

BLOMIDON NATURALISTS SOCIETY

Blomidon Naturalists Society



SUMMER 2020 NEWSLETTER

VOLUME 47 · 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.

FROM THE BNS CONSTITUTION

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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
HowardWilliams,newslettereditor:
gruncle.howard@gmail.com

Digital photographs should be
submitted to
doug@fundymud.com

Next submission deadline:
August 31, 2020

From the Editor

by Howard Williams

☞ This edition of the Newsletter contains a number of articles by members. Ian Manning writes about the Bioblitz weekend, Larry Bogan writes about the Global Big Day Out, and a new BNS member, Victoria Ivey, has written about her proposed research project on pests in corn, for which she has just been awarded the Merritt Gibson Natural History and Environmental Award, a scholarship for biology or environmental science students. Wendy Elliott shares another snippet from Mary Clark's diary. Soren, in his president's report, indicates the general success of Zoom software not only to facilitate virtual meetings of the BNS board, but also to allow guest speakers to present their illustrated presentations to the membership. Larry and Pat write about the past weather and future astronomical sighting opportunities, respectively. Soren also provides a résumé of the recent court decision on enforcement of the Endangered Species Act.

There is a housekeeping issue that I need to mention. Members can renew their membership online by sending dues and donations by email transfer to: treasurer@blomidonnaturalists.ca. People wishing to become members can do the same, as long as they send an email with their contact details to either the treasurer or me. Pat Kelly reminds members elsewhere in the Newsletter to submit photographs of natural history, especially from Kings County or Nova Scotia, by September 21, 2020.

It is with sadness that we note that one of our members, Lana Ashby, passed away last fall.

Grump alert: On a recent trip to Cape Split, five BNS members, keeping a respectful distance from one another, enjoyed the carpet of flowers along the trail to the Cape. However, our enjoyment was constrained by the very evident litter alongside

the trail. We felt moved to collect some of it and filled three shopping bags that we had with us, making a dent in the litter and were gratified by encouraging remarks from fellow walkers. We note that there is a tendency among some to walk the trail without being encumbered by any sort of carrying device. Carrying, as they do, drink cans and bottles in their hands, it is not hard to understand why these emptied receptacles find an inappropriate resting place beside the trail. There clearly needs to be a much larger deposit on cans and bottles, if indeed we need single-use containers at all.

In an egregious fit of unparalleled self-advertisement, I note that elsewhere in this issue you will find a page devoted to advance notice of *Wildflowers of Nova Scotia: a pocket guide to common native wildflowers and shrubs*, a book underwritten by BNS, along with generous donations from members and others. Carole Donaldson and I have sifted through about 4,000 photographs, trying to find the perfect ones to illustrate the guide. We thank those who contributed both photos and reviews and hope that some of you feel moved to buy a copy. This book was two years in the making, hastened remarkably by the recent need for something to occupy the mind while we were in quarantine. We anticipate that the book will be available in late June for \$20.

Scientists have reminded us that biodiversity loss and the wildlife trade are making pandemics like Covid-19 more likely ([cbc.ca/news/technology/pandemics-biodiversity-covid-19-1.5528063](https://www.cbc.ca/news/technology/pandemics-biodiversity-covid-19-1.5528063)). Removal of natural forest cover reduces habitat for animals and plants, meaning that they can only move closer to humankind, along with their diseases. This reminder is a call to arms that we have to stop the destruction of forest habitat, not only in Nova Scotia but worldwide. What has become evident these last few months is how many countries have mobilized physical and economic resources to fight the unseen viral enemy. Let us hope that in the face of the increasingly critical need, we can assign similar resources to wean ourselves off petroleum and its allied compounds.

Attempting to recover from the ongoing Covid-19 pandemic, parks and trails have become very welcome places allowing us to escape from so-called self-isolation. Such areas allow us to exercise our bodies and feed our curiosity while maintaining “social distance.” At least in Nova Scotia we were allowed outside during the better part of May to observe spring in all its glory.

A recent CBC digest (you can subscribe to these) provided an interview about weeds, and the following is a résumé of some of that material. In a discussion with Dan Kraus, a biologist with Nature Conservancy Canada, the fact that weeds may be unsightly ignores the fact that they have proven ecological benefits. The term “weed” is subjective, “racist” even. One person’s weed, a plant in the wrong place, may be joy to others, including animals and insects. Don’t you enjoy the spring-time carpets of yellow represented by dandelions? Remember that not all weeds are introduced; some are native, such as species of blueberry, various violets, Nutsedge (Yellow Nutgrass), and Common Milkweed. Nowhere is the hatred of weeds more evident than in the care of lawns. I have never understood the love affair we have with lawns—a manufactured, un-natural landscape if ever there was one. Some weeds found in lawns provide pollen early in the year for pollinators; they can also attract birds who voraciously eat the grubs that proliferate in well-managed lawns. Such weeds include non-native plants like dandelions, but it’s also not uncommon to find things like wild strawberries or native violets in our lawns. One of our BNS members deliberately cultivates milkweed as a nursery for Monarch butterflies. It is the only plant that the Monarch caterpillars will eat: no milkweed, no Monarchs. That is why Ontario took the plant off their noxious weeds list. Nova Scotia has yet to do that.

From the President

by Soren Bondrup-Nielsen

☞ Well, this has been a challenging spring: Covid-19 has turned our world upside down. We knew about Covid-19 (SARS-CoV-2) back in early January, if not in late December, but largely did not react. It was localized to a city in China, so why should we worry? Well, with the amount of travel that humans do, the virus soon appeared in Europe with a massive outbreak in Italy. It arrived in March in Canada, first in BC via travellers from the USA. The virus is now found throughout the world and has brought travel and the economy to a screeching halt with the requirement of physical isolation and voluntary quarantine for people suspected of potentially having been exposed.

Around the world, people are out of work or working from home. Airlines have largely shut down. Essential workers are healthcare providers, and some store clerks and cleaners. Many people are working from home if they can, and people are meeting online. For BNS, the virus has resulted in the adoption of Zoom board meetings as well as member meetings.

Back in December, January, and February, things were normal. The board met in person, and we had three member meetings. In December, Dave Ireland gave a dynamic presentation on marketing nature and the rise of citizen science. In January, James Churchill and Alain Belliveau gave an engaging presentation on a natural history expedition to Isle Haute. We heard about plants, lichens, and birds observed on this magical island, some new records. In February, Richard Haworth gave an enlightening presentation on the pre-Atlantic evolution of Atlantic Canada.

Then March arrived, and we cancelled the member meeting.

We switched to Zoom, and this has been the next best thing to meeting in person. Though the April meeting was delayed a bit, three students from Acadia gave presentations on their research. Riley Scanlan, an honours student in environmental science and the recipient of the BNS Award (now called the Merritt Gibson Natural History and Environmental Award), gave a presentation titled Preserving Our Ecological Ancestors: Mapping Remaining Old Growth Forests in the Annapolis Valley to guide conservation efforts. Sam Stegan, an honours student in Environmental Science talked about Managing Virus Infection of Raspberry Crops in Annapolis Valley, Nova Scotia. Carter Feltham, an MSc student in biology talked about Adapting to a Changing World, a Story of Blanding's Turtles. About 34 of us tuned in online to listen to these presentations, and I think most of us were impressed how well it worked. In May, Dr Glenys Gibson gave a presentation on The Life and Times of Tidal Flat Invertebrates of the Minas Basin, with 45 members tuning in.

The BNS board is in the process of developing a strategic plan, and we hope soon to be engaging the membership in the process. The ruling by Justice Christa Brothers regarding the species at risk lawsuit was released May 29, 2020; I have written about it in a separate article in this issue of the Newsletter.

Well, that is about it for this time. Hopefully, we will be able to meet in person again this fall. In the meantime, stay safe.



FLYING SQUIRREL ADVENTURES

All Ages Nature Program in the Annapolis Valley

In these times of Covid-19, our usual notice is not in effect. Please see the brief article (Sending Nature Home) by Judy Lipp, FSA program coordinator, on page 37.

