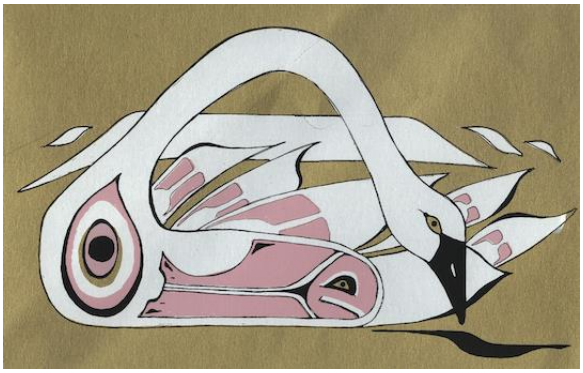
Comox Valley Naturalists Society

June 2023 Newsletter



About Lycopods, Forests, Fungi and Human Civilization

By Loys Maingon

Over the past decade there has been growing interest in the relation between fungi and vascular plants. With the popularity of Dr. Suzanne Simard it has become almost common knowledge that in most forest ecosystems ectomycorrhizae form a network that exchanges nutrients scavenged by fungi for carbohydrate by-products of photosynthesis. A recent paper has tried to challenge whether the "wood-wide web" model of forest connectivity proposed by Simard was really representative of forest functioning. The premise of that paper should raise a basic question: "What is the evolutionary relationship of fungi to vascular plants?"

As Simard amply documents in her autobiography, ***Finding The Mother Tree***, her work is anathema to many in the forest industry and the Ministry of Forests, Lands, Natural Resource Operations and Rural Development, who have a vested interest in maintaining the prevalent view that forests are just a competitive crop of ornamental 2x4's to be harvested and managed by rotations like a wheat field. While the Karst, Jones and Hoeksema review article[1] questions the extent to which forests around the world are connected by mycorrhizal networks since extensive work has only been done in European, Japanese and North American forests, Simard notes that the argument is somewhat specious, and that nothing changes "*the idea that forests are connected communicatively. And the fact that we need to look after these relationships, to tend to them and to care for them – that does not change either*."[2]

Without engaging in the kind of partisan debate invited by Karst, Jones and Hoeksema's review article, the real point that underlies Simard's work is how the evolution of vascular plants and the forests that gave rise to them is connected to the evolution of fungi. To put it in simple terms: "How far back, or to use a mixed metaphor, how deeply ingrained, are mycorrhizae in the very existence of vascular plants?" The short answer, which I will elaborate on below, is that the evolution of vascular plants, and therefore of forest ecosystems, would have been impossible without the guiding mutualism of mycorrhizae. The competitive model and the mindset that guides it misleads.

That short answer has two implications.

First, without in any way detracting from the enormous value of Dr. Simard's research, the actual sensationalist novelty of her model of forest functioning has very deep and well-established roots in the historical record of Western science. While the popular press has treated the "discovery" of the wood-wide web as something new, the feeling of novelty comes more from the pervasiveness of a distorted industrial mindset in twentieth century popular culture than from an actual departure from what science has been telling us over the past centuries. No discovery ever really comes without a long preliminary intellectual scaffolding.

While Simard's discovery accords with aboriginal perspectives, it is also consistent with a long Western organismal tradition in natural history, which gave rise to Haeckel's formulation of the science of ecology, and with the study of Darwinian evolution. These trends in Western science saw a rebirth in the early 1980s in the interest of interspecies and plant communication. Simard's work is in that sense not really "new" to people who have been reading science, rather than the grey literature of government and industry hogwash. It is a

logical recapitulation of a well-established branch of the history of biology in Western science.

Second, the short answer raises serious questions with regards to the lack of evolutionary and historical foundations in the critique of Simard's work. While the power of search engines has made it popular to do so-called literature and citation reviews, conclusions induced from these surveys are no substitute for a sound understanding of the context of research in both evolutionary science and history of science.

Mycorrhizae, in some form or other, have been present in plant development and interactions ever since at least the end of the Devonian and the beginning of the Carboniferous age with the Mississippian 360 million years ago. There is fossil evidence for mycorrhizae going back to the Triassic (280 million years ago.)[3] I am referring here to work by Sarah Stubblefield in 1987 entitled "Fossil Mycorrhizae: A Case for Symbiosis", because the title alone makes clear that Simard's work on symbiosis fits within a continuity, and is in no way anomalous, as the forest industry would like the public to believe.

