

Volunteers in Parks

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Mosses: The Unsung Heroes of Spring

By Cailin Jenkinson, *Communications Officer*

The birds are in concert, more wildflowers burst open by the day, and new sights and smells await us in the evening light; spring is in full swing. To some, mosses may seem to pale in comparison to the season's star players, but without them the wildflowers would be in big trouble.

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The Real MVPs

Behind every flashy shooting star or patch of trillium, and on most surfaces in CRD regional parks for that matter, is the quiet, supportive presence of moss. There's much to know about our region's many hundreds of mosses, and learning to recognise even five of them by sight is no small feat (although they are in fact quite small).

I'm writing this article to hold space for the mosses, who so often hold space for us and for other, bigger plants. Mosses are important to the health and well-being of local ecosystems, read on to hear a little more on why. I'm no expert or even a hobbyist, I'm just someone who stops to awe at mosses many times a day. I work for the Capital Regional District's Regional Parks Division as a Communications Officer (and collaborate with Nadine to make this newsletter).

What is Moss?

[Mosses](#) are some of the oldest land plants - as are their relatives and fellow bryophytes, liverworts and hornworts. At once resilient and vulnerable, mosses can play the long game. Unlike the vast majority of other plants, mosses are non-vascular. That is, they lack true roots or the vascular tissues that would, in many other plant species, act as structural supports and carry water, minerals and sugars. Instead, mosses have what we can call root-like, stem-like and leaf-like structures; instead of rooting into soil, mosses use their rhizoids (hair-like tendrils) to cling onto surfaces; instead of storing water for future use, they simply dry out in its absence from the air...and exist in suspended animation until moisture returns. Pretty cool.

Mosses can survive in extreme conditions and are found on every continent of the world. In BC, where the coasts are long, the forests deep and the skies so often grey, mosses are especially abundant and diverse - in fact [we live in one of the most moss-rich places on earth!](#)



What Do Mosses Have to Do With Wildflowers?

Mosses [contribute to ecosystem health](#) in many ways. Speaking generally, they:

- play a part in soil production by decomposing rock, which makes space and substrate for vascular plants.
- [reduce runoff and help prevent soil erosion](#), thanks to their water-holding capacity.
- help bind soil together in life, and in death they become a part of the soil.
- are linked to [increased nutrient cycling and even control of harmful pathogens](#).
- can [act on soil temperature](#) to protect ecosystems from extreme temperature changes.
- are habitat for many organisms, from [tardigrades](#) to [turtles](#).

Why Care About Moss?

Without the quiet work of mosses, and other plants like them, local ecosystems would further destabilize.

I think of all the many, many mosses at Mill Hill Regional Park - the green and leggy kinds that fan out where the air is cool and wet, or the dense, furred kinds that pepper over exposed bedrock. I wonder how this landscape would change over the years if the mosses were to suddenly vanish, or what this place would look like if the mosses and their kind had never been here at all. Mosses must be protected, for they are protectors within their respective ecosystems, as well as on the global stage.

Did you know that mosses can sequester carbon? A recent global [study](#) found that about 6.43 billion metric tons more carbon is stored in the soil beneath mosses than is stored in bare soil in semi-arid areas. Mosses may also play an increasingly important role in [protecting vascular plants](#) as global temperatures rise in this climate emergency.

What Can We Do For the Mosses?

- Notice moss more often!
- [Learn to recognise some of our local mosses.](#)
- Raise awareness by talking to others about moss.
- Learn more about moss, and learn [from moss.](#)
- Tread lightly on moss in regional parks.

Further Reading and Resources

- [Common Mosses in CRD Regional Parks](#) (PDF)
- [Bryophytes of the PNW](#) (iNaturalist project)
- [iNaturalist](#) (community resources)
- [E-Flora BC](#)

"[Mosses] are great indicators of air quality, and of heavy metals in the environment; because they have no epidermis, they're intimate with the world. They're storytellers.

If I see a certain kind of moss, I'll think, 'Oh, I know you... you wouldn't be here unless there was limestone nearby.' There are mosses that tell the story of land disturbance, and there are mosses that only come in after fires, and they're habitats, too, for tardigrades and rotifers [minute aquatic animals], for algae, and all sorts of other things.

