THE HALIFAX FIELD NATURALIST

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March to May, 2014

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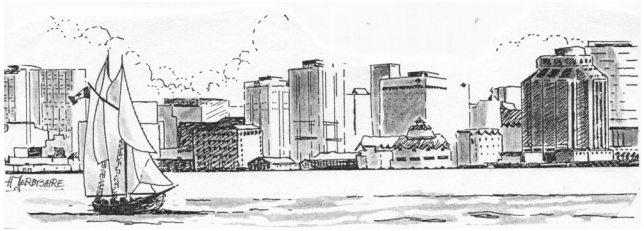
Return address: HFN, c/o NS Museum of Natural History, 1747 Summer Street, Halifax, NS, B3H 3A6

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.



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GRAPHICS All uncredited illustrations are by H. Derbyshire or from copyright-free sources. **Front Cover** - Flax at Keji, Leslet-Jane Butters; p. 7 - flying Goshawk, Twila Robar; **Back Cover** - willow tree buds, Roland Marek; **Tide Table** - Cdn. Hydrographic Service, Fisheries & Oceans Canada.

HFN NEWS AND ANNOUNCEMENTS

EDITORIAL

City snow: soot-black, frozen stumbling blocks of garbage tidbits; brown, salt-polluted mushy roads; sly, ice-slippery lumpy sidewalks; and 3:00 a.m. plough engines. Country snow: sparkling diamonds in sunshine; thickly frosted trees, hills, lakes; bright blue skies and forests' shadows; nature's noise muffler – allowing true listening, silence, thought, and deep, clean breaths.

This winter had more than recent years, truer to Canadian winters of past times, (but still not enough for those large-remembered snowforts – roomy enough for one or two and a cache of snowballs.) There *was* enough, however, for not one, but two 'Opportune Snowshoeing' field trips. See p. 11 to share the refreshing, invigorating natural beauty experienced by their fortunate participants.

ERRATA

In the last newsletter issue, Winter 2013/14, #153, a mistake was made in the first paragraph of the "Interpretive Trail Signs" article (p. 3). To whit: –

"…Some *team members* were from small, Newfoundland outports…" should have read "…Some *patients* were from small Newfoundland outports…".

ESS'S LECTURE SERIES

The next lectures of the Environment and Sustainability Society (ESS) are as follows: **On March 27, "Scientific Predictions, Social Movements and Sustainability"**, with Brad Werner of the Climate, Atmospheric Sciences and Physical Oceanography Division, University of California, San Diego. Brad is a scientist and an activist interested in direct action and resistance. "To some extent, [science is] a job, and a job I really like, and I have the good fortune and privilege to have it. In my other life, I am an activist, but there's a line. Both sides inform the other. And I think that that is healthy. But when I'm doing geophysics, I'm a geophysicist. When I'm doing activism, I'm an activist."

On April 3, "ESS Student Work Exhibition and Presentations".

These lectures begin every Thursday at 7:00 p.m. in Ondaatje Hall, 6135 University Ave., Marion McCain Arts & Social Sciences building. All are welcome, and it's free. **There is limited seating – please arrive early!**

NATURE NOTES

FEBRUARY

Clarence Stevens reported that the **Northern Lights** were in strong evidence as he drove in to the HFN meeting from New Brunswick. He said that a quarter of the northwestern sky was filled with the characteristic pulsating, greenish display. He also described a mid-January nature sighting of **a Harbour Seal** in Cape Breton using its head to break holes in the ice as it swam forward. The ice was thick enough to support a number of fishing shacks, leading to thoughts on the thickness of the seal's skull!

Stephanie Robertson reported seeing **a baby seal** recently in Point Pleasant Park. It was in the wooded area near the Shore Road across from the Anchor monument. There had been a relatively heavy snowfall the previous evening, but the seal's tracks from the shore to the woods were not evident; walkers had already trampled the snow flat on the road. While there, a number of dogs had to be leashed by their owners to keep the peace while she called Hope for Wildlife for advice. She was told that the seal's presence was not unusual during the early spring, as they frequently come ashore at that time for a week or two to fast; apparently, this fasting period is essential for their well-being. Stephanie notified Park Staff, who established a watch to protect the seal from over-exuberant dogs (and perhaps people, too).

Many commented on the **large number of Robins** evident around HRM in January. One report was of **a flock of 27**! Birders in the group assured us that this was normal, as up to 100,000 Robins over-winter in barren areas close to HRM. Near the end of winter they frequently come closer to homes and feeders as feeding conditions become more difficult in the barrens. Robins which *have* gone south for the winter usually begin their returns in the last week of March, when worms and such are beginning to become available.

A member also commented on **the large number of Song Sparrows** now evident. Once again the birders among us indicated that this, too, was in keeping with what many types of birds do at this time of year.

David Patriquin reported seeing **a Red-bellied Woodpecker,** and Janet Dalton reported **a Hairy Woodpecker** as well.