There is also fossil evidence of ectomycorrhizae in BC's Eocene Princeton Chert that takes us back 50 million years. Beyond the paleobotanical case, there is the much stronger evidence in the study of the morphology and evolution of vascular plants which takes us back to the Mississippian and early forests.

Perhaps the most important event for dinosaurs and mankind, which was no more than a twinkle in the eye of a synapsid reptile in the Mississippian, was the rapid radiation of "arborescent lycopods" together with seed ferns, calamites and sphenopsids. Lycopods and other carboniferous plants, whose remains now form extensive fossil fuel beds, would eventually shape human civilization, and perhaps through hubris, go on to threaten the survival of mankind today. The lycopods, whose descendants are still with us, formed the earth's first forest mantle of the Carboniferous age (Mississippian and Pennsylvanian.) While the lycopod forests were replaced by early ancestors of the conifers in the Permian (286 million years ago), the lycopods that remain with us today tell an extraordinary tale in fungal and mycorrhizal evolution.

Huperzia occidentalis* (one of BC's lycopods ["clubmosses" which are not mosses]). *Photo: Loys Maingon

Lycopods are not seed plants. They reproduce by producing spores from cells which develop at the base of specialized leaves (sporophylls). Unlike seeds, spores have little or no nutrition. Their development depends on finding a propitious nutritional environment. Development can therefore vary from seconds to years. Spores are dispersed onto soil to develop as an early plant form, the gametophyte, on which male and female organs (antheridium and archegonium) will develop. The mature plant or sporophyte will develop out of the egg-bearing archegonium on the gametophyte. In 1910 Hans Bruchman discovered that one of the signal features of most known lycopod species is that the gametophyte cannot develop without associating with, or being infected by a fungus, that is, by an endomycorrhiza.

It is possible to grow lycopod gametophytes in laboratory conditions without an endomycorrhizal fungus, by adding nutrients. That tells us that the function of arbuscular endomycorrhizae is to convey nutrients to the developing gametophyte. What's in it for the endomycorrhizae? The fungus gets carbohydrates that the new photosynthetic plant will produce. In other words, for lycopods to develop, spores must fall into contact with a mycelial network. In that sense the lycopod's mycelial partner lays the groundwork for the kind of fungal network described by Simard.

So that raises a further question: "How did the forests of the Carboniferous come to be?" The answer to that seems to be that the extensive forests of arborescent lycopods would never have come to cover the land masses of this planet if fungi had not first established a close mutual relationship with the first trees of the green mantle of this blue planet. Gametophyte development of

Carboniferous lycopods would literally never have gotten off the ground without the infection of endophytic fungus.

That is consistent with the general evolutionary interpretation that arbuscular endophytic mycorrhizae preceded the development of ectomycorrhizae. The fossil record so far associates the development of hartig net-forming ectomycorrhizae with the development of conifers which is linked with more seasonal and arid climate environments. However, lycopod development tells us that plant association with mycorrhizae goes much further back to the dawn of the first forests, to the point that one can suggest that forests and the entire evolution of vascular plants would have been impossible without pre-existent fungal networks. This is a point well known to plant morphologists, furthered and again confirmed by, and consistent with Simard's research.

Logically, the fungal networks were there before the trees. Whether the fungi cultivate forests is a moot point. Forests are very much to the advantage of fungi. All forests, however impressive, are a product of vast networks of humble fungi, of little or no commercial value. Given the dependence of human civilization on forests, humans are also much beholden to fungi. Humans, however arrogant, are dependent on forests, not just for wealth and shelter, but to capture carbon and limit climate change, an enterprise that ultimately depends on fungi, and the protection of fungal networks.

The importance of remnant small lycopod species around us for our own evolutionary history is regrettably often overlooked. They are an important reminder that forests are, and have always been, a symbiosis, a point that the forest industry and BC's Ministry of Forests ignore at our peril.

1. Justine Karst, Melanie Jones and Jason D. Hoeksema (2023). "Positive citation bias and overinterpreted results lead to misinformation on common mycorrhizal networks in forests." ***Nature Ecology and Evolution***.

