

THE HALIFAX FIELD NATURALIST



No. 166
March to May, 2017



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Return address: HFN, c/o NS Museum of Natural History, 1747 Summer Street, Halifax, NS, B3H 3A6

HFN is incorporated under the Nova Scotia Societies Act and holds Registered Charity status with the Canada Revenue Agency. Tax-creditable receipts will be issued for individual and corporate gifts. **HFN** is an affiliate of Nature Canada and an organisational member of Nature Nova Scotia, the provincial umbrella association for naturalist groups. **Objectives** are to encourage a greater appreciation and understanding of Nova Scotia's natural history, both within the membership of HFN and in the public at large, and to represent the interests of naturalists by encouraging the conservation of Nova Scotia's natural resources. **Meetings** are held, except for July and August, on the first Thursday of every month at 7:30 p.m. in the auditorium of the Nova Scotia Museum of Natural History, 1747 Summer Street, Halifax; they are open to the public. **Field Trips** are held at least once a month; it is appreciated if those travelling in someone else's car share the cost of the gas. **Participants** in HFN activities are responsible for their own safety. Everyone, member or not, is welcome to take part in field trips. **Memberships** are open to anyone interested in the natural history of Nova Scotia. Forms are available at any meeting of the society, or by writing to: Membership Secretary, Halifax Field Naturalists, c/o N.S. Museum of Natural History. Members receive **The Halifax Field Naturalist**, along with its included **Programme**, quarterly. Our membership year is from January 1st to December 31st, and new memberships received from September 1st to December 31st of any year are valid until the end of the following membership year.



HFN ADDRESS

Halifax Field Naturalists, c/o N.S. Museum of Natural History, 1747 Summer St., Hfx, N.S., B3H 3A6 **Email:** hfninfo@yahoo.ca
Website: halifaxfieldnaturalists.ca We are now on Facebook.
Enter **Halifax Field Naturalists** or **HFN**.

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EXECUTIVE

COMMITTEES

Membership
Programme
Talks/Trips

AV Set-up
Design

Newsletter
Editor & Design
Almanac
Taxonomy
Distribution
Labels

Refreshments

Conservation

NNS Rep.
YNC Rep.
Website

CSC Award

HFN Book Club
FEES

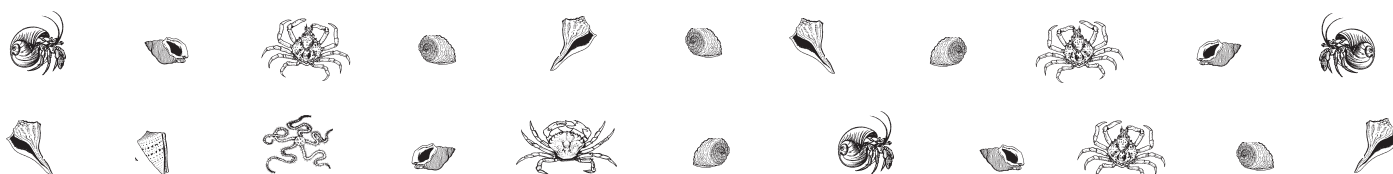
2017
Burkhard Plache 475-1129
Clarence Stevens..... 864-0802
Ingrid Plache 475-1129
Michael Bradfield 423-7706
Janet Dalton..... 443-7617
Ron Arsenault, Lesley Jane Butters, Judy Keating, Shelly Pohl, Allan Robertson, Stephanie Robertson
2017
Ron Arsenault 410-6868

Denyse Contrasty 478-1706
Lesley Jane Butters 422-4855
Carol Klar 443-3385
Molly LeBlanc (Chair)..... 403-1339
Susan Moxon 461-1303
Bethany Nordstrom..... 1-506-260-1197
Keith Vaughan..... 445-9887
Jon Davies 464-1446
Stephanie Robertson 422-6326

Stephanie Robertson 422-6326
Patricia Chalmers 422-3970
Ursula Grigg 1-902-681-1264
Bernice Moores..... 422-5292
Doug Linzey 1-902-582-7176
Regine Maass
Diane Birch
Richard Beazley 429-6626
Bob McDonald 443-5051
David Patriquin..... 423-5716
Clare Robinson 446-6603
Ron Arsenault 410-6868
David Patriquin..... 423-5716
David Patriquin..... 423-5716
Burkhard Plache 475-1129
Elliott Hayes 835-9819
Doug Linzey 1-902-582-7176
David Patriquin..... 423-5716
Allan Robertson 422-6326
Gillian Webster..... 453-9244

2017
Student.....\$15.00 per year
Individual\$20.00 per year
Family\$25.00 per year
Supporting\$30.00 per year
Institutional\$30.00 per year
NNS (opt.)\$5.00 per year

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GRAPHICS All uncredited illustrations are by H. Derbyshire or from copyright-free sources. **Front Cover** - Gosling in an Annapolis Valley Park, Clarence Stevens Jr.; **p. 10** - S.S. Newfoundland, courtesy Queen Elizabeth II Library, Memorial University; **Back Cover** - Mayflower in bloom, Stephen Robertson; **Tide Table** - Canadian Hydrographic Service, Fisheries & Oceans Canada.

HFN NEWS AND ANNOUNCEMENTS

NEWSLETTER DEADLINES

During the compilation of this issue, I have become aware that some people are not quite sure of deadline and publication dates for The Halifax Field Naturalist (the dates are advertised on each back cover). I will lay them out below (the publication dates are 'aimed for' dates; various circumstances often do not allow for publication until a week or so later.)

SPRING: deadline February 21st for a March 21st publication (spring equinox)

SUMMER: deadline May 21st for a June 21st publication (summer solstice)

FALL: deadline August 21st for a September 21st publication (fall equinox)

WINTER: deadline November 21st for a December 21st publication (winter solstice)



NATURE NS AGM

The 2017 "Nature Nature Scotia Celebration of Nature" is taking place this year at beautiful, historic Milford House, near Keji Park, on the weekend of May 26th to 28th. There will be the usual Friday evening wine & cheese reception; early-morning birding; talks on the Northern Flying Squirrel, Keji's Trout, and Nova Scotian Loons; a Saturday evening Banquet; and of course the 2017 AGM.

The hike options are a Seven-mile Burn Tour; Keji Hemlocks and Hardwoods; Trout Tagging; a Piping Plovers Beach Walk; a Keji Bog Walk; and others to be announced. There are children's programme events planned by the Young Naturalists Club as well; birding, stargazing, games/activities, sing-alongs, campfires, and field trips. To download the registration form and programme, go to <http://naturens.ca/2017/01/>.



A COURAGEOUS CHICKADEE...

— Gareth Harding and Millie Harding/Lyons,
January 25, 2016.

... in Point Pleasant Park. This has been the first winter that I have seen Merlins regularly throughout the winter in Point Pleasant Park. Their characteristic 'whinowing' call normally draws my attention to their arrival around late March.

In late January, Millie and I were doing our early morning Point Pleasant Park walk with my newly acquired

hearing aids. About halfway up the Northwest Arm Road I became aware of a din of agitated 'dee-dees' and 'neet-neets' coming from up above on the steep slope. I was unable to locate the source of the calls, so I decided to proceed to Tower Road and double back on the upper, parallel trail. The source of all this commotion was in a White Spruce immediately off the edge of that upper trail; the Red-breasted Nuthatches in particular were in a very agitated state. Then, a Merlin burst out of the Spruce on my approach – pursued by a lone Black-capped Chickadee! About 40 feet down the slope the Chickadee broke off its pursuit and descended out of sight into the scrub.

A very brave, if not foolhardy, little bird. The little band of birds calmed down gradually over the next couple of minutes, and we continued on our walk.



HFN'S BOOK CLUB

HFN's Book Club meetings take place on the second Wednesdays of November, March, and May; one book is discussed at each meeting. The next meeting is Wednesday, May 10th, at which Throwim Way Leg, written by Australian zoologist and climate change activist, Tim Flannery, will be discussed. It documents Flannery's experiences conducting scientific research in the highlands of Papua New Guinea and Indonesian Western New Guinea. It's an engaging true adventure, based on his PhD thesis, Tree Kangaroos of Australia and New Guinea. Also at this meeting, there will be discussions about choices for the following fall, and there is a regularly updated spreadsheet of HFN Book Club suggestions where members can vote on upcoming reads during the summer.

Our club entered its fifth year last November, 2016, and the focus was Ravens in Winter by Bernd Heinrich, which has been called a biological detective investigation of winter Raven behaviour in Maine. At the February, 2017 meeting, Seeds of Hope, by renowned naturalist Jane Goodall, was covered.

For more information, please contact Gillian Webster, 902-453-9244, gillian.webster@eastlink.ca. Our next meeting date will be May 10th, 2017, from 7:00 to 9:00 p.m. The venue is still to be chosen.



NEW & RETURNING

John Brownlie

SPECIAL REPORTS

2016/2017 YEAR-END REPORTS

FROM THE PRESIDENT

The Oxford Dictionary definition for a volunteer is: "a person who offers voluntarily of one's services". All I can say is, "Thank goodness for volunteers!". This organisation is run one-hundred percent by the very best volunteers. I am not going to name everyone in fear of forgetting someone. So I am going to express my thanks to the groups who do so much to make our walks and talks so interesting.

The programme committee is on the top of the list as they plan the talks and the hikes and that's not all; when it comes to the hikes they also supply a guide and that is often one of the programme committee members. The guide also writes up a description of the hike for our Newsletter. So it is not a simple job of just planning the programme.

Talking about Newsletters; the next people to 'Thank' are the folks who edit and deliver our wonderful quarterly Newsletter.

Without the membership fees being looked after by both the membership secretary and the treasurer we would not be sitting here in this theatre.

Thanks to the people who keep us informed and remind us about upcoming events on the internet.

And we have a one-woman committee in the form of Regina Maass who serves up a treat after each meeting and makes the most delicious Apple Cider at our Christmas Social.

THANK YOU TO ALL OUR VOLUNTEERS FOR DOING A SPLENDID JOB!

– Janet Dalton,
President



FINANCES

In 2016 we had revenues of \$3,470, comprised of membership subscriptions \$3,340; interest \$81; donations \$45; and pin sales \$4. These figures are similar to those for 2015. Our expenses for 2016 were \$2,993. The biggest parts of these were the cost for the meetings \$376; newsletter production and distribution \$981 and \$764 respectively; insurance \$225; memberships and fees \$267; internet costs \$164; and donations \$100.

The costs for the meetings, \$376, were for the room rentals and included the refreshment costs. The newsletter production costs for 2016 were lower than budgeted, because the fourth newsletter was paid in early 2017.

The membership fees for Recreation NS, Registry of Joint Stocks, and Nature NS added up to \$267. Our liability insurance has gone up from \$200 in 2015 to \$225 in 2016.

In order to operate our website, we paid \$164, slightly increased from 2015. This cost covered the domain name registration and the hosting of the website.

We also made a \$100 donation to the Young Naturalists Club for their 10th anniversary.

Other expenses were for special projects \$74 (Colin Steward Award; history documents for our 40th anniversary, and gifts); general supplies \$10; and miscellaneous \$32 (mostly bank fees).