Species at Risk Court Case: A Summary

by Soren Bondrup-Nielsen

☛The following is a summary of the species at risk court case, largely lifted from the ruling by the Honourable Justice Christa M. Brothers, published by The Courts of Nova Scotia (<https://decisia.lexum.com/nsc/nssc/en/item/479814/index.do>).

On February 19, 2019, Jamie Simpson of Juniper Law, on behalf of Bob Bancroft, Federation of Nova Scotia Naturalists, Blomidon Naturalists Society, and Halifax Field Naturalists filed for a judicial review of omissions by the Nova Scotia Minister of Lands and Forestry to take mandatory actions pursuant to the Endangered Species Act (ESA), with the Supreme Court of Nova Scotia.

The Endangered Species Act requires the Minister of Lands and Forestry, when a species is listed, to take a number of actions such as forming recovery teams, writing recovery strategies, protecting core habitat, and reviewing progress. The lawsuit alleged that the minister had largely failed in applying the ESA as required by law.

At the time of filing the lawsuit, we believed that 34 species were listed as endangered, threatened, or vulnerable, for which the minister was in arrears in respect of mandatory requirements under the ESA. However, the lawsuit focused on six species, representative of the failure of the Minister of Lands and Forestry in applying the ESA, including mainland moose, Ram's-head Lady's-slipper, Canada Warbler, Black Ash, Wood Turtle, and Eastern Wood Pewee.

The hearing took place September 23 and October 1, 2019, and Justice Brothers released her decision May 29, 2020.

Justice Brothers prefaces her decision with the following quote: “UNLESS someone like you cares a whole awful lot, nothing is going to get better. It’s not. [Dr. Seuss – The Lorax, 1971]”

The Introduction to the ruling states:

When government is entrusted, through legislation, with duties and responsibilities, but fails to discharge them, there must be recourse. This is such a case. The Notice of Judicial Review alleges a suite of failures by government, specifically, long-term, systemic failures to fulfill legal obligations under the Endangered Species Act, SNS 1998, c 11 (the ESA). Then, after this Judicial Review was commenced, the government undertook a flurry of activity in an inadequate and transparent attempt to correct its failures *ex post facto*. While the court cannot interfere if government conduct is reasonable, if it is not, this court must and will require government to fulfill its legislative duties.

Further, Justice Brothers states:

As I will explain in these reasons, I have concluded that the Minister has failed to meet certain statutory duties under the ESA, and that remedies are required to correct this situation.

The report is 58 pages long and goes into detail in examining the failings by the Minister of Lands and Forestry. Justice Brothers agreed with just about all of our (the applicants’) points and dismissed most of the minister’s (the respondents’) counter arguments.

Justice Brothers concludes:

In accordance with the foregoing reasons [almost 58 pages

of legal language weighing the evidence], the application for judicial review is allowed in part. The Minister's conduct in failing to observe non-discretionary, statutory duties imposed by section 15 of the ESA was unreasonable. The Respondents did not provide evidence that would explain the repeated failures to uphold the clear language of the statute, whether due to lack of resources or other reasons. The Minister's conduct is therefore unreasonable . . .

The document is available to the public (see link above), and it is quite interesting to read. One can easily jump over the very technical parts and focus on the essential aspects of the case. Enjoy!

CLUB NOTES

2021 BNS Natural History Calendar: Call for Photos

☛ Photo submissions are invited for possible use in the 24th edition of the Blomidon Naturalists Society's Natural History Calendar. Submissions should be in electronic form: JPEG format, with file size between 500 KB and 3 MB.

Photos should be of natural history interest, preferably taken in Nova Scotia. Please submit no more than ten (10) images.

Suitability involves technical quality (sharp focus, not under- or over-exposed), composition (object of interest nicely positioned, no distracting background), content (a photo that calendar users will enjoy looking at for a month). The committee tries to match images to the months, so pictures from "not summer" are appreciated! The committee tries not to reuse subjects that have appeared in the past several years of calen-

dars. To that end, here is a listing of the subjects used in the calendars from 2018 to 2020.

2018: Eastern Bluebird, Cedar Waxwing, Red-winged Blackbird, Barred Owl, Hobblebush, Lupines, Baltimore Oriole, Green Frog, solar eclipse, Snapping Turtle, trees in snow, Northern Cardinal. 2019: Peregrine Falcon, Snowy Owl, Golden-crowned Kinglet, Red Squirrel, Muskrat, Ostrich Ferns, sundew, Monarch caterpillar and milkweed, Jack-o’lantern Mushroom, Minas Basin and Cape Blomidon, Golden Spindles, lake with autumn colours in trees, Ring-necked Pheasant. 2020: Hooded Merganser, coastal ice, Star-tipped Reindeer Lichen, seals, Garter Snake, Red Trillium, Wilson’s Snipe, Black-and-White Warbler, Luna Moth, Rattlesnake Plantain, Semipalmated Sandpiper, Veinless Freckle-pelt Lichen, Northern Harrier.

Send submissions to Patrick Kelly, patrick.kelly@dal.ca, 902-472-2322 (home). Deadline for submissions is Monday, September 21, 2020.

CLUB NOTES

The Life & Times of Tidal Flat Invertebrates of the Minas Basin

*A summary of the May 18, 2020, presentation
to the BNS membership by Dr Glenys Gibson,
as reported by Howard Williams.*

☞ This was a spirited and very informative illustrated talk about the secret life of invertebrates of the Minas Basin. The Minas Basin is world renowned for having some of the highest tides in the world, thus creating a sometimes hostile environment for the small creatures that inhabit the sand and mudflats. The high sediment loads in the water and constantly shifting sand

and mud mean that small marine invertebrates need to be able to cope with this dynamic and challenging environment. Particularly intriguing were Glenys's descriptions of interactions between individual species and the structure of their communities.

There are indeed many strange-looking and behaving animals in the mud flats, knowledge of which is only a few decades old. Much of Glenys's talk focused on the fascinating life and times of the "mud shrimp," *Corophium volutator*—the principal food of migrating shorebirds in late summer.

On a final note, Glenys warned us of how microplastics affect the gut biome of mud shrimp and larger animals such as common snails, crabs, and mussels.

This was an excellent online presentation (via Zoom) by an accomplished communicator. Glenys paid respects to her recently deceased mentor and friend Sherman Bleakney, and she freely acknowledged the many students who had worked with her on the research reported in her presentation.

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 BAC 241 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.

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).

[Note: because of restrictions owing to the coronavirus, the original schedule has been cancelled or postponed. For now, member meetings will be offered at regular times when possible, via Zoom. Keep an eye on your BNS email notices—ed.]

SEEN IN THE WILD

City Nature Challenge

by Ian Manning

☛ APRIL 24–27, 2020—Participants across the Annapolis Valley joined jurisdictions around the Maritimes for the Maritimes Backyard Bioblitz. The event was organized by Dave Ireland (December's monthly meeting speaker) and Mary Kennedy. This year was the first year of entry for the Annapolis Valley (defined by the geography of Kings and Annapolis Counties).

Over the four-day observation period, the Annapolis Valley contingent saw 61 observers collect a total of 2,225 nature observations while maintaining safe and social distancing. While observations tended to skew toward common, charismatic species, the effort resulted in a total of 580 unique species. The distribution of species was also somewhat skewed by sampling efforts. Randy Fredericks proved to be the most dedi-

cated and proficient observer, submitting 635 observations of 46 species. Tom Neily added 102 observations, featuring 99 different species, including a spectacular selection of bryophytes.

Of the 2,225 observations, 865 observations reached the status of “Research Grade,” meaning that an observation had a location, time, and community “confirmed” identification. Another 1,175 are still awaiting confirmation IDs, and 185 observations are “casual,” indicating the observation was of a non-wild organism.