They are the coral reef of the forest, a microbiome in which the species of the bacteria that live in the angles of their leaves are different, say, to those on their rhizoids..."

- Robin Wall Kimmerer, author of [Braiding Sweetgrass](#) and [Gathering Moss](#), as quoted by The Guardian in [this article.](#)



Park Safety Tips

Tick Talk!

Whether you're helping to restore our parks or using them to recreate, it's important to be aware of hazards in the parks, big and small. Our last safety notice touched on potential hazards around Danger Trees in parks, and now we need to scale things down and focus on the less obvious: Ticks!

The purpose of this article is to provide information on the potential hazards ticks present, as well as providing a way to mitigate these hazards.

Ticks can be found year-round on Vancouver Island. Typically, ticks start to increase in activity in March, peak in April/May, then decline by July, and peak again in October/November. These are the months you should be most aware of ticks, and you should be checking your body (and pets!) after each time you spend out in the forest/natural outdoor setting.

Among the ticks found in BC, Western blacklegged ticks (*Ixodes pacificus*) can carry the bacteria causing Lyme disease. Submissions from humans in Vancouver Coastal Health, Island Health and Fraser Health were mostly *Ixodes pacificus* (Western blacklegged ticks) and *Ixodes angustus* ticks.

Testing Ticks for Pathogens

Testing Ticks for Pathogens – After field collections occur, ticks are typically sent to the BC Centre for Disease Control's (BCCDC) Public Health Laboratory where the species is identified, as well as any pathogens present in the body of the tick. These tests provide a basis for estimating the degree of risk of Lyme disease causing bacteria present in sample tick populations/regions. Labs at the BCCDC have been collecting this data for 17+ years!

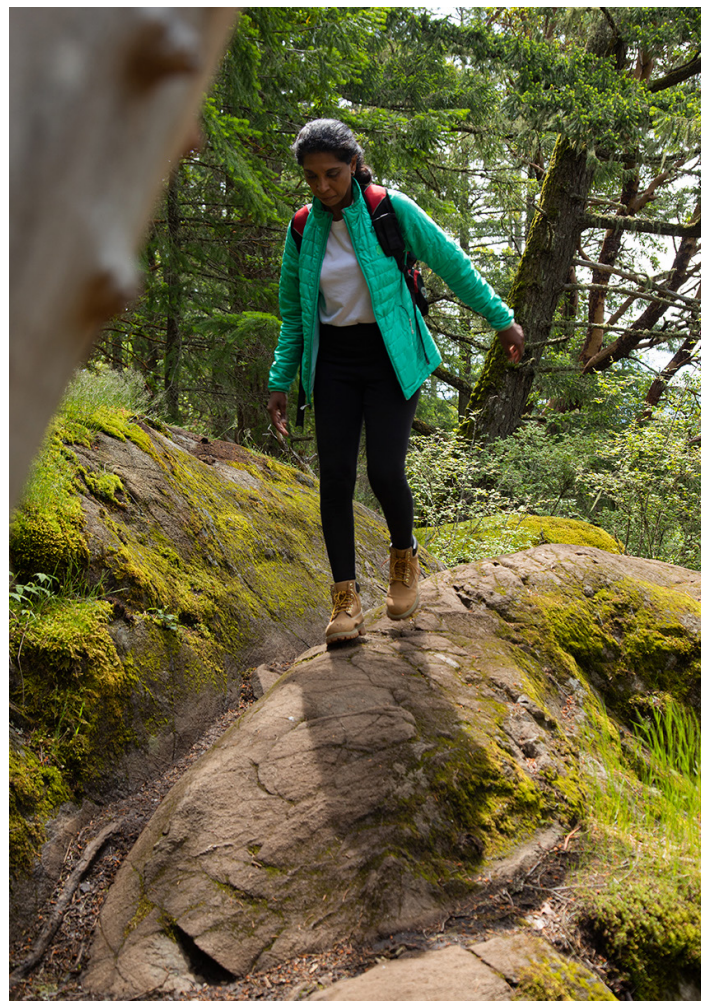
In BC, [less than one percent of ticks tested carry this bacteria](#), and there have been between five and 39 Lyme disease cases reported in BC per year since 2006. Fifty-three per cent of these cases were travel-related and came from outside the province.

