

# *Beyond* THE *Tides*

The Seasonal Journal of the Blomidon Naturalists Society

FALL 2022

Vol. 49 No. 1

Jijuktu'kwejk  
Watershed

Standing Up  
for Forests

Wolfville  
Development Qs

# FROM THE EDITOR

Wow, here it is! This first issue of *Beyond the Tides*. It feels like the birth of a new child. It has taken an enormous amount of effort from lots of people. It's a new life form, but it carries on the mission of its parent, the previous Blomidon Naturalists newsletter. It looks way different but has the same aim: "to encourage and develop understanding, appreciation, and stewardship of nature" in the region. We hope to present content that is local, engaging, well-written, informative, thought-provoking, and diverse in perspectives offered for a general readership.

In this age of global communications, sadly, it is very hard to find meaningful information, dialogue, and analysis with respect to important local and regional issues, such as nature and environment. A quick web search will find precise numbers for global climate emissions, but try to find an analysis of the plans for aerial glyphosate spraying in Kings County, or the strategies to restore the Kentville Ravine or establish a Berwick wetland trail. This is the role for *Beyond the Tides*: to share and discuss local issues and accomplishments.

Many people have been so generous in contributing their ideas, time, and energy. Thank you! In particular, Caroline Beddoe and Soren Bondrup-Nielsen have been amazing supporters, and David Edelstein, the template graphic designer, has been tremendous.

This first issue is being distributed in print to all members and posted on the website. We have extra copies to be distributed in local gathering spots. If you have ideas for who or where, please be in touch.

This is a grassroots publication and is dependent on its readers and the broader community to contribute and provide feedback. We very much want to hear your reflections on this issue and ideas for future issues. What topics would you like to see covered? How can we reach more diverse audiences? We have not included letters to the editor or reactions from members in this first issue because folks needed something to which they could react. Here it is. Please provide your ideas and feedback. I am all ears. Check out the call for submissions on the last page

Alan Warner  
editor@blomidonnaturalists.ca

## LAND ACKNOWLEDGEMENT AND RECONCILIATION



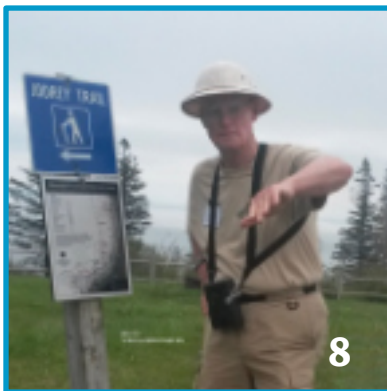
Blomidon Naturalists Society activities take place in the district of Sipekne'katik in Mi'kma'ki, the traditional, ancestral and unceded territory of the Mi'kmaq. This territory is covered by the "Treaties of Peace and Friendship," first signed in 1726. These treaties did not implicate or affirm the surrender or transfer of land to the British, but recognized Mi'kmaq and Wolastoqey title and set the rules for what was to be a long-standing relationship between nations.

We are grateful above all to the land, air, water, and countless non-human beings that make life possible and inspire us every day. We recognize that outdoor learning, exploration and recreation would not be possible without access to the natural world, which has been stewarded for thousands of years by the many Indigenous peoples of this land. We have a responsibility to honour and learn about their histories and current cultures and to actively work in support of reconciliation. We are committed to fostering respectful and sustainable relationships with the Indigenous peoples of this land, with all other organisms, with the land and the water. We are all Treaty People.

*Beyond the Tides* is committed and working to include Indigenous voices and perspectives in this publication, and we are committed to a process of relationship building to facilitate contributions from Indigenous peoples. We also recognize the 400+ year history of communities of African descent and the 50 African Nova Scotian communities throughout the region today, and are committed to seeking out their perspectives and those of others not traditionally included in the work of the Society. We invite you to contribute to this process and/or encourage others to do so, and we welcome all comments and suggestions.

# Beyond THE Tides

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# FROM THE PRESIDENT

I am excited about the new BNS publication, *Beyond the Tides*. We have discussed the purpose, format, and frequency of the BNS Newsletter since I became president. Some felt it was too expensive to produce – the annual membership fee did not cover the cost. There were suggestions that we could reduce the number of printed issues to three or maybe just two issues a year. Some board members thought we should abandon a print version of the Newsletter and go with an electronic publication – then we could have colour photos. There was difficulty in getting enough material for the issues – there seemed to be fewer people volunteering to write. We could not reach an agreement.

Gaspereau Press, which has been expertly producing the high-quality BNS Newsletter since 2008, was involved in the discussions – we suggested maybe just a single issue a year, which would serve as an archive of BNS activities. In the end, Gaspereau Press made the decision easy for us – they decided to end their involvement with the production of the Newsletter for a number of reasons. I want to thank Andrew and Gary of Gaspereau Press for

their many years of volunteer involvement with the production of the Newsletter. I also thank Doug Linzey for his expert editorial service – Thanks!

We decided to continue with a print version of the Newsletter but with a different name and format. I sincerely hope you enjoy *Beyond the Tides*. I thank Alan Warner, who joined the BNS Board in early summer, for taking on the challenge to be the Editor.

The other person I want to thank is Caroline Beddoe, the BNS Program Co-ordinator. We received an ECO Canada grant for ten months to partly fund her. This funding ended in mid-August. Caroline has been an invaluable assistant to the Board and the membership. She expertly kept communications flowing, organized meetings and field trips, created the E-Newsletter, and much more. The great news is that she will be staying on in her role as co-ordinator part-time, at least until December and hopefully into next spring. Thank you so much, Caroline.

Soren Bondrup-Nielsen  
President, Blomidon Naturalists Society



*The primary objective of the Society is to encourage and develop understanding, appreciation, and stewardship of nature in its members and the interested public. The word 'nature' is interpreted broadly and includes rocks, plants, animals, water, air, and the stars. We are a community grounded in nature exploration, education, and stewardship. We welcome everyone who is curious and wants to learn and share about nature. Our core values are environmental stewardship, building a connection to nature, community engagement and diversity, and collaborative knowledge-sharing.*

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For subscription information, see the membership form at the back of this issue or online on our website. If you change your address, please notify us at the address below or via email.

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# Protecting the Jijuktu'kwejk Watershed... Offering Respect and a Voice

There is hope that this watershed will bounce back, but only if it's given the appreciation and respect it deserves.

BY KEELER COLTON

The Jijuktu'kwejk (“gee gee WOK tok”) is the traditional Mi'kmaw name for what many refer to as the Cornwallis River. The Jijuktu'kwejk Watershed encompasses nearly twenty percent of Kings County and flows from its headwaters near the town of Berwick into the Bay of Fundy by the town of Wolfville. Chances are many of you may live in the Jijuktu'kwejk Watershed and not even know it! Many may only know the river from its muddy tidal portions when crossing into Port Williams or Kentville. On numerous occasions I have found myself telling others about my frequent trout fishing in the river. It has been greeted by the same response, “Wait, you fish in that?” Truth be told, the majority of the Jijuktu'kwejk is a clear narrow river with productive ecosystems including wetlands that host a wide array of biodiversity. For centuries, the Mi'kmaq have inhabited and respected this watershed, and used the river for transportation and fishing throughout the year. This river was once iconic for its run of Atlantic salmon which brought in tourists from far and wide.

In the 1970s, the Jijuktu'kwejk had one of the highest percentages of fish biomass in all of Nova Scotia. Yet in 2002 the river was designated as one of Canada's top ten most endangered rivers and described as being “little more than a farm sewer.” So what happened?

Over the last century, the Jijuktu'kwejk has been greatly altered by agriculture and urbanization. The re-routing and ditching of tributary streams for crop irrigation have led to high levels of farm runoff and pollution from manure and pesticides. Up until the late 1900s, nearby communities would dump raw sewage into the river and even now there are four sewage treatment plants that leak effluent into the waters of the Jijuktu'kwejk. As a result, the watershed has degraded and fish and wildlife populations have suffered. As you can imagine, this changed the public perception of the river such that over the years, it has been neglected and somewhat forgotten. Despite this, the Jijuktu'kwejk is still a stronghold for biodiversity and home to many species at risk. There are still beautiful forests and healthy ecosystems scattered

throughout the watershed that have the potential to be strengthened and expanded. Boasting several hemlock ravines, wetlands such as the Kentville Bird Sanctuary and Miner's Marsh, old hardwood forests, bogs, and even slivers of the once mighty pine barrens, the Jijuktu'kwejk has a lot to offer for wildlife and communities alike. There is hope that this watershed will bounce back but only if it's given the appreciation and respect it deserves.

The Jijuktu'kwejk Watershed Alliance (JWA) was formed in 2016 by a group of community members who were concerned about the health of the river and shared the vision of a healthy, swimmable, and fishable watershed. Since then we have been engaged in research, restoration, and community outreach to bring this watershed back to its former glory. Over the last few years, the JWA has been carrying out a series of monitoring projects to gain insight into threats the river faces, while working toward solutions.

From early settler times the majority of the non-tidal portion of the river shoreline was cleared for fields and pastures, leading to high rates of erosion and sedimentation. Today more than a quarter of the watershed is farmland, which has had devastating, destructive impacts on riparian health and water quality. The riparian floodplain traditionally filters out harmful pollutants, contaminants, and sediment which keeps rivers clean and healthy. Deep-rooted native plant species that hold key ecological roles in keeping banks intact and providing valuable habitat have been replaced by invasive shallow-rooted vegetation in areas affected by farmland. This has led to

high rates of erosion from steep, crumbling banks, depositing sediment across the riverbed, covering the gravel and cobblestone with thick layers of sand and mud. This drastically reduces viable habitat for aquatic invertebrates and native fish species. These steep eroded banks have limited floodplain connectivity in the Jijuktu'kwejk to spring floods, drastically reducing the filtration processes it so desperately needs. The JWA is working to combat this by planting native riparian tree species along banks with high rates of erosion to provide shade and keeps banks intact.

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From late May through September the Jijuktu'kwejk River warms and gets lower. Erosion widens the river and reduces flow, and this combines with the lack of shade and heavy irrigation use in the tributaries to drastically reduce the water level and raise water temperatures. Temperatures as high as 27 °C pose myriad threats to the ecosystem and aquatic species alike. With warmer temperatures, oxygen content of water decreases, making life difficult for native fish. Brook trout experience high levels of stress in these conditions, and many seek refuge at cold water



Rainbow smelts have a large run in the river in April. PHOTO: KEELER COLTON

inflows from creeks and streams. These thermal refuges were once abundant in the river, but due to degradation over time from agricultural practices, they are now few and far between. With limited options for 'beating the heat,' trout now congregate in large numbers in these areas where they are vulnerable to predators and anglers alike. Speaking of anglers, water temperatures exceeding 20 °C put trout under a great deal of stress, and catch and release fishing practices in these conditions often prove fatal for the fish. In 2021 the JWA started a cold-water refuge water-monitoring project. By identifying these cold-water refuge sites and monitoring water temperatures over the summer, we have found several sites for future protection and restoration.



Brook trout. PHOTO: KEELER COLTON

Over the last five years, the JWA has been testing water quality throughout the river during the summer months for harmful contaminants such as *E. coli*. When rain finally arrives to interrupt periods of drought, runoff from farms and sewage treatment plants surges into the Jijuktu'kwejk and brings with it a flood of harmful bacteria. We have found disturbingly high levels of *E. coli* in the river after rains as shown in the table below. The table shows the most probable number (MPN) of *E. coli* colonies in 100 ml water samples taken from the river starting beyond the tidal reach in Coldbrook (Lovett Road) and working up to its headwaters in Berwick. For reference, Health Canada recommends swimming water is to be at a maximum of 80-88 MPN\100 ml, drinking water at 0 MPN\100 ml, and crop irrigation at no more than 100 MPN\100 ml. Clearly the river is a threat to the health of creatures and people alike. One of the easiest ways to combat this high level of pollution is through restoration, because wetlands and floodplains are capable of trapping and filtering high amounts of bacterial toxins.

The Jijuktu'kwejk Watershed is home to a number of species at risk and the JWA has been searching for, and identifying endangered species in the watershed. Each spring a diverse array of bird species comes here to breed, and this summer, large nesting colonies of endangered bank swallows were found along the river. In summer 2021, Atlantic salmon smolts were found

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When rain finally arrives to interrupt periods of drought, runoff from farms and sewage treatment plants surges into the Jijuktu'kwejk and brings with it a flood of harmful bacteria.