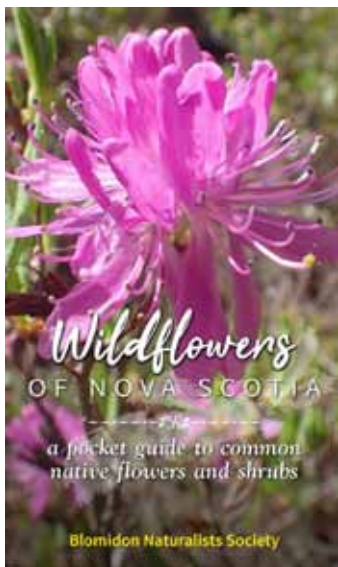
I would highly recommend that members and others who are interested in learning more take a look at some of the observations on the website—in particular, some of the excellent photography/observations from BNS members and regular meeting attendees, who were well-represented in the records from the count period. To see more, go to inaturalist.ca and search for “City Nature Challenge 2020: Annapolis Valley.”

The CNC was followed-up on April 28 with an “Ask-an-Expert” session hosted by the Clean Annapolis River Project, Flying Squirrel Adventures, Blomidon Naturalists Society, and the Jijuktu’kwejk Watershed Alliance. The call featured dynamic Acadia post-doc researchers Drs Catherine Scott and Sean McCann, who led us on a very interesting and engaging discussion about some of the cool observations from the count period. And an excellent discussion led us to some very interesting insect facts. Huge thank-yous to Judy Lipp and Katie McLean for organizing and facilitating this session.

Annapolis Valley’s first foray into the City Nature Challenge was an enormous success, and an effort we hope to build on in years to come. Thanks again to everyone for taking the time to observe, upload, and identify their findings during this very strange time.

A New Field Guide from BNS

Wildflowers of Nova Scotia: a pocket guide to common native flowers and shrubs, published by Blomidon Naturalists Society, June 2020, \$20



Some of your BNS board members had a sneak peek:

“What a beautiful book.”

“A wonderful flower guide.”

“This pocket guide will provide a stepping stone to more in-depth, comprehensive guides.”

“It will become a beloved little reference for many people in the province.”

“This book fills a useful gap in Nova Scotia: it is a pocket-sized, accessibly written, and beautifully imaged reference guide for identification of common wildflower species and groups in the province. The guide is written for the average reader and slips easily into a pocket. This book will help Nova Scotians from many different backgrounds to engage with the botanical world in a user-friendly way, and it will probably join its owners for more hikes and walks than other guides.” —*Dr. Sean R. Haughian, Curator of Botany, Nova Scotia Museum.*

Contact Howard Williams
(gruncle.howard@gmail.com)
for info on how to buy your copy

Nature Notes, Spring 2020

by Howard Williams

☞ Spring seemed even more important than usual this year because many of us felt so constrained by the response to the Covid-19 pandemic. The fact that the seasons turned as expected gave me a sense of normality in a sea of abnormality.

March being a bit colder than normal, not much seemed to happen during that month other than the over-wintering birds becoming louder and more insistent. Migrating birds appeared in the middle of the month, a Red-winged Blackbird and Common Grackle both seen on the 18th. In April I first saw Tree Swallows buzzing overhead on the 16th, Nelson's and American Tree Sparrows in the following days, Killdeer on the 25th, and my first warbler, a Yellow-rumped, on May 2.

Coltsfoot is my traditional indicator of spring, despite the fact that it is an introduced species. It appeared on a local waste pile that I had been watching carefully. The bright-yellow flowers opened on April 7, and a week later Spring Peepers could be heard in the ponds south of the Stirling orchards. Bloodroot seemed to be the first native plant to appear, on April 26, followed by Howell's Pussytoes on the 28th. The pussytoes are just about over now at the end of May, sending their seeds out in the wind, just like those of dandelions.

Ruby-throated Hummingbirds made their appearance to Jake Walker on May 4. A hummer came to my garden on May 15, same as last year. A female appeared a week later. A male and female appear now fairly regularly, especially for an evening top-up. Until we started reading about the reasons why hummers appear when they do, I had not realized that before their favourite flowers open, they eat insects and drink sap, especially from maple trees. During migration northward they follow the



HOWARD WILLIAMS

Coltsfoot (*Tussilago farfara*)

activities of sapsuckers, who keep holes open and dribbling in the spring. Have any members seen this activity? If curious about all this, you can refer to birdwatchersdigest.com/bwd/site/learn/hummingbirds/what-do-hummingbirds-eat.php.

Yellow-rumped and Yellow Warblers started appearing around Elderkin's Pond in early to mid-May, not put off by the ill-advised clearing of vegetation around the pond. This clearing of vegetation indicates to me that there still needs to be more education about bird territory and bird habitat. We should avoid vegetation removal during the establishment of territory and nesting site preparation.

I saw my first local Bobolinks on May 18 on Ferry Lane in Wolfville. The pair seemed to be doing a circuit around the various small trees and shrubs.

By May 20 woodland along the Cape Split trail was a carpet of flowers, chiefly red and white trillium, Dutchman's Breeches, and Spring Beauty. From my back garden I began to hear the Least Flycatcher give its dawn call.

I was tickled by an article written by Cindy Day in the *Chron-*



RICHARD STERN

Bobolink

icle Herald (March 25). Cindy says her grandma was never surprised when it snowed after the spring equinox. She was always quick to remind Cindy that there would be three more snows after the first day of spring. According to Cindy, these snows are so predictable they have been given names. The first is the smelt snow; it's believed the smelt would start to run after the first spring snow. The second following the equinox is the robin snow; according to folklore, this snowfall brings them back (those that did indeed migrate). Finally, the green grass snow, which Cindy's grandma often referred to as "poor man's fertilizer." A vain attempt to put a positive spin on a very late snowfall and keep some people from crying about plants they have just put outside. Sadly, this year, we had at least four snows after the equinox, and this is consistent with historical data. Most people experience four snowfalls after the spring equinox.

The bioblitz weekend has been covered elsewhere by Ian Manning. For me it involved a brief legal foray to Houston Beach where cardinals were pairing up. Coltsfoot was flowering strongly, and the weed that everybody loves to hate, horsetail, was springing up along the roadsides.

May is my favourite month. So much seems to happen and so



HOWARD WILLIAMS

Horsetail (*Equisetum* sp.)

quickly: the last(!) snow, the first flowering plants, the arrival of warblers and flycatchers. The end of May can be summery, and this year it was, with temperatures well above average.

I had the opportunity to visit a few different places once the lockdown was lifted. One thing that struck me was the importance of habitat in controlling the timing of blossoms. As I mentioned, Coltsfoot was flowering early in April on sunny waste piles and roadsides in Wolfville, but in Shubenacadie Park close to the Atlantic coast, Coltsfoot was only just starting to bloom strongly at the end of May, under a mixed forest cover.

At the end of May, Sweet Fern was leafing out along the Harvest Moon trail, with male catkins and female catkins turning into the spiky green fruit.

Birds at Tangled Garden, Grand Pré

by Howard Williams

☞ For just over a year now I have been collecting regular observations on the bird species present and their numbers at Tangled Garden. In early 2019 I was invited by the owner, Beverly McClare, to visit the garden regularly in an effort to find out what species frequent it and, if visitors asked, provide guidance as to what birds they were seeing or hearing. The first task was relatively straightforward, the second more challenging in that it seems most visitors are too shy to ask for help. I tried not to look disapproving of their chatter.

Tangled Garden is a mix of manicured and wild areas containing both native and introduced plant species, many of which flower, attracting birds, insects, and human visitors. The variety of plant life, the various water features, and a naturalized pond represent a little oasis of different habitats amongst the manufactured agricultural and rural landscape east of Wolfville. I included in my counts birds seen and heard in the land immediately surrounding the gardens. Each time I visited, after a slow walk around the property, if it was not too cold I would sit on a bench and look for and listen for birds. The mean observation time was about an hour, and my comfort was important, so I generally only went to Tangled Garden if it was dry. There are no feeders.

The following represents a digest of my eBird data.

