

The Blomidon Naturalists Society Newsletter

Blomidon Naturalists Society



SUMMER 2019 NEWSLETTER

VOLUME 46 · NUMBER 2



THE BLOMIDON NATURALISTS SOCIETY



The primary objective of the Society shall be to encourage and develop in its members an understanding and appreciation of nature. For the purpose of the Society, the word “nature” will be interpreted broadly and shall include the rocks, plants, animals, water, air, and stars.

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BLOMIDON NATURALISTS SOCIETY
members are encouraged to share
unusual or pleasurable nature sto-
ries through the pages of the BNS
Newsletter. If you have a particular
area of interest, relevant articles
and stories are always welcome.
All articles, queries, and letters to
the editor should be directed to
Howard Williams, newsletter editor:
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Digital photographs should be
submitted to
doug@fundymud.com

Next submission deadline:
August 31, 2019

From the Editor

by *Howard Williams*

☞ This Newsletter includes articles relating to reports from organizations that BNS has supported, the results of Global Big Day and Great Backyard Bird Count, field trip reports, forest bathing, a book review, and a tale from Pat Kelly.

The climate change wake-up-call organization Extinction Rebellion goes from strength to strength here in Nova Scotia, and especially in the UK, causing havoc to make the point that the Town of Wolfville has made this month—that the term “climate change” is too benign and is really the wrong term to use; rather, it should be *climate emergency*. (Readers might want to watch Jonathon Pie in this powerful video: youtu.be/obFNcNoZc7k.)

Ah, the tonic of wildness. As Henry David Thoreau said, “We need the tonic of wildness ... At the same time that we are earnest to explore and learn all things, we require that all things be mysterious and unexplorable, that land and sea be indefinitely wild, un-surveyed and unfathomed by us. We can never have enough of nature.” In a similar vein, CBC, purveyor of news, recently ran an article about how spending time in nature helps mental health (www.cbc.ca/news/thenational/spending-time-in-nature-helps-mental-health-1.5134860). I downloaded their source material from the link on the CBC website and found that “experiences of nature boost academic learning, personal development, and environmental stewardship.” Peer-reviewed research such as this provides a powerful incentive for organizations such as BNS to provide support for children’s educational programs involving nature study (e.g., Flying Squirrel Adventures). Further, a recent journal report—“Do Experiences with Nature Promote Learning? Converging

Evidence of a Cause-and-Effect Relationship”—makes the following statement:

The evidence here is particularly strong, including ... evidence across a wide range of samples and instructional approaches; outcomes such as standardized test scores and graduation rates; and evidence for specific explanatory mechanisms and active ingredients. Nature may promote learning by improving learners' attention, levels of stress, self-discipline, interest and enjoyment in learning, and physical activity and fitness. Nature also appears to provide a calmer, quieter, safer context for learning; a warmer, more cooperative context for learning; and a combination of “loose parts” and autonomy that fosters developmentally beneficial forms of play. It is time to take nature seriously as a resource for learning—particularly for students not effectively reached by traditional instruction. (Kuo et al. 2019. *Frontiers in Psychology* 10:305)

In a recent *Guardian Weekly* article my attention was piqued by a statement about climate change: “Studies show that humans don’t respond well to abstract projections. We overvalue short-term benefits, such as driving SUVs, flying to overseas holiday destinations, burning coal and building waterfront real estate. We choose these extravagances even though they impede beneficial long-term outcomes, such as saving threatened species or reducing the intensity of climate change.” All of a sudden, the media seem to be full of issues relating to climate change. Why now? Where were they 10 or 20 or 50 years ago? Incidentally, as a statement of my intention to do more to reverse the climate emergency, I will no longer use airplanes for travel and dare you to do the same.

The Acadia Lifelong Learning organization (ALL) has developed a science discussion group that has met three times so far. The first meeting discussed approaches to dealing with climate change, the second with issues relating to plant-based genetically modified organisms (GMOs), and the third with issues

relating to the consumption of cheese and beef. In the first two discussion groups there was unanimity of opinion that dealing with climate change is the existential issue of our generation, and that development and consumption of GMO plants was in general seen as a benefit. This latter opinion surprised me and made me wonder whether ignorance of the details of the GMO process was a powerful driver of opposition. The meeting dealing with the animal welfare and environmental issues relating to the production of milk, cheese, and beef was well attended. Most agreed that we are effectively hypocrites, wailing about the climate emergency but—by continuing to buy farm products that are instrumental in exacerbating the climate emergency—not helping.

I am largely vegetarian (transitioning), and may even go vegan. I am reminded of the biblical story of the mote and beam in the eye. I can hardly complain that we as a community are not doing enough to reverse the climate emergency if I still support the beef and dairy industry.

Two books I have been reading recently have mentioned the effect initiated by Messrs Philip Signor and Jere Lipps, whose hypothesis, as detailed in Wikipedia, states that since the fossil record of organisms is never complete, neither the first nor the last organism in a given taxon will be recorded as a fossil. The Coelacanth is a good example of the Signor–Lipps effect because the youngest fossil is late Cretaceous in age, yet a live fish was dredged up in 1938. The effect is often applied specifically to cases of the youngest known fossils of a taxon failing to represent the last appearance of an organism. It occurred to me that the same could be said about monitoring of any natural event, such as the first flowering or first appearance of a bird in an area. The accuracy of the observation “first or last” depends on the number of observations and the density of monitoring effort. That is why databases such as eBird and NatureWatch are useful in bringing so many observations into one place that can be studied by scientists and the general public.

Are flood plains a sensible place to build? No. There is a

well-established reason why flood plains are nice flattish areas covered in easy-to-work soils on which developers like to build houses; they once were places where sediment was deposited by rivers. Just because they have been flood-free for perhaps a century or more is no guarantee that they will continue to be. Flood risk maps are rarely public, and anyway, the climate being non-stationary these days due to the climate emergency, means that any older maps or assessments may be seriously underestimating flood risk. I suspect the insurance industry will soon wise up to this as they have in other countries such as the UK, where insurance rates are related to postal code, if you can get flood or coastal erosion coverage at all. Word has it that new flood plain maps are imminent, and the results will not be pretty.

If you are interested in seeing how marine flooding affects your area, go to agrgims.cogs.nsc.ca/CoastalFlooding/Map/, or download a version from the Town of Wolfville website. Marine flooding, of course, is only one side of the risk equation; late winter freshwater flooding due to snowmelt and rainfall is another issue entirely, and I can find no local maps available for this hazard. On a Nova Scotia Lands and Forestry web page, “Municipal Climate Change Action Plans (MCCAPs) – Data Sources,” you can request data, derived from a 100-year flood, used to delineate and designate flood plains in nine communities by Environment Canada in the late 1970s. A 20-year flood zone is also defined in the map layer. The issue here is that the 1970s was a long time ago, and those data may be out of date.

As the snow melts, litter seems to grow exponentially along roadsides. Soren, our president, suggested that BNS consider becoming a player in highway cleanup. Accordingly, I can report that our application to the Nova Scotia Adopt-a-Highway Program has been confirmed, and we should organize a late-fall cleanup as the vegetation is dying down and the accumulated litter easier to see and remove. BNS will be asking for able-bodied (adult and older teen) volunteers nearer the time. Hazard jackets, gloves, and bags will be provided.

Sadly, I note that the recently elected government in Ontario has removed the office of the Environmental Commissioner and cancelled the 50 million tree project. I cannot find any sign of a Nova Scotia Commissioner for the environment—why don't we have one?

You might be wondering where the traditional event announcements in this Newsletter have gone. The board has determined that the BNS website and the e-mail distribution to members are more effective ways of ensuring that members are reminded of meetings and trips. The board is looking for volunteers to write short précis of our meetings and field trips. Until now, they have been produced in a spotty fashion by board members, but some meetings slip through the net. Volunteers welcome! (See board contact information opposite the contents page in this Newsletter.)

Finally, after a limited amount of work in producing a pocket guide to wildflowers in the Nova Scotian region, gathering funding, plant lists and photographs, we have to announce that the BNS sponsored project may need to be modified in light of a new book produced in May 2019 by past members of the Nova Scotia Museum of Natural History – more news on this project later in the year.

CLUB NOTES

From the President

by Soren Bondrup-Nielsen

☞ The sun is shining, and it is warm; the buds on the trees in my woodlot are rejoicing as they pump water into waiting leaves to unfold. I love spring, when life seemingly re-emerges. You can identify the various species of trees by the colour of their flowers and later their leaves. The Trembling Aspen have shiny light-green leaves, the birches have slightly darker green leaves. It is

easy to tell the Red Maples—they genuinely have red flowers. The Large-toothed Aspen leaves come out after the Trembling Aspen, and they initially appear dusty grey. Oaks and ash are the last trees to leaf out.