To summarise, in 2016 we had a net income of \$476, and an unrestricted surplus at the end of the year of \$7,606, allowing us to continue to operate with a solid financial base.

Financial Statement (Balance Sheet as of Dec 31, 2016) Our total assets at the end of 2016 were \$10,493, comprised of money in the bank account \$1,217; receivable HST rebate \$149; investments \$8,597; and pins \$530.

We have currently two GIC's, one cashable and one restricted for 'Endangered Species and Spaces'. In 2016 the over \$6,000 cashable GIC matured and was renewed for 3 years. The restricted GIC, invested in 2015 – over \$2,564 with accumulating interest – has gone up to \$2,597 in 2016.

Our liabilities are \$290 for money held in trust, payable to Nature Nova Scotia.

Our total surplus for 2016 is therefore \$10,493, made up of the restricted GIC \$2,597; the unrestricted surplus \$7,130; and the net income \$476.

Budget for 2017 The numbers for the budget for 2017 are similar to those for revenue and expenses in 2016. The only exception is for newsletter production, where we also will pay for the winter newsletter of 2016.

– Respectfully submitted,
Ingrid Plache (Treasurer)



MEMBERSHIP

In 2016 our membership figures stabilised in that we stayed at the exact same level as the previous year in total memberships at 146. It should be noted that these are 'memberships', a figure which does not equate to the total number of members as it does not include a multiplier for family memberships. The 2016 roll of 146 was comprised of 68 individual memberships, 45 family, 19 supporting, six complimentary, two student, and one life-membership. In addition, we had dues-paying institutional members representing five libraries. Sixteen memberships were new or returning members.

Once again many thanks to Doug Linzey for maintaining the membership database and for printing newsletter labels.

TOTAL MEMBERSHIPS BY YEAR

2009	2010	2011	2012	2013	2014	2015	2016
121	119	107	109	114	129	146	146

– Respectfully submitted,
Ronald Arsenault,
Membership Secretary

**Halifax Field Naturalists
Financial Statement (Balance Sheet)
As of December 31st, 2016**

Assets

BMO Bank Account	\$1,217
Accounts Receivable: HST Rebate	\$149
Investments	\$8,597
Pins	\$530
	<u>\$10,493</u>

Liabilities and Surplus

Liabilities

Accounts Payable: Nature NS	\$290
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Surplus

Restricted: Endangered Species	\$2,597
Unrestricted	\$7,130
Net Income 2015	\$476
	<u>\$10,493</u>

**Halifax Field Naturalists
Statement of Income and Expenses
January 1st to December 31st, 2016**

	2016 Actual	2016 Budget	2017 Budget
Revenues			
Membership	\$3,340	\$3,300	\$3,300
Interest	\$81	\$81	\$45
Donations	\$45	\$0	\$20
Pin/List Sales	\$4	\$0	\$0
	<u>\$3,470</u>	<u>\$3,381</u>	<u>\$3,365</u>
Expenses			
Meetings	\$376	\$350	\$300
Field Trips	\$0	\$10	\$10
Newsletter Production	\$981	\$1,500	\$1,450
Newsletter Distribution	\$764	\$500	\$790
Memberships and Fees	\$267	\$265	\$236
Socials	\$0	\$20	\$18
Grants/Donations	\$100	\$300	\$100
Special Projects	\$74	\$40	\$30
Insurance	\$225	\$200	\$225
Internet Service	\$164	\$150	\$166
General Supplies & Expenses	\$10	\$10	\$10
Miscellaneous	\$32	\$36	\$30
	<u>\$2,993</u>	<u>\$3,381</u>	<u>\$3,365</u>
Net Income	\$476		
Unrestricted Surplus, beginning of year	\$7,130		
Unrestricted Surplus, end of year	<u>\$7,606</u>		

**Halifax Field Naturalists
Operating Budget 2017**

*– Respectfully submitted,
Ingrid Plache, Treasurer*

PROGRAMME

This report covers the period of March 1st, 2016 to February 28th, 2017.

During the last twelve months, the HFN Programme Committee organised ten presentations and seventeen field trips, and produced four quarterly programmes for print and for the HFN website.

Presentation topics were: AGM/Members' Photo Night; Maritime Butterfly Atlas Final Report; Mysterious Easter Island; Not All Rocks are Granite; Wetland Ecosystems; Tracking Fishing Vessels from Space; Ericaceous Nova Scotia; "A" is for Adventure along with our Holiday Social; Wolf at the Door; and Canada Coast to Coast to Coast to Coast. These presentations drew audiences that totalled almost 500.

Field trip destinations included: Province House; Piggy Mountain; Pictou County Waterfalls; Belcher's Marsh; Gaspereau Valley; Peggy's Cove; the Urban Forest; Admiral Lake/Skull Rock; Purcell's Cove Wilderness Lands; Halifax Public Gardens; McNab's Island; the Melmerby Weekend; Bluff Trail Wilderness Area; Lawrencetown Beach; the Annual Sewer Stroll; and the NSCC Waterfront Campus. The Shubenacadie Wildlife Park twilight field trip in November was cancelled due to inclement weather. The field trips drew over 270 participants.

The activities of the HFN book club are not included in this report.

As committee co-chairs, we thank the other committee members Denyse Contrasty, Edward 'Fin' Finnigan, Carol Klar, Susan Moxon, and Beth Nordstrom for their invaluable contributions to the programme production, to Stephanie Robertson, Newsletter Editor, for designing and final editing of the printed programme, and to David Patriquin, HFN Webmaster, for posting the programme on the HFN website.



– respectfully submitted,
Molly E. Leblanc and Keith Vaughan,
Co-Chairs Programme Committee

NEWSLETTER

Four issues of the The Halifax Field Naturalist, with 76 pages of reports, articles, nature news, talk and field trip write-ups, nature notes, the seasonal phenomena and events Almanac, and the Halifax Tide Table, rounded out our HFN 2016 year – from March 2016 (Issue #162) to February 2017 (Issue # 165). Highlights follow below:

Spring Issue #162 – Ron Arsenault, Judy Keating, and Shelly Pohl were added to our list of directors-at-large. Co-chairs Richard and Grace Beazley stepped down from the Programme Committee along with Elliott Hayes, Burkhard Plache, and Gillian Webster; but added to that committee were Denise Contrasty, Carol Klar, Edward Finigan, Molly LeBlanc (co-chair), Susan Moxon, Bethany Nordstrom, and Keith Vaughan (co-chair). We reported 11 new members and noted our intrepid Bob McDonald's always valuable and insightful comments upon and to HRM's Green Network Plan. The fourth in the 'Morar Nature Notes' series by Gareth Harding and Renée Lyons gave a bit of history of the N.S. area relating to Morar, Scotland, and along with other lovely nature sightings, noted seeing a flock of at least

200 Bohemian Waxwings! Sadly, we also reported the passing of long-time member Dorothy Meiklejohn Morris on January 9th. Her steadfast life-partner Arthur Morris remains a very enthusiastic HFN member. We had talks on "Ocean Tracking", "Arctic Research", "Young Naturalists", and Members' Photo Night." We visited the Lake Major Water Plant and the Halifax Seaport Farmer's Market.

Summer Issue #163 – Our presentations were reports on: the status of the Maritime Butterfly Atlas; an Easter Island trip; and a talk on everything you wanted to know about granite. We visited Province House, had a hike to Piggy Mountain, and a wonderful, overnight Waterfall Trip to Pictou County with waterfall explorers Richard and Grace Beazley. This was the last offering of all their truly wonderful HFN waterfall treks. We also visited Belcher's Marsh, the Gaspereau River Valley, and went on a trip to learn about Peggy's Cove granites.

Fall Issue #164 – Halifax Regional Council passed a motion to designate the lands around Colpitt and William's Lakes, and the Purcell's Cove Backlands, as an 'Urban Wilderness Park'.

On September 6th, HRM Regional Council voted to allow no development in the privately-owned land within the Blue Mountain/Birch Cove Lakes Regional Park boundaries, and that every effort should be made by HRM staff to acquire these lands for this Regional Park. We had a humorous 'Morar tale' about a 'seal-in-a-bucket', and learned about swifts in Scotland. Our September talk was on wetlands ecosystems. We went on a Urban Forest Walk-about, took a hike to Admiral Lake/Skull Rock, and had our now annual Members' Melmerby Weekend retreat near Melmerby Beach Provincial Park, on the Northumberland shore. We also learned about the history of the Halifax Public Gardens with a trip there, and went to McNab's Island too.

Winter Issue #165 – Patricia Leader shared her extensive and revealing research on the area in and around Papermill Lake, Bedford. Our 'Morar Tales' regaled us with stories of Goshawks, Mergansers, Oldsquaws and many other critters. Some perhaps unknown but pertinent facts about the background behind the discovery in Point Pleasant Park of the notorious(?) Brown Spruce Longhorn Beetle were brought to light again. This was all in reference to the fact that one of our trip's leaders had shared, off-handedly, the official forestry, CFIA, and media view that it was a dangerous insect which could decimate our healthy Red Spruce forests. Our winter presentations were "Fishing Vessels Seen From Space" (about satellite imaging enhancing protection of global fish stocks) and "A is For Adventure" (outdoor activities and exercise help children remain healthy and energetic, both physically and mentally).

Thank you to UPS Queen Street for reliable and skilled production of the colour covers, and to DalPrint for our 'special rates' for our newsletter's interior. A special thank you goes to Patricia Chalmers for compiling our Almanac, and for much appreciated proofing, I thank Allan Robertson, Bernice Moores, Patricia Chalmers, Bob McDonald, and other HFNers who have helped from time to time.

– **Stephanie Robertson**
Editor, The Halifax Field Naturalist

SPECIAL ARTICLES

THE NOTORIOUS(?) BSLB

– Stephanie Robertson

The last issue of The Halifax Field Naturalist (Winter 2016, #165, p. 6) had a short history of the 'Brown Spruce Longhorn Beetle (BSLB) in Point Pleasant Park'. I had felt the need to share what I thought was the more accurate, balanced, and less inflammatory view of the alleged 'situation', because the panicky, 2000 picture still seems to be floating around and surfacing here and there in various public statements.

To fill in more details, in 1989, Gareth Harding, Richard Ballard, and I had collected 18 BSLB specimens in Point Pleasant Park amongst a catch of 20 other species (remember, we looking for the 'forestry-alleged-to-be-there' Spruce Bark Beetle, of which none were found). Because the BSLB is very similar to our native Longhorn Beetle, *Tetropium cinnamopterum*, they remained unrecognised – until 2000 – when they were correctly ID'd by an Ottawa entomologist. That ID led to the Canadian Food and Inspection Agency's (CFIA) massive, well-publicised, panicky media response, with their proposal of a wide-ranging cutting and burning in Point Pleasant Park, and concomitant forest and woodlot quarantines imposed all over Nova Scotia. But, meanwhile, the Friends of Point Pleasant Park (FPPP), amongst other findings, were researching the considerable scientific knowledge about it in Europe where it originates, and where it is widely distributed across northern and central Europe, throughout Russia and Siberia, and on into Asia. There, it lives in similar forests to those found here; there, it is not considered a threat to healthy trees. Why? – because, like the very vast majority of longhorn beetles found all over the world, it feeds *only* on dead and dying wood.