By email, from Patricia Leader, on February 25th: "I saw my **first Robin** in the third week of January. While in Newfoundland recently I asked my birding friend Bill Montevecci at MUN why Nova Scotia was finding so many **poorly-looking Snowy Owls**. He said it was the same for his province as well. Last year there were many more around too, but this winter, with the heavier snow coverage, small rodents were hard to find. Hence the birds have been starving.

On the news today (February 25th), Snowy Owls have been seen as far south as Florida. There are many around the Pearson Airport too."

NEW AND RETURNING

Lynn Arthur
Anne & Bernie Brown
Louise Goss
Candace MacDonald
Carolyn Mont
Eleanor M. Parke
Wendy Prpic
Norris Whiston

SPECIAL REPORTS

YEAR-END REPORTS

FROM THE PRESIDENT

Volunteers: HFN is about to celebrate a very special year – our 40th anniversary in 2015. I can assure you that any organisation that is this vibrant and long-running, and whose programmes are so popular, is due to the devoted volunteers within that society.

Within this society there are many volunteers who have served for many years and in various positions. We owe a great deal of thanks to these dedicated, reliable, and very capable people.

Let me tell you about them:

Clarence Stevens is our Emcee and Vice President who knows so much about nature, especially when it comes to 'birding'.

Ingrid Plache is our treasurer who keeps on top of our bill-paying and bank deposits.

Michael Bradfield is our secretary and writes up the minutes of our executive meetings in fine style, as well as those for HFN's AGMs.

Allan Robertson, our Past President, has run our AGMs for several years. He is always ready to help out in the most unexpected situations and is a long-time member of HFN. He has saved the day many times when unexpected 'glitches' have occurred.

Richard and Grace Beazley are our programme planners who oversee obtaining the speakers for each monthly meeting as well as organise the hikes for each month. This is a mammoth job! I am sure you will agree that they have done it terrifically. Just wait until next year! They get help from **Elliott Hayes**, **Burkhard Plache**, **Gillian Webster, and Rachelle Watts**.

David Patriquin is our webmaster with some help from **Burkhard**. Notices of our meetings and hikes are posted with theYoung Naturalistss of Nova Scotia as well.

Bob McDonald and Burkhard Plache represent HFN at meetings concerning conservation matters.

Lillian Risley takes care of HFN memberships and sends out important email messages from time to time.

Doug Linzey runs our membership database and keeps us supplied with Newsletter mailing labels.

Bernice Moores makes sure your Newsletter is mailed out to you, saving money with the hand-delivery of some, and with distribution at monthly meetings as well. She is one of our long-standing members who has held many executive positions.

Patricia Chalmers supplies each Newsletter with the wonderful, practical, and informative Almanac, keeping us up-to-date with seasonal phenomena to watch for, sunrise and sunset times, and other naturalist organisations' talks and field trips which we might like to attend.

Regine Maass serves up our refreshments at each meeting and puts together the best Apple Cider I have ever tasted for our Christmas Social!

Stephanie Robertson has been producing and designing the newsletter for 25 years. I know the Newsletter is a real pleasure to receive! Thank you Stephanie; words cannot express our gratitude! You deserve accolades and bouquets for all your beautiful work with the Newsletter.

There are many people who were wonderful volunteers in the past and I am thinking of many such as **Ursula Grigg**, **Doris Butters**, **Bob & Wendy McDonald** who are still active in HFN, **Doris Balch**, **Suzanne Borkowski**, **Elizabeth Keize**r, **Pat Leader** who organises and sets up the tables for the Christmas Socials, **Shirley McIntyre** who did Lillian's job and was the membership secretary, **Peter & Linda Payzant**, **Jim Wolford**, and **Peter Webster** who set up the AGM slide show for many years. There are many more who were volunteers long before my time, and who helped to create this organisation and we thank them all.

– Janet Dalton

FINANCIAL STATEMENTS, 2013

Statement of Income and Surplus (Jan 1st, 2013 to Dec 31st, 2013): Our revenues in 2013 were $2,506, most of which ($2,315) was from membership subscriptions. Those figures were slightly lower than in the year before, because some of the money was received late in 2013, but only deposited in 2014. Additionally, we received $76 interest from our GIC, $105 in donations, and $10 from sales of hasti-notes and dragonfly lists.

Our meeting expenses were room rentals, refreshments, and travel expenses for one of our speakers. We had no expenses for field trips. The newsletter production cost of $1,219 was up from the year before, in part due to the use of colour covers. We paid $353 for the distribution of the newsletters, slightly less than the year before. Bernice Moores is reducing this cost by distributing the newsletters at meetings.

Another expense, $234, was due to HFN's membership in other organisations: Nature Nova Scotia, (NNS); Recreation Nova Scotia; and the Registry of Joint Stocks. Grants and donations totaled $130, which included a donation of $100 to the Hope for Wildlife animal rehabilitation centre. Special projects were $31 for the Colin Stewart Award recipient plaque. Finally, we paid $200 for liability insurance and $72 for office supplies.