I have just returned from my daily walk in the woodlot, and I saw deer tracks. It was just the other day that I mentioned to Pia that I had not seen deer tracks for several years in the woodlot, and as if by some divine magic there they were today.

It has been an odd winter. I was scheduled to give three winter on snowshoe walks, but only the January one had snow (see BNS Newsletter 46:1). The walk in February was rained out. I did one for Flying Squirrel Adventures, and we had to move it to Miner's Marsh, where there was no ice on the path, but otherwise it was a beautiful day. The treat for the 30 participants was finding a Great Horned Owl pellet, which contained bones from a Muskrat.

We have had engaging regular monthly presentations. In March Dr Tom Herman gave an incisive presentation on the process that the Committee on the Status of Endangered Wildlife in Canada uses to list species. I think I would not be exaggerating to say that we were impressed with the rigour with which the committee operates.

In April we heard presentations by four Acadia graduate students on their diverse research: Brittini Scott gave a talk titled "Using hunter sourced materials to study black bears in the Maritimes"; Danni Harper's presentation was titled "Better Understanding Invertebrate Fisheries: Case Study of the Orange-Footed Sea Cucumber"; Garrett Velkjar gave a presentation titled "A 100-year paleolimnological record of environmental change from Cecil Lake, northern British Columbia: application to the assessment of the habitat viability for migratory waterfowl"; and Avery Nagy-MacArthur's title was "Shared Seafood, Segregated Spaces: Diet and foraging movements of breeding Arctic and Common Terns on Country Island, Nova Scotia."

In May we held the annual Members Evening at the Wolfville

Farmers' Market. This was a success again, with over 50 members attending. We supplied snacks from Deb's Gluten Free and apple cider from Richard Hennigar. The presentations were diverse, which several members commented on favourably. Howard Williams talked about geology and water, Judy Lipp gave an overview of the Flying Squirrel program, Richard Stern talked and showed beautiful slides of the Baltimore Oriole, Ed Sulis talked about solar panels and generating your own electricity, and John Belbin gave a fascinating presentation on viewing pictures taken by permanent trail cameras, mainly in Africa, and identifying the wildlife shots to species and submitting them to a central registry.

The lawsuit is progressing slowly. Lands and Forestry finally submitted the "record" (May 31). This means that our lawyer now has to go through the many hundreds of pages and determine if they have met their legal obligation.

CLUB NOTES

Upcoming Events

MEETINGS

☞ Unless otherwise noted, all meetings are held at 7:30 p.m., usually on the third Monday of each month, in Room BAC241 of the Beveridge Arts Centre of Acadia University, on the corner of Main Street and Highland Avenue, Wolfville. Parking is available off Highland Avenue, on Acadia Street, and at the parking area around the Robie Tufts Nature Centre.

Everyone is welcome. For more information on any events, see the BNS website (blomidonnaturalists.ca), the BNS Facebook page (www.facebook.com/groups/blomidonNaturalists-Society/events/), or contact us at info@blomidonnaturalists.ca.

Please note that there are no meetings scheduled for July and August, 2019. Regular meetings will resume in September.

FIELD TRIPS AND OTHER NATURE EVENTS

Visit the BNS website for upcoming events and for field trip maps and directions. If you do not receive e-mail alerts for events and would like to, please let Pat Kelly know and he'll make sure you're on the list (info@blomidonnaturalists.ca).

FIELD TRIP

Early Valley Birding

by Patrick Kelly

☞ APRIL 28, 2019—Having been in White Point overnight, I had a bit of a challenge to get to the start point by 9:00 a.m. That meant forgoing a stop at my place, so I did not have a species list with me, so a total species count is not in this report. Because this trip was about a month later than in other years, at least the snow was gone and the weather was relatively nice—if you were out of the wind! As is normal with a caravan-style trip, not everyone saw all the reported birds. We started out with nine cars and only lost one along the way. I think that for next year I will make a map to hand out of the intended route and main stops.

This year's starting point was at Just Us! in Hortonville. The first stop on this trip is the Bald Eagle nest near Eye Road, and I thought it would be easier on everyone if the cars were pointed westward rather than having to get them turned around. While there were no adults in the nest, there were two immature eagles in the tree and a number of other eagles (adult and immature) in the surrounding area. From there we went to the eagle nest on Church Street (east of Highway 358), in which we found a pair of adult eagles. There was not a lot to see in Starrs Point. Even

with the tide being relatively high there were no waterfowl to be seen. Wellington Dyke had a few American Black Ducks and Mallards, but in small numbers. While we could hear Canada Geese, we could not see them. At the north end of the dyke, several people spotted a Turkey Vulture. We had a good stop in Lower Canard. After making the left turn onto Saxon Street, we were not only out of the wind but there were two male Purple Finches and two Chipping Sparrows singing. We were standing at the side of the road, and none of the birds seemed too concerned about us, and we got great views of both species. The Canning Aboiteau was also bereft of birds, so we stopped at the park in Canning for people to have lunch.

Some went to the restaurant and opted to head back from there, and one group lives across from Miner's Marsh, so left on their own. At first there were no birds at all in the river, which was fully open. Eventually we spotted some Mallards (very far upstream) as well as some Canada Geese, on the far side of the



FLYING SQUIRREL ADVENTURES

All Ages Nature Program in the Annapolis Valley

We know that nature is always teaching. Flying Squirrel Adventures helps facilitate learning about nature *in nature* by bringing people together to share, explore and grow. We will help you connect with nature through games, activities, challenges, discussions, presentations, workshops and more!

Join us for monthly nature outings on the third Saturday of each month, 9:45 a.m.–12:15 p.m. Check monthly event details: <https://valleyflyingsquirrel.wordpress.com/calendar/> or ask to join the mailing list by e-mailing judylipp@gmail.com

Flying Squirrel Adventures is a collaborative project of BNS, Town of Kentville, & Jijuktu'kwejk Watershed Alliance. It was the recipient of the Recreation Nova Scotia Natural Environment Award in 2018.

“pond.” Some of the geese finally made their way from around the downstream bend (where they had been hidden) and moved out to midstream or up onto the banks where we could finally see them. Three Green-winged Teal were mixed in with them. I also learned that you can see a lot more from the sidewalk at the parking lot as it is up quite a bit higher. Sure, you are a bit farther from the water, but that is what binoculars are for. It was at this time that a juvenile Peregrine Falcon tried to get something that dived into a hedge at the last minute. The falcon soared overhead long enough to get a good view of it.

Nothing interesting turned up as we headed for the Red-tailed Hawk nest by a house on Church Street (west of Highway 358). After many years, the nest was gone, likely blown down over the winter. There was no evidence of actual building activity but we got a great view of a Red-tailed Hawk that glided and circled right by us. Maybe they are not yet ready to start. The last stop was Miner’s Marsh. I had been there two weeks before and counted five Tree Swallows. Now there were at least two dozen soaring overhead, with some busy going in and out of the nest boxes. There were Canada Geese and Mallards in the ponds, which were also swarming along the shore with minnows. It would have been a heron’s buffet! We got a good look at a Northern Flicker and male Downy Woodpecker. Both Common Grackles and Red-winged Blackbirds were abundant, and at one point there was one of each perched, facing the same way, one above the other, allowing a good look for those wanting to compare the two species.

We finally had our first warblers. There were three male Yellow-rumped Warblers along the west side of the ponds. This is also the best place I know of to easily see large beech trees that are canker free. The buds were just starting to open on them. We were surprised to both hear and see a Belted Kingfisher. There may have been a few more surprises, but I had tickets to the Halifax Mooseheads playoff game, which started at 2:30, so had to fly. (They won the game in overtime to advance to the President’s Cup final!)

Cape Split Walks

by Howard Williams

☞MAY 12, 2019—The first of these walks was attended by six members, led by Patrick Kelly on a fine sunny but breezy day. The purpose of the walks was to enjoy both birds and plants along the route from the car park at Scots Bay to the western end, where the trail breaks out of the forest onto a grassy headland. Nineteen species of birds were seen or heard, while carpets of the Acadian forest plant Spring Beauty (*Claytonia caroliniana*) were seen and admired along with more general North American plants: Dutchman's Breeches (*Dicentra cucullaria*), violets, fiddleheads, Christmas Ferns, and assorted lichens. Trilliums were budding but not yet flowering. Pat demonstrated the ancient art of tree aging, using small fir, showing how its age may be determined from the number of branch whorls.