FPPP's successful legal injunction to stop this CFIA proposed BSLB eradication proposal in Point Pleasant Park and elsewhere in Nova Scotia argued there seemed little likelihood that the BSLB's habits would be any different here. Chris Majka's PPP research had turned up many other native species – 23 of longhorn beetles; nine of metallic wood-boring beetles; 28 of of bark beetles; and many other insects which were naturally colonising the dying trees there. Moreover, here in N.S. there are two other native species of longhorn beetles, *Tetropium cinnamopterum* and *Tetropium schwarzanum* (these two are very similar to *Tetropium fuscum* in appearance, behaviour, and ecology; and two other foreign longhorn beetles, the Violet Tanbark Beetle, *Calidium violaceum*, and the Tanbark Borer, *Phymatodes testaceus*. None of these has proved problematic. It appeared that affected PPP trees were sick and dying for other reasons, and that an even larger suite of beetles and other insects responsible for hastening their natural decay were colonising them, just as they always had done in forests throughout Nova Scotia.

The CFIA, with no evidence, argued that the beetle had changed its habits and was attacking healthy trees.

With a different judge and another hearing, The CFIA overturned our injunction and in 2000 their drastic programme began in earnest, with the park being quarantined and patrolled with CFIA-uniformed and armed guards, with no on-the-ground research to decide the question one way or the other regarding healthy/non-healthy trees. They argued that on the basis of the 'precautionary principle', their wide-ranging plan ought to be started at once. And it was.

Fast forward to 2007. CFIA said they had been 'battling' this beetle in Nova Scotia for seven years. As the Friends of Point Pleasant (FPPP) Park's entomologist Christopher Majka had stated, Nova Scotians might well have thought that between 2000 and 2007, the CFIA scientists, with all their resources, *would have* conducted research to answer the important questions, "Does the BSLB attack healthy trees?" and therefore, "Is the BSLB of any concern to Nova Scotian forests and/or its forest industry?"

FPPP stated that while it would be better if the BSLB had not arrived in the province, it would merely join the 93 or so other species of native longhorn beetles known to occur here, and which all feed on dead and dying trees. the CFIA *did* publish a compendium of research with other focuses – 13 different studies – relating to BSLB detection; fungal associates; potential control mechanisms (Q. "Will wood-chippers kill BSLB's?" A. "Yes."); wasps which parasitise BSLBs; and its host preferences. One CFIA preliminary 2000 study found that Red Spruce with reduced growth rates and low vigour (i.e. 'unhealthy' trees) were more susceptible to infestation than faster growing, more vigorous trees (i.e. 'healthier') but this important research was not continued.

Chris went on to ask, 'What does this all mean?' There is still no evidence which shows that the Brown Spruce Longhorn Beetle attacks or is a threat to healthy trees. The same claims made in 2000, that the BSLB is an invasive insect which attacks healthy trees and is a threat to North American forests, have simply been recycled again and again without supporting evidence.

One could reasonably have asked (after the 2000-2007 beetle battles in Nova Scotia) why had such research not been done? If the BSLB was not a problem to healthy trees, why was the CFIA spending taxpayer's dollars battling it? Nova Scotia was in the grip of an eradication juggernaut for those seven years. The science to support the need for that campaign was lacking. If the BSLB *is* a problem, let's find out. If it's not a problem, let's stop worrying and talking about it – there are lots of other pressing environmental problems that require our attention. It is time to ask if the emperor has any clothes – and demand some answers.'



BSLB, *Tetropium fuscum*



MORAR TALES

– Gareth Harding and Millie Harding/Lyons

WINTER OWLS AT MORAR

Jan. 16th, 20th, and 21st, 2017

I drove up to Morar from Halifax mid-January to check how our property had weathered the winter storms. The tarp, which had been placed over the side of the barn roof which needed replacement, had been ripped to shreds, revealing the severity of winter storms to date. Jacques Jr., our neighbour Marie MacIsaac's Black Lab cross, our Jack Russell terrier Millie, and I spent the day walking around our extensive woodland trails and even managed to make it down our icy gully to the beach. The sea was open, with a slurry of ice crystals on the surface close to shore; it had that cool grey/green colour of dull weather. The tide and waves had left a coating of ice on the rocks far up the shore, and a foot of icy foam occurred where patches of trapped beach existed between the basaltic outcrops. The mud banks at the high tide mark were oozing glaciers and frozen mud slides that extended well down the beach. The dogs were pleased when I decided that it would be foolhardy to proceed around the rocky point in such hazardous conditions.

I had not planned on staying the night so we headed down to Marie's place to return Jacques. Marie produced home made pea soup, scones and tea, Millie helped herself to Jacques food, and Helen MacFarlane phoned to tell Marie that her husband Archie MacIsaac had seen an owl on their barn. Just then, Archie arrived at the door with his very enthusiastic kids, showing me a camera photo. It became obvious during the conversation that the owl was still perched in the trees on the far side of Marie's field. The owl, which turned out to be a Barred Owl, allowed Hannah (eight years) and John (four years) to walk right to and under it. The owl merely swivelled its head and looked down at them seemingly with mild curiosity. Archie told me it had been loudly hooting this past week.

Well needless to say, I was ecstatic about these events because last winter I had built and installed a Barred Owl nesting box on a mature aspen in our ravine. However, back then it had not been successful in attracting any tenants. But all the signs are good for occupancy this year, with a male owl booming his claim of the territory near our property. Time will tell.

The next Friday I took time out from my busy retirement schedule to drive up again with Millie to check out the owls. The woods had a fresh dusting of snow from the previous day, which had recorded a large population of rabbits and Snowshoe Hare, but nary a Fox, Bobcat, nor Coyote track could be seen. There were rabbit tracks and runways everywhere, except in the most open, mature woods. The bounty put on Coyotes and their collateral damage, perhaps in conjunction with a natural Hare population cycle, had resulted in an 'explosion' of rabbits. I have heard Barred Owls in past years in winter/spring, but only further down the valley, where Brown's Brook flows to the sea.

That evening I found myself lingering outside, getting



wood and water for the night. The sudden, deep booming of an owl close behind the house startled me shortly after dusk (~ 6:00 o'clock). It was not the call that I was anticipating! The pattern was three hoots, with the middle hoot much abbreviated, followed by two well-spaced deep hoots; Hooo hu hooo hooo hooo. The call of the Great Horned Owl! It was answered immediately by an identical, although slightly differently-pitched call, from further down the shore. This calling back and forth continued for half an hour, and was followed by complete silence except for the repetitive sounds of the surf breaking along the shore. The hooting was so loud that it penetrated the double-planked walls of our century-old farmhouse, so I'm confident that the Horned Owls didn't call after I had retired for supper, nor for the rest of the night. The loud hoots of either Barred or Great Horned Owls are easily distinguished. The territorial call of the Barred Owl is a very rhythmic two-liner and much higher, more like a barking dog in the distance, with the pattern:

"Hoo Hoo Hoo Hoo Hoo Hoo Hoo Hoaw", the last note dropping and the complete call easily remembered by the little saying; "Who cooks the food Who cooks for you?"

The next day I kept my eyes peeled for concealed owls and checked my owl box but there was no suggestion that it had been visited. Nevertheless, I think it is still early and this could be the year we get our first family of owls.

(Other owls heard at Morar are the Saw-whet and the Long-eared Owl. The former were heard frequently in early to late spring, and the latter have been heard in summer.)



SNOWBIRDS; ARCTIC VISITORS

January 16, 2017

Millie and I stopped at the Upper Stewiack Bridge for our regular stretch-the-paws walkabout on our trip to Morar. The temperature was a frosty -13°C but quite comfortable as there was little wind. We were rewarded with a myriad of tracks on the dusting of snow along the tractor path bordering the river edge. Pheasant tracks were the most numerous, heading every which way, with a solitary Coyote leaving a perfectly linear trail, meticulously placing each paw precisely in front of the last. A minute trace was the only evidence that a shrew had ventured across the trail the evening before. The only visible life ahead was a Red Squirrel darting back and forth across the trail with tail raised high over its back. It was gathering corn kernels the harvester had spilt on its way home.

We surprised a pair of Black Ducks as we rounded the hedgerow into another summer cornfield reduced to stubble. The river was in full flow, close to overflowing its icy banks, making it extremely treacherous to any land animal. I nervously kept an eye on Millie's whereabouts even though she is fastidious about keeping her paws out of even the shallowest of mud puddles. We disturbed a large group of 30 or so crows also feeding

on scattered corn cobs and kernels which were missed by the automated technology.

Upon our return we headed out into the open cornfield to remove the threat of the river from my mind. I'm glad that we did because we flushed a gigantic flock of those Snowbirds which had helped make Anne Murray a celebrity. The songwriter, Gene MacLellan, was inspired to write the song "Snowbirds" while walking along a winter beach in PEI.

There were well over 500, perhaps as many as 1,000, tan-coloured birds with flashing white wings whirling into the air, and after several swoops up and down they foolishly alighted ahead of us. The flock was sometimes cohesive and at other times broke into two or three groupings. One of these groups finally decided to

circumnavigate us. The birds flew in such tight-swirling, cloud-like formations that it would be impossible to determine whether this decision was made by one bird in each of the breakaway flocks or by a collective consciousness. I suspect it was an elder Snowbird which led the first breakaway flock which then skirted around us, setting an example for the rest, because the remaining groups soon followed.

We left, satisfied, after having made our contribution to this story – boot tracks and paw prints to be deciphered from snow dust.



HFN TALKS

THE WOLF AT THE DOOR 5 JAN. – Stephanie Robertsson



Bob Chaulk's presentation was about late 19th and 20th century east coast sealing fleets and their courageous sealers. His immediate ancestors themselves had taken part in these great and dangerous hunts, and one of his favourite books on the topic, George Allan England's 1969 *The Greatest Hunt in the World*, describes the hunts' carnage, not only upon the seals (which were almost wiped out), but also of the very many human deaths and suffering as well. Bob also has been intimately involved with the Terence Bay S.S. Atlantic Interpretation Centre and Museum. Many times he has dived the wreck of the White Star Line's S.S. Atlantic, which tragically ran aground on the rocks in Lower Prospect in 1873. He also mentioned that very recently, divers had found the S.S. Atlantic's nameplate.

Bob was born in Newfoundland in a house which had been hand-built by his father, coming into the world via a home delivery, assisted by a midwife whose name was, serendipitously, Bertha Day. Back then the seal hunt was very important – an integral part of maritime life, especially in Newfoundland. Sealing ships were household names, and their captains were famous too. Pictures of seals were even used as logos on various companies' glass pop bottles. Bob has catalogued many examples of these in his extensive diving glass collection in his basement, of which we were shown pictures – row upon row of shelves filled with diving memorabilia. One picture was of a 150-year old soft drink bottle of "Keep Kool Pop". Bob's mother wore sealskin boots, used seal oil lamps, and cooked the famous seal

flipper pie. His Halifax barber is a Newfoundlander, and he shared his stories with Bob about the smell of seal cooking, and the seal-oil capsules he took (and maybe still takes) 'for his knees'.