With total expenses of $2,839 against $2,506 of revenues, we had a deficit of $333 for 2013. However, with an unrestricted surplus of $9,598 at the beginning of 2013, we still have an unrestricted surplus of $9,266 for the beginning of 2014, leaving us in a sound financial state.

Financial Statement (Balance Sheet as of Dec 31st, 2013): We had $2,594 in cash (bank account) at the end of 2013, and are expecting a rebate of $130 in 2014, which is 50% of the HST paid in 2013. The accrued income of $245 is payable to NNS. Members of HFN can choose to become individual members of NNS by paying an additional $5, which is then paid at the beginning of the following year in a single transaction to NNS.

We have two GICs: One unrestricted over $6,000; and one over $6,927 which is to be used only for endangered species. We have an inventory of 144 pins, with a value of $541. Thus, our total assets as of Dec 31st, 2013 were $16,438. Our liabilities are $245, payable to NNS. The restricted part of our surplus is $6,927, and the unrestricted part of our surplus is $9,266 as of Dec. 31st, 2013.

Budget for 2014: We are expecting that both revenues and expenses will be similar to those of 2013.

– Respectfully submitted
Ingrid Plache, Treasurer

Halifax Field Naturalists
Financial Statement (Balance Sheet)
As At December 31, 2012

	2013	2012	2011
Assets			
Cash (BMO)	$2,594	$2,570	$1,872
Accrued Income	$245	$185	$195
Accounts Receivable	$130	$460	$579
Investments	$12,927	$12,544	$12,554
Inventory	$541	$568	$579
Fixed Assets	$0	$0	$0
	$16,438	$16,327	$15,768
Liabilities and Surplus			
Liabilities			
Accounts Payable:- Nature NS	$245	$185	$195
Surplus			
Restricted: Endangered Species	$6,927	$6,544	$6,544
Unrestricted	$9,266	$9,598	$9,029
	$16,438	$16,327	$15,768

Halifax Field Naturalists
Statement of Income and Surplus
Year Ended December 31, 2012

	2013 Actual	2013 Budget	2012 Actual
Revenues			
Membership	**$2,315**	$2,600	$2,600
Interest	**$76**	$0	$60
Donations	**$105**	$0	$0
Sales	**$10**	$0	$64
	$2,506	$2,600	$2,724
Expenses			
Meetings	**$598**	$400	$633
Field Trips	**$0**	$15	$0
Newsletter Production	**$1,219**	$700	$779
Newsletter Distribution	**$353**	$500	$411
Memberships in other organizations	**$234**	$300	$190
Socials	**$2**	$20	$0
Grants/Donationss	**$130**	$250	$0
Special Projects	**$31**	$15	$0
Insurance	**$200**	$200	$100
Internet Service	**$0**	$180	$30
Office Supplies & Expenses	**$72**	$20	$13
Miscellaneous	**$0**	$0	$0
	$2,839	$2,600	$2,175
Net Income	**$(333)**		$569
Surplus, beginning of year	**$9,598**		$9,029
Surplus, end of year	**$9,266**		$9,598

– Ingrid Plache, Treasurer

MEMBERSHIP

In 2013 we experienced a small inrease in membership, moving from 109 to 114. The 2013 roll of 114 memberships was made up of 56 Individual, 33 Family, 20 Supporting, and two Life. In addition we had three dues-paying institutional members (all libraries). Forty-five of our members also chose to join Nature Nova Scotia when joining or rejoining the HFN. This year the number of members who have provided us with their email addresses came in at 92, and we have been able to use this communication option to provide members with information on special events and opportunities to participate in public consultations. We have had some helpful feedback and welcome your comments at any time.

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

TOTAL MEMBERSHIPS BY YEAR

2008	2009	2010	2011	2012	2013
127	121	119	107	109	114

– Lillian Risley
Membership Secretary

PROGRAMME

During the past 12 months members of the Programme Committee organised ten presentations and 14 field trips, produced four programmes for print and for HFN's website, and recommended two programme presenters for a one-year membership in HFN.

The ten presentations were: Broken Rivers; Wetlands and Vernal Pools; Antarctica; Marine Biodiversity Conservation; Native Fern Landscaping; HRM's Urban Forest Master Plan; Florida Birding; Important Bird Areas in N.S.; McNab's Island; and Members' Photos. These presentations drew audiences that totalled 300 to 350 people annually.