The species count minimum was in winter, at 7, while in spring it would sometimes be at a high of 24. The total number of birds counted was highest in spring, lowest in winter. Over the year, I observed or heard 37 different species.

Over the year, the most common birds in order of decreasing



RICHARD STERN

Gray Catbird

observed numbers per visit were American Goldfinch, Song Sparrow, American Crow, European Starling, Black-capped Chickadee, Northern Cardinal, Common Raven, Yellow Warbler, Blue Jay, Bald Eagle, Mourning Dove, Red-winged Blackbird, and American Robin. These species and their relative abundance are not significantly different from eBird data for this part of Kings County, bearing in mind that Tangled Garden is a small area with no deep woods or marine influence. On its western margin, the gardens are bounded by an old cemetery containing century-old trees, and it is a favourite haunt for the ravens, crows, woodpeckers, and eagles that were included in the count. On the northern and eastern side are paddocks of grassland from which pheasant called. Occasionally, gulls would fly overhead and a Ruby-throated Hummingbird would sample blossom.

Most of the photographs I took in the gardens were of insects, but a Yellow Warbler was sufficiently curious to be caught in my camera; and a Catbird just sat and preened for my camera, singing sweetly and without pause.

What did I learn from this year of observation? That the song-

birds and warblers enjoy flowers and the associated insects, and that even highly managed gardens can provide attractive habitat for many different birds.

What's in a name?

by Soren Bondrup-Nielsen

☞ This spring I decided I would begin to use iNaturalist and eBird, two apps I had downloaded on my smartphone. You can use them to record observations of wildlife, from lichens and fungi to birds and mammals. As the name indicates, eBird is only for birds. When you go outdoors, you bring your smartphone, and for iNaturalist you simply take a picture of what you observe, and the location automatically saves with the image. If you are online, iNaturalist will automatically suggest what the species is you have taken a picture of, or you can manually enter the name. For eBird, you need to enter the birds observed. As I wandered around, I found the two apps almost addictive. I began to seek lichens, fungi, and plants to photograph; initially, just species I knew, but then any species I could find.

In the spring, I have to reacquaint myself with the songs of some birds. I will sneak toward a bird, whose song I recollect but cannot remember the species, to spot it with my binoculars. Once it's identified, I then enter the name in eBird.

It is quite impressive how accurately photo recognition works in iNaturalist. Within seconds of submitting a photograph, several pictures and suggestions pop up, and you can choose which one you think is the correct one. However, it appears that iNaturalist does not trust your identification because, in time, an expert somewhere in the world will check your entries. As you wander around, you can accumulate quite the list of organ-

isms encountered. Later, you upload the files, eBird to Cornell University, and iNaturalist to some site operated by National Geographic and California Academy of Sciences. You can check your list of observations accumulated over time.

During the City Challenge in late April, an event to get people excited about biodiversity, I almost became obsessed with finding species. I became competitive, I checked how many species other observers had recorded. I decided to go out again and see if I could not increase my species account to move up the ladder of the number of species observed.

The last time I was out in my woodlot with my smartphone taking pictures and listening for birds, it suddenly struck me—I had forgotten to enjoy my wandering through the fields and woods. I had become so focused on finding new species that I forgot to experience the fields and forest as a whole ecosystem.

Usually, when I go for a walk in nature, I try to be present—let all my senses tune in to my surroundings and empty my mind of all thoughts. I find this state magical. I try to focus on the totality of nature around—on the whole ecosystem, whether a forest or a field. This way, I feel a part of my surroundings and sense the interconnections among all the individuals. However, with my smartphone in hand, I become an outside observer and see the individuals but don't sense the whole ecosystem.

Focusing on the parts of a system rather than the whole system is typical in Western society. Why is that? Well, I believe it is a result of unconsciously living within the mechanical world view. This world view had its origin with philosophers such as Descartes, Bacon, Locke, and others starting in the 1600s when they began to promote the idea that we humans should liberate ourselves from the natural world. Nature, from the cosmos to the human body, was mere machines made up of parts, and by studying the pieces we would understand the whole. The adoption of this world view would allow us to manipulate nature for our exclusive benefit. We have come to see nature as composed

of entities or parts and thus tend to see the world as composed of resources for us to exploit.

The mechanistic world view is reflected in our language. Western languages, indeed English, are noun-based. In English we see the world as composed of parts, and we have names for those parts. Objects and structures are brought into existence by naming them. Languages of indigenous peoples, on the other hand, reflect the environment within which they live, and their relationship with the world around them. Indigenous languages tend to be verb-based and thus reflect action within the environment. For example, in English we have the verb *to walk*. No matter where you are walking, it is just that you walk. In some indigenous languages, there are many words for walking, depending on where or how you walk. There are different words for walking through a forest, up a hill, or across a field, and so on. So a single word can be composed of different parts of the environment, and thus it is natural for indigenous peoples to see the world as an interconnected whole. Therefore, language is a reflection of how we see ourselves.

We give everything names. Often, all we know about something is its name; what more do we need to know? I have taken people on field trips to talk about forest ecology, where someone will ask the name of various plants and fungi they see, or birds they hear singing. If I know the species, I will tell them the name, and they are satisfied. I could make up any name, and some people would be content, but isn't that the irony? The name means nothing without knowing something about the species. What is its habitat? How does it reproduce? What does it eat? What is its behaviour? How does it interact with other species where it lives? And much more. If one knows that about a species, then what does it matter how it is named.

To truly understand our relationship with the natural world and our absolute dependence on it, we need to see the whole of nature and not just the parts, the species. Nature is inordinately complex, and to think that we can exploit it to our exclusive benefit is naïve. Three and a half billion years of evolution

resulting in the complex interconnections among millions of species is not reducible into separate parts of a machine that we can willy-nilly tinker with.

So, when I go for walks in nature, I will only bring my smart-phone on occasion and take pictures or record birds and upload them to the web. Most times, I will just immerse myself in my surroundings and become a part of the intricate web of life that sustains us.

NATURAL HISTORY

Animal Names Used for Plants

by Howard Williams

☞ Whilst Carole and I were researching various sources for details of Nova Scotian native wildflowers and shrubs to put into the book that we were writing, it occurred to me how many plants have animal parts or animals in their common and scientific names. There is even a North Carolina website relating to this issue: plantdelights.com/collections/plants-named-after-animals. Some of the following text includes material from that site.

For example, common names of 34 plants in the Atlantic Canada Conservation Data Centre (ACCDC) list of 650 or so Nova Scotian plants relate to animals or parts of their bodies.

COMMON NAME	ANIMAL
White Snakeroot	Snake
Pussytoes	Domestic pet
Cuckoo Flower	Bird
Turtlehead	Turtle
Bastard Toadflax	Toad
Ram's-head Lady's-slipper	Sheep

Fleabane	Insect
Trout-lily	Fish
Rattlesnake Plantain	Snake
Hawkweed	Bird
Fly-honeysuckle	Insect
Green Adder's-mouth	Snake
Buckbean	Deer
Partridge-berry	Bird
Rattlesnake-root	Snake
Mad-dog Skullcap	Domestic pet
Eastern Skunk Cabbage	Skunk
Hare-bell	Hare
Mouse-ear Chickweed	Mouse
American Frog Orchid	Frog
Canada Horseweed	Horse
Tick Trefoil	Insect
Wormseed Wallflower	Worm
Cranes-bill	Bird
Cow Parsnip	Cow
Sheep Laurel	Sheep
Water-horehound	Dog
Cow -wheat	Cow
Monkey-flower	Monkey
Pickerel-weed	Fish
Skunk Currant	Skunk

ANIMAL	PLANT
Bear	Bearberry
Bee	Bee Balm
Butterfly	Butterfly Weed
Cat	Pussytoes
Crane	Crane's-bill

Fox	Foxglove
Horse	Horsetail
Ostrich	Ostrich Fern
Ox	Ox-eye Daisy
Toad	Toadshade

Even the formal or scientific names of plants use animals, or their parts, to provide the reason for the name. For example, the fern genus *Arachniodes* is named from the Greek *arachnion*, meaning spider’s web, due to the resemblance of the finely dissected foliage of some species.