Birds identified include Herring Gull (*Larus argentatus*), Great Black-backed Gull (*Larus marinus*), Double-crested Cormorant (*Phalacrocorax auritus*), Turkey Vulture (*Cathartes aura*), Bald Eagle (*Haliaeetus leucocephalus*), Red-tailed Hawk (*Buteo jamaicensis*), Downy Woodpecker (*Dryobates pubescens*), Northern Flicker (*Colaptes auratus*), Blue-headed Vireo (*Vireo solitarius*), Common Raven (*Corvus corax*), Black-capped Chickadee (*Poecile atricapillus*), White-breasted Nuthatch (*Sitta carolinensis*), Winter Wren (*Troglodytes hiemalis*), American Robin (*Turdus migratorius*), American Goldfinch (*Spinus tristis*), Dark-eyed Junco (*Junco hyemalis*), White-throated Sparrow (*Zonotrichia albicollis*), Song Sparrow (*Melospiza melodia*). The Winter Wren and the Vireo were only heard and were, with the Spring Beauty, a welcome acknowledgement that spring was here.



Spring Beauty on Cape Split Trail

May 19, 2019—What a difference a week makes. The second trip, on a mild day after significant rain, we saw many more wildflowers blooming and a set of new migrant birds, including Ovenbird, Black-and-White Warbler, Black-throated Green Warbler, Common Loon, Least Flycatcher, and White-throated Sparrow. The flowers included Purple Trillium, both Dog and Canada Violets, Starflower, Ostrich Fern, Rose Twisted Stalk, Solomon's Seal, Lily of the Valley, Black Cohosh, Columbine, and what we think may be Roseroot (*Sedum rosea*, also called *Rhodiola rosea*, not to mention other synonyms, although a number of authorities confine *R. rosea* to more Arctic climes). A Painted Lady butterfly (*Vanessa cardui*) landed on us during luncheon in a sunny glade.

All-in-all, two good walks through delightful mixed forest affording good views of the Cobequid Highlands and North Mountain, the second walk amply concluding at 'i scream' in Canning (to be recommended). Thank you, Pat.

Late Spring Nature Notes

by *Howard Williams*

☞ Spring has come to Wolfville, and the shouting competitions between males of so many species is a source of constant wonder at the energy expended. One assumes that it is all worthwhile in facilitating the perfect match. Competition is evident in other ways too. I saw three crows undertaking “gannet” dives toward a raven perched on the peak of a roof. The raven would undertake a perched dodge and weave as each crow flew by at speed and eventually took the hint and flew off, chased by the crows.

I saw my first grackle on March 23, a Red-winged Blackbird on the 26th at Elderkin Pond, both observations representing my personal criteria for the arrival of spring. Wolfville was treated to a number of Witch Hazel blooms bordering the cemetery in the last week of March. Until I looked it up, I had not appreciated that the witch reflects an Old English meaning of pliable and is not related to the word *witch* meaning a practitioner of magic. Unfortunately, these spring-blooming witch hazels are exotic, coming originally from China and are not the fall-flowering native species. Nonetheless, they must be one of the first shrubs to produce flowers in spring.

My first White-throated Sparrow sang on April 7, while Coltsfoot appeared fully open April 12. In my back garden I was treated to a pair of Northern Flickers dancing beside each other on a horizontal bough, bobbing and nuzzling in preparation for nesting. However, the return of snow in April also brought many birds back to our feeders. Now, only American Goldfinches and Song Sparrows take seed. I noticed on one of my daily walks a robin’s egg smashed on pavement on April 20. The colourful exotic shrub *Daphne* was flowering in mid-April,



Pileated Woodpecker

while Mayflower (*Epigaea repens*), our provincial wildflower, burst buds on April 25.

Curiously, Alex Handyside saw his first Ruby-throated Hummingbird on April 20 at a location where his then-absent feeder station had been in previous years. This story is interesting because it confirms that these birds return to their old haunts. The male hummers truly arrived in the Valley during the first week of May, though I did not see one until May 14, the first female at our feeder on May 22. May 14 was when I saw my first warbler of the year, a Yellow Warbler, which visited Elderkin Pond. However, I did hear, and then see, on May 6, my first Chimney Swifts, confirmed by Harold Forsyth in Wolfville.

Spring Beauty and Purple Trillium made a trip along the Cape Split walking trail especially memorable on May 19 (see the trip report).

While waiting for spring to develop (in May!) I discovered a set of YouTube videos developed by “Lesley the bird nerd.” What makes them interesting is the time she spends describing bird behaviour in detail, with an eye to determining the

variety of calls and relating them to behaviours, and to gender. Her videos, at www.youtube.com/channel/UCDjdXwT-KrFP-sqOSg4KL8Nw, make good children's entertainment as well, teaching them how to look at birds.

Coyotes continue to make their presence felt in Ferry Lane (continuation northward of Cherry Lane) in Wolfville. I suspect they must be denning in the dump area halfway along the lane because people and cars are rapidly noticed and closely shadowed by two coyotes. Word has it they have been shot—how sad is that?

It was good to hear Baltimore Orioles at Miner's Marsh on May 20 and see the Tree Swallows starting house assessment.

Finally, we were visited by a male Pileated Woodpecker next to the garden on May 30, literally hacking at a discarded tree stump.

NATURAL HISTORY

Birding for Beginners: Teaching a Course through Acadia Lifelong Learning

by Richard Stern

☛ Over the years I have enjoyed explaining my hobby and passion for birding to others, and I have frequently tried to explain to people that there is a process whereby bird identification becomes more instructive than just flipping through the pages in a book till they find what looks right. When someone suggested that I should actually teach people how to do that through the Acadia Lifelong Learning (ALL) program, I thought about it for a couple of years and eventually thought, Why not? So I agreed to teach a three-evening course in late winter of 2018–19, fol-

lowed by some kind of field experience later, when the weather warmed up and there were more birds around.

I decided to do it by going through the general principles of birding—not just how to identify a species but using some basic biology, talking about equipment needed, where to go to find birds, and several other general topics—leading eventually to discussion about particular families (raptors, gulls, etc.).

For the first few weeks after the course details appeared in the ALL brochure, there were only seven people signed up, and most were friends who sometimes went birding with me anyway, so I thought this was going to be a bust! But by the time the course started there were 30 people enrolled, and a waiting list, so I felt more optimistic but was faced with a different problem: how do I take 30 people on a field trip?

Over the course of several weeks I prepared a slide presentation, but I knew that the course was going to be more of a discussion than a didactic presentation, and that turned out well. I did a trial run to make sure that my laptop had the right connections to the Acadia system (it didn't, but I was able to borrow the right cables, and a computer expert from ALL helped) and was then set to go. Luckily the weather cooperated and I did not have to cancel any of the two-hour classes. I used my own photos and a few maps and eBird diagrams, and played bird vocalizations from an app on my phone.

The course consisted of three two-hour sessions at weekly intervals. Topics covered included what birding is and isn't, the process of bird identification, how to use a field guide, what equipment is needed, discussion of online resources, where to go to find birds locally and farther afield, activities such as making lists, bird photography, Christmas and other bird counts, eBird and other online resources, camera and binocular gear, how to use and clean binoculars, birding ethics, and feeding birds. Following that, I planned to discuss various specific bird families in the second two sessions.

But there was so much discussion of these topics that we did not get to the specific groups till the second half of the second

session, so there were a few topics I had to leave out—although they may not have been appropriate for beginners anyway (Empidonax flycatchers, immature gulls, etc.).

I solved the problem of the field trips by checking with everyone whether it would be all right to arrange more than one but at short notice, given the weather and my availability in spring. That was satisfactory to people, so I ended up leading two trips, with several participants, for two hours at Miner's Marsh. We saw and heard up to 23 species of bird on each trip, and we were able to put the principles mentioned above into practice, with Red-winged Blackbirds, Flickers, Cardinals, etc., and on the second trip, Yellow-rumped Warblers, which had just arrived back for the nesting season.

A feedback form was filled out by just over half the participants. Most were very positive; there were a few constructive comments suggesting minor tweaks, and one person obviously didn't like it.

NATURAL HISTORY

An Ice Dam with a Twist

by Patrick Kelly

☞ FEBRUARY 11, 2019—It was a bright blue day, cold and with a bitter wind out of the west. As I had never really been to Cape Split in the winter, and Joanne Cook had not been to Cape Split in a long time, I thought it would make for a nice trip, if for nothing else than to show her the new parking area at the trailhead.

On the way there, we checked out the Bald Eagle nest on Huntley Road. No signs of any activity, so we kept on. There was not a lot of snow on the ground at the trailhead, but on the shoreline there were lots of places where the sea spray had frozen on the rocks and the wharf, making them quite treacherous.

It was while driving back out (with the beach at Scots Bay visible ahead of us) that we came across something unexpected. There was a thick, unbroken layer of white “slush” extending well out from the beach. With the strong winds blowing in from the west it was clear that the spray was freezing in the air and being forced toward the beach. There were also large waves rolling in underneath the slush, making it look like a giant whale was moving beneath the frozen froth.

