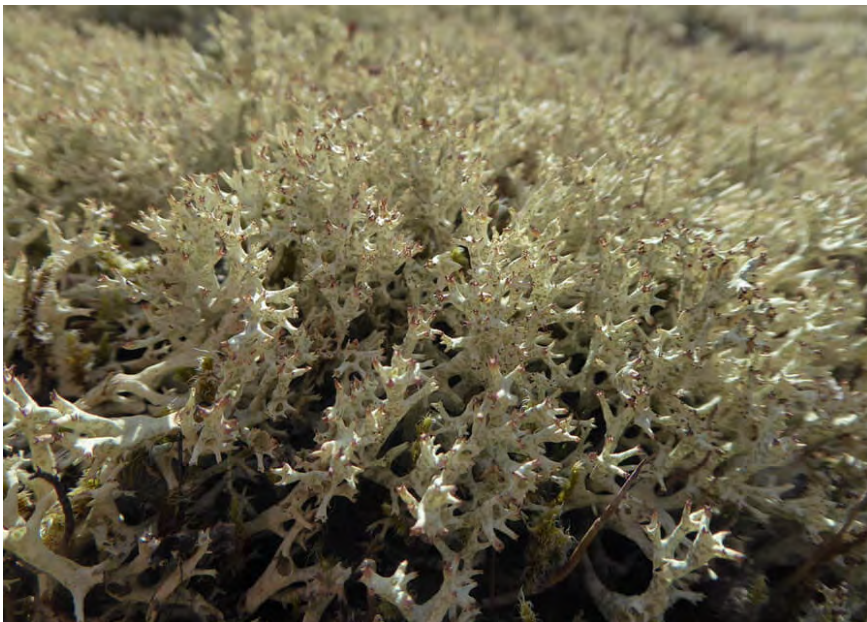
Many of our antibiotics, probably the majority of them, are produced by one genus of soil bacteria - *Streptomyces*. Streptomycin is named for a *Streptomyces* species that produces it. Soil samples that contained *Streptomyces* were cultured and tested to see if they might inhibit or kill cultures of pathogenic bacteria.

In 1995, [Julian Davies](#) of UBC's Department of Microbiology began a research project to explore antibiotics in local bacteria and lichens. The project focused on soil bacteria and lichens but was closed down in 2020 due to the COVID epidemic.

In 2003 a collection of thorn lichen (*Cladonia uncialis*) was found on a rock bluff. Thorn lichen is a common species of such habitats. The lichen and moss mats that occur beneath arbutus trees in the mid-island area often contain this species. The project also looked for soil *Streptomyces* that might be found in lichen samples. This increased the probability of finding an active compound. The thorn lichen did not produce anything of value, but the lichen was washed to remove bacteria from its surface, and this did produce something of interest.

Researchers discovered that the washed sample contained an undescribed species of *Streptomyces*, which produced a chemical that killed bacteria when it had been isolated from the lichen surface. The compound was concentrated by a technique called chromatography. This concentrate was analyzed by the UBC Chemistry Department, and found to be a previously unknown substance belonging to a group of antibiotics called enediynes.

Cladonia uncialis – image by David Helem



Since the concentrate sample came from a collection of *Cladonia uncialis*, it was named uncialamycin. Another group of previously unknown compounds were also found in this culture, and were named cladoniamides. Uncialamycin has since been synthesized, and Rice University is researching it as a possible anti-cancer agent.

The discovery of uncialamycin illustrates how extremely little we know about soil ecosystems. It has never been found in nature except from this single lichen sample.

Is it from a common soil *Streptomyces* whose spores just happened to land on the lichen? Is this *Streptomyces* associated with *Cladonia uncialis*? Is this a common or a very rare species of *Streptomyces*? Nobody has an answer to these questions.

Lichens: Pale-green and black and bronze and grey,
In broken arabesque and foliate star,
They cling, so closely grown
Upon the sombre stone
(poetry clip from Clark Ashton Smith)

Mason Bees

by Toni Wyckoff



How many of you can identify a mason bee when you see it?

A mason bee looks like fuzzy black fly. The males have a small white patch somewhere around the neck, but the females can only be identified when they have rolled around in flowers and are covered in yellow pollen. The females are super pollinators, outperforming honeybees and rewarding you with healthy fruit. The males...well, they copulate and die.

Depending on the spring warmth, my happy bees come out of their mud tunnels in late April to early May. They like to nest in holes drilled in wood, either made by insects or humans. Gathering pollen, they lay an egg on the food and seal up the cavity with mud. This is repeated many time until the tunnel is sealed. The female eggs are laid deep in the recess of the tunnel, while the males' eggs are closer to the opening. Birds love to peck

into the holes and eat the larvae so they only get the expendable males.

You may find the females rolling around in the Oregon grape flowers, but they really prefer the wild cherry. Do not mistake them for a fly when they are trying to get into your siding, looking for a waterproof place to nest. There is no harm to the house.

Once all the nesting holes are sealed, you can place a screen gently over the holes to prevent the wily Pacific wren or any of the woodpeckers from eating all the larvae. I never remove the blocks and every year there is an abundance of healthy mason bees.



FEMALE SINGING SONGBIRDS

by Iris Bitterlich

I remember, about 20 years ago, hearing birdsong and being very surprised to see that the bird that was singing was a female purple finch. At the time I was under the impression that only male birds sang.