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in tributaries with no previous stocking history, suggesting that a remnant population of the endangered Inner Bay of Fundy salmon is still reproducing in the watershed despite the Jijuktu'kwejk population being declared extirpated. The Jijuktu'kwejk has three species of turtle: the eastern painted turtle and

***E. coli* Samples for Normal Water Levels - August 3, 2022**

Lovett Rd.	Cambridge Rd.	Waterville	Willow Ave.	Berwick Firehall
108\100 ml	387\100 ml	52\100 ml	105\100 ml	219\100 ml

***E. coli* High Water Samples - June 29, 2022**

Lovett Rd.	Cambridge Rd.	Waterville	Willow Ave.	Berwick Firehall
100\100 ml	384\100 ml	18,000\100 ml	43,000\100 ml	12,600\100 ml

The table shows the most probable number (MPN) of *E. coli* colonies in 100 ml water samples taken from the river from above the tidal reaches of Kentville and working up to its headwaters in Berwick.

common snapping turtle are classified as species at risk, and the wood turtle is listed as endangered. Two of the biggest threats to turtles in the watershed are destruction and predation of nests.

Native turtle species seek out sandy or gravel areas to dig their nests, and due to their close proximity to human-modified environments, they often end up laying eggs in sandpits, construction sites, and dirt roads.

Over the years we have been monitoring laying sites and working with the community to help minimize impacts on these ancient reptiles. This past summer, JWA summer staff completed stream-crossing assessments in partnership with the Clean Annapolis River Project (CARP) for the endangered Inner Bay of Fundy Atlantic salmon. Four different sites were determined to be candidates for restoration activities. This fall, a field trip/tour will visit restored sites. The JWA is also planning/fundraising for our largest project to date, to support the construction of an engineered wetland in Berwick to provide secondary treatment to treated wastewater from the Berwick Sewage Treatment plant. The



wetland should also include a walking trail similar to that at Miner’s Marsh.

For most of my adult life, I have visited this watershed most days in warmer seasons due to my obsession with fly-fishing for trout. By spending a great deal of time on the river, I have come to deeply appreciate its ecology and beauty. This watershed is a diamond in the ruff, clinging to a semblance of its former self, despite the misuse and exploitation it has faced. I encourage everyone to spend some time in the Jijuktu’kwejk and experience what this watershed has to offer. Whether it’s fishing, paddling, bird-

watching, foraging, or a nice walk, there is something for everyone here. A river cannot speak, but by finding a personal connection to its waters, you will grow an appreciation that can give the river your voice. If you would like to learn more or are interested in supporting this watershed, check out the JWA! We are always looking for new members and have many exciting projects and events planned.

**Keeler Colton is a masters student in Biology at Acadia University and a member of the JWA. All photos in the article are credited to him.**



# Contribute Your Voice to the Jijuktu’kwejk Watershed

Join the Alliance at:

[jijuktu'kwejkwatershedalliance.wordpress.com](http://jijuktu'kwejkwatershedalliance.wordpress.com)



# A Beautiful Pocket of the Jijuktu'kwejk River Floodplain

BY IAN MANNING

The twisted/messy floodplain of the Jijuktu'kwejk (Cornwallis) River would have once occupied a huge amount of the Valley floor. With seasonal flooding, an unobstructed river could inundate its banks, dumping huge volumes of sediment and debris into the floodplain, creating a highly disturbed, nutrient-rich, dynamic environment that would have been host to some amazing forests! Over the previous 300+ years, the floodplain has been diked, drained, directed, and cleared of forest and its complexity.

Luckily, if you know where to look, you can find pockets of this wonderful habitat scattered across the Valley. While many of these pockets are on privately-owned land, Waterville Recreation Park in Waterville, Nova Scotia, offers fantastic public access to explore this area.

The trail twists through 7 hectares of woodland along the banks of the river. Along the trail, you will see several pockets of floodplain habitat that possess species including Dutchman's Breeches (*Dicentra cucullaria*), False Solomons Seal (*Maianthemum racemose*), Nodding Trillium (*Trillium cernuum*), Rose Twisted-Stalk (*Streptopus lanceolatus*), and Ostrich Fern (*Matteuccia struthiopteris*), as well as a huge diversity of colourful fungi when conditions are right. The proximity to the river also makes for great birding/wildlife watching. Belted Kingfisher, Rose-Breasted Grosbeak, Common Yellowthroat, Gray Catbird, Barred Owl, Raccoon, Beaver and Eastern Chipmunk can all be found reliably along the trail.

Access to the park can be found at 1015 Maple Street. There is excellent parking. The park is also home to a well-loved frisbee golf course (follows the trail), playground, and baseball fields, so your best bet for uninterrupted access is in the morning. The trail is also used by horseback riders. The river can be accessed from the north side of the trail. However, please take caution because the property boundary is marked by barbed wire and the ground can be slippery.



Ian Manning lives in Berwick and teaches in the Natural Resources Environmental Technology Program at NSCC in Bridgewater. Ian has been a director with the Jijuktu'kwejk Watershed Alliance since 2019.

# A Life of Wonder – a tribute to Jim Woford

BY TOM HERMAN

**O**n June 24th, 2022, the planet lost an advocate and a friend. We all felt the loss, each in our own way. Many of us had said our farewells to Jim in spring when he and his partner Pat went west to begin a new chapter in their life. No one thought it would be so short.

Collectively, my wife Kath and I knew Jim for well over a century! Kath first met him when she was only nine, and he arrived from Chicago on her parents' doorstep in Edmonton to begin his graduate work at University of Alberta. I met him 10 years later, when I arrived in Edmonton from Ohio to begin mine.

Jim's graduate adventures took him from prairie sloughs to mountain parks to the East Arm of Great Slave Lake, affording him ample opportunity to commune with nature and indulge his 'biophilia'. Even for that part of the year when he was forced to live in the city, Jim managed to find accommodation in the wildest part of town, in a ramshackle rental on the edge of a coulee off the N. Saskatchewan River. There he sustained himself and a motley assortment of feral cats, but always on their terms!

A childhood fascination with birds launched Jim's pursuit of natural history, and birds remained a lifelong passion. But over the years his interests broadened. As a graduate student armed with a shotgun, his exploration of the interior of birds in search of gut parasites opened an entirely new world... while admittedly diminishing his ability to hear kinglets and creepers later in life! By the end of his tenure in Alberta, he was a seasoned lab instructor with comfort in all things zoological, botanical, and fungal.

In 1975 Jim moved east to join the Biology Department at Acadia as Laboratory Instructor. As part of the 'Alberta Mafia' (I prefer 'Diaspora'), Jim joined several other U of A dispersers in the Department, and was in turn followed by several others, including at least two other BNS Presidents!

For the next 20 years, Jim taught an array of labs at Acadia before retiring in 1995. His passion for the subjects was always apparent to his students. Although demanding of his students, he was equally demanding



of himself. No student left a Woford course without a memorable moment! Of all his courses, Jim's favourite by far was Field Biology, which he taught every summer to a small but vital class (vitality was a requirement!). The course enabled Jim to expose his unsuspecting students to environments and organisms they never knew existed. By the end of the course, they were both wiser and fitter... so much biodiversity, so little time!

One could write a book about Jim's involvement with Blomidon Naturalists Society, which he joined shortly after arriving in Nova Scotia. He served as President in the early years, and as a board member for decades; a quick scan of past BNS newsletters reveals his involvement in all aspects of the Society over nearly 50 years! Over that time, he led hundreds of field trips to myriad destinations in search of an array of biodiversity. In his signature shorts (when seasonally appropriate) and wellies, armed with dipnet(s) and buckets, binoculars, camera, and thermos of coffee, he was the Prince of Show-and-Tell. In that capacity he enriched the lives of hundreds and hundreds of naturalists of all ages.

Although happiest in the field, Jim was not necessarily the most agile or fleet of foot. Whether it was his enthusiasm for wet places and uneven terrain, or the extra burden of sampling gear, Jim did have a propensity for face-planting... sometimes spectacularly! This occasionally drew blood and invariably turned the air temporarily blue, but Jim always recovered his equanimity quickly and carried on, wearing a bit of the substrate as if it were entirely



normal... which it was.

In many respects Jim was a classical 19th Century naturalist. John Holmes, Jim's graduate supervisor and one of Canada's greatest parasitologists, once described Jim as possibly the best observer he'd ever met. I'd have to agree. He was also a disciplined observer, and we have that discipline to thank for the wonderful records of chimney swifts, bald eagles, and fairy shrimps that Jim left behind.

There were many dimensions to Jim beyond natural history. He was accomplished at baseball and golf and enjoyed engaging his colleagues in both. He loved to make music and to receive it. He believed fervently in social justice and in the social contract among humans and between humans and the planet. To that end he was extraordinarily generous of his time and resources to support political and environmental causes he held dear. To Jim it was essential that one 'walked the walk'.

Although many of us witnessed Jim's occasional flares of temper, some who knew him long and well never did. I recall three family moments that revealed a patient and tender side of Jim not apparent to many, but there when it really counted.

The first was an encounter between Jim and Bobby, our semi-feral and spirited Japanese Fishing Cat, shortly after our arrival in Nova Scotia. Bobby took an immediate liking to Jim (presumably recognizing a cat lover) but unfortunately expressed it one day by vigorously raking Jim's hand with his lengthy and well-clawed hind legs, leaving Jim bloodied... and scarred for life! Jim never flinched. The second was a tender moment on Brier Island, when Jim patiently showed our four-year

old son Toby, already a budding scientist, how to remove and handle a bird from a mist net. I will never forget the look of wonder in Toby's eye as he cradled that warbler. The third was an afternoon in Jim's lab when our younger son Giles, aged three, picked up a decorated ostrich egg, a prized gift to Jim from an old friend in South Africa, and promptly dropped it on the floor, where it shattered into a hundred pieces. Again, Jim never flinched. He simply hesitated, then calmly assured Giles that there was no cause for alarm. Three moments that I will always cherish.

Jim lived the first half of his adult life largely alone, excluding cats. But the second half he shared with Pat Hawes, who transformed and enriched Jim's life in so many wonderful ways. Thank you, Pat, for sharing him.

There are three attributes that I will always associate with Jim: curiosity, wonder, and respect. They governed his life and his interactions with other humans and other species. He was one of the kindest and quirkiest people I've ever known. He lived every day to its fullest, always open to possibility, to a new experience or aseasoned reflection. He shared his passions and enthusiasm readily, and we are all the richer for it.

**Tom Herman is a biologist, long time member of the Blomidon Naturalist Society and Professor Emeritus at Acadia University.**



A keen observer with singular purpose, Jim sometimes missed the very large in search of the very small... but not always!

PHOTOS ON THIS PAGE: PAT HAWES.

# Standing up for Forests at Last Hope Camp

It was time to say enough. Enough damage. Enough disregard for the needs of wildlife. Enough promises.

BY NINA NEWINGTON

In November 2021, flagging went up around an 80 year old forest by Beal's Brook off Highway 10 in southwest Nova Scotia. Local residents knew what that flagging meant. 20 years earlier, Randy Neily, a hunter, trapper and farmer, had persuaded Bowater Mersey, the pulp mill that owned the land at the time, not to cut this forest because of its value to wildlife. Nova Scotians bought back the land when the mill went bankrupt. But now, obviously, the government had given WestFor the go ahead to cut the forest. (WestFor is a consortium of mills that currently holds the main license to cut on 'crown' land in western Nova Scotia.)

Residents protested that the forest provides crucial habitat and connectivity for wildlife. In a sea of clearcuts it bridges between three large wetlands. Three endangered species were known to be in the area: Wood Turtle, Mainland Moose and American Marten. The Department of Natural Resources and Renewables was quick to point out that the American Marten was only officially at risk in Cape Breton. (It is about to be listed as at risk for the whole of Nova Scotia.) Besides, they said, not to worry, their biologists had reviewed the site twice and there were no Species at Risk concerns. And anyway, it was too late, the harvest had been approved. Residents should talk to WestFor.

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"If you can be peaceful and honourable about it, just physically putting your body in the way of what is damaging life on Earth is a very, very powerful thing."

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WestFor told Randy Neily the cut would begin in a week or two. It didn't. Why? Because on December 2, 2021, Forest Protectors and members of Extinction Rebellion set up camp on the logging road. For me and I think for all the people who camped there – 46 of



Last day Last Hope Camp. PHOTO: AMANDA BOSTLUND

us over six plus months – it was time to say enough. Enough damage. Enough disregard for the needs of wildlife. Enough promises.