Despite the cold. I thought it would be interesting to see what it looked like from the beach, so we drove down to the end of the parking area and were faced with a large white wall of ice. (It was not a rival for The Wall in *Game of Thrones* but was at least made of the same material.) From the level of the parking lot, one could see the moving slush behind the wall. I assumed that the slush had piled up there at high tide and the receding tide and wind had “stranded” it there. Given that it was a fair walk down, facing into the harsh wind, I found myself doing it alone. There are times when it pays to be more tolerant of cold than the average person! Only when I got to the base of it did I realize that this wall was taller than I was. It was made of ice pieces of various sizes and looked like a giant pile of frozen white corn kernels that extended far down the beach in both directions. It was actually quite nice there, as I was in the sun and also out of the wind. Clearly, the next thing was to try for a view over the top to see just how far away the water was from it. I kicked two or three “steps” into the side, and it held my weight nicely. When I was finally stable enough to stick my head over up to get a view, I don’t know what surprised me more, the force of the wind or the fact that the slush, heaving on the waves, was just below the top!

The entire surface of the ocean, extending for at least 20 metres away to the west, was a heaving mass of white slush, with the hiss of the moving ice particles non-stop. I could clearly see approaching large waves that would disappear under the slush but continue “rolling” toward me. When they reached the dam, the slush would heave up with a lot of noise and then fall



back again, going up and down about 20 centimetres on a big wave. I had never seen anything like it before, and it was totally mesmerizing. Despite the cold, I was determined to get some pictures, and hopefully some video footage as well.

So fascinating was this display of nature that nowhere in my mind was there any thought to putting a few quick facts together. If the tide was going out, the dam would be at the beach. You had to walk a good distance from the beach to get to the dam. The water behind the dam is higher than your head. Therefore, the tide is coming in, not out, and all that is holding it back is this wall of slush, and you have made some weak spots in it to make steps. I got some pictures, some video, walked back to the car, and drove away.

It was not until I reported the observation at the next BNS meeting that it occurred to me that I might have been in danger. Sure enough, while I was standing on the ice dam, there was still an hour until high tide.

Now I am curious to see if anyone else has observed this at Scots Bay. Is it rare, or is it common but unknown because few people go there on a cold winter day with a rising tide? Does

anyone know someone who lives in Scots Bay and would likely know? I do know I will be making a trip of two there in the coming winter to see I can get another chance to tempt fate!

NATURAL HISTORY

Hummingbirds

by Cindy Cartwright, lead researcher,
Hummingbirds Canada

☞ Ruby-throated Hummingbird research in Canada has been very limited. *Birds of North America* states that many fundamental questions remain about this common, widespread species. Hummingbirds Canada plans to change this by conducting, encouraging, and supporting research and education throughout Canada. We hope to partner with individuals and organizations in Nova Scotia to learn more about these beautiful hummingbirds.

Relatively little is known about migration routes, particularly across cold water bodies such as the Bay of Fundy, and the timing of migration is not well known at the northern limits of their range. Hummingbirds are not well detected by point counts, and it is important to determine current populations before we can understand if their population is decreasing or shifting. Banding and recapture over time (years) can help determine turnover in hummingbird populations.

The amount of time spent pollinating flowers compared to their other daily activities has not been documented. Monitoring hummingbird activity and plant interactions will provide useful information on the plants needed to fuel their daily activities as well as which food crops they pollinate for human consumption.

The effects of climate change on hummingbirds are unknown. We need to understand what weather factors influ-

ence hummingbirds on the eastern limits of their breeding range before we can hope to determine how climate change will affect these tiny birds.

We are working to decrease many knowledge gaps and to replace common knowledge with facts specific to Canada—to benefit

both hummingbirds and the people who love them—through research and the active participation of residents in every province. Beginning this July, I will travel to Nova Scotia to identify potential research locations, collect information from long-time residents, and talk with individuals and organizations interested in helping continue this research. Anyone who would like to participate or contribute information should contact me at hummingbirds@bmts.com.



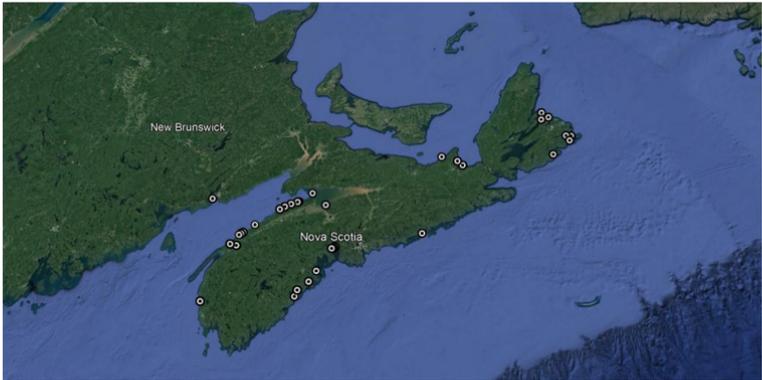
HOWARD WILLIAMS

NATURAL HISTORY

Sea Turtle Stranding Patrol

by Kayla Hamelin

☛ We welcome volunteers from around the Maritimes region, but this year almost all our participants were from Nova Scotia, with one pair from New Brunswick. We had 29 participants submit data this year. This means that our volunteer team is growing quickly. In 2017, 13 participants submitted data. In 2016, the first year of the program, 11 participants submitted data at the end of the season.



A map that shows which beaches were monitored by beach patrol volunteers (each white dot is a survey location)

BEACH SURVEYS

Each participant monitored a stretch of beach that ranged from 27 m to 2.48 km long. The average beach length was 984 m. In total, our team patrolled 30.9 km of coastline.

Everyone who submitted a data sheet completed at least two walks. The maximum number of surveys completed by a participant was 22. On average, participants did about 10 beach walks over the course of the season.

Some surveys were short, others as long as 3.5 hours. In total, our beach patrol volunteers donated 268 hours of time monitoring the coastline. Most surveys were conducted at low tide (196, or 68%), some were conducted at high tide (75, or 26%), and some were in between (17, or 6%). About a quarter of the surveys took place after a storm (23%).

SURVEY FINDINGS

A number of interesting things were found on the beach: animal carcasses (e.g., rock crabs, common loon, moose, deer, murre, sunfish); an injured seal; a message in a bottle (!); large piles of seaweed; and large quantities of marine pollution (lobster bands, plastic bags, old fishing rope, etc.).



CANADIAN SEA TURTLE NETWORK

Vet checking Stubby for heartbeat via ultrasound

Fortunately, only one stranded hard-shelled sea turtle was found this year. It was a juvenile Loggerhead found in Salmon River, Nova Scotia, in late November. We named the turtle Stubby because it had a (healed) missing front flipper.

After receiving news of the finding, we coordinated with the amazing team of fishery officers at DFO Tusket, who responded to collect the turtle from the beach and even volunteered to drive it to Halifax in their truck.

The turtle arrived at Dalhousie and was cared for by Dal's "Aquatron" team, led by veterinarian Dr Chris Harvey-Clark.

The turtle showed signs of a heartbeat when it was initially recovered, but its body temperature was very low.

The vet team administered various fluids and medications and slowly warmed the turtle up to try to revive it. Unfortunately, attempts to revive it were unsuccessful. The turtle was pronounced dead two days later.

Stubby was then sent to the Atlantic Veterinary College, where wildlife pathologists with the Canadian Wildlife Health Cooperative performed a necropsy. We initially thought Stubby was a female, but the vets confirmed he was a young male. They

determined that he died from the cold, but they noticed that his damaged flipper had poor function and may have contributed to his inability to migrate south on time.

We were sad to lose Stubby but were glad to learn more about how sea turtles run into trouble in our area. Continued beach monitoring in future seasons will hopefully help turtles like Stubby and ensure that we keep track of stranded animals in our region.

YOUTH

Terranaut Club Junior Wildlife Conservation Program

a report by Julia & the Terranauts

☞ Terranaut Club is a non-profit organization that specializes in extra-curricular science and environmental education, bringing girls to the forefront of exciting hands-on and immersive experiences in science and nature. Our mission is to empower and inspire girls to pursue STEM (science, technology, engineering, and mathematics) careers and become environmental leaders in their own communities. Specifically, we aim to work with underprivileged and underrepresented girls in Nova Scotia, and to offer a range of free, subsidized, and paid programs.



In July 2018, Terranaut Club hosted 11 middle-school-aged girls on Bon Portage Island in Nova Scotia for a weekend of hands-on learning about wildlife conservation. We were fortunate to have received a Blomidon Naturalists Society grant to sup-

port the costs of this program, which included food, accommodations, boat transportation, and activity supplies.