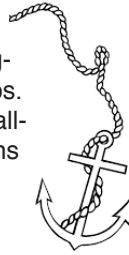
Bob has lived in Halifax for forty years, and a lot of that time has been spent scuba diving. He had been doing that very activity on the morning of this presentation, in frigid and icy January waters. But, Bob thinks diving is better in winter; there is much less kelp to contend with, no crowds, and the water is much clearer.

The ships of the 'old seal hunt' were wooden, and had huge, tall wooden sides called 'walls'. These historic, great seal hunts were all finished before any of us were born, and all of their old sealing ships are now at the bottom of various oceans. Sealing ships were also often involved in rescues. We saw an old photograph of the U.S. polar expedition ship *Polaris*, which became stuck in the ice in October of 1872. Some of the crew were 'out on the ice' when the ship became free and despite attempting to signal the *Polaris*, they were left there, drifting for six months, before being rescued on April 30th, 1873 by the three-masted, Newfoundland barkentine sealer *Tigress*, a wooden ship with a 40 hp engine. The stranded *Polaris* crew members did have *some* supplies of food, which had been jettisoned in an attempt to lighten the ship when it had become stuck, however, if it had not been for the sealing hunting skills of the Inuit crew members, they probably would not have survived.

A very many sealers and ships went from Twillingate, Nfld. to get the seals, but the success and safety of the expeditions were all so very dependent upon the weather; the wind would suddenly shift mid-voyage, and both ships and men could be lost forever. Once, there was a positive result from the wind shifting unexpectedly – it blew ice-pans covered with seals into a harbour, and the money from these easily-obtained animals paid for a new bell-tower the local church.

Every spring hundreds of vessels, attracting hundreds of men eager to vie for a place on the sealers, would 'go to the ice' for these great, annual seal hunts. They would have walked from their homes, then taken a train

(just like taking a bus). The vessels would head out to sea and anchor as near as possible to a good 'patch' (of seals). The men would disembark with their three tools – a 'gaff' (a long staff with an iron point); a knife; and a towing rope for their 'sculps'. After killing a seal they would cut away the four to six inches of blubber, along with its attached skin and fur (the sculps); they would leave them in large piles to gather up later, dragging them back along the ice floes to their sealing ships. When the sealing was over (a very long and arduous all-day affair), the men would reboard their ships by means of 'side sticks', sturdy five by five inch timbers chained along the ships' giant wooden sides like so many very wide ladders.



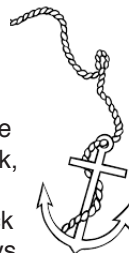
Back in port, the fur was separated from the blubber, the latter being boiled down and sent to England as valuable oil for Britain's ongoing industrialisation, urbanisation, and commerce, including fuel for the then-ubiquitous oil lamps. Bob showed us pictures of those early 'Argand' oil lamps which resemble the oil lamps which later burned the cleaner smelling kerosene.

Another older type of sealing ship we saw was the three-masted, square-sailed, coal-burning S.S. Wolfe, with large engines, metal bows, and huge smokestacks. On many of the sealers, the hulls were constructed of one- to six-foot thick oak, with thick, green-wood bows. Also 'in' on the hunt, were many older and smaller family ships which made their own annual and dangerous sealing forays.

Bob had long thought he would like to write a novel about sealing. He interviewed Jack Grant who had sailed in 1931, at age 11, on the S.S. Viking. This 310 ton vessel was equipped with a 90-horsepower auxiliary engine. Disastrously, it had blown up during Jack's trip, blowing off the Viking's stern and sinking her, killing 26 of the 141 men on board. The survivors ended up on the ice in the middle of the night, but managed to make it to a small island, and were later rescued. Coincidentally, there happened to be a three-man film crew on board who wanted to 'document a sealing experience'. The producer, Varick Frissell, was one of those killed, but the film was produced anyway. Titled "The Viking", it was touted as "the first film to record sound and dialogue on location". We saw pictures of the rescuers taken by the film crew; one later died, and one had to have both legs amputated.



Bob did publish his sealing novel – The Chain Locker, 2010, – based on Jack's and the Viking's story. The Viking had been built in 1881 in Norway, and in 1904 she was bought by Bowring Brothers (think Bowring's gift shops – 'tis the same family). She was 50 years old when she blew up, and Bowring at the time was the largest shipping firm in the world. Bob had asked Jack, "Why did you do it?" ('go to the ice' at age 11). His taciturn reply was, "Something to do I suppose". (Jack had been a stowaway because of his age. Stowaways, especially those who were considered too young for the sealing, were very common; but if they could hide long enough they would get to stay on the trip, but they were worked very hard.)



Later in life, Jack spent six years in the Navy and

served on the Atlantic convoys during the second World war.

We saw pictures of Harp Seals (*Pagophilus groenlandicus*), and Hooded Seals (*Cystophora cristata*); Harp Seals are mostly found on Baffin Island, and the Hoodeds are mostly found on Greenland. Seals travel south to find food, and go north to birth their pups; the contentious and controversial hunting of 'white-coats' (the just-born pups) stopped 30 years ago.

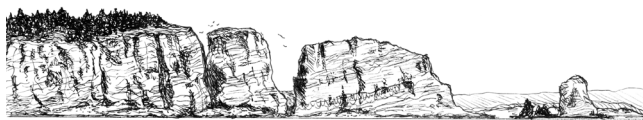
From about 1906, 72% of the old wooden walled steamers were lost, and this is when the huge, iron-hulled ships started coming in. In the 20th century, and it was mostly all steel ships by then, big companies took over sealing. Both the wooden ships and the seals started to suffer, and sadly, the men were driven even harder, and seal hunting remained brutal and cruel for both the sealers and the seals.

Besides Bowring, one of those big companies was the Crosby Company (Crosby's Fancy Molasses). Mostly, the sealers were dirt poor; there was still only hard tack and tea for food, they were very underfed, so often the men would resort to raw seal meat when they hunted. Ships were always full of coal piles; the men slept on those and then on the mounds of slimy pelts after the seal hunt was gathered in. There was no safety equipment, no warm clothes, and lots of men received no salary. (These 'sealers' were primarily fishermen. Back then, for fish they were paid in food; for the seals they caught they were paid in cash.) When there was too much ice, men had to carve out a channel and haul the ship out themselves, by hand. We saw a picture of the S.S. Southern Cross, a steam-powered sealing vessel which operated primarily in Norway, Newfoundland, and Labrador. One of its recorded seal catches totalled 26,326 pelts. Another great record for pelts was accomplished by the S.S. Neptune, at 1,222,693. On a March 31st, 1914 seal hunt, the S.S. Southern Cross was sunk in a raging storm, killing all its 174 men in the same storm that killed 77 crewmen from the S.S. Newfoundland, a collective tragedy that became known as the '1914 Newfoundland Sealing Disaster'. The death by exposure of the sealers from the Newfoundland, who were left on the ice off the northeast coast for 53 hours in a savage blizzard, was turned into the book Death on the Ice: The Story That Had to be Told by Cassie Brown.

Thank you so very much, Bob, for such a revealing and informative presentation about such a hazardous and sometimes heart-breaking way to make a living.



The S.S. Newfoundland



CANADA'S COASTS

2 FEB.

– *Clarence Stevens Jr.*

“Canada From Coast to Coast To Coast” For our February 2017 monthly meeting our guest speaker was Gavin Mason, a coastal geoscientist from the Bedford Institute of Oceanography. His talk focused on geomorphology and how Canadian Coastlines are changing in response to current climate conditions.

He began by explaining that Canada's four coastlines are made up of three oceans (the Atlantic, the Pacific, and the Arctic); the Great Lakes; and as well, some of the larger northern lakes such as the Great Bear and Great Slave Lakes.

He defined geomorphology as the study of the origin and evolution of the earth's landforms, both on the continents and within the ocean basins. Geomorphologists such as himself study landscapes to understand why they currently look the way do in order to predict how they will look in the future. His presentation was built around 20 years of photos which he has taken from various locations along Canada's 300,000 kilometres of coasts.

Through these photos we visited the oldest-known permanently inhabited community existing north of the Arctic Circle. It is named Sanirajak by the Inuktitut but it is known to us as Hall Beach, located at the north eastern tip of Melville Peninsula along the shores of Foxe Basin, a narrow strait across from Baffin Island. It is famous in the natural world for its large herds of Walrus (*Odobenus rosmarus*), and is historically famous as part of the Distant Early Warning (DEW) system. Currently, the settlement is home to the much more up-to-date NWS (North Warning System) radar facility which was officially opened in July, 1993. He showed us this new facility as well as the huge, rusted out remains of an old DEW satellite dish. Its antenna was no longer present likely due to the 1988 \$575 million dollar cleanup of the old DEW sites, touted as the largest remediation project ever undertaken by the government of Canada.

The Beaufort Sea's shoreline is eroding at a rate of ten metres per year. We saw photos of a 'pingo' (a large, dome-shaped mound consisting of a layer of soil over a large core of ice, and which occurs in permafrost areas) – the Ibyuk Pingo – Canada's largest and highest. This pingo is currently under the protection of Parks Canada, and lies five kilometres west of Tuktoyaktuk and 137 kilometers north of Inuvik.

Gavin spoke of the importance of sea ice in protecting shorelines from the influence of raging storm waves. He explained the term 'Relative Sea Level', which takes into account eustasis (sea level drop) in comparison to isostasy (the land rises, increasing its height).

Next he spoke of strategies for dealing with rising sea levels. One can choose to protect a shoreline from rising sea levels by placing barriers (such as the placement of tonnes of large rocks, or the building of large cement

or wooden weirs); by raising existing buildings on stilts; or by retreating from the shoreline altogether. Protective measures can range from 'green,' living shorelines to 'grey' structural approaches.

In some areas it is not rising water-levels but dropping water-levels which are causing problems. The most notable example in Canada is the Great Lakes, where the retreating coastline has left behind many wharves which no longer extend out into the water. Gavin also spoke highly of CanCoast – a national-scale, mapping framework for characterising Canada's Marine Coasts and how they are being transformed due to climate change.

Lastly, Gavin reminded us that 2017 is a year of celebration, not only because of Canada's 150th birthday, but because of the fact that federal scientists are once again allowed to speak! In addition, the Geological Survey of Canada is celebrating its 175th year, and all of HFN is invited to a fall celebration being held at the Bedford Institute of Oceanography on September 23rd and 24th. Mark your calendars!



AGM/MEMBERS' PHOTO NIGHT

– *Stephanie Robertson*

John Brownlie John's presentation, with only musical accompaniment, (the shots changing automatically one after the other), was of the places to be seen and experienced in and round his hometown of Parrsboro. We saw his granddaughters catching frogs in a kettle bog, lovely lakeshores, wild orchids, and Pitcher Plants, to name a few. This was all a lovely introduction to what we will see on our Parrsboro Weekend trip in July (the perfect time to see Northern Blue and Bog Copper butterflies, amongst others).

Grace Beazley Grace's presentation was of lovely close-ups of magnolia trees in and around Halifax. We saw 'cup and saucer magnolias', very large magnolias, pale yellow magnolias, both dark and pale pink ones, one with a very distinctive yellow centre, the very white ones, and a very small, obviously recently planted, but nonetheless flowering specimen. Beautiful, beautiful!