Field trips, which varied by season, location, and focus, included: Birch Cove Lakes (with the N.S. Chapter of the Canadian Parks and Wilderness Society); two-day Waterfalling in Cumberland County; Flemming Park Tree Scavenger Hunt; Prospect Bay's Silver Garden; Meander River Biota Survey (with the N.S. Nature Trust); Camp Hill Cemetery Urban Ecology; Point Pleasant Park – Ten years Post-Hurricane Juan; Bayer's Lake Whopper Drop Trail Flora (with the N.S. Wild Flora Society); Cheverie's Wetland Restoration; N.S. Museum of Natural History's Science on a Sphere; Sewer Stroll (with N.S. Bird Society); Opportune Snowshoeing at Shubie Park and at Uniacke Museum Estate Park; and Spring Garden Road's Rock Garden. These field trips drew 285 participants, of which 155 (55%) were HFN members.

We initiated the HFN Members' Book Club. Six book readers met in members' homes in November and January to discuss Rachel Carson's The Sea Around Us and Aldo Leopold's A Sand County Almanac.

As Programme Committee Co-Chairs, Grace and I thank Sharon Berkinshaw, Elliott Hayes, Burkhard Plache, and Gillian Webster who worked so well with us on the Programme Committee. We thank Stephanie Robertson, HFN's Newsletter editor, for designing and doing the final edit on the printed programmes; David Patriquin, HFN's webmaster, for putting the programmes and field trip photos on the website; and Gillian Webster for handling public service announcements. Also, we thank those who worked with the committee as sources of programme ideas; talk presenters and reporters; field trip contact persons, leaders, and reporters; field experts re birds, conservation, flora, and rocks; programme distributors; staff members at the NSMNH; and auditorium set-up people. Without such widespread volunteer help, there would not be the quantity and quality of HFN talks and walks we expect. Finally, we thank HFN members, and members of the public, for attending programme events; after all, what is the point of an event without participants?

– Richard and Grace Beazley
Co-Chairs, Programme Committee

NEWSLETTER

Last year, once again, there were four issues of The Halifax Field Naturalist – from March 2013 (#150) to February 2014 (#153) – one at each of the two equinoxes and solstices. They contained 64 pages of natural history articles, reports, species lists, pictures, nature notes, 12 HFN talks, and 12 HFN field trip write-ups. A big thank you to everyone who takes time to write and to contribute these, hereby adding to Nova Scotia's natural history records and observations.

A few newsletter highlights of last year were: –

Our Spring Issue (#150), had an interesting list of all our past HFN Presidents, and a wonderful tribute to Doris Butters – a staunch, willing, and always cheerful lifelong naturalist and HFN member whom we still miss. Also included was an important report on the sad state of salamanders and their habitats by salamander conservationist Matt Ellerbeck, ending with a website containing tips on how to help.

The Summer Issue included not only the wonderful announcement of Sable Island being declared a 'national park', but also Elizabeth May's devastating revelation that even within that designation, oil and gas development will still be allowed, as well as more drilling and seismic exploratory activites!

Our Fall Issue's Special Report was from the Sackville River Association, documenting all their hard work in keeping that river clean and open for any migrating salmon and also the young salmon they themselves introduce. On Thursday, May 1st, 2014, our monthly presentation will be "Saving the Sackville River", to be followed on Saturday, May 24th by a related field trip to the river itself.

In our Winter Issue, Pat Leader revealed all the hard background work it takes for her to produce the attractive and informative interpretive signs for our trails and parks, and Gareth Harding shared an endearing tale about a surprising sandpiper evasive tactic which he witnessed– 'swimming' out to sea and even diving under the water, to escape a large, rambunctious dog!

My sincere thanks go to Patricia Chalmers for her continuing to compile the all-important Almanac with its timely poems and quotes, valuable seasonal natural phenomena, and useful lists of other naturalist societies' events. For much appreciated proofing, I thank Allan Robertson, Bernice Moores, Patricia Chalmers, Bob McDonald, and other HFNers who have helped from time to time. We hope the contents continue to be a practical and interesting resource for our readers.

– Stephanie Robertson
Editor, The Halifax Field Naturalist

COLIN STEWART CONSERVATION AWARD (CSCA)

We did not receive any nominations this past year. We will make a special effort to elicit nominations for candidates who would be especially suitable for HFN's 40th Anniversary year, (2015).

Please see the Colin Stewart Conservation Award page on our website for details about the award and a nomination form. Go to **http://halifaxfieldnaturlaists.ca**, then to **Conservation**, then **Colin StewartConservation Award**.

We could use two more members on the committee; we are now down to two!

– David Patriquin and Doug Linzey, CSCA Committee

GOSHAWK OVER MORAR ANTIGONISH CO.

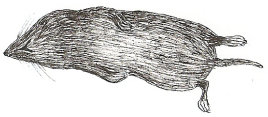
– Gareth Harding & Renée Lyons

I was given a new book about Goshawks (Jameson, C.M. 2013, **Looking for the Goshawk**, Bloomsbury, NY,) by my partner and pal Renée for my last birthday (July, 2013). It is a sort of ramble-y, journalistic affair describing the author's search for a resurgent Goshawk population in Britain following its extinction in the late 19th century by overzealous gamekeepers. The author did an exhaustive search of all possible records and took his enthusiasm to Europe, Japan, and North America. The last time I myself had seen a Goshawk was by the dam at Williams Lake, Halifax, in late summer some 15 years ago. I had a good long look at it as it showed no urgency to leave.