Bon Portage Island is a research station owned in part by Acadia University and the Department of Natural Resources (now Lands and Forestry, ed.). It is home to an estimated 50,000 breeding pairs of Leach's Storm Petrel, a small grey seabird. Ongoing research to study and monitor this population was precipitated by significant declines in Leach's Storm Petrel populations across the Maritimes. We thought that the island would be the perfect place to learn about wildlife conservation in a hands-on way, and we were right! Over the next three days our all-female crew of biologists and instructors engaged the girls in a bevy of activities and discussions about wildlife conservation.

These fun and full days included hiking the island, learning about Leach's Storm Petrel research and wildlife harassment, grubbing for storm petrel adults and chicks, doing a squid dissection, talking about marine pollution and how to reduce our consumption of single-use plastics, setting fish traps in the saltwater pond and measuring the hundreds of mummichog (a small killifish) we caught, learning about the island's edible plants with naturalist Char, nature connectivity exercises with naturalist Marina, and independently exploring the island. We still can't believe that we fit it all in! It was an amazing weekend all-around, and we truly couldn't have asked for a better first group of girls to have out there.

Thank you to the generous sponsors of this program, including the Blomidon Naturalists Society, Annapolis Cider, CBCL Limited, and Equilibrium Engineering. This program would not have been possible without your integral support.

TESTIMONIALS

Marcia H. (mother of participant): "Attending [the Junior Wildlife Conservation] camp has made my daughter want to become a scientist. Thank you for this amazing program, ladies."

Quinn M. (program participant, 13 years old): “I never got the chance to say a thorough thank you for the weekend. The Terranaut Club [Junior Wildlife Conservation] camp is now rated among the most amazing experiences of my life. I had never been to an overnight camp before so of course I was a little nervous. But as soon as I met the instructors and other kids I was fine.

For the grubbing I can’t thank you enough. I have only held a bird once before and it was not for very long (this was during a release—I didn’t just pick up a random bird). The grubbing was likely my favourite part and probably where I learned the most, too.

One other thing I wanted to thank you for is the squid dissection. I honestly did not want to do it, but you encouraged everyone to give it a try. Once I got started I had so much fun! Not only was this fun, but it also gave me confidence! Now I know I have the ability to do that type of thing without feeling sick like I thought I would. Same thing with the fish. Last time I handled one, I found it quite gross, but you and the other kids told me I should try without the gloves. I did, and had a great time.

Thank you so much for giving all of us this opportunity. I think all of us left the island happy and with a great deal more knowledge than before.”

Hannah B. (mother of participant): These ladies are truly amazing! My daughter has attended for two years, first doing the girls Marine Biology camp and this year the sleepover Wildlife Conservation program on Bon Portage. She hasn’t stopped talking about her experiences and all the fun she had. She can’t wait for next year!

Young Naturalists Club: Update, 2018–19

by YNC staff

☞ Thanks to support from grants and donations, we are finishing up our 12th year of running the Young Naturalists Club.

REGULAR CHAPTER PROGRAMMING

We continue to offer free monthly presentations and field trips at our chapters from September to June. We are currently supporting five YNC chapters across the province:

- Halifax Chapter (monthly field trips)
- Nature Guardians in Dartmouth (spring and fall older-youth sessions)
- Annapolis Valley and partnership with Flying Squirrel Adventures
- Musquodoboit Valley Chapter (afterschool club model)
- East Hants (monthly field trips)

Once again, our attendance remained around 1,000 youth participating in general programming over the year. Here are just a few of the activities that chapters have been up to this past year:

- Presentations on bugs, the Acadian Forest, abandoned gold mines, tidal pools
- Field trips about bugs, salamanders, birding, watersheds, winter tree identification, winter tracking, owls, forest fungi, stargazing under the night sky
- Hikes to the Herring Cove Backlands, waterfalls, tidal pools, abandoned gold mines, Conrad's beach

- Participation in Christmas Bird Count 4 Kids

NOVA SCOTIA CELEBRATION OF NATURE, MAY 2018

In the spring we once again partnered with Nature Nova Scotia to hold a weekend of activities, called Nova Scotia Celebration of Nature, at the Debert Hospitality Centre. YNC ran the youth program again, and with some funds from Nature Canada we were able to travel off site with the kids (15) and had an amazing field trip with Liza Barney (Bird Studies Canada) and Becky Parker (Ducks Unlimited) at the Wallace Bay National Wildlife Area. We saw a grand total of 30 bird species; highlights included nine species of warblers, 50ish foraging Tree Swallows, and a glimpse of an elusive Pileated Woodpecker! We entered our findings on eBird. Other weekend happenings included a campfire talk by Dave Chapman and Cathy LeBlanc about Mi'kmaw moons and a talk about a man raising Monarchs and growing a field of milkweed in the Annapolis Valley.

NATURE GUARDIANS, OLDER-YOUTH PROGRAM

Spring session: In the spring, we spent the five three-hour sessions exploring our new home base at Shubie Park in Dartmouth. We carried out several activities, including planting a milkweed garden, evaluating the forest for signs of health and brainstorming about how to increase its biodiversity, and starting a water-quality monitoring program for the canal, the ponds, and Lake Micmac to see how bacteria levels may or may not change over time. We had 15 kids participating in both the spring and fall sessions.

Fall session: We held five three-hour sessions again in the fall, including a Leave No Trace workshop and a field trip with the Canadian Sea Turtle Network to Conrad's Beach, where we learned about sea turtles and did a beach cleanup and brand audit. We repeated our water-quality sampling project and participated in Trout Canada's Yellow Fish Road program, where

we painted 24 “rainwater only” stencils on storm drains. Our biggest project for the sessions was planting native plants to increase the health and biodiversity of a part of Shubie Park.

NEW CANADIAN NATURE HIKE

It was a beautiful fall day that felt more like summer when we gathered six families (30 people) from Syria and the Congo to do a fall nature walk at York Redoubt. In partnership with the Immigrant Services Association of Nova Scotia (ISANS) we were able to invite local naturalists Jamie Simpson and Sally-Jo Gallant to lead a two-hour walk through the trails of York Redoubt. On the heels of Jamie’s new book release, *Eating Wild in Eastern Canada*, we focused on all the interesting things we could forage on the walk. We were treated to wild grapes and apples, rosehips, dandelion and plantain, and some leftover berries, including wild raisin and blackberries. A visit to the shore turned up mussels, snails, and some Bayberry that people took home for cooking with. Kids did a nature scavenger hunt along the way, and families were sent home with lots of educational materials.

NOCTURNE AT NIGHT PARTICIPATION

Our fall continued to be busy as we participated in Nocturne (Art at Night festival) for the second year with another lantern activity called Illuminating Stories from the Night Sky. The activity had participants make paper bag lanterns that explore the different ways First Nations and western science interpret the constellations of Ursa Major / The Big Dipper and Corona Borealis (the bear’s den). In the Mi’kmaw culture this star pattern is sometimes described through a story called “Muin and the Seven Bird Hunters.” It is a traditional Mi’kmaw sky story that has been handed down orally from generation to generation, explaining the movement of the two constellations as they shift in the night sky, linking the annual cycle of the seasons

with the movement of stars about the North Celestial pole (Tatapn / North Star). We made 750 lanterns that evening.

NIGHT HIKE FUNDRAISER WITH HIKE NOVA SCOTIA

In February, YNC partnered with Hike Nova Scotia to hold a Valentines-themed fundraiser. The night hike was held at The Links at Brunello, where youth and adults came to have a guided night hike led by owl experts and astronomers. After a brisk night hike, participants got to enjoy chocolatey treats inside, with draw prizes. Soren Bondrup-Nielsen, one of our guides, delivered a short presentation on owls before the hikes. We also borrowed owl specimens from Acadia and the Museum of Natural History so participants could see them up close. Members of the Royal Astronomical Society of Canada had telescopes outside, and there was some great night sky watching on the cold but clear night. We had about 90 folks for the family hike and 50 for the adult hike later in the evening. It was a successful fundraiser for our organizations.

Thank you again to BNS for your support last year. Your funding has been vital in providing our chapters with supplies, production of educational materials, and program delivery.

YOUTH

Flying Squirrels Don't Mind the Rain

*a field report from the Flying Squirrel Adventures
Spring 2019 program by Judy Lipp*

☔ Cold and wet is how the spring of 2019 will no doubt be remembered, leading to more than a few delays and postponements of both the natural and man-made variety. Despite the rain, the Flying Squirrel Adventures (FSA) program saw excellent turnout at our three spring outings in March, April, and



Examining an owl pellet

May, leading us to conclude that Flying Squirrels (the human variety) don't mind getting wet.

In March we had over 30 people and 3 dogs join a walk with Soren Bondrup-Nielsen through Miner's Marsh. It was supposed to be a snowshoe hike, but we had no snow and the walk into the Kentville Ravine was too icy, so we relocated to Miner's Marsh and enjoyed all kinds of early spring critters. The outing highlight for many, as shared in our closing circle, was the owl pellet that Soren dissected before our eyes and pieced together the mystery of the Great Horned Owl's lunch.