2. https://www.cbc.ca/news/canada/british-columbia/simard-citation-review-1.6758773

3. S. Stubblefield et al (1987). "Fossil Mycorrhizae: A Case for Symbiosis". ***Science*** 237:4810: 59-60. https://tinyurl.com/26kbmuxs

Upcoming Book Signing and Film Night with MLHS

By Jim Boulter

The Conquest of Mount Logan
Film distributed by National Museum of Canada

In support of the spring 2023 release of Trevor Marc Hughes's book ***Capturing the Summit: Hamilton Mack Laing and the Mount Logan Expedition***, the Mack Laing Heritage Society is hosting an evening dedicated to Laing and the first successful ascent of Mount Logan, the tallest peak in Canada, in 1925. This will take place Saturday, June 17 at the St. John the Divine Hall, 579 - 5 Street, Courtenay B.C. Doors open at 6:30 and the presentations begin at 7 pm. Admission is a suggested donation of $10. This event is co-sponsored by Comox Valley Nature, with all proceeds going to MLHS.

The evening will include a presentation by Trevor Hughes, historian, filmmaker, and author, who will talk about his experiences reading the original journals and writing both his most recent book and editing ***Riding the Continent*** (2019) by H. M. Laing.

Lindsay Elms, an international climber, speed ascent enthusiast and author of ***Above the Bush*** (2012) and ***Beyond Nootka*** (1996) will continue the evening with a description of his own ascent of Mount Logan in 1996.

The evening will continue with a special showing of "The Conquest of Mount Logan", the B&W silent movie filmed in part by Laing during the 1925 ascent. This 45-minute film was one of the earliest mountain climbs filmed. Hughes and Elms will finish the evening with a Q&A and book signings.

In 1925, Mount Logan in the Yukon Territory was presumed to be the tallest mountain in Canada, but its remoteness and the short climbing season at the high

latitude had made confirming its height and location difficult. The Alpine Club of Canada assembled a team of six international mountaineers, under American Albert MacCarthy to climb the mountain. Mack Laing was hired to support the climbing team as cinematographer and woodsman, but he was to stay below the snow level to perform species collection and to lay aside provisions, as the team would have none for the return trip off the mountain.

Laing in the Chitina River Valley (B.C. Archives, A2003.017.117)

The Expedition arrived at Cordova, a small port on the coast of Alaska in late April and continued their journey inland to McCarthy. From there the rest of the way was by foot, as the 10 horses acquired in McCarthy were all occupied carrying freight. The seven men left McCarthy on May 12 and began a 100-mile trek up the Chitina River valley, reaching the last cache of supplies on May 26. For the next six weeks, the team would struggle up the remaining 100 miles of glacier and rock to the summit. Eleven camps were established on the way up, and little food was left by the time the summit was reached on June 23, 1925.

The journey back started after a brief 30 minutes at the summit, hampered by whiteouts, exhaustion, dehydration and frostbite. They all made it safely to Laing's camp at the snow line, where they built rafts to float down the Chitina River. They made McCarthy on July 15, 1925.

MLHS is fundraising to pay legal costs incurred by the Society's unsuccessful intervention to prevent Comox from varying the terms of the Laing Museum Trust, and the removal of Laing's last house "Shakesides". MLHS will continue to promote awareness of Laing's accomplishments to the general public of the Comox Valley.

Hamilton Mack Laing & the Mount Logan Expedition of 1925

Laing (1883-1982) was the last of Victorian-era naturalists, a consummate outdoorsman, and long time resident of the Comox Valley. In 1925 he filmed the first successful ascent of Mt Logan, Canada's tallest mountain.

Trevor Hughes, historian, filmmaker and author of "*Capturing the Summit*" will talk about the climber's journals, and **Lindsay Elms**, international mountaineer, speed ascent climber and author of "*Above the Bush*" will talk about his personal climb of Mt. Logan in 1996.

"***The Conquest of Mt Logan***" the B&W silent film shot during the 1925 ascent, will follow the oral prsentations, and will be followed by a Q&A

Entrance $10.00 by donation
Saturday, June 17th, Doors open at 6:30 PM
St. John the Divine Hall, 579 5th St., Courtenay
Hosted by the Mack Laing Heritage Society

City of Courtenay McPhee Meadows Plan

By Dr. Jenny Balke (Ecofocus Environmental Consultants, Denman Island, BC)

The City of Courtenay has developed a concept design plan for the McPhee Meadows area adjacent to the Puntledge River. Details can be viewed on their webpage along with a link to the final concept plan: https://www.courtenay.ca/EN/main/city-hall/projects-gallery/mcphee-meadows.html.