Botanists, when naming plants will commonly use a unique-looking plant part as an inspiration for part of the species or genus name. If the plant has a part that reminds them of an animal, they will create a Latin-based zoographical name for the genus or species. *Echinacea* and *Echinopsis* got their generic names from the similarity of parts of the plants to a sea Urchin, Echidna (spiny anteater), or Hedgehog. *Leonotis* and *Equisetum* were named after lions and horses, respectively, and *Draunculus* was named for dragons.

The first table indicates that non-scientists such as the general public, over centuries, may liken a plant part or plant use to an animal. Examples in the Anglophone world include Cobra Lily for *Arisaema*, Goatsbeard for *Aruncus*, and Cat-tail for *Typha*. The term Goatsbeard is first mentioned in 1548, while the term Foxglove goes back to Anglo-Saxon times, when the flower shape was considered similar to the glove of a fox. Seen any fox with gloves recently? The plant name horsetail dates back to at least 1538.

The second table indicates that sometimes the names may relate to the situation that some animals are attracted to the plant.

Adaptations of the pheromone response of the Corn Earworm Moth (*Helicoverpa zea*) to environmental pheromone exposure

*Application Letter by Victoria Ivey for the Merritt Gibson
Natural History and Environmental Award*

☞ My name is Victoria Ivey, and I am currently a candidate for a Master of Science in Biology at Acadia University. Under the supervision of Dr. Kirk Hillier, I am studying the pheromone responses and mating behaviours of the corn earworm moth (species name *Helicoverpa zea*).

The corn earworm moth is found throughout North and South America, including Nova Scotia. This species feeds primarily on corn and sorghum wheat but is also known to feed on a variety of other cereal, legume, fruit, and vegetable crops. As a result, the corn earworm moth and its relatives cause millions of dollars in crop losses in Canada and developing countries each year. Although insecticides are commonly used to prevent such damage, they have many environmental and health-related disadvantages. Many insecticides can harm beneficial pollinator species such as bees and spiders and can pose a toxicity risk to wildlife and humans. Furthermore, they are costly and must be used in relatively large amounts to be effective.

One alternative method of reducing crop losses involves the use of pheromones, chemicals which are naturally produced by female corn earworm moths for the purpose of attracting mates. Pheromone-based control methods, which disrupt the mating processes of the moths and drive long-term population control,

have been used effectively against the corn earworm moth and related species for decades and have a variety of advantages over traditional insecticides. Namely, pheromones are non-lethal and specifically target one species. Furthermore, they are effective at small quantities, making them economical and safer for both human health and the environment.

Generally, a female moth will release a blend of pheromone chemicals in order to attract males of the same species. Males detect these chemicals using their antennae, which contain receptors called olfactory receptors (ORs, for short), which bind to specific chemicals in the pheromone blend. When a pheromone chemical binds to an OR, it excites the nerves in the antennae and sends a signal to the brain of the male moth, thus initiating a mating behaviour response. Pre-exposure to pheromones has been proposed by various studies as a means to reduce the sensitivity of moths to pheromones by lowering the expression of ORs. For my project, I want to determine if both male and female moths exposed to different amounts of pheromone chemicals over different time periods will show differences in 1) the expression of genes for ORs, 2) the excitability of pheromone-detecting neurons in the antennae, and 3) courtship and mating behaviors compared to unexposed moths. Genetic differences between experimental groups will be determined by using methods to compare the level of expression of four different OR genes in the antennae. Differences in the excitability of nerves in the antennae will be tested by applying “puffs” of different concentrations of pheromone chemicals to the antennae and seeing how the nerves respond. Finally, changes in mating or courtship behavior will be investigated by placing moths in a wind tunnel, exposing them to a pheromone chemical, and using a video camera to capture their behaviours. Field trials in which exposed and unexposed mating pairs are placed in cages at pheromone-treated and untreated sites may also be incorporated to show behavioral changes in the natural environment.

By engaging in this research, I hope to provide new insights into mechanisms of odor perception in insects, particularly those which are agricultural pests or carriers of infectious diseases which use odor cues to find their hosts. This will not only allow us to determine how different species of moths emerged throughout evolutionary history, but also how to develop more sustainable methods of pest control. The funding provided by this award would be greatly appreciated, as it would give me the opportunity to disseminate my research to other scientists via conferences and publications and would assist in covering some of my educational costs. Having my research acknowledged by the Blomidon Naturalists Society would be a great honor, as your commitment to conservation and the appreciation of the natural world are two core reasons why I am passionate about the study of biology.

FROM THE PAST

Mrs Clark's Notes

by Wendy Elliot

☛ Mary Elizabeth Clark wrote the social notes from Clarksville in *The Hants Journal* from 1912 to 1948. A farmer's wife and keen observer of nature, she was one of a legion of social note writers from small villages across this country. This comes from her notes August 1, 1928:

The travels to the deep woods have not been so frequent as in other summers, but when able to get out there is always some interesting sight that awaits. Going quietly through the old meadow road one day an owl of the small variety made a blind dash right into her face. When he found she was not a tree, he instantly turned and disappeared. Standing perfectly still for

more than 10 minutes gazing in the direction he went disclosed the fact that he was sticking on by its feet to a rough barked tree flat as could be, his feathers as like to the bark as possible. The only thing that distinguished him was the fact that he got curious and raised his head to see if I was still there. The movement of his head made him visible. As she did not know they did that it was something learned about the habits of owls. On Saturday one of the racoons gave her an exhibition of his swimming powers in the wash pond. They and the minks are always there, as well as the muskrats under the banks where they breed. This was a splendid specimen and with ringed tail straight down the pond not minding her in the least. If only a camera had been at hand a picture would be worth while as in and out the shadows on the lily dotted pond he went.

NATURE COUNTS

Global Big Day 2020

by Larry Bogan, compiler

☛ Bird counts give us a view of how things are going with respect to their population and behaviour. We have been doing a spring migration bird count in BNS for many years, but now that no longer occurs. There is an informal count produced by eBird's Global Big Day, and I was curious to see if it provides the same information.

During the Global Big Day (GBD), birders around the world are encouraged to census as many birds as they can and enter the results on ebird.org. The spring GBD is scheduled near the same date in early May that was used by the North American Migration Bird Count. The bird counts here have been compiled from the eBird check lists submitted by 24 birders for 35 locations in Kings County for May 9, 2020.

May 9 was showery early, clearing and cool, with temperatures 5–10°C. Winds picked up in the afternoon.

In Kings County, warblers were late in arriving this year (cool early spring); hence there were no American Redstarts or Black-throated Greens seen or heard. Only a few Yellow Warblers, Northern Parulas, and Common Yellow-throats were counted. There were one Gray Catbird, two Least Flycatchers, four Blue-headed Vireos, and three Rose-breasted Grosbeaks. In the following two weeks, most of these birds were here in abundance.

The count was done by a mixture of field and stationary observers, but I did not separate them. Twenty-four observers spent 81 hours travelling 125 km at 35 different locations.

There were four checklists for Miner’s Marsh and four for the New Minas Sewage Lagoons, which produced duplication of counts. I adjusted the counts by taking the maximum number for each bird found at that location. Unlike a formal bird count, there is no control on the assignment of where an observer should count birds. As a result, duplication occurs in some locations and gaps in others. The Global Big Day does not replace the Spring Migration Count that we used to have, but it does provide a qualitative view of bird status.

It is useful that eBird provides information on the Global Big Day for Nova Scotia as well as the entire world. Nova Scotia is reported in county units, and all counties except one had some counting. Below are the top four counties in species. To see the entire list, go to ebird.org and explore Nova Scotia, Canada, for GBD 2020.