Clarence Stevens Jr. Clarence shared lots of photos of scenery, plants, and animals from his many nature travels in and around Nova Scotia, especially of black bears. One was of a bear with a white, v-shaped blaze high up on its chest. Clarence said these bears were reputed to have nasty dispositions; and with this encounter he learned that it was true! My favourite was of a hunkered-down individual, with its front legs and paws defending his patch of dandelions from any possible eating or encroachment by Clarence; it was staring right into the camera, just daring him to come any closer.



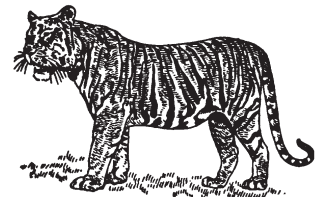
Lesley Jane Butters Lesley, after having misplaced her planned presentation (on a camera's memory card), *still* had very many varied and exquisitely beautiful nature shots to show us. Perfect flower close-ups – some with insects; brilliant fall foliage; idyllic scenery with breadths of sky, water and shore; eagles; a Great Blue Heron; surprising and colourful fungi and mushrooms; perfect spider webs; and a Robin's nest with three eggs, then a follow-up with the three young hatchlings, necks stretched and mouths agape. All the beauty we have here in Nova Scotia was there, and Lesley certainly has the artist's eye for 'good shots'.



Keith Vaughan Keith's beautifully professional shots were of a trip taken to Yellowstone National Park in Wyoming. We saw the famous 'Old Faithful' geyser, and many pictures of the strange and very colourful conformations of rocks, minerals, hot springs, mud pots, steam vents, and turquoise-green pools in the the 35-mile-wide, 50-mile-long Yellowstone Caldera, as well as other wonders such as the Yellowstone River Grand Canyon and the Grand Tetons.

Stephanie Robertson Stephanie's presentation was of a 2003 trip to the famous Sundarbans – the many-rivered, jungled, and mangroved 6,000 square mile Ganges delta – to search for the Great Bengal Tiger, specifically in the Katka Wildlife Sanctuary. Modes of transport were plane; heart-stopping, speeding van; and a hand-made wood and bamboo Brahmin boat boasting hand-woven, square-rigged sails. There were a few shots of butterflies; alert guards with their ancient rifles; and large Tiger prints (called pug marks), along with the smaller Spotted Deer tracks which the tigers were stalking, in the great expanse of the Bay of Bengal's damp, grey-sand shore which was reached after an hour's walk though the forest and then the mangroves.

No tigers were seen! (The guards were happy).



HFN FIELD TRIPS

BLUFF TRAIL HIKE

– David Patriquin

Date: Saturday, September 24th

Place: near Timberlea

Weather: sunny, about 24°C

Leaders: David Patriquin

Participants: 5

A small but enthusiastic group of five joined me on this hike around the first loop of The Bluff Wilderness Hiking Trail, on a magnificent day in late September. It was a strongly plant-oriented group and we stopped regularly to explore and talk about the vegetation and ecology.

From the trailhead on the Beechville-Lakeside-Timberlea Rails to Trails, (BLT), it is about one km to the beginning of the Pot Lake Loop, the first of four 'stacked' loops of the Bluff Trail. The trail in, and one side of the Pot Lake loop, go alongside Cranberry Lake, a narrow, brown-water lake oriented NW/SE which was carved out by glaciers. It then continues around Pot Lake, a smaller, headwater lake flowing into Cranberry Lake.

While the Pot Lake loop is the shortest of the four and the most readily accessible, I find it both the most difficult to walk but the most interesting. It is rough walking because of the many ups and downs – up onto and then down from boulders – and a lot of it goes through forest where heavy use has exposed big roots. The other loops are comprised of far more barrens which are much easier to walk. But the first loop is the most interesting to me because of the diversity of habitats: lakeside wetlands; wet, Black Spruce/Fir/Red Maple forest; mixed Red Spruce/Yellow Birch forest, including a couple of old growth stands with massive Red Spruce; oak woodlands; barrens; and shrubland. A highpoint at the south end of the Pot Lake loop overlooks a large, ombotrophic bog (receiving all of its water and nutrients from precipi-



tation, rather than from streams or springs) with open water in the centre. It offers the most panoramic view on the whole trail – across barrens, lakes, and forest.

I knew nothing about The Bluff Trail and surrounding lands when I went to the Woodens River Watershed Environmental Organisation's (WRWEO) AGM in 2008 as a representative from HFN's Executive Board. WRWEO built, and also maintains, The Bluff Trail. It soon became a favourite hiking area and it wasn't long before I was involved with WRWEO in the maintenance and promotion of the trail and the larger Five Bridge Lakes Wilderness Area (FBLWA) in which it is embedded.

In those days, the trail was not well known. The Bluff Wilderness Hiking Trail (full name) was built to introduce people to the larger FBLWA so that they would want to protect it, and events were designed to publicise the trail.

That changed in the summer of 2015 when use of the trail increased 10-fold or more. It was especially intense on the first loop, and involved a lot of 'bad practices', e.g., doggy bags hanging in trees, large fire pits, the cutting down of trees for firewood, and the enlargement of camping sites. A lot of the increased use was associated with people who had little wilderness experience.

We had lots of Leave-No-Trace (LNT) messages around, but they weren't working. For awhile we were overwhelmed by the need to constantly remediate inappropriate use, because it was an onerous task in addition to the routine maintenance of the trail, which in itself is a very large task. If we didn't keep up, the visual presence of bad practices simply provided models for more people to do the same.

In the fall of 2015, we began discussions with Protected Areas (a section of Nova Scotia Environment, NSE) on how to address the issues. I have to credit

the WRWEO chair, Kimberley Berry, in particular, with spearheading some novel developments in wilderness hiking and camping in Nova Scotia, always with the collaboration of Paul Berry, who almost single-handedly has maintained the trail itself for the last several years. Based on Kimberley's experience in changing behaviour in the parking lot for The Bluff Trail (and her own life experience), she was convinced that rather than ban activities such as building fires and camping (which I favoured), we should work on changing people's behaviour. The best way to do that, she insisted, was to be out there talking to people. Kimberley had spent several weekends talking to people in the parking lot to get them to park perpendicularly, rather than parallel, so we could accommodate more cars. Finally – people started doing it, and once this changed behaviour was established, others followed suit.

In the summer of 2015, WRWEO conducted a trial of this approach. With the involvement of Mike Lancaster, two students spent time on the trail documenting trail issues and talking to people, and it started to work.

We were very fortunate to involve Mike, which came about through collaboration with the Five Bridges Wilderness Heritage Trust and the St. Margaret's Bay Stewardship Association (SMBSA). Mike is a certified forestry technician and Stewardship Coordinator with SMBSA, and he has been very successful in implementing volunteer/stewardship programmes related to Micou's and Troop Islands.

To cut the story short, there have been two major developments coming out of the whole process. First, in August of 2016, three sites on the Bluff Wilderness Hiking Trail were designated 'NSE Approved Leave No Trace (LNT) Educational Camping Sites'. Camping is now allowed only at these sites. They are on flat rock surfaces, which in itself offers an example of a 'durable surface' suitable to pitch a tent. Information signs provide guides on how to camp and Leave-No-Trace. So this both reduces the number of camping sites and their impacts, and at the same time educates users on LNT.

Second, WRWEO has designed and embarked on 'The Bluff Trail Stewardship Program'. Its goals are "to decrease the impact of human harms on the trail; improve Leave-No-Trace (LNT) practices among trail users; enhance sustainability of the Bluff Trail; and ensure best possible stewardship practices in this part of the Five Bridge Lakes Wilderness Area." A key component of the programme is to have people out on The Bluff Trail engaging and educating users about the wilderness area and how to interact with it. It is a new model for WRWEO, involving fundraising and the hiring of Mike Lancaster as a Trainer/Coordinator. Mike is integrating his work on The Bluff Trail with his activities in St. Margaret's Bay, making it all a bio-regional approach.

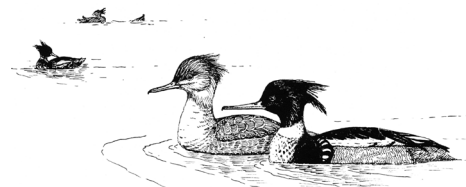
I am very encouraged by these developments. We tend to think that if we get an area protected in some way or another, that's the end of it. But as more people learn about and begin to access these spaces, they again become threatened. We need to embrace a Leave-No-Trace ethic collectively and individually, along with the skills to go with it; that *is* happening, some of it



beginning in the WRWEO parking lot!

As we hiked the Pot Lake loop that day, we talked about some of what was involved in maintaining The Bluff Trail, but, mostly, we just enjoyed the day and explored our surroundings. For me, the biggest satisfaction was what I didn't see: doggie bags, scorched logs, or other signs of misuse. That was quite a change in just a year and a half!

Read more about The Bluff Trail and the stewardship program at wrweo.ca. Also, the featured presentation/discussion at the March WRWEO AGM this year was "Introducing The Bluff Trail Stewardship Program... Helping the Trail We Love". For some detail on the natural history of the first loop, see my report for an earlier hike in the Halifax Field Naturalist, Issue #141. If you don't have one, it's available on HFN's website.



ANNUAL SEWER STROLL

– Carol Klarr

Date: Saturday, January 14th

Place: Hfx Harbour coastal spots/Point Pleasant Park

Weather: Sunny and bright, but very cold!

Leader: Clarence Stevens Jr.

Participants: 23

Our annual HFN/NSBS Sewer Stroll turned out to be the coldest day of the year (at the time of this writing) at -11°C, with the wind chill in the -20's. But cold wasn't on the minds of the 23 hardy souls who came to accompany Clarence Stevens Jr. through the day, starting out at McCormack's Beach at 9:00 a.m. and going on until near sunset on that frosty Saturday. It was birds they came to see and for most this would mean adding to their yearly bird list. There was at least one new birder with us and she has already been connected to a fellow seasoned birder who will take her under her wing, and also, she has been added to our list as an HFN member.

A few participants came with expensive looking cameras and the day yielded many bird photo ops for them. The sun was bright, the sky was blue, and the ground and roads were clear which was great for those who drove here from as far away as New Brunswick, Truro, and the Valley.

Clarence began with instructions on how the day would proceed and the birds that might be seen at each stop. Most of the gulls at McCormack's Beach were Herring Gulls. Then we began our walk into Fisher-man's Cove to the end of the road where much to our delight three tiny Dovekies were sighted at fairly close range as they dove and surfaced momentarily for all to view. There, looking toward Lawlor's Island, we noted several other species including Common Goldeneye, Great Black-backed Gull, Bufflehead, Long-tailed Duck, Black Guillemot, two female Hooded Mergansers, and the more common Mallards, Black Ducks, and European Starlings.

While returning to our cars we stopped at a sunny sheltered spot near McCormack's Beach, where Clarence gave us a second briefing on how the trip would proceed to Hartlen Point with several stops along the way. We car-pooled for this part of the trip then proceeded onto Shore Road. On the second stop we had a bonanza of 42 Greater Scaup with five Lesser Scaup among them, five White-winged Scoter and eight Surf Scoter, three Common Goldeneye, 20 Common Eider, and another Dovekie. At the small pond on the right there were hopes of seeing a Northern Pintail which had been sighted earlier in the week but there were only Mallards and Blacks. American Crow, European Starling and a female Ring-necked Pheasant were sighted on the way to Hartlen Point.