How to Protect Against Ticks

If you're headed out on a hike, walking through forested areas or places with tall grass or underbrush, you should check your entire body for ticks when you're done. Here are some more tips from the [BCCDC](#).

It's an excellent idea to shower and use soap, as this can make a tick release from its grip. Go through the scalp, folds of skin, under your arms and behind your knees. Have someone help you check hard-to-see areas, and make sure to check your pets as well!

[You can also consider wearing DEET-based repellent, light coloured clothing, and long sleeves.](#) Tucking the top in your pants, and your pants in your socks, is a good idea if you're heading somewhere you know ticks are often found.



What to Do When You Find a Tick

If you find a tick, the [BCCDC](#) says you should carefully remove it with tweezers, slowly pulling from the head as close to the skin as possible to ensure you remove the entire body (see diagram instructions below).

It's very important to thoroughly clean the bite after removal. Alternatively, you can also go to your primary care provider or urgent care center to have the tick removed.

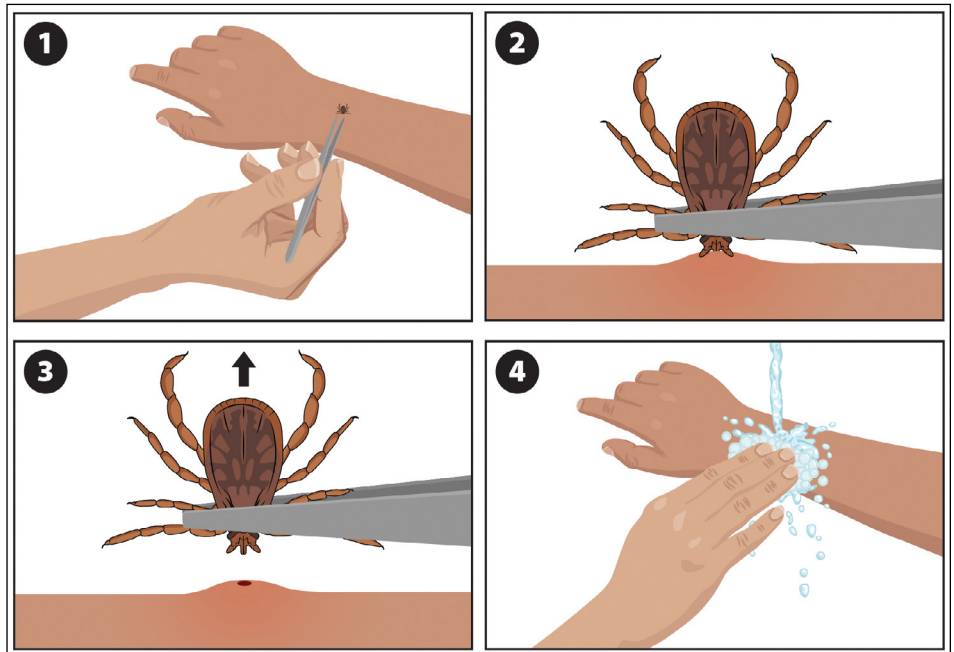
Submit a photo of it to [eTick](#) and have it identified. You will be provided with information about the tick species and whether it can carry any pathogens of concern and what steps to take next.

Ticks aren't going anywhere, so please use this information wisely and make a habit of checking yourself after spending time outdoors.

The information and statistics referenced in this article are from the BC Centre for Disease Control. [Click here](#) to learn more.

Stay safe out there!

- Jake Stead, *Stewardship Technician*



Staff Profile: Morgan Davies

Morgan has been working as a **Environmental Conservation Specialist** since 2022.

What do you most enjoy about working in regional parks?

I'm a coastal gal with a passion for plants and am happiest in places where I can smell the ocean. I'm of settler ancestry, (Welsh, Mennonite, and English) and am thankful to have been a guest on the territories of the ɫəkʷəŋən People, known today as the Esquimalt and Songhees Nations, for 15 years. My path to biology stems from a pivotal summer of cave guiding and a fascination with cave-adapted creatures and the geochemistry of caves. This changed my academic direction toward a BSc. in Biology at UVic where I focused in ecology and environmental studies.