NOVA SCOTIA GLOBAL BIG DAY 144 species, 329 checklists		
COUNTY	SPECIES	CHECKLISTS
Kings	88	47
Pictou	86	46

Halifax	76	67
Lunenburg	67	53

The GBD has been going since 2015; for comparison, in 2019, the entire province recorded 142 species, with Kings county recording only 65 species from 28 checklists. So the birders of Kings County did pretty well this year.

YOUTH

Sending Nature Home When People Can't Get to Nature

*by Judy Lipp, Flying Squirrel Adventures
Program Coordinator*

☛ How do we get nature to people if people can't get to nature? This is the big question we—as a group focused on gathering in nature for learning, sharing, and community building—are faced with. One solution we came up with is a series of Nature Activity Kits that have been delivered to households where getting out is either not possible or not a familiar/comfortable practice.

There are currently four kits in circulation: Nature Art boxes include supplies for painting rocks, shells, and wood disks; Grow Kits include potting soil and flower seeds to support bees and butterflies; the Zen Garden can help support a mindfulness, sensory practice and includes sand, rocks, and driftwood; and the Mandala Kit has circular rocks and shells along with markers and paint to inspire mandala making. We have prepared and delivered almost 80 kits to date. We are also sharing some nature art activities via webinar as part of a skill-sharing series put on by the recreation departments in Wolfville and

Kentville. The feedback from families and our community partners has been very positive, and we've had fun assembling these kits from natural objects found in the forests and on beaches near our homes.

Instead of our regular monthly outings, we are happy to collaborate with Clean Annapolis River Project, Blomidon Naturalists Society, and Jijuktu'kwejk Watershed Alliance to offer monthly nature sessions online. Each month we are inviting topic experts to share insights, answer questions, and help us connect more intimately with nearby nature. We've hosted two sessions so far: a general one to support the Backyard Bioblitz in April, and one on birds in May. In June we'll be covering native-plant gardening. You can send in photos, audio files, or links, and your related questions, and we'll have an hour to explore them with invited experts. These sessions take place the last Tuesday of the month at 7 p.m. They are free and family friendly—for the novice naturalist. You can find more information on our website (valleyflyingsquirrel.wordpress.com/) or by e-mail (valleyflyingsquirrels@gmail.com).

As restrictions about group gatherings and physical distancing begin to ease, we are also looking at what kind of programming we can offer this summer. We will focus on children and youth who are least likely to get access to nature playtime in the hope that we can provide a little bit of relief and playful distraction from the challenging circumstances they may find themselves in.

The White Pine

from Julia Ellen Rogers, *Canadian Trees Worth Knowing*
(Toronto: Musson, 1917), 222–4

☞ The white pine (*Pinus strobus*, Linn.) is the only pine east of the Rocky Mountains that bears its leaves in bundles of five. This semi-decimal plan is found in three western soft pines and two western hard pines; but in the East, a native tree with needles in fives leaves no doubt as to its name. From a distance this plan of five can be seen in the five branches that form a platform each year around the central shaft.

Study a sapling pine and you see in its vigorous young growth the fulfillment of nature's plan, before storms have broken any of the branches and changed the mathematics of the pattern. Stroke the flexible, soft leaves that sway graceful and lithe in the wind. If it is spring, note that the terminal bud has pushed out, and around it five-clustered buds are forming a circle of shoots. In autumn, after the season's growth is finished, each twig ends in a single bud, with a whorl of five buds around it. From the ground upward, count the platforms of branches. Each whorl of five marks a year in the tree's growth. The terminal bud carries the height a foot or two upward, and its surrounding five buds grow in the horizontal plane, forming the last and smallest platform of leafy shoots. Each branch is a year younger than the shoot that bears it. Note throughout this little tree the plan of five, from leaf cluster to largest branch. Now go to the largest white pine in your neighborhood, study the plan of five in this tree, and find out the reason for any failures. Notice the conflict between the branches in the close platforms. Find branches where this conflict is in progress. Pick out the winner; read the age of the tree by the platforms of branches on the trunk.

No evergreen is more beautiful than a white pine grown in rich soil in a situation sufficiently sheltered to defend its supple branches from breakage by severe winds. Its soft, plume-like twigs are dark blue-green, with pale lines lining each individual leaf. The young shoots are yellowish green, and they lighten in a wonderful manner the sombre coloring of the older foliage. At the bases of the new shoots cluster the staminate catkins, in early June. Yellow and becoming loose and pendulous as the wind shakes them, they are soon empty of their abundant pollen, which drifts like gold dust and fills the air. Among the youngest leaves, toward the end of the shoot, the purplish rosy lips of the erect pistillate cone-flowers catch the dust from neighbor trees, and their naked ovules absorb it and set seed. Close shut are the lips again, against any other invasion, while these ovules mature. We shall find them standing erect until autumn, but next season they hang down with their added weight, and at the end of the second summer the scales change from green to brown, open and give their ripe winged seeds to the wind for distribution. Because the tree is biennial-fruited, it always carries two sizes of cones. The large ones are one year older than the small ones. Ripe cones are five to ten inches long, with thin, broad, unarmed scales, squarish at the tips.

The most hopeful phase of the white pine problem today is the fact that new forests are coming up naturally where the early lumbering deforested great tracts in the Eastern states.

Moby Dick: An Oceanic Disaster, in More Than One Way

reviewed by Doug Linzey

Herman Melville, *Moby Dick; or, The Whale* (Project Gutenberg, [1851] 2017)

☛ “Call me Ishmael.” Is there anyone who doesn’t recognize that first line from *Moby Dick*? Probably not very many. Next question: Who has read the whole novel? Maybe not so many. For years I was among the vast population of wannabe readers of the book who started, then shortly thereafter gave up (hint: it doesn’t start with the whale).

It was Covid-19 and the strictures associated with it in 2020 that finally led me back to that classic. My bedtime reading habit has become digital because the light from the device I use is less intrusive on the already sleeping spouse than the bedside lamp—and frankly, I’m not about to give up a long-time reading-in-bed habit. I do have a list of “should-reads,” which I finally started to make a dent in, now having read *Jane Eyre*, by Charlotte Bronte, and *Middlemarch*, by George Elliot, two wonderful novels that I recommend for anyone of any age. I bogged down in *Little Women* and gave up on it, concluding that there isn’t much in it to hold the attention of an aging man. I likewise stopped reading *The Brothers Karamazov*, considered by many to be the finest novel ever written. But at over 1,000 (iPad mini) pages, it is daunting, and the language is dated (I’m well aware that the translation makes a huge difference in readability and relevance to the modern reader, so I may try again some time with another edition).

So that brought me to trying out *Moby Dick*. I should mention that all these books are post-copyright and are therefore readily available for free and for as long as you want them, whereas the public library, even if it has the book available in the format you want, the book might be put on hold indefinitely, and when you finally get it, it will expire after 21 days.

Herman Melville knew whereof he wrote. He was a seaman and had experienced the whaling life. He was not only a terrific story teller but also a keen observer, a thorough researcher, and a born naturalist. There are two aspects of *Moby Dick; or, The Whale* (the original title) that I find compelling today: it is really well and engagingly written, and it is a story that is as relevant today as it was in the mid-1800s. The novel is for the most part an account by Ishmael—an experienced sailor, but never before having been on a whaling vessel—of a whaling expedition out of Nantucket, from which he emerged (spoiler alert!) the only survivor.

The bulk of the novel seems less about following a story line than it is about describing in detail every aspect not only of a single whaling voyage but of the industry, its history, and its condition at the time.

The naturalist in me is in awe of not only Melville's attention to detail of process but also his observations of different whale species and their characteristics, and, perhaps more important, his observations and conclusions about the state of the fishery (a term he uses throughout) and the results of world-wide exploitation of these magnificent animals. (A whale fishery in one form or another has existed for at least 10 centuries, and if you include whale fishing by indigenous peoples, we're talking millennia.)