Well, on August 16th, Renée and I were doing our regular morning, before-breakfast,warbler walk at our Northumberland Strait property. It started off with the unusual presence of a fidgety, busy, blue-grey Gnatcatcher in an apple tree. In the woods section of the trail Ren was talking up a storm about some research idea she had on how to prevent multiple ailments in the ever-increasing population of seniors. I was hoping she would come to a conclusion shortly so I could concentrate my attention on the numerous species of warblers present at this time of year. Magnolias, Parulas, Redstarts, Blue-greens, Black and whites, Yellow, Maryland yellow throats, Mourning Warblers, and Ovenbirds are common within five minutes of our farmhouse. I believe we are blessed with this diversity by the proximity to the sea, the linearity of the coastline (a migration funnel), and the variety of second growth on long-deserted farmland. (In 2012 we had Blackburnian Warblers nesting in a row of heavily holly-infested White Spruce by our kitchen window).

But back to the Goshawk. Suddenly, a large hawk did an arcing soar overhead, just above mature but wind-stunted (sixty-foot) Paper Birches. This brought Renée's scientific discussions to an abrupt end and we proceeded silently along the trail with binoculars drawn. A Crow was making a ruckus up ahead in a clearing which overlooked the steep cliff to the Strait. Renée spotted a hawk sitting on the top of a dead spruce tree and pointed to it with an almost inaudible whisper. It was unmistakably a young Goshawk, with the telltale pale stripe above its eye. The Crow was making sure, from a safe distance, that every living thing around knew that something dangerous was near (the Crows themselves are quite blasé about our own comings and goings).

The next day we were hiking along Horseshoe Bend Brook Beach, below our bluff, when I noticed a line of dark downy feathers adhering to the wet sand along the most recent, high-tide mark. Following this trail upwind, the line of feathers veered towards the cliff and ended at a collection of Crow flight feathers. The only bird around capable of capturing a Crow was that Goshawk which we came across the day before. I suspected it was one of Marie MacIsaac's crows (a neighbour who feeds a small group throughout the winter); a young-of-the-year that was obliviously feeding on the beach.



A WEE DEATH IN MORAR.

– Gareth Harding

Jacque Jr., our next door neighbour's black lab mix (see The Halifax Field Naturalist, Winter 2013/14, Issue #153. p. 3) and I were completing our walkabout at Morar on the first week of December when I noticed a small grey mouse curled up in a mossy bed at the centre of the trail running up to Taxman's Mound. It looked like it was fast asleep but in fact it was dead. Upon closer inspection, the mouse turned out to be a Short-tailed Shrew! But, the snout was more robust and pinker than most species that I've seen locally. Its fur was an immaculate, thick, glossy grey with no external signs of injury, and its body was plump and healthy looking.

I remember seeing a couple of dead shrews last fall in Fredericton after a rainy November windstorm. The previous Wednesday in Morar had been just such a day. Fresh windfalls yet again were scattered across my trails. Adrian Forsyth states in his **Mammals of North America** book that this species of Shrew is reported to be able to live for a maximum of two years. Is it possible that this 'old fellow' was done in by the previous week's torrential rain, followed by a dusting of snow? Maybe its burrow and subterranean nest had been flooded? It certainly died in a most comfortable looking position.

But, it *had* exposed itself needlessly to all sorts of predators by choosing to curl up on a mossy cart track. Forsyth states that this species has an odour that is particularly distasteful to its potential avian and mammalian predators; nevertheless, owls are not particularly deterred by smelly Ermine or Skunks. I suspect it was just another senior shrew that could not survive another nest flood followed by a sudden cold snap.

HFN TALKS

MCNAB'S ISLAND 6 FEB.

– Janet Dalton

"McNab's Island; A Gem in Halifax Harbour". Carolyn Mont of the Friends of McNab's Island began her presentation by describing the three islands at the mouth of Halifax Harbour. The smallest island is Devil's Island, and is privately owned. Lawlor Island is a Provincial Park which is designated only for wild life and is not open to the public. McNab's Island is now under the care of Parks Canada, but Fort McNab and the Searchlight Emplacement area are still part of the Department of National Defence.

McNab's Island is five kilometers long and nearly one and one half kilometers wide. It can be reached by private ferry sponsored by the Friends of McNab's Island.

Today, McNab's Island looks much like it did when European settlers arrived hundreds of years ago, but most of the open farm fields and settlements have reverted back to nature. First Nations people used the island for fishing and hunting; in fact, shell middens have been found there which date back 5,000 years! The island also was used by French and Portuguese fishermen in the 16th century.