Soon after our arrival at Hartlen, a Rough-legged Hawk was sighted soaring in the distance above the golf course, then much to our delight it made its way toward us close enough to allow us to view the blackish 'windows' at the wrist of its wings.

We returned to McCormack's Beach where everyone picked up their cars and then it was off to Morash Pond on Woodlawn Avenue, where once again we hoped to find Northern Pintail. The tradition of stopping at Tim Horton's along the way was skipped (unless absolutely necessary for anyone) eager as we were to see what Morash Pond would yield. Unfortunately, no Pintail were present and we found only a single American Wigeon amongst the 40 Mallard and 20 American Black Duck. Suddenly, all eyes riveted to the far right of the pond where upwards of 100 Bohemian Waxwings, with possibly a few Cedar Waxwings among them, flew by in the near distance. We tried to find them again as we walked up the pathway but to no avail. As we were about to exit the parking lot, a very few lucky folks sighted a Cooper's Hawk.



We arrived at Sullivan's Pond which added a few new species to the count with an American Coot, a Lesser Black-backed Gull, a Black-headed Gull, three Black-capped Chickadees, a Downy Woodpecker and two American Goldfinch as well as 15 Ring-billed Gulls. Several other species there had been seen at earlier stops – American Wigeon, Herring Gull, Starling, Rock Pigeon, Crow, Mallard, and Black Duck. The Eurasian Wigeon which had been seen earlier in the week was absent.

From Sullivan's we made our way to Dartmouth Cove and here we spotted yet another Dovekie, three Red-breasted Mergansers, 15 Lesser Scaup, and two Rock Pigeons. There was no sign of the multitude of gulls usually present here.

We then made our way to the Ferry Terminal looking for the missing gulls but, strangely enough, they were nowhere to be found. However, it was there that two female Wigeons were seen – one Eurasian and one American. A Double-crested Cormorant was seen too, as well as the more common (in winter) Great Cormorant.



We meandered our way through the Ferry Terminal Farmer's Market eyeing some delicious looking home-made food. Since it was now afternoon we were feeling

some hunger pangs, but we knew we would be heading to Point Pleasant Park in Halifax and there would be enough time to eat our packed lunches (although not as tempting as the market food, it would have to suffice).

A few from our group dropped out at this point expressing their thanks as they left. But 16 of our original 23 participants made it to Point Pleasant at around 1:30 p.m. to rally in the lower parking lot at the mouth of Halifax harbour. While a few of us waited for everyone to arrive, we watched a Red-necked Grebe diving near the edge of the parking lot shore. There also we sighted a Black Guillemot, a pair of Red-breasted Mergansers, and a male Common Eider, as well as several Long-tailed Ducks in the distance. We continued on toward the point to look for Purple Sandpipers and indeed we found four of them feeding on a kelp-covered rock at the edge of the water near the point. Clarence spotted an American Pipit flying overhead – one of two spotted during the day.

After seeing the Purple Sandpipers, we turned back toward the parking lot but before arriving we turned onto Cambridge Road and just near the corner was a bird feeder with nothing in it. Clarence scattered seeds in and around it and that drew a crowd of Blue Jays, a couple of Song Sparrows, and a pesky Squirrel. But after seven or eight minutes with a no-show of the Pine Warbler sighted there the day before, a decision was made to carry on up the trail in hopes of seeing one at a different location along with a Pileated Woodpecker that had been there throughout the week.

After the uphill climb into the park we began our descent when suddenly Clarence spotted a Pine Warbler high up in a tall conifer. Everyone's binoculars pointed to the top but no one else saw the bird. However we did get glances of a Red-breasted Nuthatch and clear views of an American Goldfinch as well as Black-capped Chickadees. Our eyes were not quick enough to get even a glimpse of the Brown Creeper or the missing Pine Warbler that Clarence had us stop for.

On our return to the parking lot a few of us abandoned the trek as it was nearing 3:00 p.m. For those who remained there were wonderful sightings of two Pine Warblers – one at the feeder and another in the park. After leaving Point Pleasant, five cars accompanied Clarence to 'The Oaks' on St. Mary's Campus in Halifax, and we finished up the day with a White-breasted Nuthatch as well as a Red-bellied Woodpecker.

Clarence tallied a total of 53 species for the day – all these sightings seen by two or more birders. Bob McDonald and I managed to get a total of 33, while Angie Millard tallied 35 although hers were all on the Dartmouth side as she had not made it to Point Pleasant Park. It was an excellent outing in spite of the cold and everyone seemed to enjoy themselves very much. Thank you, Clarence, for the excellent teaching along the way, and to all who came.



NSCC CAMPUS

– Susan Moxon

Date: Tuesday, February 21st

Place: 80 Mawiomi Place, Dartmouth

Weather: Clear and sunny

Leader: Mike Duggan, Student Recruitment Coordinator

Participants: 8

Halifax may have the modern Central Library but Dartmouth can boast of its modern Nova Scotia Community College Waterfront Campus. The resounding theme here is student places and environment. We entered into a bright and welcoming centre with natural light pouring in from the floor-to-ceiling windows which look out to the Halifax Harbour and cityscape. The first thing we noticed was a coat rack centrally placed in front of the elevators. Coats are placed there for the taking! We also learned there is a canvas cupboard with items for students who may need some assistance. All the bright and inviting areas are for the students; staff offices are tucked away in darker corners. Every student gets a free bus pass, and the Woodside Ferry is an eight-minute walk along the harbour front. There are even student services for counselling, finances, etc.

Next we had our tour of the campus Harbour Wing which is a 'silver-certified' LEED (Leadership in Energy and Environmental Design) building; the next levels up are 'gold', and then 'platinum'. We headed up to the fourth floor where we were again treated to a panel of windows, revealing cobalt blue water, the Halifax skyline, and sunshine! Our first introduction was to the medical technical laboratory. Here, students who work in the community collecting samples such as blood and stools, bring them back to the lab for analysis, leading the students to learn how to make diagnoses. Here, as well as the other labs we explored, students have real-world experiences.

We paused to enjoy the student area in front of the windows, and our guide Mike Duggan explained how the building is heated with geothermal energy, and how it has a green roof which is covered with blueberries! The blueberries act as a buffer and assist with water run-off, and the birds enjoy them too. As we looked down at the trees and the sea water, one HFN participant suggested we could do the January Sewer Stroll from here; Mike said it would be possible as all public places are open 24/7. Upon turning around, we could also look down at the bright campus library which is connected with the Halifax Regional Library system.

Mike then told us about the two-year nursing programme which includes 'practical nursing in the community'. There is also a matriculation-track programme and upon completion, students can go on to finish at university to receive their degree. Tuition is \$3,300 a year – it's a deal!

We made our way down to the third-floor where colourful flags of the world were hanging; again – a visual feast. Here we entered the environmental, technology, and engineering classrooms. We were invited into an environmental lab where the students had collected

water and soil samples for analysis and research. We noticed moving-water samples where algae was growing; these students were investigating the possibility of using algae for energy. There were also water samples from Williams Lake; it was being tested to see how road salt is affecting the water there. For the past 30 years sand was used on the roads, but recently the city has started to use road salt. In three years time students will be able to look back at their documented results to see if there are any changes. For the graduating students there may be placements in the three levels of government as well as consulting firms.

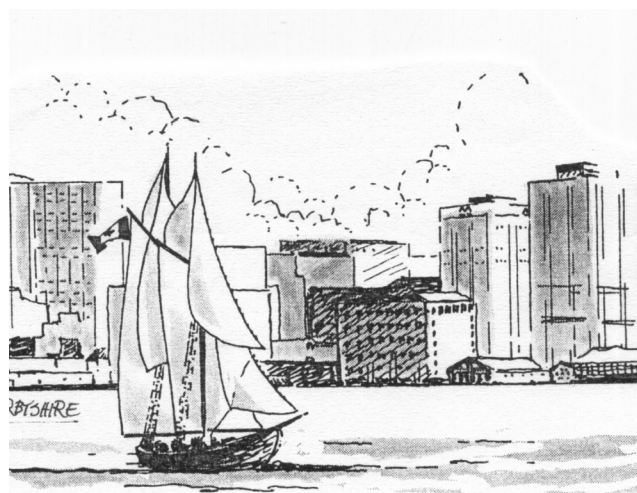
NSCC even has its own news station and is connected to Eastlink. This is part of the journalism programme. There is also a \$1 million recording studio which is busy 24/7 as well.

Next we ventured into the Woodside Wing which is a 'gold-certified' LEED standard. It is home to two 'living walls'; these walls consist of floor-to-ceiling live green plants. All this lush green foliage helps with regulating the humidity and temperature of the building, keeping the temperature warmer in the winter and cooler in the summer. And again, it is a visual feast for the eyes!

This Woodside Wing houses the electrical, electronics, and carpentry laboratories. We visited the electronics lab, where a robot was controlling corn-based plastic powder for 3-D printing. Also, companies bring in batteries for testing and the students are challenged to improve upon them. One student was working on a magnet-type screen which would fit on a refrigerator and could monitor how efficiently a home's solar panels are working. In the Applied Oceans Research Lab, there were cameras which could be attached to lobster traps for time-lapse imaging.

There are 11,000 students who benefit from this amazing facility. Ninety-nine percent of the recruitment comes from Nova Scotia, and ninety percent of the graduates remain to work in our province. What a win-win facility! Mike also told us that parts of the building were made from recycled and locally sourced goods. Another 'win-win'.

This hour-long tour fascinated all participants. A much appreciated thank you to Mike Duggan.



NATURE NOTES

– Janet Dalton



JANUARY

Bob McDonald was on a bird count in West Hants (off the 101 at exit #5 and the area started about 100 m from that turn off); the count numbered 24 species. Stopping at a small bird feeder in the area they saw **one female Purple Finch** and **some Golden Finches** but very few birds in total. A Sharp-Shinned Hawk was seen, and during the bird count he reported also seeing a **Red-tailed Hawk** just sitting still, and **four Mourning Doves**.

Mike Bradfield commented that a **comet** could be seen in the western sky, early in the evening near the planet Venus. According to the Halifax Examiner, the comet was named '45P/Honda–Mrkos–Pajdušákov'á. Later in the month Mike emailed to say that the comet, which loops by the sun every five years or so, was discovered by Japanese astronomer Minoru Honda in 1948.

Sharon Russell was in New Brunswick and saw both **Purple Finches and Goldfinches**. Ted Thompson was at Barney's River and saw what he thought was a crow, but it turned out to be **an eagle and its mate**. Gareth Harting saw a **pair of Merlins** in Point Pleasant Park. At his bird feeder and in his back yard there were **Goldfinches, Chickadees, Starlings, a male Downy Woodpecker, Song Sparrows, and Crows, as well as a Flicker**.



Regina Maass has **Wych Hazel** opening up on her property. Stephanie Robertson mentioned that she had **fruit flies** in her kitchen – a strange time of the year for fruit flies. At Point Pleasant Park she saw **Mergansers** and a **seal** on 'the seal rock'. At her bird feeder she had **Hairy and Downy Woodpeckers, Red-breasted and White-breasted Nuthatches**, and some **Waxwings**.