My concerns about the McPhee Meadows Plan have been mentioned by others during the review process and can be summed up as the need to protect and helpfully steward this tiny piece of remaining un-developed riparian habitat along the Puntledge River's urban core. As a Comox Valley biologist and a Puntledge River/overall natural-riparian-area fan, I have had serious concerns about the City of Courtenay's plan for this precious natural riparian area secluded in a valley right in downtown Courtenay. The area, as it exists, is a perfect example of urban citizens protecting a 'wild' area. If it wasn't there, the current and growing 'Rewilding' movement would wish to create it!

Narrow riparian corridor along the Puntledge River (from the McPhee Meadows Final Concept Plan by the City Courtenay).

This very tiny narrow riparian corridor, shown in the figure along the Puntledge River, hosts both exceptional plant communities of riparian wildflowers, as well as our 'wildest' of animals – both bear and cougar use this piece as a very important and safe travel corridor. There are nesting migratory birds, many listed bird species, and habitat for many other animals, including the likely habitat of several currently listed endangered bat species. It is so important to have these tiny minimally disturbed sites remaining in our midst, that the idea of seriously altering its natural state with regular human intrusion and infrastructure construction is very disturbing and seems decidedly unnecessary and inappropriate considering both the wishes of the donor and the preservation status as an Ecological Gift.

The natural state of this riparian corridor requires protection and careful, respectful stewardship. The valuable natural ecological habitat should not be degraded with an infrastructure trail, as mitigation of the trail creation and subsequent human impact is not possible. While the provision of human-use of the former meadow, which has been greatly altered from its natural state, is seen as desirable, the need for more 'corridor-linkage' down the very steep river bank at the far end from the meadow, through the valuable riparian habitat to the meadow is not only unnecessary, but not ecologically acceptable in this era of serious environmental stress!

My conclusions in summary after several visits and thoughtful consideration:

- The riparian corridor habitat along the Puntledge River at this site is worthy of serious ecological protection and careful stewardship.
- As an Ecological Gift property, as well as due to the wish of the donor, the valuable natural habitat and subsequent biodiversity requires protection.
- The City has an extensive existing riparian trail system nearby along the Tsolum River, and further up along the Puntledge River, negating any demanding-need for additional riparian trails.
- A corridor connection, through this area, will create a significant and permanent negative impact on the critical natural values of the narrow riparian habitat at this site.
- Therefore, the current corridor-trail plan in the McPhee meadow design needs to be replaced by a stewardship plan designed to carefully steward the wild natural corridor habitat, allowing access for limited human-stewardship activities and study, and no infrastructure modifications.

Supporting quotations from the McPhee Meadow documents on the City of Courtenay website

Donor's vision:

"Mr. McPhee's vision was to maintain the property as a public wetland park in a natural state, and preserve an existing apple orchard and several other trees with heritage values."

The significance as an Ecological Gift:

"McPhee Meadows is located on the south bank of the Puntledge River in West Courtenay around 4.1 km upstream of the Courtenay River estuary. The land was donated to the City of Courtenay and Nature Trust BC by the late Robert George McPhee following his passing in 2010. The donation was part of the Federal Ecological Gift program, and as a requirement of this program must maintain biodiversity and environmental heritage features such as rivers, riparian areas, trees, and eagle nests."

The design's plan to maintain the biodiversity values:

"The design direction for the property is determined primarily by the intentions of the donor and the terms of Federal Ecological Gift program requirements, which state that biodiversity and environmental heritage features of the property must be maintained. In the spirit of Truth and Reconciliation, input from the K'ómoks First Nation (KFN) is also important as the McPhee Meadows property has historical, cultural, and archaeological significance to KFN members."

CVN Tree of the Year Chosen for 2023

By Karen Cummins

The winner of the 2023 Comox Valley Nature Tree of the Year event has again been chosen by public vote. Now in its 6th year, our event aims to foster a strong connection with nature by bringing attention to local trees that valley residents cherish.

Tree of the Year 2023. ***Photo: Jim Whyte***

The tree that came in first place was Tree #9, a western redcedar (*Thuja plicata*), that calls Seal Bay Park home. Ted Grainger nominated this tree as well as the western yew (*Taxus brevifolia*) in Cumberland Forest that won the honor of being Tree of the Year in 2021. An avid hiker, Ted is frequently out on local trails and obviously has an eye for trees. Ted had this to say about the cedar "At some time in its life, this cedar tree fell over and landed on a Douglas Fir stump. It then grew a second root system down the fir stump, about 4 metres from its original base. Three new trees then grew from the original trunk. I marvel at the tree's tenacity." The two

people from our committee who checked this tree to find that the new trunks were 26 m tall said, “We were impressed how this tree managed to grow three very tall trees under these circumstances.”