Our theme in April was Wood Turtles, and we were pleased

to have Katie McLean from Clean Annapolis River Project along with two young people from her conservation team. They led us on a tour of the ins and outs of this species at risk. We had 32 people attending. After an introduction to different kinds of turtles found in Nova Scotia, our observation skills were tested as we walked into the Ravine. We were to be on the lookout for two Wood Turtle shells that had been hidden along the trail. Only one of the two was found by the time we reached Elderkin Brook, reinforcing the challenge of finding and monitoring Wood Turtle activity. We gathered in the Ravine to learn more about Wood Turtles, engaging in several activities that allowed us to understand various details about this species and the tracking process. One group got more technical details about weighing and measuring turtles and how to get more involved in turtle patrol; meanwhile, those who needed to expend energy played several games, including finding baby (stone) Wood Turtles and a tag game that demonstrated the risks of predation.

Our May event had 29 participants. After our opening circle we did a little round of Human Camera, a fun activity where people partner up and take turns being the photographer and the camera. The photographer leads their partner blindfolded to various spots to take photos allowing them to uncover their eyes only for a second or two before closing again. Photographers are encouraged to show their camera interesting shots and unique angles. Generally, the cameras remark that they have been shown something they themselves may not have noticed. It's a simple and fun activity to remind ourselves that there are so many perspectives by which to see the world, and also to tune into other senses when our vision is not available.

After Human Camera we split into two groups and headed into the Ravine. The adult group was led by Zeus Rodman from the PhotoGYM in Kentville, a community darkroom that he set up. Zeus continued on the theme of perspectives and ways of seeing, sending us off on a mission to find various patterns in nature. He also encouraged us to be disciplined in our photo

taking and really limiting ourselves to a few great shots rather than multiples of mediocre shots, which we would have to filter later. In the digital age it's easy to get trigger happy with the shutter on our cameras and not really pay attention to detail. It was great to have a reminder to slow down and notice.

Meanwhile, Emily Legrand and Mariah Skater introduced the younger children to a series of activities designed to encourage looking closely and from different perspectives, skills that are important for photography, and for being good naturalists too. The group looked closely at leaves, using the light and little leaf slides. They also searched for the colours of the rainbow in the forest and lay on the ground to look into the tree canopy to see if they could find the letters of their names patterned by the tree branches.

Our monthly outings are lots of fun to deliver and are catching on among folks in the Valley (and beyond). They are also catching the attention of other recreation groups, and we will be delivering some pop-up Flying Squirrel Adventure outings at several different locations around Kings County this summer. Check our website for info on that.

Apart from creating a forum for nature connection, FSA is also committed to growing and supporting a cohort of young people who are nature leaders and facilitators. To that end we have a Nature Leadership Program for young people; currently, the five people in the program also provide invaluable facilitation support on our monthly outings. Laura Bullock and Christina Daffre have been in the program since September 2018, and in March, Mariah Skater, Cheyenne Turpin, and Jasmine Williams joined the team (see bios of our entire team on the website). In exchange for their support on outings we offer them monthly leadership mentorship sessions where we practice skills and share experiences. And we mentor them in our approach to nature facilitation, called Coyote Mentoring. A big thanks to the awesome leadership team for being so dedicated, passionate, and engaged.

Finally, we are beginning to develop a new initiative: building an all-season field guide to the Kentville Ravine. We're using a tool called iNaturalist, and everyone can contribute. In fact, we need lots and lots of people to contribute.

iNaturalist is an online web app that brings together a global community of naturalists to help each other identify species documented in digital photographs. The photographs that iNaturalist community members upload are linked to their geographic location on a map and are timestamped. The result is incredible: a real-time range map of species from all over the world. We can see where, when, and how often species are being sighted—critical information in understanding global change.

The Ravine already has its own project on iNaturalist, so if you're keen to get started, check it out and start sharing your photos and knowledge. For those who need some guidance, we're working on that and will soon be sharing it on our website and at some upcoming FSA sessions. See <https://valleyflyingsquirrel.wordpress.com/field-guide-project/>.

NOTE: Flying Squirrel Adventures is a monthly nature event for all ages, running year-round, rain or shine. It's a collaboration between BNS, Jijuktu'kwejk Watershed Alliance, the Young Naturalists Club, and the Town of Kentville. We meet the third Saturday of every month. For details on monthly outings, visit our website or Facebook page: <https://valleyflyingsquirrel.wordpress.com/>. Judy Lipp is program coordinator for Flying Squirrel Adventures and loves running outdoor nature programs for all ages. If you have a naturalist topic you'd like to share, or otherwise want to get in touch, e-mail valleyflyingsquirrels@gmail.com.

Global Big Day

by Larry Bogan

☞ SATURDAY, MAY 4, 2019, was the Global Big Day when, internationally, birders go out and count. It was a bit wet early in the morning, but I found that this did not keep the birds from singing. The trees did not have leaves on them, so seeing birds was not difficult, but I heard more than I saw.

Observations are now uploaded onto the eBird site. In Kings County so far (at the time of writing this), 11 people have reported bird checklists for the Global Big Day. There were 26 checklists submitted: I had three, one for bicycling in the morning, another for watching a bird feeder, and one for driving in the afternoon.

Only 63 species were reported. The Nova Scotia Migration Count usually has 90 to 100 species, but spring is late this year and the Global Big Day occurs a week earlier than the Migration Count.

I hope any of you who were out birding for the Global Big Day will submit your sightings soon if you have not done so already.

GBBC Sets New Records

culled from eBird promotion by Howard Williams

☞ Thanks to the efforts of so many bird watchers around the world, the 2019 Great Backyard Bird Count is one for the record books. By every measure, this year's event topped all previous

levels of participation, checklists, and species reported. The following figures are as of June 2019. Internationally there were 5906 species observed on 173 239 checklists, with 27 270 156 individual birds counted. In Canada, 242 species were observed on 14 717 checklists. Nova Scotia had 122 species. Our top-10 list for species appearing on the greatest number of checklists shows the Northern Cardinal once again in the top spot [data totals as of March 6, 2019].

SPECIES	NUMBER OF CHECKLISTS
Northern Cardinal	56,785
Dark-eyed Junco	50,397
Mourning Dove	45,449
Downy Woodpecker	42,095
Blue Jay	40,386
American Crow	39,467
House Finch	37,726
House Sparrow	37,149
Black-capped Chickadee	35,757
White-breasted Nuthatch	33,284

This top-10 list reflects species common in the United States and Canada because of continued high participation in the region. Record-breaking participation from other countries generated valuable data documenting the diversity of species across the globe. See the top-10 list below of countries reporting the greatest number of species. Asterisks represent new species number records during the GBBC.

COUNTRY	NUMBER OF SPECIES
Colombia	1,095*
Ecuador	948*
Brazil	844*

COUNTRY	NUMBER OF SPECIES
India	843*
Mexico	755
Peru	724*
Costa Rica	686*
United States	669*
Argentina	613*
Thailand	556

Data totals as of March 6, 2019

Keep learning about and celebrating birds all year long with the latest stories, bird info, and tips from Audubon, Bird Studies Canada, and the Cornell Lab. Please sign up for our eNewsletters.

NATURAL HISTORY

Healing in the Forest: A Guide to Forest Bathing

NOTE: *Ontario Parks recently posted a blog on what is called Forest Bathing (see www.ontarioparks.com/parksblog/guide-forest-bathing/). The following is an adaptation of that article.*

☞ Ontario is inviting us out into nature by encouraging us to take a walk in the woods, with no specific destination in mind, allowing our senses to guide us.

Ask yourself this question: When was the last time you walked into the woods with no plans? No final destination? Without a species to ID, hill to climb, or lookout to conquer? This is exactly the experience offered by a forest bathing session.

Forest bathing—forest therapy, or *Shinrin-yoku*—was devel-

oped in Japan in the 1980s. Because there is scientific evidence of the health benefits of spending time in nature, forest bathing became an integral part of preventive health care and healing in Japanese medicine. When humans spend time in a natural setting, especially under the canopy of a forest, they experience rejuvenating benefits to the mind, body, and spirit. Agree?

This is not new. People used to seek the restorative benefits of the forest as part of their everyday life. Nowadays, with the increase of industry and modern civilization, we have moved away from the forest and into the hustle and bustle of the city. We have lost touch with nature.

THE HEALING BENEFITS

Spending time in nature is known to be good for your health, but what kind of benefits are evident? People who spend time in the forest experience decreased cortisol (a stress hormone) levels, which can help relieve high blood pressure, heart conditions, skin conditions, and asthma. We know that high levels of stress can compromise your immune system. Stress reduction improves your body's natural defence system.