Letters and petitions, a forest funeral, meetings with our MLA, voting, none of these has made much difference. The NDP, the Liberals and the Conservatives have all had a shot at forestry reform in the last decade but the Department of Natural Resources (by assorted names) has gone on doing the bidding of industrial forestry. We are running out of forests, mature natural forests that support complex ecosystems and store a lot of carbon. In 1958 twenty-five percent of all the forests in Nova Scotia were over 80 years old. Now that figure is between one and 5%.

As Alexandra Morton, whale biologist turned salmon protector, puts it: "If you can be peaceful and honourable about it, just physically putting your body in the way of what is damaging life on Earth is a very, very powerful thing." The camping was rugged with temperatures of -26 degrees centigrade and frequent snowstorms, but the mood in camp was joyful. We did not know how things would turn out – the ability to accept uncertainty is a prerequisite for this kind of action – but we knew it was better than sitting at home wringing our hands.

Our camp was set up on the exact site of the historic Last Hope hunting camp, so called because, back in the 1920s, when game was already becoming scarce, the habitat in this area was so favourable for moose that hunters who had failed to bag their winter's

supply of meat came here for one last try. Though desperately few now, a young bull moose was photographed in Beal's Meadow in September 2020. Dan Baker, a local man who has roamed this area for 50 years gave us a map showing the locations of all the moose scat and tracks he'd seen over the years. DNRR was not interested.

As soon as we set up camp, we put the word out for someone who knew lichens to come and take a look. In January a lichen enthusiast came and found three lichens listed as Species at Risk (SAR): Frosted Glass Whiskers; Wrinkled Shingle and Black Foam Lichen, with five specimens altogether. Each required a 100m buffer. DNRR put the proposed harvest on hold until the lichenologist they hired could survey the whole cut block. He came out in February, confirmed the finds and added two more occurrences. In March the Minister of Natural Resources and Renewables said that was good enough, added buffers for the 7 lichens and allowed the harvest to go ahead.

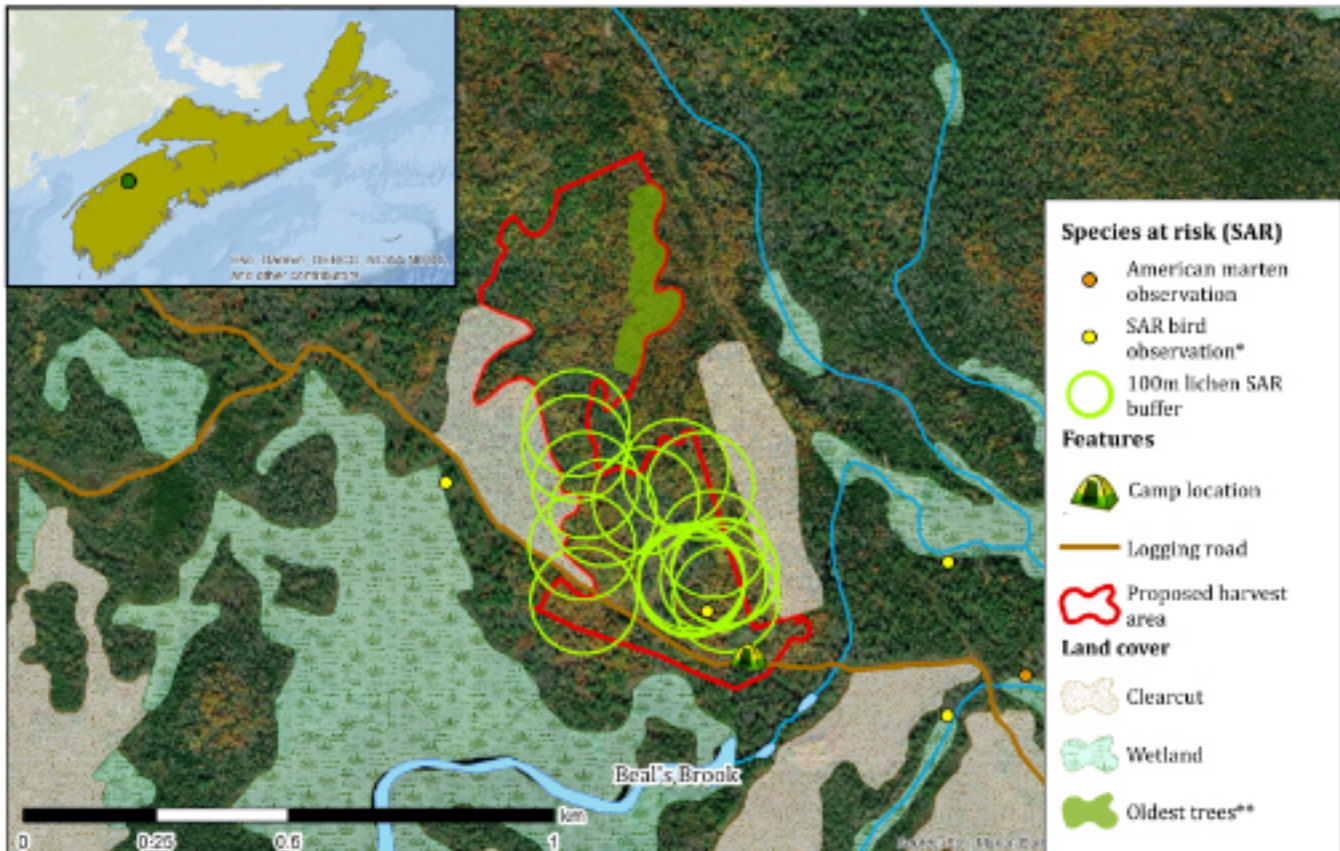
It didn't because we stayed put. In April, when two and a half feet of snow had finally melted, we organized

our first lichen identification session with lichenologist and author Frances Anderson. Participants found two more occurrences of Species at Risk lichens. Over the next two months, with another lichen ID session to train more people, campers and friends identified a total of 10 more SAR lichens. All were reported to DNRR and to the Atlantic Canada Conservation Data Center.

We also organised other workshops on bird and tree identification as well as doing bio blitzes of the area. Four Species at Risk birds were recorded in and next to the cut block: the Canada Warbler; Olive-Sided Flycatcher; Eastern Wood Peewee and Chimney Swift. On April 23rd, an American Marten was seen crossing one of the two bridges close to camp. All were reported to DNRR.

The Minister's response? He told local MLA Carman Kerr that the decision about whether to cut the forest or not was in WestFor's hands. We asked a brilliant mapper friend to make us a map showing the 100m buffers for all 17 SAR lichen occurrences then we put out a press release.

## Species-at-risk at Last Hope Camp



Map produced by Shanni Bale

\*Observed bird SAR include the Canada warbler, Olive-sided flycatcher, Chimney swift, and Eastern-wood peewee.  
 \*\*Several occurrences of possible American marten scat were observed in this patch of trees.



Lichen workshop at Last Hope Camp with Frances Anderson.  
PHOTO: NINA NEWINGTON

On June 21, 2022, after 202 days camped out on a logging road in Annapolis County, Last Hope camp declared a win. None of the proposed cut block has been logged. Thanks to the identification of Species at Risk lichens on the site by campers and others, 60% of it is off limits to any cutting. The remaining 40% is harder to access and uneconomical to harvest. I explained this in the interview I gave in the forest at Last Hope the day we packed up and went home (CBC Information Morning: Why are Protestors packing up after 203 days of camping?).

DNRR has officially acknowledged that only 10 hectares of the original 24 hectare cut block is available for cutting. Still, as far as they are concerned, the harvest can proceed. It is, in bureaucrat-speak, “at the licensee’s scheduling discretion.” The planned cut seems to have changed from the original “Uniform Shelterwood” to a “High Retention Gap Irregular Shelterwood with the goal of creating and restoring multi-aged forest conditions in this white pine/red oak dominated forest through targeted retention of these species.”

The original prescription was touted as a fine example of ecological forestry. This new version must be extra ecological. After all, doesn't it sound as if they would be doing the forest a favour by cutting it?

To be clear, forests do not need forestry. What this forest needs is to be left alone. We will do our best to make sure it is. We do, after all, know the way. We can be back at the drop of a hat – or the clank of a machine. There are lots of eyes on the ground.

## Was it worth it?

What a lot to go through to protect such a small area. But in addition to finding such a concentration of rare lichens and protecting them and the forest they depend on, we also...

- Clarified a fundamental issue with the way the government is implementing the recommendations of the Lahey report. They claim to be ushering in a new era of ecological forestry on ‘crown’ lands but they have not done the landscape level planning recommended by Lahey to identify what areas should be off limits to any harvesting. Reducing the use of clearcutting is good. Applying an ‘ecological’ forestry prescription to a forest that shouldn’t be cut at all is not progress.
- Revealed in technicolour quite how badly the government is failing to do its job. It says it protects endangered species. It says we should leave forestry decisions to DNRR. It says we can count on it to address the climate and nature crisis. But we can’t.
- Built relationships between groups that can be far more effective working together: Indigenous people; local hunters and trappers; naturalists; political activists. In mid-January the District Chief of Kespukwitk, district one of the seven traditional districts of Mi’kma’ki, came to camp. She presented us with the flag of the seven districts to fly. The flag represents both an invitation to be on this unceded territory and thanks for our sacrifices in protecting the land and water and the creatures that live there.



One of the endangered lichens, Black-Foam Lichen (*Anzia Colpodes*). PHOTO: LISA PROULX



One of the oldest trees in the forest. PHOTO: NINA NEWINGTON

• Created hope. DNRR said it was too late to save this forest. But it wasn't. It isn't. We can make a difference. Together we must save what we can. There is real joy in coming together to protect what we love: this natural world. Our only home.

**What now?**

The government has pledged to protect 20% of Nova Scotia's lands and waters by 2030. But they are continuing to approve cuts in the very forests we need to protect the most – mature, mixed species forests like

Last Hope, which offer critical habitat to Species At Risk.

It is time for people across the province to say no, we do not consent to the ongoing destruction of nature. We cannot afford to lose any more of our most ecologically valuable forests. This means placing under consideration for protection all forests over 80 years old on crown land as well as those few areas of intact forests not yet fragmented by logging roads and clearcuts. Final decisions as to what areas will receive permanent protection will take time but in the meantime this will result in an immediate halt to logging, roadbuilding and development in those areas.

We will be continuing to work with the Healthy Forest Coalition (HFC) and other groups and there will be more information on the HFC website this Fall. In addition to petitioning for the demands outlined above, we are committed to working with individuals and groups to build the skills necessary to identify and protect ecologically valuable forests. Our small success shows that it is not too late to save what we can. If we want a liveable planet, we can't wait for the government to act.

To contact Extinction Rebellion and the forest protectors, email [xrns@riseup.net](mailto:xrns@riseup.net)

Or you can reach me at [nsforestprotectors@gmail.com](mailto:nsforestprotectors@gmail.com)



PHOTO: NINA NEWINGTON

**Nina Newington is a writer, gardener, carpenter and forest protector. Her second novel, *Cardinal Divide*, was published in 2020. She lives with her wife on the North Mountain in Kespukwitk, District One of the 7 traditional districts of Mi'kma'ki.**



## Development Questions for Wolfville’s East End: Insights from a Local Greenspace Study

These lands proposed for development could nearly double Wolfville’s current population. How will this change Wolfville’s sense of place? What role will greenspace and public space play in these developments?

BY SARAH LAVALLÉE

Place is important. The places we live govern our daily lives, our social interactions, our quality of life. Thoughtful design of places has the power to make us feel welcome, safe, and part of a larger community. But places can also make people feel excluded, vulnerable, and isolated by their design. In short, places – particularly public places – are vital to a community’s wellbeing; it is imperative that they are accessible and equitable to all. Such considerations are vital as the Town of Wolfville grapples with accommodating future growth, particularly the proposed new developments east of town. Known as the East End Development,<sup>1</sup> this is a planning and development process over the next few years for approximately 1400 units on the farmlands currently known as the “Kenny Lands” and “Maple Ridge Lands”. These developments would nearly double Wolfville’s current population. How will this change Wolfville’s sense of place? What role will greenspace and public space play in this development? I’ve been thinking about this given my recent research at Acadia on the importance of local greenspace in Wolfville.