By 1750, Governor Cornwallis granted McNab's Island o three of his nephews, Henry, James, and William Cornwallis, but they never lived there. Finally, in 1773, the Cornwallis family offered the island for sale. A merchant, Joshua Meagher, bought land on McNab's Island (then called Cornwallis Island), and so we have "Meagher's Beach". Also, Benjamin and William Ives farmed and had a fish establishment at the north end of the island, and that is why the fort nearby was called Fort Ives.

From 1750 to the end of WWII, parts of the island were used on and off by the military. There are two main Forts – Fort Ives, and Fort McNab. Also of interest is Sherbrooke Tower, located near today's lighthouse and built in 1828. It was constructed in the form of a Martello Tower, with eight-ft walls; but Mother Nature played havoc with it until, in 1940, it was destroyed in a storm; allof its debris has now disappeared.

By 1782 the Island was owned by Peter McNab.and it stayed in that family for three generations. Peter III sold land to his daughters and their husbands, so new family names appeared in the ownership, such as Hugonin, Lyttleton, and Cassels. The McNab stone house was purchased by Frederick Perrin in 1885 and he introduced many exotic species of plants, trees, and shrubs. One of his exotic trees still exists today, but is in poor condition – a Copper Beech. Some of the 'escaped' flowers still can be seen today, such as Tawny Lilly, Day Lily, Lupine, and Bugle. Lilacs, Weigelas, and apple and cherry trees may also be seen now growing wild from the fine Perrin gardens.

Mysteriously, the Perrin house burned down in 1940, and the stones from it were used in the building of 'the Teahouse'. There are two lighthouses on McNab's, and one of them was managed by Mathew Lynch; his family built two houses which are still standing.

The third house was owned by the Davis-Conrad family. These more modern houses are not accessible to the public due to dangerous deterioration and mould. In 2003 Hurricane Juan did much damage to the island, but this helped to lessen its effects on the mainland.

McNab's Island is a good place for beachcombing, bird watching, and hiking, and there are lists of its birds, plants, and animals in the booklet, Discover McNab's Island, which is sold by the Friends of McNab's Island Society.

Here are five facts that you may not know about McNab's Island: as an experiment, kerosene was first used, instead of whale oil, in the McNab's searchlights at the turn of the century; Peter McNab III's daughter, Susan Ann McNab, was married to Joseph Howe; it is a myth that McNab's Island has an abundance of snakes; according to Thomas Raddall, in his book **Hangman's Beach**, McNab's cemetery is the best-guarded cemetery in the country, because it is located inside Fort McNab; and, in the 1920's, there was a steam driven Merry-Go-Round at Findley's Grounds which was a favourite of children and adults alike.

MEMBERS' PHOTO NIGHT 6 MAR.

– Stephanie Robertson

After our 2014 Annual General Meeting, our March presentation got underway at about 8:15 p.m.

First, our MC for this particular evening, Richard Beazley, thanked Peter Webster for organising our annual Members' Photo night for the past five years. As he spoke, one of his own beautiful images was on the screen – a lone magnificent American Elm in the middle of a large field in the Stewiacke Valley.

Shirley McIntyre showed the first group of photos, taken on a ten-day 2009 trip to the Avalon Peninsula in Newfoundland; she and a friend stayed in her brother's cabin in the Conception Bay area. They also visited the Botanical Garden in St. John's, which was initiated by Bernard Jackson.

Shirley found the Newfoundland flora particularly abundant. We saw a close-up of some very vigorous looking Indian Pipes. At Cape St. Mary, at an ecological bird reserve, they saw thousands of Northern Gannets on the rocks. Going round the 'Irish Loop' they visited and snapped pictures at the archaeological dig known as Ferryland, one of the earliest European settlements in North America.

Random Passage in Bonavista was one of the earliest fishing stations and has been maintained as an historical village, with its weatherbeaten, grey shacks and houses, some with very mossy and grassy roofs! Shirley had taken some wonderful pictures of nesting Puffins at Elliston; they seemed not to be bothered by her presence and we saw good shots of many nest openings in the grassy turf with adult Puffins hanging around outside. Shirley also had taken pictures of some of the over 100 root cellars which had been dug into the hillsides.

There was a humourous shot of a large horse with its head right inside a car window; this was taken in an area of community pasturelands.

Shirley's images began to look like the beautifully eerie ones used in the Newfoundland and Labrador TV advertisements when we were shown wonderful shots of rocks with immense holes in them eroded by time, with all the colouful grasses around. They also visited a very modern light-

keeper's house – large, well-maintained, and comfortable looking. There were also very interesting images of houses built right into the rocks at Signal Hill.

Richard had allowed ten minutes per presenter, and since Shirley had 'bested' that time, many questions were able to be asked about her trip afterwards.