When I researched further, the internet revealed to me that females of only three other species sang. So imagine my surprise when I saw a recent post on iNaturalist with a reference to **150 species of songbird** from North America where females are known to sing. Not only that, but researchers now have good evidence that song likely existed in female ancestors of all songbirds.

Researcher Margaret Morse Nice was the first to document the singing of over 50 species of female songbirds and her observations were published in her 1943 classic, *Studies in the Life History of the Song Sparrow*. Nice also suggested that the ancestors of all modern bird species likely had both singing male and female species—a hypothesis that took 70 years to confirm.

A major barrier to the study of female birdsongs is the lack of data on the prevalence, form and function of female vocalizations. Researchers are asking for citizen scientists to contribute recordings of female birdsong to: eBird/Macaulay Library or Xeno-Canto.

Check for details on how best to contribute on the [Female Bird Song Project website](#) or in the article [Listening to Nature's Divas](#).

See final page of newsletter for detailed references.



[iNaturalist: bombusmixtus](#) CC-BY-NC 15/04/2022

THE ROSY AEMILIA – A SMALL WONDER

by Iris Bitterlich

In mid-summer you might be lucky enough to see a beautiful moth with red-orange body hairs and wing markings. It is called the Rosy Aemilia or *Lophocampa roseata*. It belongs to the tiger moth or Arctiidae family. The bright red-orange colour is thought to serve as a warning, letting predators know that the moth is not a tasty meal but poisonous.

Rosy Aemilia caterpillars also have a striking appearance. They have two lines of mostly black hairs, intermixed with yellow, that run down the length of their bodies. Caterpillars are often seen in the fall, on the ground, as they cross trails, garden patios and other open areas.

The Rosy Aemilia is found in both conifer forests and urban settings at two widely separated locations. The first location is the Coastal Douglas-Fir ecosystem from southwest British Columbia down to northern Oregon. The second location is east of the Rockies, from Colorado state southwards into Mexico. Since population numbers of this moth are very low, NatureServe lists it as globally imperilled.



[iNaturalist: bellaormseth](#)

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This is your life, Rosy Aemilia

In August a caterpillar, let's call her Aemilia, hatches out of her egg. At this point she is only about 3 mm long, about half the size of a grain of rice. Her first meal is the eggshell from which she hatched. Her second meal is a Douglas fir needle which she bites into at any point along the needle's length.

When she is not feeding, Aemilia rests among the Douglas fir bud-scales or stretches out full length along a fir needle or twig. In just seven to nine-and-a-half weeks she molts three times, and has fed enough to reach her full length of 3 cm.

In late September or more likely in October, Aemilia is on the ground and on the move. She is searching for a protected spot to spin her cocoon which she builds from her body hairs silked together. There she rests as a pupa until July of the following year, at which time she emerges from her cocoon as an adult moth.

Aemilia gives off pheromones to attract a mate. A male, flying at night, uses his bipectinate or feathery antennae to sense the pheromones and find Aemilia. After mating, Aemilia lays about 20 eggs, in small groups or singly on Douglas fir twigs and needles. Her eggs take about 10 days to hatch and the cycle of life starts to repeat itself.

What are Rosy Aemilia Caterpillars Feeding on in Your Garden?

The known diet of the Rosy Aemilia is Douglas-fir conifer needles and Norway maple leaves. In the fall of 2022, I saw two caterpillars on the move in my back yard, hunting for a place to spin their cocoons. However, there are no Douglas firs or Norway maples growing nearby. So, what are the caterpillars feeding on? Help solve the mystery.

If you see Rosy Aemilia caterpillars feeding on the plants in your garden, take note of the plant species being eaten. If possible, take photos and post your observations on iNaturalist. Your observations will expand what little is known about the diet of the Rosy Aemilia caterpillar.

iNaturalist Photo Gallery

Eggs: <https://www.inaturalist.org/observations/62091017>

Early caterpillar (instar) stage: <https://www.inaturalist.org/observations/152639875>

Final caterpillar (instar) stage: <https://www.inaturalist.org/observations/98079186>

Cocoon: <https://www.inaturalist.org/observations/4604745>

Adult moth: <https://www.inaturalist.org/observations/53258131>

See final page of newsletter for further references.

References and Images

- p3 Outings <https://www.alltrails.com/trail/canada/british-columbia/beaver-pond-to-log-train-trail>
<https://www.nanaimoinformation.com/cable-bay.php>
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- p8 Save Estuary Land Society
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- Iris Bitterlich's Female Singing Songbird**
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 A call to document female bird songs (see figure 5 for a list of about 150 species where female birds sing).
<https://bioone.org/journals/the-auk/volume-135/issue-2/AUK-17-183.1/A-call-to-document-female-bird-songs--Applications-for/10.1642/AUK-17-183.1.full?tab=ArticleLinkFigureTable2>
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- p11 UBC's Department of Microbiology
<https://lsi.ubc.ca/2022/02/15/julian-davies/>
see bottom of page for p12-13 refs – Iris Bitterlich
- List of images:
- P2 ANats Name Tag, Bonnie Mullin
- P3 Outings, Thames Ck and Jack Pt, Toni Wyckoff;
 Jack Pt Bonnie Mullin
 Spotted knapweed, Dave Hutchings
- P4 Toni & Ron, Bonnie Mullin
- P5 Common drone fly, iNaturalist, B. Zand
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