I have always had a fascination with place-making and how the design of spaces can influence people, so I chose to study people’s emotional attachments to greenspace for my honours research. I facilitated discussion groups with four distinct populations in Wolfville who do not typically have their voices heard: high school youth, university students, seniors, and members of the L’Arche Community (5-6 people per group). I met with each group twice before bringing all of the participants together for a final brainstorming session. In addition to the discussion groups, participants completed two tasks during the study: first they took three photographs of local greenspace that matched their personal definition of greenspace, and second they audio-recorded their reflections while using greenspace. Greenspace was defined overall as a natural space that can be used for recreational, social, spiritual, and conservation purposes.

Three key themes emerged from my study that have meaningful applications for the East End Development process: the importance of public, free, social spaces; the value of a greenspace network approach to meet



multiple and evolving community needs; and the importance of social equity in planning in Wolfville.

### The Importance of Free Public Spaces

My research identified the importance of free public spaces in Wolfville in fostering social cohesion, the social bond or glue between community members. It contributes to the “tight-knit” feeling within a community and increases a community’s resilience to such threats as climate change and pandemics. Participants expressed that using local greenspace gives them a sense of belonging, facilitates genuine social exchanges between community members, and offers a neutral space for community members of all ages and abilities to interact and form relationships. While participants expressed the importance of greenspace as an important social space, they also wanted more indoor community spaces, especially in the winter months. Current community spaces, such as the library or the recreation centre, are not sufficient as they are too small and inaccessible. These findings support Christopher Alexander’s work in his landmark book *A Pattern Language*,<sup>2</sup> which argues that people, not architects, should be leading the design of their own houses, streets, and communities. Participants in my study felt that greenspace and other public spaces

not only facilitated genuine social interactions at an individual level, but also at a community level. Greenspace in Wolfville is used for group meetings, social advocacy (e.g., protests), and community events, all of which help people feel connected to something larger than themselves.

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Participants wanted more public spaces that enable them to get involved in their community and connect to others of all ages and abilities.

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Participants wanted public spaces that would enable them to get involved in their community and connect them to others of all ages and abilities. As one participant put it, “We need more public spaces that are alive.” I urge planners, Town Council, and developers to prioritize the importance of public, communal spaces – indoors and outdoors – that feel “alive”, are accessible to people of all ages and abilities, and that contribute to the community’s sense of social interconnectedness.

### A Network Approach to Greenspaces





Hannah and Marie Burton discover a neat willow tree on the Kenny Lands. PHOTO: HAZEN BURTON

My research identified the importance of a network approach to community design in Wolfville, one that integrates greenspace into daily life and makes active transportation more accessible and convenient. A plethora of research demonstrates the benefits of daily greenspace use for mental and physical health; and the more accessible greenspace is, the greater the number of people who can reap its daily benefits. With a network approach, each individual greenspace can be tailored to fit the natural ecological features of that area. Participants loved the variety of greenspace in Wolfville — Reservoir Park, the dykelands, the splash pad, playgrounds, cemeteries. The key is to ensure that all of the greenspaces are well connected so that residents have the choice of a space that best suits their needs. There are two stream corridors in the development lands as well as the view from Reservoir Park that need to be meaningfully integrated and protected in the East End development plans. Why not plan the active transportation routes before the roads?

Finding ways to balance the accessibility of greenspace while preserving the “wildness” of these natural areas was a recurring theme in the discussion groups. Participants suggested more transit access to

greenspace, more educational opportunities and signage in greenspace to increase awareness about local species and land history, boardwalks to preserve vegetation while increasing accessibility, and more greenspace elements that allow for increased integration into daily life (i.e., outdoor workstations, more public washrooms, etc.).

### Equity in Decision-Making

Finally, my work identifies the critical importance of equity in decision-making. It became clear through my research that at least some populations in Wolfville do not feel that they have a voice when it comes to planning decisions. In particular, youth and people with disabilities often feel excluded and unwelcome in current greenspaces, and planning processes in general. These feelings of exclusion stem from complex social attitudes such as the negative reputation that some youth feel that they have in the community, such as being regarded as “uninterested in nature,” “destructive,” and “irresponsible”. Similarly, L’Arche members felt that the social norms around able-bodied usage of greenspace prevented them from using greenspace as they would like. For example, although there is a viewing platform and bench on the border of the pond just off the rails-to-trail in the west end, one L’Arche support person pointed out that this still prevents individuals with mobility challenges from getting “up close and personal” with nature. From what I have observed so far, the community engagement with the East End Development has not been sufficient in engaging typically marginalized groups such as youth and persons with disabilities.

Furthermore, my findings support emerging research on the importance of greenspace design when it comes to



Garter snake near the Wolfville Reservoir. PHOTO: SEAN MCCANN, WITH PERMISSION FROM INATURALIST

making greenspace welcoming to diverse populations. Byrne discusses how culture, ethnicity, and privilege play into the accessibility of greenspace,<sup>3</sup> exploring the concept that greenspace design portrays certain ideals about nature and therefore influences the way visitors to the space feel that nature should be used. In Byrne's words, parks are not just natural spaces, but "socio-cultural assemblages" that mirror current hierarchies and power dynamics in society. This idea is supported by the overwhelming belief of participants in my study that Indigenous history is not honoured or represented in current greenspace in Wolfville. It became clear that the Western view of nature – nature as tranquil, pristine, conserved – is prominent in Wolfville's current greenspace design and that this unintentionally excludes other worldviews about humans' relationship with nature. We should all be mindful that the design of spaces portrays social attitudes and beliefs that have the power to make people feel unwelcome and unable to cultivate a sense of collective ownership in that space.

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What does "a partnership between landowners, residents, and developers" really look like? Will money do most of the talking? How will the Town ensure that underrepresented community members are heard?

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This emphasizes the importance of clearly defining "a partnership between landowners, residents, and developers" that is referred to in the East End planning documents.<sup>4</sup> What does a partnership really look like? Will money not do most of the talking? How will the Town ensure that underrepresented community members are heard? Will local Indigenous communities be partners in the development and will their history be meaningfully honoured in the new developments? Tough questions like these need to be answered before moving ahead with plans.

With such a significant development proposed, it is imperative that there be meaningful and accessible opportunities for a diverse and representative range of community members to be involved in these planning decisions, even if this means pushing back the timeline. Equity is not worth compromising when it comes to the future of Wolfville for generations to come. Let's take the time to get this right.

## Notes

1. *Wolfville East End Secondary Plan: Community Planning Workbook*, 2022, <https://wolfvilleblooms.ca/eastend>.
2. Christopher Alexander, *A Pattern Language: Towns, Buildings, Construction*, Oxford University Press, 1977, p. 337.
3. Byrne, Jason, "When green is White: The cultural politics of race, nature and social exclusion in a Los Angeles urban national park", *Geoforum*, 2012, p. 595-611.
4. As quoted in the Planning Advisory Committee's East End Secondary Plan, 2022, p. 31.

**Sarah Lavallée graduated from the Acadia University Community Development Program with honours in 2022.**

**Editor's Note:** The Town of Wolfville is currently in the process of establishing a "Secondary Plan" for the East End lands that involves determining how these lands can be developed, including guidelines for what can be built and the density that must be achieved; what areas should be conserved; where roads, parks, trails, and community centres will go; the character of the future communities, etc. There were four open houses for public input in the spring plus an on-line engagement process. A draft staff report on plan recommendations will be released this fall followed by a public open house and the submission of a final report to the Town Planning Advisory Committee for approval in December. This is a major development initiative that will affect all aspects of life in Wolfville in the medium to long term. Find out more and contribute your input at [wolfvilleblooms.ca/eastend](https://wolfvilleblooms.ca/eastend).



A frog in the pond on the west side of the Kenny lands. The pond collects run off rain water and provides a habitat for numerous animals. On spring evenings a chorus of spring peepers can be heard throughout the neighbourhood. PHOTO & CAPTION: HAZEN BURTON



## Kids' Views of Wolfville's East End 'Undeveloped' Lands

BY THEO MURPHY

The Back Field is rich in adventure and wildlife. My brother, sister, and I spend a lot of time exploring and playing in the meadows, the old orchards, and at The Pond. We especially love The Pond. In the winter we skate for hours. Our neighbours put up lights in the trees so we can even skate after dark. In the spring and summer, the pond is just as exciting. My brother and I saved up our money to get the trap because we wanted to know if there were any minnows or other water creatures in The Pond. So far we have caught or seen and identified several pond inhabitants, including yellow-spotted salamanders, eastern newts, giant water bugs, eastern American toad, tadpoles, common pond snails, water striders, and, we think, maybe a northern leopard frog. We put our trap in the Pond and usually leave it for a day.

When we check in the morning, we sometimes have up to eighteen salamanders in it! We count them, look at them, and then let them go. We also see non-aquatic wildlife, such as ring-necked pheasants, hawks, eagles, owls, muskrats, mice, and voles. The Pond and The Back Field are very important to us – it's our playground!

**Editor's note:** Theo is nine years old and dictated this to his parents. The East End article notes that those on the margins in a community do not typically have their voices heard in planning decisions. This includes kids and hence the importance of this contribution. *Beyond the Tides* is one way to give voice to diverse perspectives. Thanks to Hazen Burton for facilitating the kids' contributions.

*Photo captions clockwise from top left:* Hannah & Marie Burton looking out over the pond; Bethany MacDougall & Jack Murphy finding a snake and a yellow spotted salamnder; Hannah & Bethany discover an animal trail down to the pond. All photos were taken on the Kenny lands and highlight some of its natural features. PHOTOS: HAZEN BURTON





## Nothing is Something in a Fall Garden

Now that we realize we can't live without insects and in particular bees and other pollinators, the question arises as to how to best live with them

BY JOHN LELIEVRE

So what is nothing? It may come as a surprise to learn that some scientists devote a significant part of their lives to studying the nature of nothing. Indeed, nothingness is said to be one of the most complex outstanding problems of physics.<sup>1</sup>

This May I discovered and released seventeen queen bumblebees, *Bombus impatiens*, from our green room (it has lots of plants) at the back of the house. How these queens came to be in the green room is something of a mystery; they seemed to have come out of nothing. The idea that insects spontaneously spawned from dust, meat, or rotten meat was widely believed some three hundred years ago. But thanks partly to the work of the seventeenth century artist and naturalist Maria Sibylla Merian, the metamorphosis of insects became known in detail. Maria declared that all moths and butterflies hatch from eggs and do not just magically appear. There is a fascinating short video on the subject made by the BBC in collaboration with the Royal Society: "The woman whose paintings changed science forever."<sup>2</sup>

In Maria's time butterflies were widely considered to be 'beasts of the devil'. No longer, and now most

people have heard a bit about saving the bees and the butterflies. In fact, these insects are so accepted nowadays that they have become something of a fashion statement, with many a person sporting a bee or butterfly tattoo. Ideally, the bee on display would be one of the hundreds of Canadian native bee species rather than the 'farmed' honey bee, which arrived in North America about four hundred years ago, and whose survival is not in question.

Given that we now realize we can't live without insects and in particular bees and other pollinators, the question arises as to how to best live with them. Saving pollinators in spring and summer can be quite a glamorous job, and may include tasks such as planting wildflowers and eliminating the use of pesticides/herbicides. These steps help native and farmed bees alike. Supporting pollinators in fall is rather less glamorous and may be as simple as doing next to nothing. Mind you, a thoughtful kind of nothing.

Much to my surprise, besides the study of the nature of nothing, there is also the study of doing nothing. It turns out there is an art and reportedly a science to



Cone flowers attract pollinators in the early fall garden. PHOTO: NABIN MEWAHANG, PIXABAY

doing nothing. In “The art and science of doing nothing,” Susan Weinschenk explains that since we are addicted to doing ‘stuff’, coming to terms with doing nothing is a challenge.<sup>3</sup> In the context of the fall garden, ‘stuff’ translates into demonstrating our virtue to the neighbourhood by being productive and busy. Not a leaf should litter the place. All should be regimented, manicured and trimmed. Such virtue signalling runs contrary to the needs of pollinators.

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In the context of the fall garden, ‘stuff’ translates into demonstrating our virtue to the neighbourhood by being productive and busy. Such virtue signalling runs contrary to the needs of pollinators.