Keith Vaughan was next. His introductory shot was a beauty – a field of perfect daisies which filled the whole frame. Late one Spring, Keith had walked Cabin Lake Trail and made a list of plants seen, but he had taken no pictures. Bob McDonald wanted to have some pictures of the plants there, so Keith went back through his trove of photographs, found some, and sent them off to Bob. But, there were holes in this pictorial data. So, Keith went back to 'fill them in'; he showed us some of those 'fill-ins', plus three older images he had scanned from older slides.

Beautiful shots of masses of Hawkweed; a Hawkweed close-up with a bee; yellow St. John's Wort; white, wild Sarsaparilla; and a single white water-lily shown against a background of its flat, floating green leaves opened Keith's presentation. In one shot, a dragonfly had happened to alight just at the right time. We saw Heal-all; Sheep Laurel (a beautiful close-up of a cluster of its purple-pink bloooms); a single pink wild Rose, *Rosa nitida,* with another bee; a Deptford Pink; and a Calopogon Grass Pink. There was a lovely Leatherleaf Flower taken at Long Lake, and Indian Pear blossoms, most likely, Keith said, taken at Smiley's Provincial Park. Keith finished with a gorgeous closeup of Bearberry's leathery leaves (this plant is similar to Teaberry).

David Patriquin showed pictures he had taken for his **Ecological Assessment of the Plant Communities of the Williams Lake Backlands**, a biota and area study co-authored with Nick Hill. He opened with a Google-Earth shot of the area in which it was easy to see the colours of the predominant plants in that fire-prone area – the reds of the huckelberries and the greens of the conifers. This region has interesting glacial features. We saw one of the 'boulder fields' – sterile areas where there is no plant life, not even lichen. Another google Map was shown with superimposed symbols of past events in the area (fires included). David and Nick had discovered, during their forays and investigations, that the area has five distinct plant communities. We were shown four shots of the post-fire woodlands, and eight of the beautiful mixed oak and birch forest areas.

Because developers have been claiming that fires in the area have only been occurring since European settlement, Nick took earth cores to ascertain whether this might be true; he found that the charcoal layers of old fires went back 1,200 years!

The plant species which can withstand this steady round of recurring fires are quite rare. The water drains extremely quickly in these backlands, especially from the tops of the hills, so the area and its plants always tend to be dry. Tinder builds up over time, and every 40 - 50 years, a fire will occur. If these fires are suppressed, the natural tinder just increases and makes the next fire even worse.

Burkhard Plache showed pictures from an April, 2013 trip he and Ingrid had taken to the Mediterranean island of Majorca – apparently another very dry place! This island is mostly agricultural, with very little wild plant life left anywhere. There have been heavily-used farming settlements there for 2,000 years, and in the mountainous, drier areas, where they stayed, there were mostly olive groves. However, they did come upon *some* interesting natural flora – wild pink gladioli, wild garlic, wild cyclamen, and a jack-in-the-pulpit type of plant.

All the mountainous areas we were shown were extremely dry looking, but the valleys boasted evergreens, oaks, and pines in their agricultural lands. Property boundaries were for the most part defined by dry rock walls. The many sheep and goats eat everything in sight, which contributes to the suppression of any natural flora – all, that is, except wild rosemary, of which we saw a beautiful picture, very thick and lush and laden with purple flowers. Other wild plants they found were a little purple wildflower, a yellow arum, sedums, and very dense clumps of yellow flowers they couldn't link to any plant they knew. Someone suggested gorse, but it was pointed out that they were too low. There was also a photo of a spurge – there are 20 species there.

The farmsteads in the mountains were very scenic, and there was an ancient remains of an old Roman (or Moorish) aqueduct. There was little in the way of forests, as the wood is burned to make charcoal or quicklime.

There was a beautiful white flower shown which resembled Summer Snowflake, and also some magnificent large pines. Burkhard finished his presentation with a lovely picture of asphodels.

Lesley-Jane Butters was the last up. Lesley-Jane loves to get out hiking and observing, even in wintertime. She is happiest being out in nature, especially around her cottage in Keji, and with her simple, little pocket-sized Sony (with macro capability), she managed to take some unbelievably beautiful and artistic photographs. She has obviously developed a very keen eye for marvellous nature shots. After an introductory background of her outdoor activities, she then sat down to enjoy her 98-image 'slide-show' along with the rest of us.

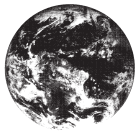
The flower close-ups were stunnning – the colours, the lighting, the angles. Strikingly taken butterflies – an Azure(?), a Canadian Tiger Swallowtail, amongst others, and a very 'furry' moth in pale ice cream hues of cream, pink and green danced acroos the screen. There were many fantastical shapes of bubbles in clear ice, and shots of gas vents in clear river ice produced by methane welling up from the muddy bottom (and also short a video of same with hissing and bubbling). An endearing truly 'close' close-up of a Red-eyed Vireo(?), and three baby Robins in their nest with mouths agape were two of the wonderful bird shots. Rainbows, caterpillars, wierd and wonderful driftwood shapes, lovely riverscapes, turtles, unbelievable spiders on webs, dragonflies – the range was all-encompassing.