Ron Arsenault was near the Mutual Life Insurance building on Joseph Howe Avenue and saw a **Peregrine Falcon** and a **Cardinal**. Judy Keating saw **Bufflehead Duck** and **Mink** at St Margaret's Bay; at her bird feeder she had a **Flicker** and a **Junco**.



David Patriquin was at Point Pleasant Park and saw a **small hawk** and a **Pileated Woodpecker**. Lesley Jane Butters was also in Point Pleasant Park, near one of the gazebos, and saw a **Merlin (or maybe a Peregrine Falcon)**. Bob McDonald mentioned that Merlins and Peregrine Falcons are breeding right now in Point Pleasant Park. Lesley Jane also mentioned that she was in Wolfville and saw **Bohemian Waxwings** and some **dandelions blooming**.

Doris Balch mentioned that after our last snowfall her white flowers, **Helleborus, or Christmas Rose**, were blooming under the snow. Allan Robertson mentioned that he might be around to take pictures of the flowers.

Judy Keating said she had a **Canada Goose** in her back yard (Indian Harbour) on Christmas Day. She often has **Pheasants** come to eat the seeds that have fallen from the bird feeder, and also **often sees eagles flying by**.

FEBRUARY

Clarence Stevens mentioned that in the evening sky the **Moon, Mars, and Venus, were aligned**. Later on, he also mentioned that he had seen a **Pine Warbler** and a **Pileated Woodpecker**.



Richard Beazley let us know he has found five more new waterfalls! Also, he spotted a **Snowy Owl** near Bridgewater close to the Highway.

Leslie Jane Butters found **an ant** in her kitchen. She also saw **the Moon, Mars, and Venus** – but it was the evening on which the Moon was 'on its back' and Venus and Mars were above the tips of the Moon, **forming a triangle**.

Stephanie Robertson was on Heather Road in Point Pleasant Park and heard a bird call; it proved to be a **Pileated Woodpecker** which flew very close overhead, landing just across Heather Road behind her, low down on a conifer. It seemed to be very 'tame' as a dog came very near and it did not fly away.

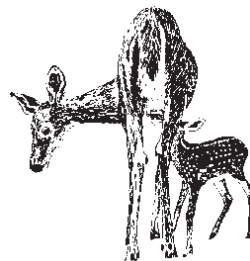
John Bromley saw **10 to 12 Buffleheads** in an inlet on the South Shore, near a point of land. It was mentioned that there are many Buffleheads on the Eastern Shore near Parrsboro, but not so many in the Bay of Fundy. They like clean water because it is easier to find food when the water is clear.

Christine Wysmyk saw **Deer** at the side of the road near East Chester when she was driving into Halifax for this evening's meeting.

Regina Maass was looking out over the Northwest Arm and saw a **Common Merganser**.

Clarence Stevens mentioned that there were **Dovekies** at Peggy's Cove and Point Pleasant Park, as well as at Rainbow Haven.

Bernie McKenna had a **Baltimore Oriole** at his bird feeder in Forest Hills.



MARCH

I wonder what spendthrift chose to spill
Such bright gold under my window-sill!
Is it fairy gold? Does it glitter still?
Bless me! It is a daffodil!



And look at the crocuses, keeping tryst
With the daffodil by the sunshine kissed!
Like beautiful bubbles of amethyst
They seem, blown out of the earth's snow mist.

And snowdrops, delicate fairy bells,
With a pale green tint like the ocean swells;
And the hyacinths weaving their perfumed spells!
The ground is a rainbow of asphodels!



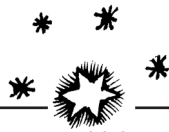
Who said that March was a scold and a shrew?
Who said she had nothing on earth to do
But tempests and furies and tempests to brew?
Why, look at the wealth she has lavished on you!

O March that blusters and March that blows
What color under your footsteps glows!
Beauty you summon from winter snows,
And you are the pathway that leads to the rose.



– Celia Thaxter
The Golden Treasury of Poetry,
selected by Louis Untermeyer

ALMANAC



This almanac is for the dates of events which are not found in our HFN programme: for field trips or lectures which members might like to attend, or natural happenings to watch for, such as eclipses, comets, average migration dates, expected blooming seasons, etc. Please suggest other suitable items.

Fine as skeleton bones
snow ribs the fields
willow withes an acidulous
spray of green scars
against grey sky

– Elizabeth Jones, from “Spring Parting”, in *Flux* (1977)

NATURAL EVENTS

- 12 Mar.** Full Moon. Moonrise at 19:28 ADT.
- 20 Mar.** Vernal Equinox at 1:30 ADT. Spring begins in the Northern Hemisphere.
- 11 Apr.** Full Moon. Moonrise at 20:23 ADT.
- 22 Apr.** Earth Day.
- 10 May** Full Moon. Moonrise at 20:13 ADT.
- 13 May** Nova Scotia Spring Migration Count Day.
- 28 May** Last spring frost in Halifax, with only a 1:10 chance another frost will occur; look forward to 155 frost-free days.
- 8 Jun.** World Oceans Day.
- 9 Jun.** Full Moon. Moonrise at 20:55 ADT.
- 14 Jun. -16 Jun.** The earliest mornings of the year: Sunrise at 5:28 ADT.
- 21 Jun.** Summer Solstice at 01:24 ADT, Summer begins in the Northern hemisphere. The longest day of the year, with 15 hours and 34 minutes of daylight at Halifax.
- 22 Jun. -30 Jun.** The latest evenings of the year: Sunset at 21:04 ADT.

– Sources: Atmospheric Environment Service, Climate Normals 1951-80 Halifax (Shearwater A) N.S.; Blomidon Naturalists Society’s 2017 Calendar; United States Naval Observatory Data Services.

SUNRISE AND SUNSET ON SPRING AND EARLY SUMMER SATURDAYS FOR HALIFAX: 44 39 N, 063 36 W

4 Mar.	06:46	18:06	1 Apr.	06:55	19:42
11 Mar.	06:34	18:16	8 Apr.	06:42	19:51
18 Mar.	07:21	19:25	15 Apr.	06:30	20:00
25 Mar.	07:08	19:33	22 Apr.	06:18	20:08
			29 Apr.	06:07	20:17
6 May	05:57	20:25	3 Jun.	05:31	20:54
13 May	05:48	20:34	10 Jun.	05:29	20:59
20 May	05:41	20:41	17 Jun.	05:29	21:02
27 May	05:35	20:48	24 Jun.	05:30	21:04



ORGANISATIONAL EVENTS

Blomidon Naturalists Society: Indoor meetings are held on the 3rd Monday of the month, in the auditorium of the K.C. Irving Centre, University Avenue, Wolfville. Field trips usually depart from the Wolfville Waterfront, Front Street, Wolfville. For more information, go to <http://www.blomidonnaturalists.ca/>.

- 13 May** “Nova Scotia Spring Migration Count (Annapolis Valley)”, with leaders Patrick Kelly (Falmouth), 472-2322, patrick.kelly@dal.ca; Larry Bogan (Kings County), 678-0446, larry@bogan.ca; Sheila Hulford (Kingston area), 765-4023; Chris Pepper (Annapolis Co.), 483-6693, (Kingston area).
- 20 May** **Rain Date 21 May**, “Cape Split Hike”, with Patrick Kelly, 472-2322, patrick.kelly@dal.ca. 8:15 a.m. at Wolfville Waterfront or 9:00 a.m. in Scott’s Bay.
- 21 May** “Fairy Shrimp at Blomidon Provincial Park”, with Jim Wolford, 542-9204, jimwolford@eastlink.ca.
- 10 Jun.** “Herbert River Trail”, with leader Patrick Kelly, 494-3294(w), 472-2322(h), patrick.kelly@dal.ca.
- 11 Jun.** **Pre-registration required!** “New Birders’ Walk Windsor, with leader Patrick Kelly, 494-3294(w), 472-2322(h), patrick.kelly@dal.ca.
- 15 Jun.** “Moth Event at Kentville Ravine”. **This date may change!**
- 17 Jun.** “Tour of South Canoe Wind Farm”, with Ed Sulis, 678-4609, edmasulis@ns.sympatico.ca.

Burke-Gaffney Observatory: Public shows at the Burke-Gaffney Observatory at Saint Mary's University are held on the 2nd and 4th Friday of each month, except from June through September when they are held every Friday. Tours begin at 7:00 p.m. between November 1st and March 30th, and at 8:00 p.m. or later (depending on when it gets dark enough) between April 1st and October 31st. For more information, phone 496-8257, or go to <http://www.ap.smu.ca/pr/bgo>.

Nova Scotia Bird Society: Indoor meetings usually take place on the 4th Thursday of the month, Sept. to April, at the Nova Scotia Museum of Natural History, 7:30 p.m. For more information email fieldtripcoordinator@nsbirdsociety.ca (this email address is being protected from spambots; you need JavaScript enabled in order to view it). You can also email the trip leader, or go to <http://www.nsbirdsociety.ca/>.

23 Mar. "Habitat: the forgotten need of birds in ...the forest management of NS", with speaker Donna Crossland.

25 Mar. "Baccaro/Blanche Peninsula", with leader James Hirtle, 902-693-2174, jrhbirder@hotmail.com.

Nova Scotia Department of Natural Resources: Many outings which will take place in Provincial Parks are listed in the 'Parks are for People' Programme, available at museums, parks, and tourist bureaus, and on the web at <http://parks.novascotia.ca/events>.



Nova Scotia Museum of Natural History: For more information phone 424-6099 or 424-7353, or go to <http://naturalhistory.novascotia.ca/>.

17 Dec. 9 Apr. "Here Be Dragons" celebrates human-dragon cultural connections with live animals and hands-on interactive exhibits.

Nova Scotia Wild Flora Society: Meets the fourth Monday of the month, September to May, at the Nova Scotia Museum of Natural History, 7:30 p.m. For more information email nswildflora@yahoo.ca or go to <http://www.nswildflora.ca/>.

27 Mar. "Nature's Symbiotic Symphony – It Took So Long", with speaker Norris Whiston.

Nova Scotian Institute of Science: Meets the first Monday of the month, September to April, usually at the Nova Scotia Museum of Natural History, 7:30 p.m. For more information go to <http://nsis.chebucto.org/>.

1 May "Where Have all the Swallows Gone?", with speaker Tara Imlay, Dal PhD Candidate, Location TBA.

Royal Astronomical Society of Canada (Halifax Chapter): Meets the third Friday of each month (except July and August) in Room AT101 of the Atrium Building at Saint Mary's University, 8:00 p.m. For more information go to <http://halifax.rasc.ca/>.

Young Naturalists' Club: A fun, free nature club for children seven to 12 years. Meetings take place every third Saturday of the month (excepting July and August), at the Museum of Natural History, 1747 Summer St., from 10:30 a.m. - 11:30 a.m. Field trips take place every fourth Sunday, at 1:00 p.m. For more information, phone Karen McKendry, 404-9902, or email ynchalifax@yahoo.ca, or go to <http://nature1st.net/ync>.