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A factor that complicates the drive to support pollinators by doing just about nothing in the fall is that the gardening industry encourages us, through advertisements, to get busy (not with our brains) and tidy our yards in preparation for winter. When it comes to lawns, lots of things are marketed to keep those acres green, all of which are worthless to pollinators. There are lawn soils, winter care fertilizers, leaf rakes, broadcast spreaders, aerators and grass seeds, etc. The good news is that times are

changing, those uncalled-for expanses of green, which were once viewed as signs of respectability and conformity, now seem to be something of an embarrassment, just plain dull, and little more than a signal of colonial times.

Doing next to nothing means we are left to do a minor something to get the garden ready for winter. There are several practical articles on what that minor something should be that I find both interesting and helpful.

First is an article by David Mizejewski of the National Wildlife Federation titled “What to do with fallen leaves”.<sup>4</sup> David sets out a coherent plan and the reasons for following the guidance therein. At the core of David’s recommendations is the commandment to simply leave the leaves where they fall or move them (by rake, not by leaf blower) to garden beds where they will return nutrients to the soil. Such a layer of leaves, say 5cm high, is a natural phenomenon in woodlands, yards, and gardens. The layer forms its own ecosystem and is a primary habitat for many wildlife species including pollinators. David notes that a thick layer of leaves will smother a lawn and suggests the best way to solve this problem is to eliminate or reduce the size of the lawn.



PHOTO: SUSANNE JUTZELER, SCHWEIZ, PIXABAY

The second article is by Jessica Walliser, “Six reasons NOT to clean up the garden this fall”.<sup>5</sup> Jessica states that our gardens play an important role in supporting wildlife and how we manage them in autumn can either enhance or inhibit that role. Not mincing words, she states, “the hack-it-all-down rake-it-all-up approach, that results in the garden being an only slightly grubbier version of our living room with not a shred of nature remaining, is from a time when we didn’t know any better.” Now we realize nature knows best. Jessica’s six reasons are the native bees, the butterflies, the lady bugs, the birds, the predatory insects, and the people that will benefit from doing next to nothing in the fall garden. Indeed, people can find much beauty during the winter in a garden so respected.

A final piece supporting a do-nothing approach was brought to my attention by our editor, Alan Warner, and is a step by step guide to no-till gardening.<sup>6</sup> In fact, not pulling plants or turning over the soil reduces erosion, protects earthworms and microorganisms that build soil, and maintains the microbial and root network that facilitates decomposition, adding to soil nutrients. If you are itching to do something in the fall, you could tear out some of the lawn and replace it with a no-till garden space (but cover it with mulch if it is too late to plant a cover crop).

Overwhelming evidence demonstrates that many pollinators require habitats such as leaves, stems, stalks, logs, and in some cases bare earth, to overwinter. Therefore the time for the clean up, if there is going to be one, is in the spring. but definitely avoid the temptation to start the job on that first warm day. By the time the temperature reaches 10C for about a week, pollinators will have departed their winter quarters. Then you can switch from a ‘thoughtful just about nothing’ to a ‘mindful something’.

### Notes

1. *Nothingness: The Science of Empty Space* by Henning Genz, Basic Books, 2001.
2. <https://www.bbc.co.uk/ideas/videos/the-woman-whose-paintings-changed-science-forever/p0c3tmh5>.
3. “The art and science of doing nothing” by Susan Weinschenk, *Psychology Today*, May, 2019.
4. <https://blog.nwf.org/2014/11/what-to-do-with-fallen-leaves/>.
5. <https://savvygardening.com/6-reasons-not-to-clean-up-your-garden-this-fall/>.
6. <https://donotdisturbgardening.com/how-to-start-a-no-till-garden-a-complete-step-by-step-guide/>.

**John Lelievre is a member of the Blomidon Naturalists Society and an avid explorer and photographer of the Annapolis Valley.**

# Galvanizing Local Climate Action with Climate Circles

BY EMILY LEGRANDE

This fall, the BNS is working to take on a community-level climate action program called Climate Circles. Climate Circles was a weekly climate action meeting for anyone concerned about climate change that ran at the Wolfville Farmer's Market from January to March 2020. The Climate Circle meetings were born of the hopeful momentum and energy of the September 2019 global youth climate strikes that saw more than 10,000 people in Halifax, 500,000 in Montreal and 7.6 million people globally protest for bold climate action from governments of all levels. The scale and energy of those strikes were in turn a response to the devastating 2018 Intergovernmental Panel on Climate Change report which stated that climate change was happening at a rate faster than anticipated and laid out a last window of opportunity for action by 2030.

Climate Circles initially ran as a pilot, volunteer-led program in which those involved, both hosts and participants, learned a tremendous amount. We likened it to throwing a complex system up in the air, watching it unfurl in unexpected ways and then scrambling to keep it from hitting the ground. Climate Circles quickly had a life of its own with 40-60 people attending each week from a group of 100, each with their own unique combination of skills, hopes, expectations, beliefs, and knowledge. There were 6-7 regular group meetings happening each week alongside other smaller groups forming and dissolving.

Complex needs emerge when we try to meet regularly to tackle something as unprecedentedly complex as climate change. There were people with a wide range of needs: encouragement and validation to do their fantastic idea, coaching on what to do to help their group get unstuck, to be heard in their frustration when their expectations for pace of action weren't being met, and many, many more. The volunteer hosting team knew that the longer needs arising in the



Circles went unmet, the clock was ticking on how long a person would be willing to continue meeting with others. It was challenging to keep up the myriad needs that arise with only a handful of hours per week of volunteer time committed to the Circles.

When we pause to reflect, this complexity makes sense: climate change is the most daunting challenge humanity has ever faced. In addition, it is a collective and cumulative problem. And yet, we are in perhaps the most individualistic, isolated, and community-lacking era of human history, which makes the collective-level action that we need extremely challenging to bring about, given the skills, ideas and current social and economic structures.

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To learn more about Climate Circles and our Small Change Fund crowdfunding campaign, please visit the Climate Circles page of the Blomidon Naturalists website at [blomidonnaturalists.ca](http://blomidonnaturalists.ca).

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The BNS remains committed to taking community-level climate action. We know Climate Circles worked in many ways, and held meaning for many people, at a minimum as a vital social outlet for hope and connection, yet they require more time and commitment than is possible to give on a volunteer basis. Therefore, we will be raising funds to hire two facilitators, one working full-time and the other part-time, for one year, to give it a proper and thorough go.

While we are open to grant-based funding, most environmental funding tends to be outcome-oriented for specific projects. Because Climate Circles creates space for people within a region to come with their



own climate action goals and ideas and to connect and move toward action with like-minded people, there is no way to ensure particular project outcomes. For this reason, we've chosen to focus on donations and crowdfunding, with the support and advice of the Small Change Fund. It seems logical to assume that there is no one more interested and invested in creating a forum for community-level climate action than a community itself. We hope that the people who have first-hand experience or can appreciate the benefits and urgency of Climate Circles and collective action will value with their dollars the relaunching of these possibilities through Climate Circles. We hope that facilitators will be able to focus on understanding

and meeting as many needs that arise through engagement in community-level climate action as possible, so that all people involved can have the opportunity to grow, learn and enjoy the work together for as long as possible.

To learn more about Climate Circles and our Small Change Fund crowdfunding campaign, please visit the Climate Circles page of the Blomidon Naturalists website at [blomidonnaturalists.ca](http://blomidonnaturalists.ca).

**Emily LeGrand is a nature educator, facilitator, idealistic schemer, avid reader, book indexer and current BNS board member.**

## Local Towns Receive BNS Butterflyway Gardens

BY CAROLYN GREEN

**T**he Blomidon Naturalist Society has joined the David Suzuki Foundation Butterflyway Project, taking on planting at least 12 pollinator gardens in the community. We are engaging and educating the public by placing gardens with signage in local town parks and other public areas. We are pleased to report that all of our local towns have agreed to host one or more gardens, usually giving up existing beds to fill with native plants.

So far we have planted one or more beds in Wolfville, Port Williams and Kentville, with beds also planned for New Minas and Grand Pré. Our first two gardens, planted last fall in Clock Park, Wolfville, bloomed this

summer. One highlight this year was planting a bed at the Valley Community Learning Association's Oakdene Building in Kentville. Another interesting challenge was planning a pollinator shade garden for Miner's Marsh in Kentville. We are now in the process of getting signage approved and installed. The sites are all be listed on the BNS website, so please do check them out. We will have to wait until next summer to see flowers in bloom, at which time we also hope to see fluttering butterflies and hear buzzing bees!

**Carolyn Green is the coordinator of the Butterflyway project and a BNS board member.**



Carolyn Green and Caroline Beddoe planting pollinator gardens at Port Williams and Miner's Marsh. Photos: Caroline Green

# Celebrating Beavers in the Jijuktu'kwejk Watershed

Beavers are not pests but allies in protecting and restoring our watersheds and their biodiversity.

BY KEELER COLTON

Ah yes, the beaver, the furry loveable Canadian icon praised for its incredible work ethic and impressive feats of engineering. With the beaver being such an important and beloved figure of the aquatic environment, it may surprise you to hear that this rodent is in fact hated and prosecuted for its ingenuity across the nation. For eons, beavers have been both busy and prevalent as they changed the many environments around them to suit their needs. Beaver dams have had an incredible impact on the Canadian environment by re-routing rivers and engineering ecosystems, and over millions of years they have completely changed the landscape we know today. Beaver populations have had a rough time due to their exploitation in the fur trade, and today while still common, their numbers are only a fraction of what they once were. It is widely believed that beavers have a negative impact on river health and fish populations due to their activities. At first glance, this makes perfect sense, as the seemingly random clearing of trees, flooding, and damming of waterways is frequently associated with the negative connotations of human-driven activities such as clear-cutting and hydroelectric dams. This has given beavers a bad reputation as a nuisance and a destructive pest in the eyes of the public. As a result, beavers have been subjected to culling throughout Canada and many provinces have government policies focused on beaver trapping and dam removal.

Over the last 34 million years beavers have inhabited North America alongside the same migratory fish species we have today. Also, there were many more beavers prior to colonization with fish populations to match. Many believe beaver dams block fish passage for migratory species such as salmon and in doing so have a negative impact on fish populations, many of which are endangered. While beaver dams are certainly a barrier, research has shown that native fish

species are not only fully capable of passing through beaver dams, but many also utilize the environments they create as spawning habitat. In fact, the ecological benefits of beaver dams are so significant that many conservation organizations on the west coast are actively trying to re-introduce beavers to rivers with struggling salmon populations.

Beaver dams are also key in maintaining river and riparian health. Dams collect sediment over time, which speeds up the process of bank restoration after heavy erosion. Sediment and debris that flow through dammed areas are trapped, providing a nutrient-rich food source for juvenile fish. Amphibians benefit from dams because they provide a safe area with flooded vegetation that is used for breeding and pools for larva to mature. Beaver dams and ponds can act as a filter for rivers and streams, removing sediment and silt that may degrade downstream habitat. A 2019 study conducted in Wyoming<sup>1</sup> showed that sediment loads were decreased by as much as 90% after flowing



PHOTO: RALPH, PIXABAY



PHOTO: JEFF MOORE

through an area with well developed riparian habitat and beaver dams. Dams can clean the water of toxins that may be introduced through agricultural practices.

Beavers play an important role in the Jijuktu'kwejk Watershed as they create new habitats and restore damaged tributaries. These ecosystem engineers can be found in every corner of the watershed as long as flowing water and trees are present. When building dams, beavers often look for pre-existing barriers in a river, such as fallen trees and log jams. While these natural barriers are common throughout the wooded reaches of the Jijuktu'kwejk River, they are few and far between in the cleared riparian zones that encompass the bulk of the river's banks.

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Beavers play an important role in the Jijuktu'kwejk Watershed as they create new habitats and restore damaged tributaries.

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In recent years, watershed groups on the west coast have been using beaver dam analog structures or BDA's as a means of habitat restoration. BDA's consist of parallel wooden posts with willow branches woven between them to make small fence-like structures that are then placed in damaged streams and rivers with the goal of mimicking beaver dams. Think of BDA's as beaver dam "encouragement" structures, as beavers use these successfully in areas where dams would

otherwise be difficult to construct. Even without the help of beavers, BDA's filter sediment and perform their duties in a similar fashion.