Trees release oils into the air, called phytoncides, and inhaling these natural essences can help boost your immune system. Spending time in nature and experiencing reduced stress levels allows you to think more clearly and creatively and improve your mood, focus, and energy.

HOW TO PARTICIPATE IN FOREST THERAPY

To start, find a forest near you, perhaps a forested area in your neighbourhood, a local conservation area, or a nearby provincial park. Follow a trail into the forest. Once you are completely surrounded by nature, stop, close your eyes, and engage your senses. Notice the smell of the earth, the sound of the birds, and the air moving across your skin. If navigating your way

through a forest bathing experience on your own seems a little overwhelming, there are many organizations that offer guided experiences.

REVIEW

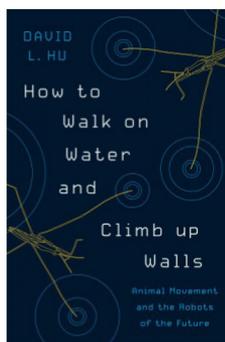
How to Walk on Water & Climb Up Walls

Reviewed by Howard Williams

David L. Hu, *How to Walk on Water and Climb Up Walls: Animal Movement and the Robots of the Future* (Princeton, NJ: Princeton UP, 2018).

☞ Catchy title, eh? Hu is fascinated by animal movement and whether understanding it might inform research on future robots. He reviews some of his own work and engagingly describes that of others in the intersection of fields of biology, physics, and engineering. You may remember the Ig Nobel prizes, where one's scientific peers select research that outwardly may appear to be ridiculous but could turn out to be useful. Hu discovered that most mammals urinate for about 21 seconds, regardless of size and shape. Why not test this for yourself? While at first glance this seems to be a waste of research funds, Hu's work has in fact turned out to be a useful indicator of urinary tract health issues, at least in humans.

Many of his examples of the way animals move stem from initial observation, then a question: "How does this organism do this?" followed by modelling of the



process. Hu examines the behaviours of, and then physically or numerically models, water striders, snakes, flying snakes, sharks, ants, and mosquitoes.

Why is this sort of science useful? By understanding how we and other animals move, we can provide assistance to those who are physically challenged and design better robots.

The book concludes with a notice to funders and politicians that although so-called “blue skies” research may at first sight seem a waste of money, much of it eventually yields benefits, either in new understanding or in new approaches to old problems. I found this to be a very readable book, which provided me with many *aha* moments. It is available from the Annapolis Valley Regional Library, donated by the Nova Scotian Institute of Science from the bequest by Dr Alan Taylor.



Red Trillium

Spring Weather 2019, Eastern Annapolis Valley

by Larry Bogan

☁️ Cool, cloudy, and wet describes our spring season this year but the month of May was the most extreme in these conditions.

	TEMPERATURE			PRECIPITATION
	Max (°C)	Min (°C)	Mean (°C)	Total (mm)
March 2018 (30 yr. average)	3.6 (3.4)	-5.9 (-5.3)	-1.2 (-1.0)	74 (110)
April 2019 (30 yr. average)	10.1 (9.9)	1.2 (0.6)	5.6 (5.3)	161 (93)
May 2019 (30 yr. average)	12.9 (16.4)	3.2 (5.6)	8.1 (11.0)	108 (102)
Season (30 yr. average)	8.9 (9.9)	-0.5 (0.3)	4.2 (5.1)	217 (247)

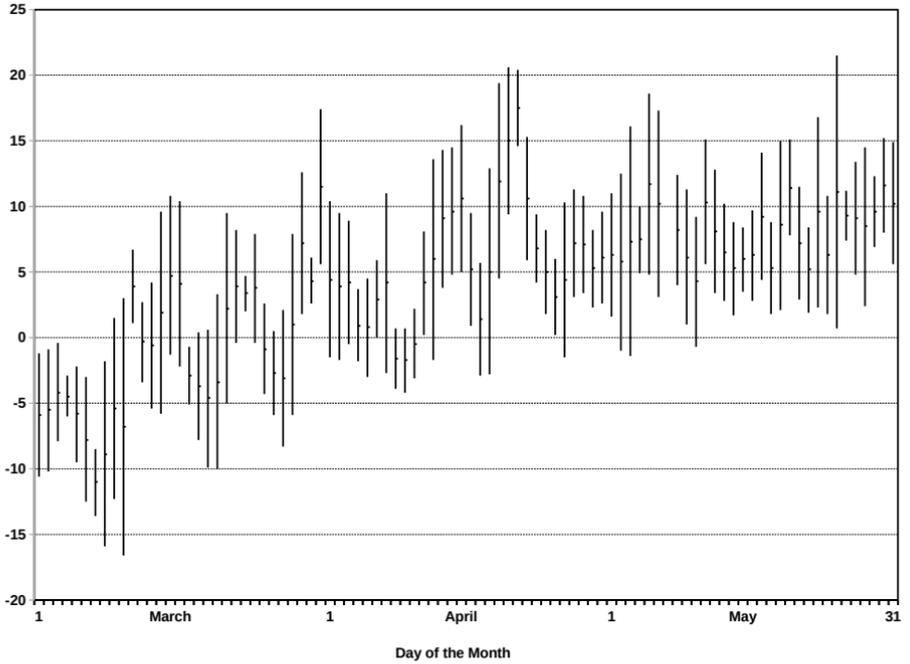
SOURCE: Environment Canada data for Kentville, NS (<http://weatheroffice.gc.ca>). 30-yr. averages: 1981–2010.

TEMPERATURE

The mean temperature in March was nearly average, being only 0.2°C below normal, but maximum and minimum temperatures were more extreme (9.5° range versus a normal 8.7°).

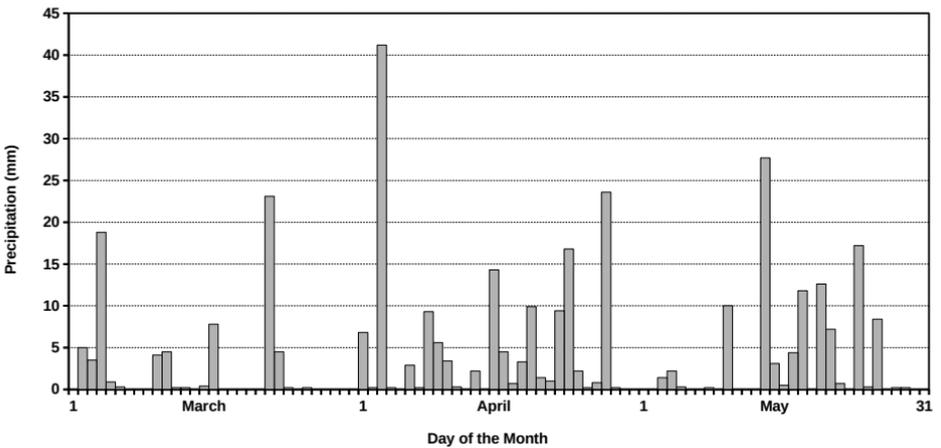
Daily Temperatures - March, April, May 2019

Kentville, N.S.



Daily Precipitation - March, April, May 2019

Kentville, N.S.



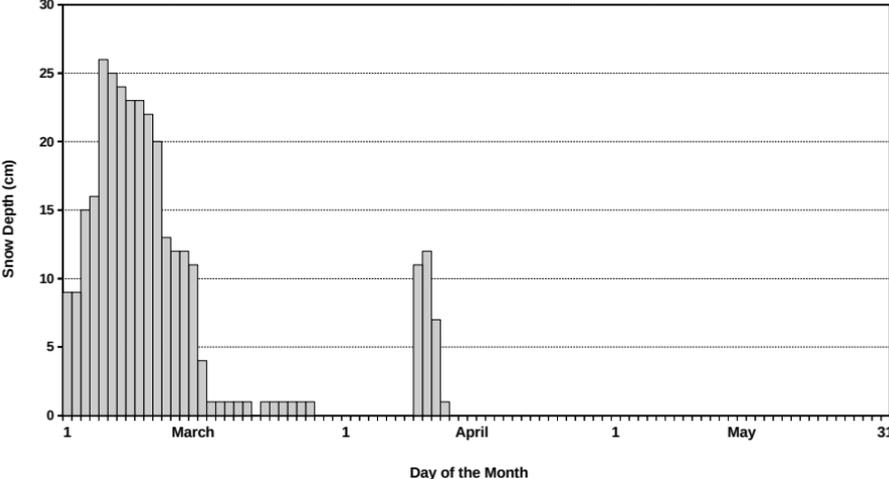
April was warmer than the average by 0.3° . It is May, with its very cloudy weather due to a continuous series of weather systems crossing the Maritimes, that did not warm as expected. The mean temperature in May was 2.9° below average, an exceptional deviation. Note that the mean maximum temperature was 3.5° below average, due to lack of sunshine.