Tree #7, a mimosa (*Albizia julibrissin*), is a very different tree that claims second place for its owner and nominator, Kathy Tae. This deciduous tree finally produces leaves in late June, and it has a decidedly tropical appearance that peaks when the fragrant blooms appear in late July or early August. This tree is very much at home in the sunny front garden that it dominates in Comox.

In a small private forest to the west of NIDES school on Smith Rd. in Merville we find the third-place tree. Small in stature and without living parts, Tree #6, a Douglas fir “wildlife tree”, very much lives for wildlife and the children from the school who frequently play near it. Nominator and teacher Jamie Dobbs tells us “This special tree has played an important role in many children's games during class forest walks. He's been a source of joy for kids having a bad day. He always has something interesting to say. He's cautiously housed many prized possessions and secret messages. He has made the trees feel alive and has fostered a sense of connection to the forest.” A special acknowledgement goes to the owner of this land who shares it with the children and has permitted participants in this event to view it.

As the Urban Forestry and Natural Areas Supervisor for the City of Courtenay, arborist Shane Tillapaugh has seen a lot of trees, but Tree #23, a bigleaf maple (*Acer macrophylum*) made a big impression. He said in his nomination of this tree that takes 4th place: “This remarkable tree is one of the few remaining bigleaf maple mother trees in the Comox Valley. At 163 cm diameter and 31m tall, this giant is estimated to be approximately 300 years old and was a sapling nearly 150 years before settlers began arriving in the area. As a mother tree, this maple is connected via the mycorrhizal network to likely 100s of other trees in the surrounding mixed coniferous-deciduous forest. It is a communication hub and provides and receives carbon from its many neighbours, enhancing regeneration, supporting biodiversity and conserving carbon. It is an essential component of the forest and provides critical resilience as our local climate becomes hotter and drier. When observed from below, the finely textured brown bark of the twinned stems draws the eye upwards into the majestic tapering branches of the wide spreading canopy. In the spring, the newly emerging bright green leaves are magnificently set off against an azure sky. Gorgeous.”

All four trees were very close in votes and so, just as all the nominated trees have been honored by being cherished and seen, we felt it fitting to share all four stories.

The voting has closed but the photos and descriptions of the trees nominated this year as well as the chart of the cycle routes will remain on our website. Over 1000 people have viewed just one of the routes on this chart. It is summer: grab your bike and go look at the trees!

A big thank you to everyone who nominated trees and to our committee of 13 who learned about and checked trees, created posters, wrote articles, uploaded information to the website or CVN Facebook, created or tested cycle routes, and put up and took down the signs. It is a labour of love for trees.

Name change coming!

Several years ago, the CVN Board began deliberations toward updating the official name (and the constitution) of our Society. The main driver for several Directors was to bring back “Strathcona” into our name, both to honour the original name chosen by the founders and to better reflect the geographic scope of our activities beyond the Comox Valley (think Strathcona Regional District and Strathcona Provincial Park).

These deliberations have recently resumed, and the Board expects to present a new name to the membership for approval when in-person general meetings resume, likely this fall.

Wetland Restoration at Little River Nature Park

A Look Back in Time

By Karen Cummins

Murray Little first introduced me to Little River Nature Park and the CVN restoration project there in 2019. I have been going there to work, observe closely the natural world and otherwise spend time with other like-minded nature enthusiasts for a few hours nearly every week from April-July since then. I look forward to this time as pure joy as opposed to "work", yet I am still amazed that a core group of 6-8 CVN volunteers also join me on a regular basis.

However, working on the amazing resource, the *CVN Nature Viewing Guide*, over the past winter and spring, I have become more aware of CVN history, including the people and the activities they undertook, and perceive a glimmer of their motivations. The five iterations of the viewing guide from 1974 to 2018 required countless hours of dedicated volunteer work involving research, field study, writing, editing and graphic design.

In March I happened to have a conversation with CVN member Lynn Gray, who did the review of Little River Nature Park for the viewing guide update this winter, about Little River Nature Park. Lynn told me it had been previously owned by the McPhee family and used as a summer retreat.