In the summer of 2021, the Jijuktu'kwejk Watershed Alliance (JWA) began a beaver dam monitoring project to assess the impacts on river health and biodiversity of these critters. The end goal is to install beaver dam analog structures in areas with low biodiversity due to degraded banks and poor water quality. We compared multiple sites with and without beaver dams to assess their overall health and biodiversity. This included monitoring water quality, riparian and streambed health assessments, and surveying fish species, aquatic invertebrates, and birds in each area. We found that beaver dam areas on the Jijuktu'kwejk were far healthier and more biodiverse in every regard. In fact, some of the richest habitats in the watershed are solely due to the presence of beaver dams. We encourage the community to appreciate this amazing animal. Beavers are not pests but allies in protecting and restoring our watersheds and their biodiversity.

### Notes

1. "Leave It to Beavers to Help Salmon?" *FISHBIO Fisheries Research Monitoring and Conservation*. 29 May 2015. <https://fishbio.com/field-notes/the-fish-report/leave-beavers-help-salmon..>

**Keeler Colton is a masters student in Biology at Acadia University and a member of the JWA.**

# Flying Squirrel Adventures Youth Initiative

## Building a pollinator garden for the community.

BY SHAYE GRAHAM

This spring, for the second season, Flying Squirrel Adventures facilitated Girls' Outdoor Adventure and Leadership (G.O.A.L.), a weekly program for female-identifying youth, ages 12 to 16, which aims to build and deepen connections with nature among participants and in the community. The group was made up of five participants and two facilitators who gathered weekly at various natural spaces around Kings County from April to June. Over the nine-week session, the group spent time exploring many natural areas rich in wildlife, learning new outdoor skills, crafting with natural materials, and socializing outdoors. A few highlights were birding at Miner's Marsh, a guided edible and medicinal plant walk at Ross Creek, swimming at the Lumsden Dam, and identifying native pollinator plant species at the Irving Botanical Gardens and its associated woodlands.

A community service project, which involved planning and planting a pollinator garden at the Valley Community Learning Centre (VCLA) in Kentville, served as a core theme throughout the program. The garden was created in collaboration with Blomidon Naturalists Society Butterflyway Project and VCLA. During our first week together, the group was introduced to local pollinators and their habitat needs, including their affinity to specific plants, and the ideal growing conditions of these native pollinator species. Each participant was given the opportunity to start their own species from seed to take care of at home and bring back on the last day of the program to transplant into the garden bed. Discussions surrounding the importance of pollinators, their plight, and the consequences of biodiversity loss, were woven through various activities, including walks through the Irving Botanical Gardens and its woodland trails, and painting signs for each species planted in the garden. In June, G.O.A.L. participants contributed to the Butterflyway efforts in raising public awareness about pollinators by participating in a



Youth planting the Pollinator Garden in June at Valley Community Learning Centre. PHOTO: SHAYE GRAHAM

community event initiated by the Rotary Club and hosted by the Town of Kentville for World Environment Day. A variety of local environmental groups were on hand to teach, guide, and engage participants in a variety of environmental topics. The G.O.A.L. group shared a butterfly craft, an interactive game on monarch migration, and infographics on how we can support pollinators in communal green spaces and in our own backyards.

Despite busy schedules throughout the spring resulting in inconsistent attendance, the program received positive feedback from participants. One individual shared: "It's a good opportunity to meet new people and do different activities, indoor and outdoor." It was encouraging to see returning participants from the program's winter season and to build upon existing interests and curiosities. Another participant shared: "The program was great and we are very grateful for being a part of it for the second time."

At this age, particularly among female youth, teens often stop participating in extracurricular activities, especially ones involving physical activity and the outdoors. To encourage them to continue trying new things and developing healthy habits and hobbies, we provided each participant with a mental wellness toolkit to empower them beyond the weekly sessions.

We feel it's important to support them in being involved in outdoor learning, and this experience can help build self-esteem and peer relationships in the outdoors. We also know the health benefits nature-time has for individuals and the importance of fostering a love for nature for stewardship of our planet. We hope to be able to run this program in the future and look forward to spending time outdoors and connecting with both new and returning participants.

Finally, we want to offer a big a thank you to our partners, funders and supporters: the wonderful folks at the Valley Community Learning Association, Town of Kentville, Nature Canada and the TD Friends of the Environment Foundation... and of course Mother Nature for constant inspiration!

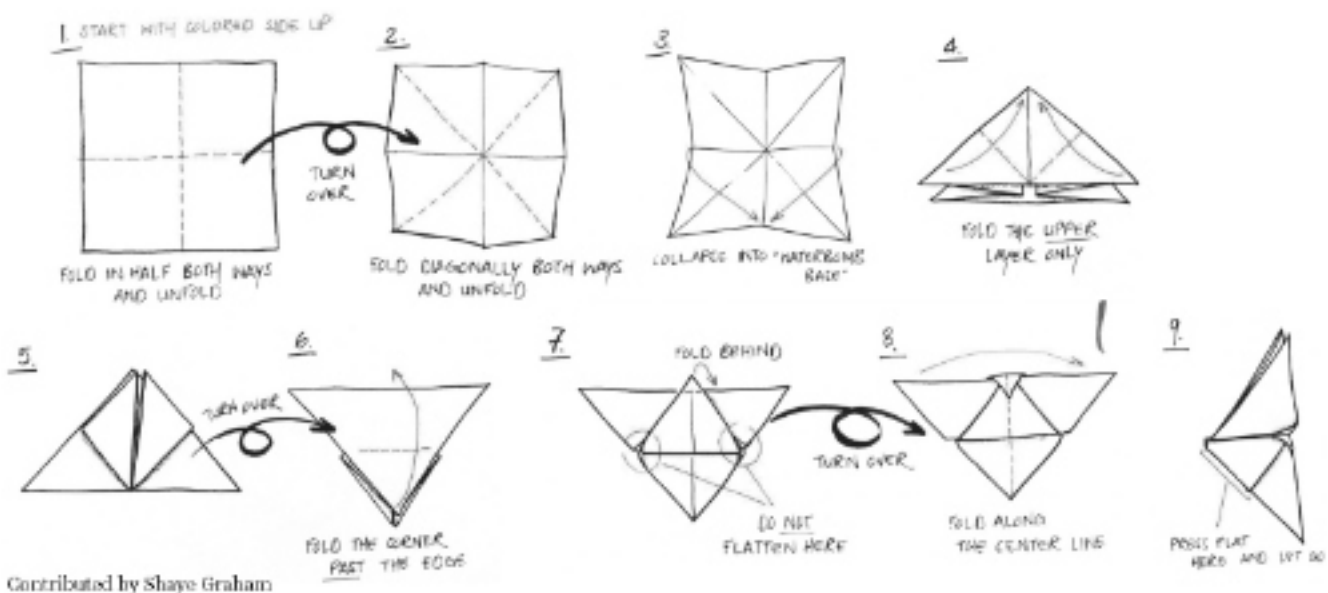
**Shaye Graham is a youth facilitator with Flying Squirrel Adventures.**



PHOTO: SHAYE GRAHAM

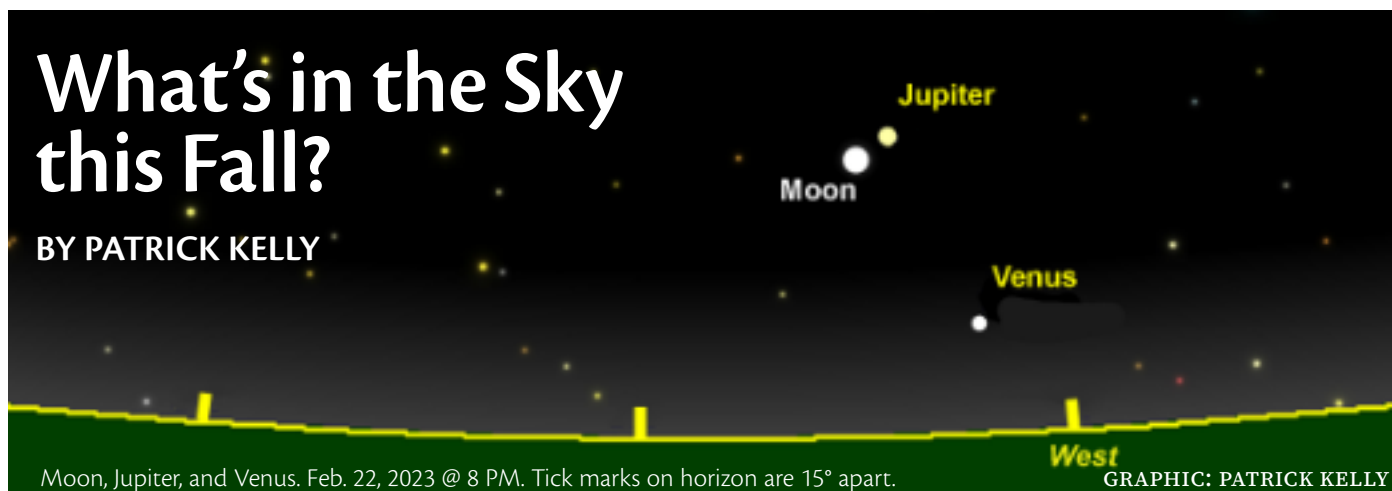
## Butterfly Origami Quick and Easy

Here is a fun and simple butterfly origami for the kid of all ages in your life. Enjoy (it's not hard). Start with a 17 cm square of paper.



# What's in the Sky this Fall?

BY PATRICK KELLY



Moon, Jupiter, and Venus. Feb. 22, 2023 @ 8 PM. Tick marks on horizon are 15° apart.

GRAPHIC: PATRICK KELLY

Highlights for October 22 through February 2023

Oct. 9: Full Moon

Oct. 25: New Moon

Nov. 6: Daylight Silly Time Ends

Nov. 8: Full Moon\* (Total Lunar Eclipse)

Nov. 23: New Moon

Dec. 7: Full Moon

Dec. 8: Mars at Opposition

Dec. 8: Moon Occults Mars (!!!) (AM)

Dec. 21: Mercury Greatest Elongation East (PM)

Dec. 21: Winter Solstice

Dec. 23: New Moon

Jan. 6: Full Moon

Jan. 21: New Moon

Jan. 21-23: High Tides

Jan. 25: Jupiter 2° from Moon (PM)

Jan. 30: Mercury Greatest Elongation West (AM)

Jan. 31: Mars 0.5° from Moon (PM)

Feb. 5: Full Moon

Feb. 20 New Moon

Feb. 20-22 High Tides

Feb. 22: Jupiter 1.5° from Moon (PM)

Feb. 28: Mars 0.3° from Moon (AM)

\*The Moon is full at 7:02 AM of Nov. 8, so you will see an almost-full moon on both November 7 & 8.

*Moon:* On the morning of November 8, (weather permitting), you can see a total lunar eclipse but this one will not be that spectacular. This eclipse will not be visible from start to finish from Nova Scotia. The Moon

enters the umbra (the darkest part of Earth's shadow) at 5:09 AM as it starts to near the western horizon. It is completely in the umbra at 6:16 AM as the sky is brightening. The Sun will rise at 7:00 AM.

*Mercury:* Mercury reaches its greatest angular distance from the Sun in the evening sky of December 21. Despite being 20° from the Sun, the geometry of its orbit is such that it will be left of the Sun, but not very far above the horizon. Fortunately, you will have help! Make sure you have a low western horizon. At 4:30 PM, look for a bright "star" above and left of the glowing area on the horizon that marks where the Sun's has set. That is no star! That is Venus. Continue on a line from the setting Sun to Venus and continue about 30% farther. Mercury will be easy to find with binoculars once you see it with your eyes. Make sure you do not look at the Sun with the binoculars!

After passing between the Earth and the Sun on January 7, Mercury moves into the morning sky and reaches its greatest angular distance (25°) from the Sun on the morning of January 30. Geometry works in your favour this time, and you will need it because speedy Mercury has left Venus well behind so you won't have it as a guide! Make sure you have a low eastern horizon. At 6:45 AM, look for a bright star to the right of the glow that indicates the Sun's location. It will be relatively low, but as the sky is still mostly dark, it will stand out as it is the only bright object in that part of the sky. That is Mercury! Try and see how long you can keep track of it as the sky continues to brighten. One way to do this is to move so that you place it over the top of something nearby, like a power pole, or chimney. Keep slowly moving to keep it there and see how well you do.

*Venus:* In late January 2023, Venus returns to the evening sky and will outshine all other objects (except for the Sun and Moon!) until June.

*Mars:* The Red Planet has been slowly moving towards the evening sky in October and November, being well above the horizon by midnight. It has also been getting steadily brighter as Earth catches up to it and prepares to “lap” it on December 8. It will be easily visible at sunset in the first months of 2023.