PRECIPITATION

There was snow on the ground for most of March, the first half of the month with significant depths ranging from 10 to 25 cm. April was relatively snow free except for a few days around the 8th and 9th that were white. I have included a snow-on-the-ground chart to show the snow depths.

April was the wettest month of the spring, with nearly three-quarters more rain than normal. March had 25 percent less precipitation than normal, May was average, and the season wound up with 30 mm above average precipitation. Distribution of rain

Depth of Snow on the Ground - March, April, May 2019
Kentville, N.S.



and snowfall throughout the season was uniform, with no long dry periods. Streams, lakes, and ponds at the end of May were more than adequately filled. Agricultural fields were wet, and this delayed planting of crops.

What's in the Sky?

by Patrick Kelly

☞ Highlights for July 2019 to December 2019

July 2: New Moon

July 9: Saturn at opposition

July 16: Full Moon

August 1: New Moon

August 2–4: Large Tides (Moon at perigee August 2)

August 9: Jupiter 1.5° south of Moon (8 p.m.)

August 9: Mercury at greatest elongation west (a.m.)

August 10–13: NOVA EAST star party, Smileys Prov. Park

August 12: Perseid meteor shower

August 14–15: Full Moon (The Moon is full near midday, so you will see an almost-full moon on both evenings.)

August 30: New Moon

August 31–September 2: Large Tides (Moon at perigee August 30)

September 13: Full Moon (For some Full Moons, the date shown is that of the best evening view. For example, Full Moon officially occurs on September 14 at 1:33 a.m. ADT. Thus, I have used September 13, as most people expect a Full Moon in the evening sky on the date of the Full Moon.)

September 23: Equinox

September 28: New Moon

September 28–October 1: Large Tides (Moon at perigee September 27)

October 3: Jupiter 1.0° south of Moon (5 p.m.)

October 5: Saturn 1.0° north of Moon (6 p.m.)

October 13: Full Moon

October 28: New Moon

November 3: Daylight Silly Time Ends

November 11: Transit of Mercury (11 a.m.)

November 11–12: Full Moon (The Moon is full near midday, so you will see an almost-full moon on both evenings.)

November 26: New Moon

November 28: Mercury at greatest elongation west (a.m.)

November 29: Saturn 2° north of Moon (5 p.m.)

December 11: Full Moon (The date shown is that of the best evening view.)

December 22: Winter Solstice

December 26: New Moon

December 28: Venus 3° north of Moon (6 p.m.)

PLANETS AND THE MOON

Mercury: The only good view of Mercury during these four months is in late November, around the time it reaches greatest elongation from the Sun. On the morning of November 28, look at the 1:30 position from where the sky is brightening from the rising Sun. Mercury will be quite bright and about 10° above the horizon around 6:40 a.m. If you draw a line from the point where the sunrise is brightest, to Mercury and continue the same distance again past Mercury, you may spot reddish Mars. Mars will be a lot dimmer, and you may need binoculars. There is another opportunity to see Mercury in November, but it will require a properly shielded telescope. On November 11,

as Mercury scoots between the Earth and the Sun, it will actually pass in front of the Sun from our viewpoint. This is called a transit. Unlike the transits of Venus, which are quite rare, Mercury transits more than a dozen times per century. This is due, in part, to Mercury's moving around the Sun more quickly than Venus. As a result, it laps Earth every 116 days compared to every 584 days for Venus. The transit will start around 8:30 a.m. and end around 2:00 p.m. Mercury will appear at its closest to the centre of the solar disk around 11:20 a.m. Mercury will not be visible without a telescope. If the weather is clear, there will likely be a public observing event to mark the occasion.

Venus: Venus will be a “non-event” for people in the Northern Hemisphere until December, when it will re-appear in the evening sky. On December 28, look for a thin crescent Moon at 6 p.m. after the Sun has set. Which can you find first, the Moon or brilliant Venus?

Earth: Do you live on a planet that is mostly covered in water, but is named after the non-water part of the surface? if so, you are on Earth.

Mars: Mars slowly re-emerges from behind the Sun in November. It will start to move up into the morning sky, but due to its distance it is still quite faint and remains so at the end of the year.

Jupiter: With Venus out of the picture until December, Jupiter is the brightest star-like object from September to November. On October 3, the Moon appears very close to Jupiter. The Sun will still be out, but look due south for the Moon, which will be approaching first quarter so it should be quite visible. Jupiter will be about 1° below the Moon. The Moon is 0.5° in angular diameter, so Jupiter will be two “moons” away. Look first with binoculars, and then see if you can find Jupiter without them.

Saturn: Like Jupiter, Saturn is visible in the evening sky for the last months of the year and has been tailing Jupiter the entire time. Its smaller size and greater distance make it appear dimmer than Jupiter. Two days after the Moon passes Jupiter, on the evening of October 5, Saturn gets its turn! This time the Moon is at first quarter, and Saturn will be two “moons” above the Moon. If you can see Saturn, scan to the right and look for Jupiter. It will be at the same altitude above the horizon and 25° to the right. Hold your hand at arm’s length in front of you and spread your fingers as far apart as they can go. The angle from the end of your thumb to the end of your little finger is about 25°. If you can find it, you can see just how far the Moon moves in just two days!

FROM THE PAST

From Bats and Manatees to Cats and Camels

☞ Carl Linnaeus’s *Systema Naturae* (10th ed., 1758), which ensured his eternal fame among scientists, at sight promises as little readable material as would selections from a dictionary. But hidden at the bottom of the synopses of some of the animals is a concentrated resume that, when done into English, satisfies requirements of interest, knowledge, humor, and myth. The following examples are taken from *The Book of Naturalists*, edited by W. Beebe (Princeton, NJ: Princeton UP, 1944).

VAMPIRE BAT (*Vespertilio vampyrus*): At night sucks in the blood of the sleeping, the combs of cocks and the juice of palm trees.

MANATEE (*Trichechus manatus*): Lives in American seas.

Eats vegetable matter; becomes tame; is delighted by music.
Flesh edible.

SLOTH (*Bradypus tridactylus*): Body very hairy, tenacious of life. Climbs easily; walks with difficulty and exceedingly slowly, turns its head as though in astonishment; call, an exciting senarius; noise frightful, tears pitiful.

CAT (*Felis catus*): Habits like allied forms, quiet, purrs (*ore molat*), erects tail; when roused is most agile, climbs, when angry emits an ambrosial odor; the lion of mice, she moves her tail when intent on prey; her eyes shine in the night, when she desires prey she devours it eagerly; makes love wretchedly with yowling and squabbling. Eats meat but disdains vegetables; in the next instant washes her face with her hand; when thrown from a high place, falls on her feet. Doesn't have fleas.

CAMEL (*Camelus dromedarius*): A second, chambered stomach for pure water providing for a long time in the thirsty desert. Carries burdens, makes haste slowly, when weary lies down on its breast.



BLOMIDON NATURALISTS SOCIETY

2019 Membership Fees & Order Form

Members receive four issues of the BNS newsletter annually.
 As a registered charity, BNS issues receipts for all donations.
 Members may also join Nature Nova Scotia through BNS.
 (Neither BNS nor NNS membership is tax deductible.)

NAME _____

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In signing this membership application, I/we hereby waive & release the Blomidon Naturalists Society, its executive committee and members, from all claims for injury and/or damage suffered at any function or field trip organized by the Blomidon Naturalists Society.

SIGNATURE _____

DATE _____

NO.	DESCRIPTION	PRICE	TOTAL
_____	Individual/Family Membership	\$30.00	\$ _____
_____	Student Membership	\$15.00	\$ _____
_____	Junior (under 16 years) Membership	FREE	\$ _____
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	Postage: (calendar \$2) (parcel \$6)		\$ _____
	Tax-deductible Donation		\$ _____
	(Registration number: 118811686RR0001)		
		TOTAL	\$ _____

Address cheques or money orders to BLOMIDON NATURALISTS SOCIETY for membership and other purchases to: Ed Sulis, 107 Canaan Avenue, Kentville, NS B4N 2A7. Due date is January 1 of current year.



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Astronomy	Roy Bishop Sherman Williams Larry Bogan	H: 902-542-3992 H: 902-542-5104 H: 902-678-0446
Birds—General	Bernard Forsythe Richard Stern Jean Timpa Gordon & Judy Tufts Jim Wolford	H: 902-542-2427 902-679-9247 sternrichard@gmail.com H: 902-542-5678 H: 902-542-7800 H: 902-542-9204
Butterflies & Moths	Jean Timpa Devin Johnstone	H: 902-542-5678 H: 902-679-3611
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Fungi	Nancy Nickerson	H: 902-542-9332
Hawks & Owls	Bernard Forsythe	H: 902-542-2427
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Mammals	TBA	
Rocks & Fossils	Geology Dept., Acadia University	O: 902-585-2201
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