Then a file labelled "McPhee Property" came my way through CVN Secretary Kathie Woodley. More insight into CVN depth and dedication was found in a report compiled by Frank Hovenden and Norma Morton in the summer of 1999. The *Flora and Fauna Inventory for McPhee Property* was prepared by CVN at the request of the Little River Enhancement Society in advance of the property being sold for development. The authors noted that the information was gathered by a series of field trips from June to August by club volunteers Doug and Marian Innes, Jim and Betty Goodman, Nathan Hentze, Jean Hudson and a special mention was given to Helen Robinson. Helen "showed special interest in the property and was instrumental in preparing the plant list".

Helen's impeccable hand-written plant list is also in the file with this preface: "The McPhee property on Wilkinson Rd. demonstrates great biodiversity and is represented by several ecosystems: the sand beach, the mossy meadow, the riparian zone of the Little River, the Douglas fir forest and the wetlands formed by the ponds. As a result, there is a large variety of vascular plants in such a small area (40 acres). For this reason, the land is worthy of being saved as a park". A copy of an early draft has suggestions in red ink from Doug Innes.

It was noted in the report that the property was in the Georgia Depression ecoprovince and characterized by flat lowlands and extensive land/marine interface that in combination with the climate had resulted in a very high diversity of birds. These same conditions are also coveted by people and fortunately the opportunity to preserve the McPhee Little River property, at least in part, was taken.

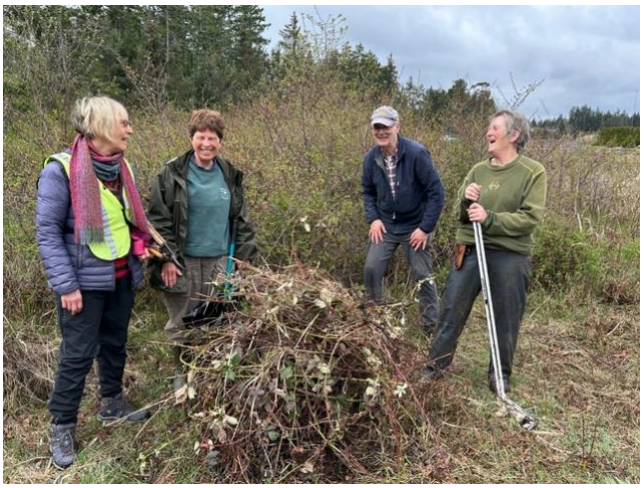
Apparently, the BC Government was committed to protecting 12% of the land base in BC by 2000. Where did we get with that? In the inventory report on the McPhee property, it was noted that for what gains in protection may have been made overall, certain biogeoclimatic zones, such as our Very Dry Maritime Coastal Western Hemlock Subzone (CWHxm) at 2.4% protected, was woefully under-protected and in danger.

In another press release that Murray shared from 2010, CVN was very busy at Little River planting 600 native plants and removing broom from the area around the ponds. Sellentin's Habitat Restoration Co., who we still work with today on invasive plant projects, had drawn up the restoration plan, and Little River Enhancement group were stocking the ponds with fish. At this point, the CVRD was planning the fencing and trails, but the naturalists were focused on "giving nature a hand as the restoration process unfolds."

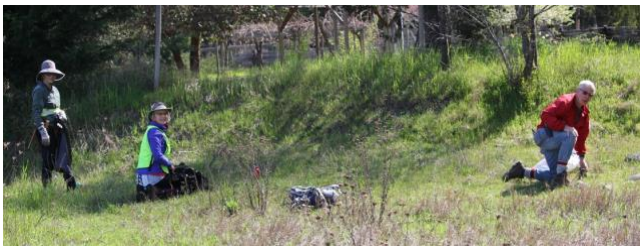
Fast forward to 2023 and we are still "giving nature a hand" through active stewardship, field study, cooperation with other environmental groups, conservation and activism, and education and outreach. As Phil Capes said in the first nature viewing guide, "The goal of naturalists may never be reached, as new concepts are continually arising but the going will never be dull, as something of interest is always turning up". And then she wished us "good naturalizing".

We stand on the shoulders of so many who have studied and acted for nature.