This month the Moon and Mars will be involved in an extremely rare event early on the morning of December 8 just after midnight. The Moon will be full that night, and Mars is at opposition so it will be very bright. The Moon will pass in front of Mars, blocking it from sight! The only way this could be better would be if there were also a total lunar eclipse! Start looking at midnight. Mars will vanish at about 12:10 AM (on December 8) and reappear about 12:30 AM, as seen from Wolfville. Note that if you are on a line running from LaHave (south of Lunenburg), westwards to Mavillette (north of Yarmouth), Mars will appear to just skim the Moon. The farther north you go, the longer Mars will be blocked by the Moon. Binoculars will definitely enhance the experience.

Mars will also have the Moon pass very close to it twice in 2023. On January 31 at midnight, the Moon will come within 0.5° of Mars. A similar situation occurs at 1:00 AM on the morning of February 28 when the Moon will appear to be only 0.3° from Mars. At both times, an occultation will happen but it will not be visible from Nova Scotia. That is because the Moon is close enough to the Earth that as you move around on the Earth’s surface the place you see the Moon in the sky changes! This effect is called parallax and is familiar to everyone even if you did not know its name. Hold one finger out in front of you. Close one eye, then the other. You will see your finger change its position compared to distant object. The closer your finger, the greater the parallax.

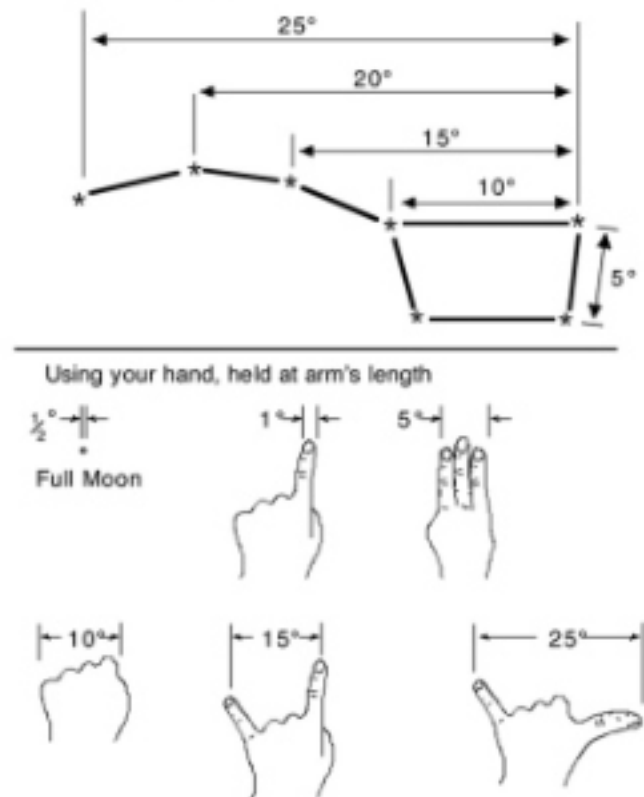
*Jupiter:* Jupiter moved into the evening sky in September and remains there to the end of February, at which point it is lost in the glare from the setting Sun. Only Venus outshines it, although around its opposition (December 8), Mars is a good challenger. Jupiter is easy to tell from Mars as it is white, while Mars is red.

On the night of January 25, look in the west around 9:30 PM as Jupiter will be only 2° from a setting crescent Moon. The Moon passes Jupiter again on February 22, this time by 1.5°. Unfortunately, it happens at 6:00 PM, when twilight will interfere. This is offset somewhat by having a brilliant Venus 6° below and to the right of the Moon. The view should improve as the Sun sets, darkening the sky.

*Saturn:* Saturn preceded Jupiter into the evening sky in August. With a 40° lead, it will be closer to the western horizon than Jupiter for the end of the year and into 2023. While not as bright as Jupiter, it has a distinct yellow tint. With its one-month head-start, that means that it will be lost in the Sun’s glare in January, a month ahead of Jupiter.

**Patrick Kelly has had a life-long interest in astronomy and has taught first-year astronomy for over 20 years, as well as presenting many shows at the Halifax Planetarium.**

*Measuring Angles on the Sky:* Extend your arm fully. Each of the hand positions indicated will approximately show that angle on the sky. Don't worry about the size of your hand; hand size is proportional to arm length. GRAPHIC: PATRICK KELLY



# Monarchs are Flourishing Here

## Annapolis Valley Report 2022

This is the best year yet for Monarch numbers for our fields.

BY LARRY BOGAN

This year's return of the Monarch butterfly was on May 21, when one appeared collecting nectar on our White Lilac bush. After that it was seen in our field of Common Milkweed (*Asclepias syriaca*) throughout the rest of May and all of June. This was a very early arrival since the normal beginning of the migration into our area occurs in June or early July. I suspect the strong, hot south winds of that May weekend brought a few Monarchs early.

I count the number of Monarch butterflies in our field on a semi-regular basis. The population numbers up to the time of this writing are shown in the chart at right. As you can see it was in early July when the numbers increased suddenly with the influx of the main migration. It was around the same time that other sites in Nova Scotia started seeing more Monarchs at their flowers and milkweed.

I also keep track of the coupled pairs of Monarchs and the first couple seen was on the 9th of June. We had seen Monarch eggs earlier but they were not viable. The first eggs that led to adult Monarchs were found on June 10 and the first of those enclosed on July 11. It takes about a month for the Monarch to go from egg to butterfly.

I suspect that the wild Monarchs from the field stay around and add to our population. The increase in the numbers seen in the field from mid-July to mid-August are most likely from the next generation of Monarchs. It is not until late August that the Monarchs stop breeding and think about heading south for the winter. That means that there will be new Monarchs emerging from our field until mid-September. It is then that the numbers in the field begin to decrease. In previous years, the maximum number ever found in the field was 80 in early September. This year the numbers are already above this level and will continue

to increase. In my experience this is the best year yet for Monarch numbers for our field.

Not all of the Monarchs reared in the field stay. My wife, Alison, searches for Monarch chrysalis in the field and mark them to be monitored for success or failure. At the moment we know of about 95 but they are not easy to find and there are undoubtedly many more. We will not see the population increase by that number due to migration out of the field. Indeed, we also add to the Monarchs by protecting them and rearing a few inside. These are from eggs that would have been destroyed during the mowing of our lawn and paths through the field. As of August 14, we have released 70 and have over 50 more which are still in the chrysalis and caterpillar stage.

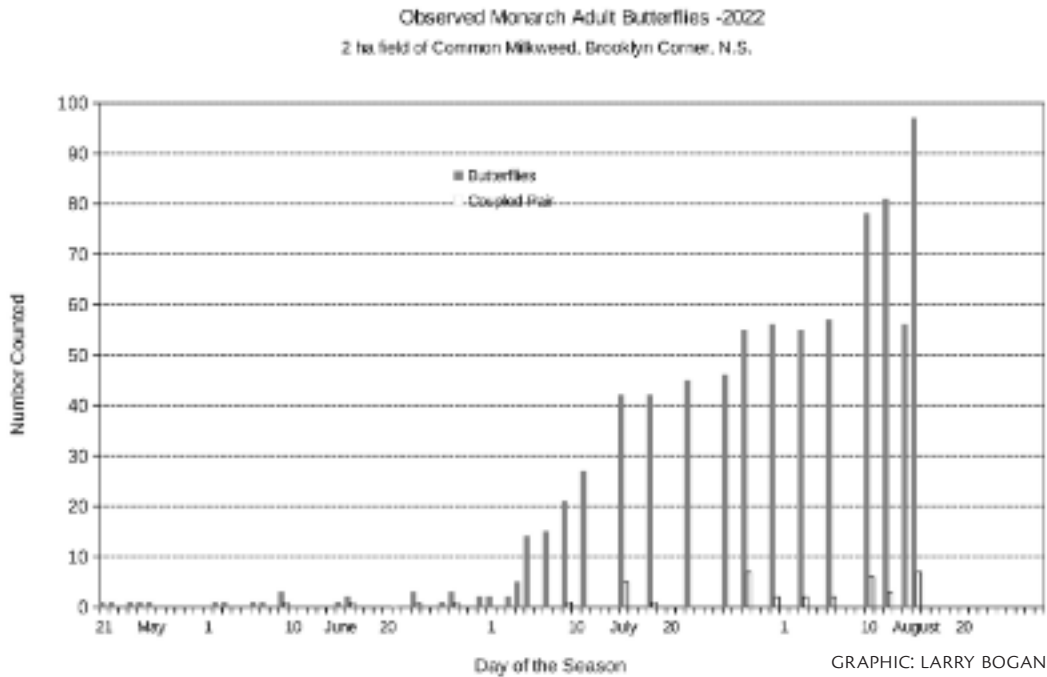
### Managing Common Milkweed.

Our field is in the Cambridge-Coldbrook area where there are many plots of Common Milkweed growing in vacant fields, along roadsides and fence rows. The soils here are light and sandy which is what Common Milkweed likes. I routinely survey some of these plots



PHOTO LARRY BOGAN





for evidence of Monarch presence and this year I have found that evidence in almost every plot. I report my results to the Mission Monarch website and its citizen science efforts to advance the protection of the Monarchs.

There is one field in Waterville the same size as ours that is as full of Common Milkweed. I recently surveyed that field for forty-five minutes and saw only one Monarch butterfly, one egg, and no caterpillars. Why does that field have so few Monarchs? Almost all of the Common Milkweed in the field was tall and mature, with very few young plants that Monarch caterpillars prefer for feeding. The field's only nectar source was Canada Goldenrod, which Monarchs don't seem to use.

For over ten years, I have adopted the policy of mowing areas of our field to encourage the growth of young milkweed plants from the prolific root system. It is on these tender plants that the Monarchs lay eggs and the early-stage caterpillars feed. In a field of all mature Common Milkweed and few bordering trees, there is little attraction to the Monarchs for breeding. Each year that I have managed our field we have seen larger and larger populations of Monarchs. I have no proof but I believe successive generations somehow remember our location.

Mowing also creates another benefit. Common Milkweed blooms in late June and flowers last for a

few weeks into July. The monarchs and other pollinators flock to its abundant, sweet flowers. However, when the next generation appears, the flowers are gone, except for the new young plants stimulated by the mowing process. It is important to have plants with nectar available for the Monarchs in August. Swamp Milkweed (*Asclepias incarnata*) has the advantage that even mature plants have slender, thin leaves that all stages of Monarch caterpillars can eat. Its disadvantage is that more plants are needed to feed



Approximately 50 people turned out for the Monarch Open House at the Bogan field in early August including lots of Monarch learning opportunities. PHOTO: LARRY BOGAN

Monarchs than for Common Milkweed and it prefers a moister environment.

Helping Monarchs is a rewarding experience. We never tire of watching the millimeter size egg yield a small period sized caterpillar that slowly over two weeks consumes milkweed leaves and molts its skin four times to increase its size by 2000 times. There is a final fifth molt when it loses its skin and legs and hangs by a small black stix as a pupa. About 10 days later this metamorphosizes into a butterfly. After emerging from the pupa case, it pumps fluid into its wings so they expand to about a 106 mm (4 inch) wing span. Then in a few hours, when the wings are dry and strengthened, it awkwardly flies away. Young Monarch butterflies don't quite have the smooth flap-glide motion of an experienced adult.

The main purpose of our efforts is to give a little help to the recovery of the amazing migration that the generations of Monarchs perform each year. Each year we also tag many of the Monarch butterflies before they fly south and roost in the mountains of

Mexico for the summer. This year we have 100 tags from *Monarch Watch*. When the Monarch dies, the tag with its unique number may be recovered and its location reported to mark its journey. Unfortunately, less than one percent of the tags are found, so many tags are needed to trace the path and timing of the Monarch migration. Each year *Monarch Watch* distributes a quarter of a million tags to be attached to the Monarch wings so that enough can be found to be useful.

Another method is available to track the migration and that involves citizen scientists reporting the sighting of Monarchs as they move across North America. Search for the popular website *Journey North*. Here you can view the results of thousands of observations with maps for both the northern and southern migrations.

**Larry Bogan is a long term member and contributor to the Blomidon Naturalists.**

## What's Up with the Chimney Swifts in Wolfville?

The swifts moved to the University Hall chimney for 2022. Indeed, the swifts are still around, but it raises questions about the Robie Tufts Nature Centre roost.