This last point especially is significant to us because even by 1850, northern-hemisphere whale populations had been decimated and real progress had been made in significantly reducing southern-ocean populations. Whale oil was to the nineteenth and preceding centuries as petroleum was to the twentieth cen-

ture. By Melville's time, the American Atlantic whaling fleet numbered in the thousands, having claimed superiority over the Europeans. Details apart, suffice it to understand that the Northern Right Whale had pretty much been exterminated by the time of this novel, and Humpbacks and Sperm Whales were becoming scarce. All whales were fair game, so to speak, but they didn't all have the same attraction as the "great whales" for their value in quantity and quality of oil.

Briefly, a whaling voyage took as long as necessary to kill and process enough whales to fill the hold with oil. In the case of Captain Ahab's *Pequod* (the ship we're on throughout the book), the trip was planned for three years. It really is astounding the destruction that humans were able to effect using only wind- and human-powered craft to hunt the largest animals in the world.

It was interesting to me that the historical period of this novel (early 1850s) coincided with the development of kerosene as a much superior oil for lighting (see article on Abraham Gesner in the Winter 2019 issue of this Newsletter). But it wasn't until the mid-1920s that the League of Nations began to deal with the over-exploitation of whales worldwide, and the establishment of the International Whaling Commission (IWC) in 1948. Further, it wasn't until 1961 (while tens of thousands of whales were still being killed annually) that the World Wildlife Fund was established and began to develop plans for conserving remaining whale populations. Eventually, in 1986, the moratorium that we're familiar with was established by the IWC.

One hundred and seventy years ago, Herman Melville understood and wrote about how our own land-dwelling species could be responsible for such an atrocity as reducing world-wide whale populations measured in the millions to some now in the mere thousands. Modern climate change is only the latest iteration of the damage we have been imposing on the natural world for centuries, and what do you know—it still has a lot to do with exploitation of oil resources! And the decimation

of species worldwide? We're continuing the grand tradition of whaling all over the earth by soiling every bit of it—by soiling our own bed.

A few things make this book relatively easy to read. The language, though specialized in part and exhibiting some peculiarities of speech common to the age, is straightforward, and the writing is clear. Many of the characters are unforgettable. The fact that the contents are divided into 135 titled chapters makes progress reading this fairly lengthy novel seem effortless. And much of the specialized language is explained in detail by the author.

Bottom line: I recommend *Moby Dick* as both a good read and a worthwhile introduction to the Cetacea by a true citizen-scientist of his time.



Spring Weather 2020, Eastern Annapolis Valley

by Larry Bogan, Cambridge Station

	TEMPERATURE			PRECIPITATION	
	Max (°C)	Min (°C)	Mean (°C)	Total (mm)	Snowfall (cm)
March 2020 (30 yr. average)	4.3 (3.4)	-3.8 (-5.3)	0.3 (-1.0)	55 (110)	~18 (est.) (45)
April 2020 (30 yr. average)	8.9 (9.9)	-0.8 (0.6)	4.1 (5.3)	96 (93)	~5 (est.) 17
May 2020 (30 yr. average)	16.4 (16.4)	4.5 (5.6)	10.5 (11.0)	78 (102)	— (4)
Season (30 yr. average)	9.9 (9.9)	0.0 (0.3)	5.0 (5.1)	228 (305)	~23 (est.) (66)

Source: Environment Canada data for Kentville, NS
(weatheroffice.gc.ca). 30-year averages: 1981–2010.

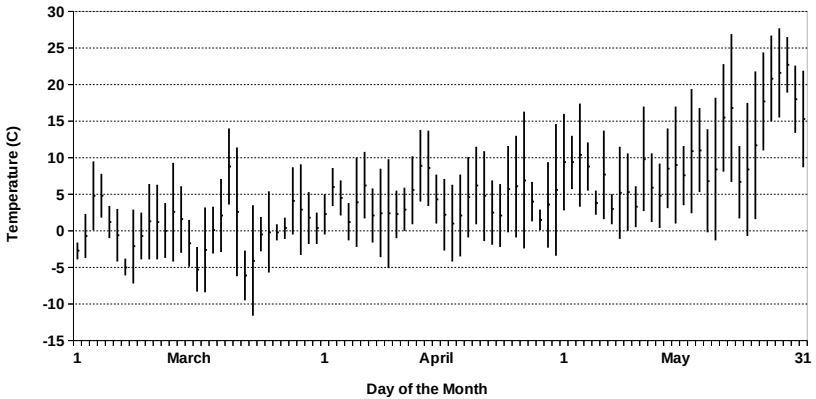
☞ Temperature-wise, the spring season this year was just average. Before I looked at the data in the table, I would have said that we had a cool spring. The trees were late leafing out by about two weeks, and other plants were coming out later also.

TEMPERATURES

Month by month, we see from the mean temperatures in the table that March was a little warmer than usual (by about

Daily Temperatures - March, April, May 2020

Kentville, Nova Scotia

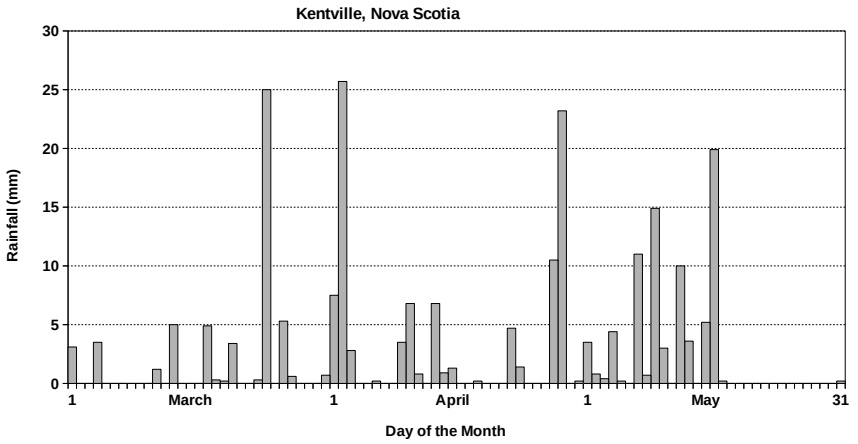


1.3°C), April was colder by 1.2°, and May was only slightly cooler (by 0.5°). In the end, the season averaged to normal. However, looking at the chart of daily temperatures, you notice that May did not warm until after mid-month; then it warmed dramatically. We suddenly jumped into summer temperatures at the end of May. I suspect that it was the longer cold period of April and early May that held back warming of the ground and led to late leafing out of the trees.

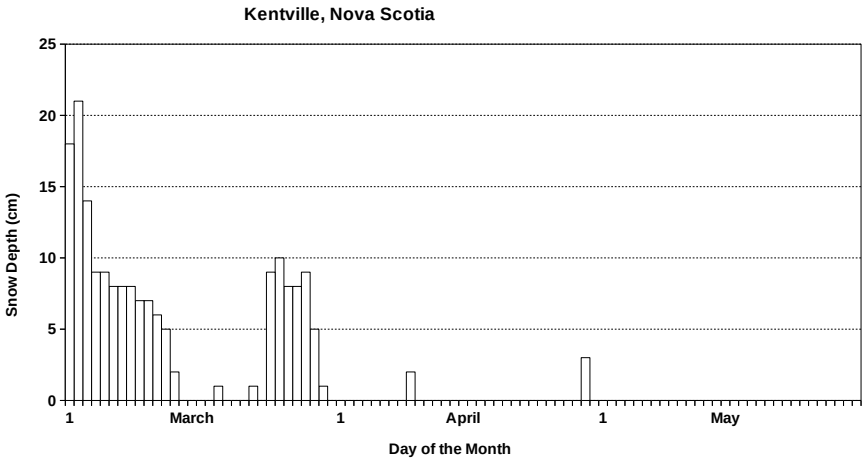
PRECIPITATION

The spring season had a deficit of moisture. Only April had its normal share of precipitation. March saw only half the usual precipitation, and May got only three-quarters of the 30-year average. For the season we were down 77 mm, 25 percent of the quarterly average. March had snow on the ground for two-thirds of the month, and April had a couple of snowfalls, but May saw none. For the table, I have estimated 18 cm of snow in March, much less than the usual 45 cm, and about 5 cm in April, much less than its usual 17 cm (note that Environment Canada no longer measures snowfall, only total precipitation).