25 Mar. "Bluff Trail Field Trip", 1:00 pm to 4:00 p.m.

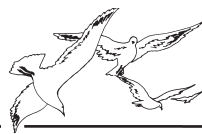
8 Apr. "Sounds of the Sea", presentation, 10:30 a.m. to 12:00 p.m., Nova Scotia Museum.

26 May - 28 May - YNC Special programme at the NNS 2017 "Celebration of Nature" weekend at Milford House.

– compiled by Patricia L. Chalmers



HALIFAX TIDE TABLE



April-avril

May-mai

June-juin

Day	Time	Metres	Feet	jour	heure	mètres	pieds	Day	Time	Metres	Feet	jour	heure	mètres	pieds	Day	Time	Metres	Feet	jour	heure	mètres	pieds
1	0537	0.1	0.3	16	0521	0.5	1.6	1	0623	0.1	0.3	16	0533	0.5	1.6	1	0045	1.6	5.2	16	0645	0.5	1.6
	1108	1.7	5.6		1121	1.6	5.2		1152	1.7	5.6		1135	1.6	5.2		0801	0.3	1.0		1235	1.7	5.6
SA	1758	0.3	1.0	SU	1728	0.7	2.3	MO	1857	0.4	1.3	TU	1758	0.8	2.6	TH	1333	1.7	5.6	FR	1924	0.7	2.3
SA	2325	1.8	5.9	DI	2325	1.7	5.6	LU				MA	2334	1.6	5.2	JE	2044	0.5	1.6	VE			
2	0639	0.2	0.7	17	0608	0.6	2.0	2	0003	1.7	5.6	17	0624	0.5	1.6	2	0148	1.5	4.9	17	0040	1.6	5.2
	1201	1.7	5.6		1202	1.6	5.2		0725	0.2	0.7		1218	1.6	5.2		0857	0.4	1.3		0736	0.5	1.6
SU	1905	0.4	1.3	MO	1827	0.8	2.6	TU	1250	1.7	5.6	WE	1858	0.8	2.6	FR	1437	1.6	5.2	SA	1325	1.7	5.6
DI				LU				MA	2002	0.5	1.6	ME				VE	2141	0.5	1.6	SA	2020	0.6	2.0
3	0017	1.8	5.9	18	0006	1.6	5.2	3	0103	1.6	5.2	18	0019	1.6	5.2	3	0259	1.5	4.9	18	0138	1.6	5.2
	0742	0.2	0.7		0700	0.6	2.0		0825	0.3	1.0		0717	0.5	1.6		0951	0.4	1.3		0829	0.5	1.6
MO	1259	1.6	5.2	TU	1249	1.5	4.9	WE	1357	1.6	5.2	TH	1308	1.6	5.2	SA	1540	1.7	5.6	SU	1421	1.7	5.6
LU	2012	0.5	1.6	MA	1929	0.8	2.6	ME	2104	0.5	1.6	JE	1955	0.8	2.6	SA	2235	0.4	1.3	DI	2117	0.5	1.6
4	0117	1.7	5.6	19	0054	1.6	5.2	4	0213	1.6	5.2	19	0111	1.6	5.2	4	0408	1.5	4.9	19	0245	1.6	5.2
	0844	0.3	1.0		0755	0.6	2.0		0924	0.3	1.0		0811	0.5	1.6		1045	0.5	1.6		0923	0.4	1.3
TU	1409	1.5	4.9	WE	1347	1.5	4.9	TH	1513	1.6	5.2	FR	1406	1.6	5.2	SU	1635	1.7	5.6	MO	1521	1.8	5.9
MA	2116	0.5	1.6	ME	2028	0.8	2.6	JE	2204	0.5	1.6	VE	2051	0.7	2.3	DI	2326	0.4	1.3	LU	2214	0.4	1.3
5	0228	1.6	5.2	20	0153	1.5	4.9	5	0332	1.5	4.9	20	0215	1.5	4.9	5	0506	1.5	4.9	20	0356	1.6	5.2
	0945	0.3	1.0		0850	0.6	2.0		1021	0.4	1.3		0904	0.5	1.6		1137	0.5	1.6		1019	0.4	1.3
WE	1533	1.6	5.2	TH	1456	1.5	4.9	FR	1620	1.7	5.6	SA	1509	1.6	5.2	MO	1722	1.7	5.6	TU	1620	1.8	5.9
ME	2218	0.5	1.6	JE	2124	0.7	2.3	VE	2300	0.4	1.3	SA	2146	0.6	2.0	LU				MA	2313	0.2	0.7
6	0350	1.6	5.2	21	0303	1.5	4.9	6	0440	1.6	5.2	21	0325	1.6	5.2	6	0013	0.3	1.0	21	0502	1.6	5.2
	1044	0.3	1.0		0944	0.5	1.6		1115	0.4	1.3		0956	0.4	1.3		0556	1.6	5.2		1118	0.4	1.3
TH	1646	1.6	5.2	FR	1603	1.6	5.2	SA	1711	1.7	5.6	SU	1606	1.7	5.6	TU	1224	0.5	1.6	WE	1718	1.9	6.2
JE	2317	0.4	1.3	VE	2218	0.6	2.0	SA	2352	0.4	1.3	DI	2241	0.4	1.3	MA	1804	1.7	5.6	ME			
7	0500	1.7	5.6	22	0411	1.6	5.2	7	0534	1.6	5.2	22	0431	1.6	5.2	7	0055	0.3	1.0	22	0010	0.1	0.3
	1140	0.3	1.0		1037	0.4	1.3		1206	0.4	1.3		1050	0.4	1.3		0641	1.6	5.2		0602	1.7	5.6
FR	1739	1.7	5.6	SA	1655	1.7	5.6	SU	1755	1.7	5.6	MO	1658	1.8	5.9	WE	1307	0.5	1.6	TH	1219	0.3	1.0
VE				SA	2311	0.5	1.6	DI				LU	2336	0.3	1.0	ME	1844	1.7	5.6	JE	1813	2.0	6.6
8	0011	0.4	1.3	23	0508	1.7	5.6	8	0039	0.3	1.0	23	0529	1.7	5.6	8	0132	0.3	1.0	23	0107	0.0	0.0
	0554	1.7	5.6		1128	0.3	1.0		0620	1.6	5.2		1143	0.3	1.0		0723	1.6	5.2		0659	1.8	5.9
SA	1232	0.3	1.0	SU	1740	1.8	5.9	MO	1253	0.4	1.3	TU	1747	1.9	6.2	TH	1344	0.5	1.6	FR	1319	0.3	1.0
SA	1823	1.8	5.9	DI				LU	1834	1.8	5.9	MA				JE	1922	1.7	5.6	VE	1908	2.1	6.9
9	0101	0.3	1.0	24	0003	0.3	1.0	9	0121	0.3	1.0	24	0031	0.1	0.3	9	0206	0.3	1.0	24	0203	-0.1	-0.3
	0641	1.7	5.6		0559	1.7	5.6		0703	1.7	5.6		0623	1.7	5.6		0804	1.7	5.6		0754	1.9	6.2
SU	1318	0.3	1.0	MO	1217	0.2	0.7	TU	1334	0.4	1.3	WE	1238	0.2	0.7	FR	1416	0.6	2.0	SA	1418	0.3	1.0
DI	1904	1.8	5.9	LU	1823	1.9	6.2	MA	1912	1.8	5.9	ME	1837	2.0	6.6	VE	1959	1.7	5.6	SA	2003	2.1	6.9
10	0145	0.3	1.0	25	0053	0.2	0.7	10	0159	0.3	1.0	25	0124	0.0	0.0	10	0239	0.3	1.0	25	0257	-0.1	-0.3
	0724	1.8	5.9		0648	1.8	5.9		0744	1.7	5.6		0716	1.8	5.9		0843	1.7	5.6		0849	1.9	6.2
MO	1359	0.3	1.0	TU	1305	0.2	0.7	WE	1410	0.5	1.6	TH	1333	0.2	0.7	SA	1447	0.6	2.0	SU	1518	0.3	1.0
LU	1942	1.8	5.9	MA	1907	2.0	6.6	ME	1949	1.8	5.9	JE	1927	2.1	6.9	SA	2037	1.8	5.9	DI	2057	2.0	6.6
11	0224	0.3	1.0	26	0144	0.0	0.0	11	0233	0.3	1.0	26	0218	-0.1	-0.3	11	0312	0.3	1.0	26	0351	0.0	0.0
	0805	1.8	5.9		0736	1.8	5.9		0825	1.7	5.6		0809	1.9	6.2		0920	1.7	5.6		0941	1.9	6.2
TU	1437	0.3	1.0	WE	1354	0.1	0.3	TH	1442	0.5	1.6	FR	1430	0.2	0.7	SU	1519	0.6	2.0	MO	1618	0.3	1.0
MA	2020	1.8	5.9	ME	1952	2.0	6.6	JE	2026	1.8	5.9	VE	2019	2.1	6.9	DI	2114	1.8	5.9	LU	2149	2.0	6.6
12	0259	0.3	1.0	27	0235	0.0	0.0	12	0304	0.3	1.0	27	0312	-0.1	-0.3	12	0347	0.3	1.0	27	0446	0.0	0.0
	0846	1.8	5.9		0825	1.8	5.9		0904	1.7	5.6		0902	1.9	6.2		0957	1.7	5.6		1032	1.9	6.2
WE	1509	0.4	1.3	TH	1445	0.1	0.3	FR	1510	0.6	2.0	SA	1529	0.2	0.7	MO	1556	0.7	2.3	TU	1719	0.4	1.3
ME	2056	1.8	5.9	JE	2040	2.0	6.6	VE	2102	1.8	5.9	SA	2111	2.0	6.6	LU	2152	1.8	5.9	MA	2240	1.9	6.2
13	0333	0.3	1.0	28	0328	-0.1	-0.3	13	0336	0.3	1.0	28	0408	-0.1	-0.3	13	0425	0.4	1.3	28	0540	0.1	0.3
	0925	1.7	5.6		0915	1.8	5.9		0941	1.7	5.6		0955	1.9	6.2		1033	1.7	5.6		1121	1.8	5.9
TH	1538	0.5	1.6	FR	1541	0.2	0.7	SA	1540	0.6	2.0	SU	1632	0.3	1.0	TU	1640	0.7	2.3	WE	1819	0.4	1.3
JE	2132	1.8	5.9	VE	2129	2.0	6.6	SA	2138	1.8	5.9	DI	2203	2.0	6.6	MA	2230	1.7	5.6	ME	2330	1.8	5.9
14	0406	0.4	1.3	29	0423	0.0	0.0	14	0410	0.4	1.3	29	0506	0.0	0.0	14	0508	0.4	1.3	29	0635	0.2	0.7
	1004	1.7	5.6		1006	1.8	5.9		1018	1.7	5.6		1047	1.8	5.9		1111	1.7	5.6		1210	1.8	5.9
FR	1606	0.6	2.0	SA	1643	0.3	1.0	SU	1616	0.7	2.3	MO	1737	0.4	1.3	WE	1731	0.7	2.3	TH	1918	0.5	1.6
VE	2209	1.8	5.9	SA	2218	1.																	



NEXT DEADLINE

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