BY CAROLINE BEDDOE

If you've been out in Wolfville during the late spring or summer at dusk, you may have seen Chimney Swifts (*Chaetura pelagica*) in the skies catching aerial insects and gathering to roost. These small, acrobatic birds are a delight to witness, almost always seen in flight feeding and constantly twittering. They put on spectacular shows of gathering and circling together in great numbers before descending – spiralling and tumbling – into their roost chimneys around sunset.

In the spring, Chimney Swifts migrate here from South America. From May until August, the swifts roost communally at night, predominantly in brick

chimneys. In June, pairs disperse to nesting sites (each only hosting one nest), returning to communal roosts with their young later in the summer. Chimney Swifts are rather iconic and fondly known here in Wolfville, with two communal roost sites: The Robie Tufts Nature Centre (historically the old Acadia Dairy Co., whose chimney was preserved as a roost and became the Nature Centre in 1990) and the southwest chimney on University Hall, on Acadia University's campus.

My question of this past summer has been: "What's up with the swifts?" It seemed almost every evening that I was downtown or by the Nature Centre, at least one

person came up and inquired about the swifts and how they are doing. The cause for curiosity and concern is certainly warranted: these migratory birds are a species at risk and are experiencing serious population declines, notably due to a decrease in aerial insects that they feed on, likely from agricultural pesticides, ecosystem changes, and climatic shifts. Reduced availability of roosting and nesting sites, namely masonry chimneys and similar structures (adopted by these birds with the increasing rarity of large hollow trees in our forests), is also affecting their populations.

Thanks to the fantastic folks at *Birds Canada* and their Maritime Swiftwatch program, and to Swiftwatch and BNS volunteers, we can keep track of populations. A big thanks to volunteers Susan Wehrell and Darren Booth for their dedicated counting in Wolfville, and to all those who go out, observe, and record Chimney Swift sightings, too. (We also must acknowledge the remarkable work on swifts done by the late Jim Wolford over the years. His decades of data provide insights on Wolfville trends, and you can peruse many of his swift observations and reflections in the BNS newsletter archives on our website.)

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Little is known about local nesting spots for swifts. We had one confirmed nest in the area this year, but we would love to hear of nest sites or other observations of Chimney Swifts entering chimneys during the day.

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So here's the scoop on the swifts in 2022: on the official roost monitoring days of May 21, May 25, May 29, June 2 and June 6, between 125 and 310 swifts were observed roosting at University Hall. On these same dates, no swifts were seen going to the Robie Tufts chimney, save for May 29, when some folks reported seeing four. A flock of swifts was also observed approaching and retreating from this chimney multiple times before leaving without going down it. The swifts seem to have favoured University Hall as their roost this year. I sent many folks, curious to see the swifts at the Nature Centre, up to the university to catch their evening show.



A chimney swift in flight. PHOTO: RICHARD STERN

While we are reassured that the swifts are still around, it does bring up questions about the Robie Tufts Nature Centre roost. Perhaps this formerly communal roost has now become just a nesting site, or maybe there are other issues at play that we hope to investigate further with *Birds Canada*. Stay tuned...

It certainly is a good reminder for all of us to look up and pay attention to how the Chimney Swifts are doing! Indeed, alongside monitoring roosts, other observations are valuable. Little is known about local nesting spots for swifts. We had one confirmed nest in the area this year, but we would love to hear of nest sites or other observations of Chimney Swifts entering chimneys during the day. If you have any sighting or do know of a nest site, please let us or *Birds Canada* know (contact [marswifts@birdscanada.org](mailto:marswifts@birdscanada.org)).

**Caroline Beddoe is the current program coordinator of the BNS, and a keen observer and lover of nature. She can most often be found out cycling or curiously exploring local woods for wildflowers and mushrooms.**

### Editor's Note

Be sure to check out the new educational panels on the Robie Tufts Nature Centre to learn more about our local natural history, the work of the Blomidon Naturalists and local climate action.

# Eager: The Surprising, Secret Life of Beavers and Why They Matter

Interested in environmental history or the comeback of a niche species? Or maybe you simply appreciate wildlife? If so, *Eager* will appeal to you.

## REVIEW BY WILL CHAPPLE

If you were asked to think of an animal that is most similar to humans, the beaver may not be the first candidate to cross your mind. These small but mighty ‘ecosystem engineers’ are drawn to freshwater with a desire to innovate, and their presence alters complex geologic processes. In fact, our similarities are some of the reasons our species have clashed in the past, and why many consider beavers a pest.

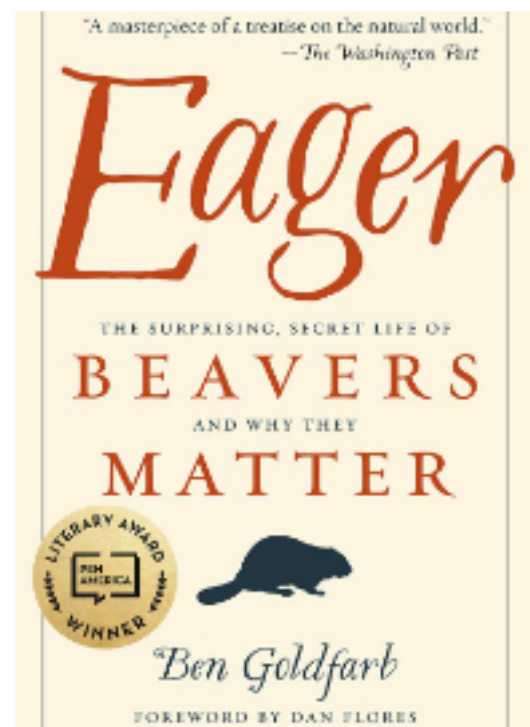
In *Eager*, the reader accompanies environmental journalist Ben Goldfarb on a journey through North America and Europe to develop an understanding of the interconnected history of early colonizers and beavers. Goldfarb explores the admittedly dark relationship between colonists and these aquatic rodents, the impact the fur-trapping industry left on our landscape, and some of today’s efforts to conserve the species. Intermixed with humour and engaging personal accounts, it is a read that any audience would find compelling.

Early on, Goldfarb challenges our perception of a ‘healthy’ watershed. He paints a beautiful picture of pre-colonization North America, rich with flooded wetlands, slowly meandering watercourses, and jungle-like forests. These ecosystem services were cultivated by generations of beaver families, who created conditions that slow erosion and retain groundwater. In the Midwest, Indigenous communities had historic prohibitions on killing beavers, as these communities understood the rodents’ role in providing oases of biodiversity and water bodies that humans depend on.

When European colonizers spread across North America, flooding and ‘destruction’ caused by beavers became a nuisance, and people quickly realized their pelts made for posh beaver hats. Goldfarb explains that the trapping industry all but extirpated tens of

thousands of beavers from their habitats, altering the way water moves through the landscape. In their absence, farmers and developers expanded further into beaver territory, with destruction from their livestock hastening erosion and causing watercourses to pick up speed or drain entirely.

Most people have no idea how different and how wet our landscape would look if early colonizers had found a way to coexist with beavers. In fact, beavers even became a political issue with the Hudson’s Bay Company pushing for the removal of the species entirely during land negotiations. Conditions were even worse in Europe, watersheds were altered forever following the forceful removal of this keystone species, and this was before colonizers moved on to North America.



Through the book, Goldfarb introduces us to a hopeful and diverse ensemble of ‘Beaver Believers’: individuals from all walks of life that have devoted their passion to protecting beavers and their habitats. These people, ranging from biologists, receptionists, to even trappers, all share a goal: to replenish beaver populations, and in turn restore our historic landscape.

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*Eager* is a highly researched piece, yet Goldfarb’s ability to deliver his message without bogging the reader down with technical jargon allows the non-fiction account to read as a story.

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*Eager* is a highly researched piece, yet Goldfarb’s ability to deliver his message without bogging the reader down with technical jargon allows the non-fiction account to read as a story. If you are interested in environmental history, learning about the comeback of a niche species, or even if you simply appreciate wildlife, *Eager* will appeal to you. While heartbreaking at times, the complex history told through Goldfarb’s expert story weaving has turned me into a Believer. It will more than likely inspire you to become part of the movement as well.

**Will is a passionate naturalist and volunteer with the Jijuktu’kwejk Watershed Alliance. He will be graduating from the Environmental Science program at Acadia University this spring and looks forward to starting a career in the natural world.**

### Editor’s Note

Interested in considering the work of beavers through an Indigenous lens? Check out *A Short History of the Blockade* by Leanne Betasamosake Simpson, published in 2021 by University of Alberta Press. It is based on the 2020 CRC Kreisel Lecture and you can also access the podcast at:

[https://www.youtube.com/watch?v=8Jbp7uzj\\_YM](https://www.youtube.com/watch?v=8Jbp7uzj_YM).

The publisher describes it as “stories, storytelling aesthetics, and practices to explore the generative nature of Indigenous blockades through our relative, the beaver—or in Nishnaabemowin, Amik. Moving through genres, shifting through time, amikwag stories become a lens for the life-giving possibilities of dams and the world-building possibilities of blockades, deepening our understanding of Indigenous resistance as both a negation and an affirmation. Widely recognized as one of the most compelling Indigenous voices of her generation, Simpson’s work breaks open the intersections between politics, story, and song, bringing audiences into a rich and layered world of sound, light, and sovereign creativity.”



PHOTO: JEFF MOORE

# Dive into *Between the Tides!*

## CALL FOR SUBMISSIONS

We welcome and encourage the submission of...

- articles
- reviews
- reflections/feedback
- poetry
- photos and artwork

We seek content that develops understanding, appreciation, and stewardship of nature in our region. We hope it will be engaging, well written, informative, and thought provoking.

Do you have ideas but are not sure how or where to start? The Editor is here to help. Please reach out to Alan Warner ([editor@blomidonnaturalists.ca](mailto:editor@blomidonnaturalists.ca)) for support.

**Deadlines: Winter 2023 issue, December 15, 2022, Spring 2023, March 15, 2023.**

PHOTO: ROY BISHOP



## BLOMIDON NATURALISTS SOCIETY *2022 Membership Fees & Order Form*

Members receive three issues of the *Beyond the Tides* publication per year plus the monthly e-newsletter and the opportunity to participate in a range of nature programs and field trips. As a registered charity, BNS issues receipts for all donations. (Please note that BNS membership is not tax deductible.)

Memberships are annual. Please send membership dues and purchases by e-transfer to [treasurer@blomidonnaturalists.ca](mailto:treasurer@blomidonnaturalists.ca), or cut out this form and make out a cheque or money order payable to Blomidon Naturalists Society and mail to:

**Blomidon Naturalists Society  
P.O. Box 2350, Wolfville, NS B4P 2N5**

	NO.	DESCRIPTION	PRICE	TOTAL
NAME	_____	Individual/family annual membership	\$30.00	\$ _____
	_____	Student membership	\$15.00	\$ _____
ADDRESS	_____	Junior (under 16 years) membership	free	\$ _____
	_____	2023 BNS Calendar	\$15.00	\$ _____
	_____	Natural History of Kings County	\$10.00	\$ _____
	_____	Within the View of Blomidon	\$10.00	\$ _____
EMAIL	_____	Wildflowers of Nova Scotia	\$20.00	\$ _____
		Postage: \$4.00 (calendar), \$6.00 (parcel)		\$ _____
TELEPHONE	_____	Tax-deductible donation (registration number: 118811686RR0001)		\$ _____

Payment can be made by e-transfer to [treasurer@blomidonnaturalists.ca](mailto:treasurer@blomidonnaturalists.ca) (preferred), or with online credit card or Paypal, or by cheque, payable to "Blomidon Naturalists Society".

**TOTAL PAYMENT** \$ \_\_\_\_\_



# Enjoy, Value, Learn and Protect Local Nature...

## Contribute to the Blomidon Naturalists Society today!

**We welcome everyone who is curious and wants to learn and share about nature.**

- **Join in field trips**
- **Attend our monthly talks**
- **Volunteer for nature protection and climate education**
- **Support kids and youth programs at *Flying Squirrel Adventures***
- **Receive monthly E Newsletters and *Beyond the Tides***
- **Become a member and donate to our work!**

For more information and/or to become a member visit [blomidonnaturalists.ca](http://blomidonnaturalists.ca) or contact us at [coordinator@blomidonnaturalists.ca](mailto:coordinator@blomidonnaturalists.ca).

PHOTO: GEORGE FORSYTH



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