Daily Rainfall - March, April, May 2020



Depth of Snow on the Ground - March, April, May 2020



What's in the Sky?

by Patrick Kelly

☞ Highlights for June 2020 to October 2020

June 4: Mercury at greatest elongation (10:00 p.m.)

June 5: Full Moon

June 19: Moon occults Venus! (5:00 a.m.)

June 20: Solstice

June 21: New Moon (Solar eclipse: Africa & Asia)

July 4: Full Moon*

July 6: Saturn 3° from Moon (6:00 a.m.)

July 10: Venus at greatest brilliance (a.m.)

July 12: Venus 1° North of Aldebaran (4:00 a.m.)

July 14: Jupiter at opposition

July 17: Venus 2.5° from Moon (4:00 a.m.)

July 20: New Moon

July 20: Saturn at opposition

July 22: Mercury at greatest elongation (5:15 a.m.)

August 1: Jupiter 2.5° from Moon (9:00 p.m.)

August 2–3: Full Moon**

August 9: Mars 1.3° from Moon (5:00 a.m.)

August 11–12: Perseid meteor shower

* For some Full Moons, the date shown is that of the best evening view; e.g. Full Moon officially occurs on July 5 at 1:44 a.m. ADT. Thus, I have used July 4, as most people expect a Full Moon in the evening sky on the date of the Full Moon.

** The Moon is full near midday of the second date, so you will see an almost-full Moon on both evenings.

August 13: Venus at greatest elongation

August 18: New Moon

August 28: Jupiter 2.3° from Moon (11 p.m.)

September 1: Full Moon*

September 6: Mars 0.7° from Moon (2:00 a.m.)

September 17: New Moon

September 22: Equinox

October 1: Full Moon

October 2: Mars 0.4° from Moon (midnight)

October 6: Mars closest to Earth

October 13: Mars at opposition

October 16: New Moon

October 16: Moon at perigee

October 16–18: High tides

October 30–31: Full Moon**

Mercury: Mercury passes between the Earth and the Sun on July 1, moving into the morning sky in the later part of July, and reaching its greatest angular distance from the Sun on July 22 at 5:15 a.m. Look in the northeast. Unlike its evening appearance in late May, you will not see Venus nearby to help find it. Venus will be much higher in the sky, above and to the right of the rising Sun. If you look at the 7:30 o'clock position from Venus, about three-quarters of the way to the horizon, the “star” will be Mercury. Mercury returns to the evening sky at the end of September and into the first half of October. At that time of the year, the ecliptic is at a shallow angle to the horizon as seen from the Northern Hemisphere. Mercury is hard to see even when it reaches its greatest angle from the Sun, as it is not so much above the Sun (and in a darkish sky once the Sun sets) as beside it, setting just after the Sun in a bright sky.

Venus: Having passed between the Earth and Sun on June 3, Venus moves quickly from the evening sky to the morning sky.

On July 10, Venus reaches its greatest brilliance, and two days later, on the morning of July 12 it is only 1° away from the red giant star Aldebaran. To see them at their best, be up at 4:00 a.m. If you want to sleep in for another hour, the sky will be a lot brighter, and while Venus will still be easy to find, Aldebaran may not. Venus will dominate the morning sky for the rest of the year.

Earth: Does your planet only have one large moon, which now has footprints and vehicle tracks all over its once-pristine regolith? Then you are on Earth.

Mars: Mars slowly moves higher in the sky each morning, getting continually brighter until it reaches opposition on October 13. At that time it will be quite close to Earth and will be one of the brightest objects, passing Jupiter as the second-brightest planet, with only Venus being brighter. The synodic period of a planet is how long it takes it to return to the same position relative to the Sun, as seen from the Earth. The synodic period of Mars is 780 days, or about 2.14 years. That means that Earth comes between Mars and the Sun (opposition) every two years and a bit. This will happen in 2020 and again in 2022, 2025, 2027, 2029, ... (the jump from 2022 to 2025 is because the extra 0.14 years add up). The orbit of Mars is quite elliptical compared to that of Earth, so depending on where Mars is in its orbit when we “lap” it, the distance from Earth to Mars can vary widely. Mars’s distance at opposition ranges from 0.37 to 0.68 astronomical units, which is almost a factor of two. Planets are best placed for viewing when the ecliptic, where the planets are found, is as far above the horizon as possible at night. At our latitude, that means the winter months. Unfortunately, when Mars is in that part of its orbit it is also farthest from Earth. Martian oppositions when it is closest to Earth occur at the opposite time of the year, summer. The problem then is that the ecliptic is very low in the south and you have to look through

a lot more of the turbulent atmosphere, including haze, etc. Oppositions in the spring and fall, such as the one this year, are a good compromise, with both reasonable closeness and Mars at a reasonable altitude above the horizon.

Jupiter: Jupiter reaches opposition on July 14, with Earth directly between the Sun and the planet. As the summer progresses, Jupiter starts to appear closer to the Sun in the evening sky. As the Moon also stays near the ecliptic, there are a few cases in the time period covered by this report when the Moon will pass near one of the planets, with Jupiter getting two such encounters, Mars three, and one each for Venus and Saturn.

Saturn: Saturn reaches opposition on July 20, just a few days after Jupiter. As these two planets reach opposition only six days apart, they appear very close in the night sky, with the brighter Jupiter leading the way. As Jupiter appears to move more quickly (it has a closer orbit and it moves in its orbit more quickly than Saturn), Jupiter will gradually close the gap, and the two planets will be very close at the end of December. Given how close Jupiter and Saturn are, you may have wondered why the Moon passes by Jupiter twice (Aug. 1 and Aug. 28) and Mars three times (Aug. 9, Sep. 6, and Oct 2) while somehow “skipping” Saturn during those three months. It does have close encounters with Saturn (Aug. 2, Aug. 29, Sep. 25, and Oct. 23), but these events occur either during the daytime or when Saturn has already set.

From “Arcadia”

by Harry Thurston

☞ Here are two of the nine sections from Harry Thurston’s “Arcadia: The Marsh Suite,” published in Thurston’s collection *If Men Lived on Earth* (Gaspereau Press, 2000).

2. MARSH

Unkempt fertility: greenness, wetness,
sudden depths – sinkholes to swallow
the body of a five-year-old –
darkness from which there was no exit.

Unmanned acres: a collection place for salt,
driftwood, jetsam, dead cats and living birds;
patens, mattress grass soft underfoot,
a carpet of summer dreams without foreboding.

On the marsh, there was only the willet
to scold me: *Kip, kip, kip*, each note
more strident, as if I were a fox kit
too playfully close to its saltwater nest.

Pit-a-wee, we called this boundary drawer,
inscribing circles of sound around our world.
The red heart of the creek at its centre
pumped moon-drawn wonder – systole, diastole.

Heron was the timekeeper; the “s” of the neck
funnelled darkness into its grey weight.

Shitepoke, its poker legs rammed in at the back,
flew low over the marsh, nighttime its freight.

9. HERON

Still here, watching
the watcher.

Lift your wings, nimbus
rising over the Atlantic –

and the heart lifts too.

You are the overseer of tall grasses,
spartina and sedges,

a tangle of driftwood,
up and walking.

Out for a stroll, you turn
the marsh into murderer's row

as you pluck one, then another,
with appalling aplomb.

To be that still,
inert as mineral,

to wait, stalwart,
without weariness,

staring down the barrel
of your beak, eyes

balanced like pince-nez
reading depth.

Drawing back the serpentine neck,
hunched between clavicles,

you uncoil, scissor
the silver stickleback.

Thoth of the marsh, pained writer
picking his way, knees bent,

syllable by syllable,
through the shallows

of silence. Working
a single pool

for every silvery
twitching prize –

the fuel of grey flight.
Lift your nimbus wings –

and the heart lifts too.

BLOMIDON NATURALISTS SOCIETY

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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.)

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