Recent activity at Little River

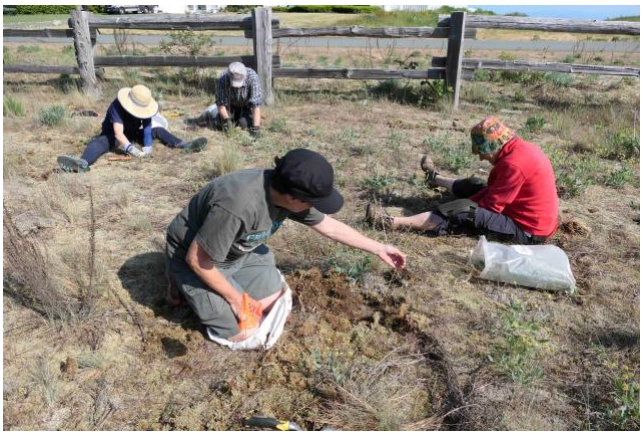


Weed-wrenching blackberry. ***Photo***



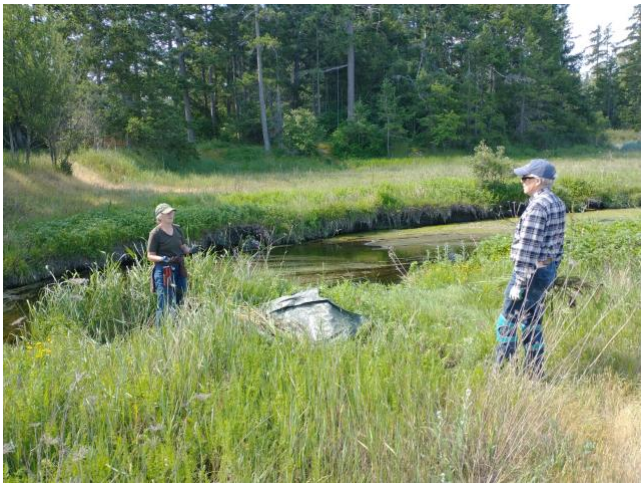
Finding the last of the purple lamium.

Photo



Digging out Dalmation toadflax. ***Photo:***

A whole Dalmation toadflax rhizome. ***Photo:***



Removing reed canary grass. ***Photo: Jim Boulter***

Upcoming CVNS Activities

General Instructions for Field Trips

- All field trips are club events and reserved for members only unless otherwise stated. Typically, one walk each month is open to the public.
- Meet either at the carpooling location or the trailhead 10 minutes before the specified time unless otherwise announced. The carpooling location is usually the Dogwood Mall (Canadian Tire) parking lot, near Cliffe Avenue close to Boston Pizza. For trips going north, it is the Courtenay Country Market on Hwy 19A about 2 km north of Veteran's Memorial Parkway.
- Participants are responsible for their own safety.
- Walks typically take at least 2 hours.
- Wear clothing and footwear suitable for the conditions.
- Bring water and a snack (or lunch for longer trips).
- No dogs please.

Schedule

For general club activities, watch for the latest information and additional details in the Board's periodic email announcements and on the website.

To be notified of the activities of a particular interest group, contact the Group Leader and ask to be added to the group's contact list.

In accordance with the post-pandemic guidance of provincial health authorities, interest-group field trips have resumed. A couple of general-interest weekend walks have also taken place, but an extended schedule for these was not available at the time of publishing. In-person general meetings have not yet resumed, apart from mid-year picnics.

Sunday, June 11. Picnic and general meeting at Kitty Coleman Provincial Park starting at 11:00 am. Pot-luck (optional) or bring your own lunch. The picnic shelter is reserved for us. Bring a chair and your own dishes. Short beach and forest walks likely.

Reminder for Field Trip Leaders

All field trip participants who are not CVNS members must sign our *Assumption of Risk, Release of Liability and Waiver of Claims* agreement and pay the day membership fee before participating.

About the Society

Website

https://comoxvalleynaturalist.bc.ca/

General Email Address

cvncoordinator@gmail.com

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President: [vacant] (cvncoordinator@gmail.com)
Vice-President: David Innes (cvncoordinator@gmail.com)
Secretary: Kathie Woodley (cvnsecretary@gmail.com)
Treasurer: Isabella Erni (TreasurerCVNS@gmail.com)
BC Nature Director: Sharon Niscak
Project Director: Loys Maingon
Wetlands Restoration Director: Karen Cummins
Directors-at-Large: John Neilson, Royann Petrell, Ernie Stefanik, David Orford