My professional background is in ecological restoration, species at risk monitoring and parks stewardship. From rare moth research to impact assessments to cetacean monitoring I've been lucky to be able to contribute to diverse conservation projects throughout coastal BC. I was delighted to join the Capital Regional District's Regional Parks Division in 2022 after spending many years moving seasonally between work in the Gulf Islands and field sites all the way up to Haida Gwaii. In my life away from work I'm a cyclist, pub-quiz keener and proud owner of a new-to-me sea kayak.

Tell us a bit about yourself.

It has been so nice getting to know the diverse volunteer community that surrounds regional parks. I love collaborating with colleagues, partners, and volunteers, especially on the management of sites with high ecological values. I also really enjoy contributing to reconciliation focussed projects and supporting park management based on Indigenous ecological knowledge and the strong ecological knowledge of local communities. Working in beautiful outdoor spaces doesn't hurt either! After many years of having my home base in the CRD it is amazing to be able to steward and conserve CRD regional parks.



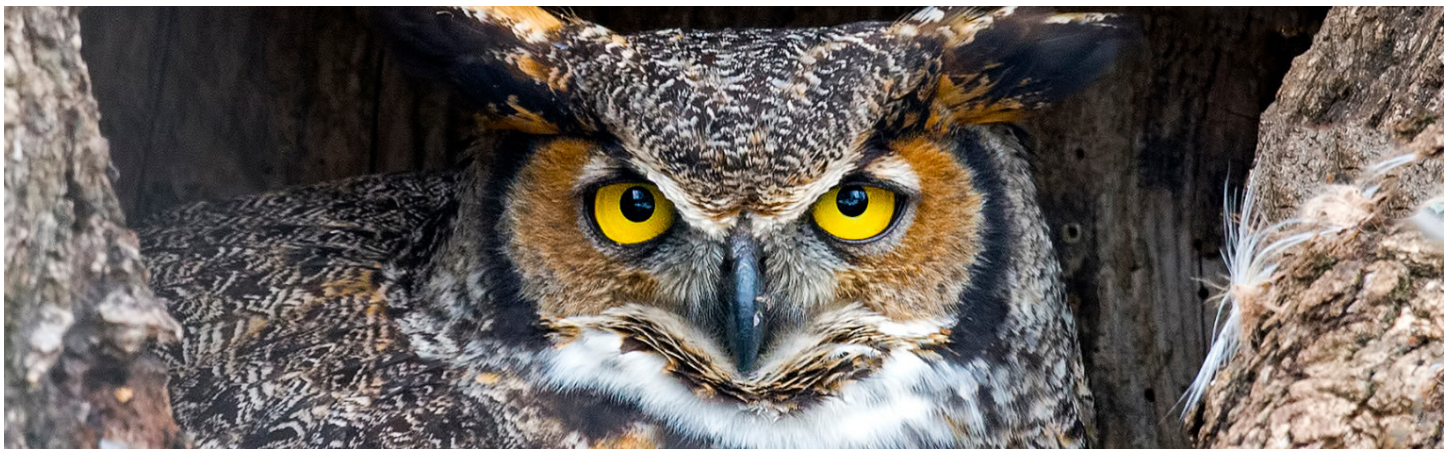
Events & Learning Opportunities

Spring Volunteer Hike

Saturday, May 4 | 9:30 - 11:00am | Devonian Regional Park

Our spring volunteer hike will be in Devonian Regional Park, enjoying the spring flowers and the ocean breeze. Volunteers from our Devonian Stewardship group will also highlight the changes they've made over the past 20+ years to restore the ecosystem.

Email Nadine to sign up: ncollison@crd.bc.ca



FREE! Volunteer Learning Opportunity



Owls: More Than Meets The Eye

Wednesday, May 22 | 7-8:30pm

Francis/King Regional Park - Nature Centre

Join local author, Frances Backhouse, for an in-depth look at owls including an evening walkabout to discover signs of owls in the park!

Sign up is required!

Email Nadine to sign up: ncollison@crd.bc.ca