Group Leaders and Other Volunteers

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Birding: Kelly Kline (cvnbirds@gmail.com)
Botany/Mycology: Jocie Brooks (cvnbotany@gmail.com)
Shoreline: [vacant]
Photography: Bruce Moffat (moffat.images@gmail.com)
Weekend Walks: Loys Maingon
Conservation: Loys Maingon
Garry Oak Restoration: Loys Maingon
Vanier Forest Garry Oaks Project: Jim Boulter
Airpark Restoration: Frank Hovenden
Environmental Heritage and Culture: Gordon Olsen (cvncoordinator@gmail.com)
Swan Count: Ernie Stefanik, Krista Kaptein (ernie.stefanik@gmail.com)
Comox Valley Conservation Partners liaison: Kate Panayotof, Karen Cummins
Speakers Planning: David Innes
Bursary Committee: Barbara Neilson (cvnbursary@gmail.com)
Tree of the Year Committee: Karen Cummins (cvn.toty@gmail.com)
Education and Outreach Committee: Karen Cummins
Website: David Orford (site_info@comoxvalleynaturalist.bc.ca)
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Newsletter Advertising: Kathie Woodley
Newsletter Editor: David Orford
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Constitution and Bylaws

Available in PDF form on this web page:
http://comoxvalleynaturalist.bc.ca/about-us/

Membership

Includes membership in BC Nature.

Membership form (including the Informed Consent and Assumption of Risk Agreement) is available at meetings and on the website. This must be completed each year.

Fee: $30 per year per household (1 or 2 adults plus children 18 and under)

Discount of $16 if you are already a paid-up member of BC Nature (either directly or through another club).

Pay at general meetings, on the website, or mail a cheque payable to Comox Valley Nature to:
CVNS Membership Secretary
Box 3222
Courtenay BC, V9N 5N4

Membership runs for the calendar year and is considered lapsed if not renewed by January 31. Lapsed members are removed from the CVNS and BC Nature membership lists.

Change of address, phone number or email: Please advise the Membership Secretary.

Meetings

When in-person meetings resume, they will follow the schedules described here.

Monthly general meetings are held on the 3rd Sunday of the month at 7:00 p.m. in the Florence Filberg Centre, 411 Anderton Avenue, Courtenay.

June meeting: Picnic at a designated location.

No general meeting in July, August, or December.

Bird meetings: First Thursday of the month, 7:00 p.m. at the Filberg Centre Soroptimist Lounge, Courtenay. For information or to be included on the birding group list, send email to cvnbirds@gmail.com. Birding walks are held weekly, most on Thursday mornings, and once per month on a Sunday.

Botany/mycology meetings: Meets for walks the second Monday of the month, with occasional additional outings An email is sent prior to the meeting to confirm location, time and topic. To be included on the botany group list, send email to cvnbotany@gmail.com.

Newsletter

The newsletter is published 3 times per year (March, June, and November). The full-colour version is emailed in PDF form to all members on the email list, and a few printed copies (black and white) are available at general meetings and in the CVNS outbox in the Evergreen Lounge at the Florence Filberg Centre.

The newsletter depends on your contributions. Please consider contributing an **article** or **note** on any topic of interest to other members such as natural history, conservation activities, trips, unusual sightings, or a book review. **Photos** are also appreciated, either with a story or stand-alone. You can send your contribution by email to newsletter@comoxvalleynaturalist.bc.ca.

We would appreciate receiving articles by the first day of the publication month. All articles are subject to editing.

NatureKids

CVNS has a cooperative relationship with NatureKids Comox Valley, a separate nature club for children which is part of the NatureKids BC organization. For more information, see https://www.naturekidsbc.ca/.

Capturing the Summit: Hamilton Mack Laing and the Mount Logan Expedition of 1925 by Trevor Hughes

From Laing's diaries, we learn how capturing the summit of Canada's tallest mountain pits the daring adventurers in a struggle with nature, changing them irrevocably as they became part of the environment that tested them.

This is Trevor Hughes' 2nd book on Mack Laing. His first was as editor of Laing's "Riding the Continent

Order your copy today: *macklaingsociety@gmail.com*
$25, no tax, free delivery in the CVRD area.
Copies of Hughes' ***Riding the Continent*** are also available at $20/copy

Note: All proceeds from the sale by the Mack Laing Heritage Society of the Mack Laing books go to MLHS to defray their legal costs and support their ongoing work.

From our online Nature Viewing Guide