It was, simply, breathtaking – we all sat in awed silence as the pictures flitted by on the screen. They managed to capture all the beauty that occurs around us everyday, if only we take time to stop and really 'look'. Some images, the way Lesley 'saw' and took them, became beautiful, abstract art. To view them all, go to HFN's website, click on 'Photos', and then 'Lesley-Jane's Nature Close-Up', beside the shot of a brilliant yellow starfish-shape anomaly on old, weathered timber (one of the images in her presentation).

HFN FIELD TRIPS

SCIENCE ON A SPHERE

– Gillian Webster



Date: Wednesday, January 8th
Place: Nova Scotia Museum of Natural History
Weather: Indoor!
Leader: A Museum interpretive guide
Participants: 11

Eleven HFN members gathered at 6:00 p.m. inside the Museum for a the 90 minute presentation 'Science on a Sphere'. Science on a Sphere is a system that projects geographic/environmental data onto a spherical globe screen. There are hundreds of data sets available that cover land forms, oceans, space, atmosphere, etc. This groundbreaking technology was developed by the National Oceanic and Atmospheric Administration (NOAA) in the U.S. and more data sets are being created on an on-going basis.

Our Museum features its first permanent installation in Canada. Data sets can be expensive, so not all sets are collected. When we visited, the museum had just received a set on the 'polar vortex' – unfortunately, it had not yet been uploaded, so we didn't get to see it. Polar vortex is a term for a high altitude low-pressure system hovering over the Arctic in winter, spinning in place above the North Pole much like a bowl. Over the last few weeks of December, 2013, it pushed frigid air down into Canada and the U.S., giving us some very extreme temperatures.

An NSMNH interpretive guide gave us two well-facilitated presentations which incorporated question and discussion periods. It's hard to describe their formats – it reminded me of what a 3D slide show might look like. Regularly presented to groups of school children, it's definitely an exciting way to learn science. The first one focussed on geology – volcanoes, earthquakes, tsunamis, melting ice caps, and plate tectonics – all those major events that cause sudden and significant changes to the landscape. We learned what causes these events, where they occur in the world, and their history. For example, we were shown changes over time that have taken place with last summer's melting of the Artic ice cap, in addition to changes in the Antarctic glacial shelves. We looked at a future scenario for a world-wide, six-metre rise in sea level; this was an extremely unlikely scenario we were told, but the impact of seeing these inundated coastal areas lit up in red was alarming!

The fifth report of the Intergovernmental Panel on Climate Change, released in 2013, indicates that a one-metre rise by the end of this century is possible, providing there are no changes to carbon emissions. Curbs on current consumption would produce perhaps half as much as is being produced now – e.g. up to half a metre less. Satellite altimetry suggests that sea-level rise will have significant local variability. But a full one-metre rise would threaten the survival of coastal cities and even entire island nations.

The second presentation depicted the creation and movement of some major tropical storms and hurricanes, and why some move towards Nova Scotia. Hurricane season in North America is Jun. 1st – Nov. 30th. We saw how Hurricane Katrina gathered strength and how it moved with great speed towards New Orleans in 2005. We saw the track of Hurricane Igor which blasted across much of Newfoundland. Igor originated from a broad area of low pressure which moved off the west coast of Africa on September 6th, 2010, built up in strength over a four-day period, and grew to a Force Four Hurricane that lasted four days. Tidal surges and flooding due to hurricanes and tropical storms may increase in intensity and size in the future.

We briefly discussed the effects of the melting trends in Greenland from 1980 to 2006. There were some years with only ten 'melting days', and other years with as many as 60 melting days! We also talked about the 'greening' of the Arctic, which is expected (by 2050) to produce a widespread, dense cover of green there during July and August!

ANNUAL SEWER STROLL

– Dennis Hippern

Date: Saturday, January 11th
Place: East side of Halifax Harbour
Weather: Cloudy, with drizzle and fog
Leader: Dennis Hippern
Participants: ± 40

Despite the unfavourable weather forecast, intrepid birders gathered at McCormack's Beach in Eastern Passage at 9:00 a.m. for a Sewer Stroll sponsored by HFN and the Nova Scotia Bird Society. After scanning McCormack's Beach, we proceeded south along the edge of Halifax Harbour to Hartlen Point, stopping at a look-off along the way.

From there, we retraced our route, stopping at the Shearwater sewage outfall before checking out Dartmouth Cove and Sullivan's Pond, by which time it had started to drizzle. We tried one more stop at Tuft's Cove, where we ended the trip at about 1:30 p.m. because of rainy, foggy conditions and poor visibility. I felt fortunate that we had accomplished even that much of the trip. We would have visited the Bedford and Halifax waterfronts, Point Pleasant Park, and Herring Cove had the weather allowed. Such are the hazards of winter birding in Nova Scotia!

However, we saw some great birds, and from the verbal and email comments I received it was obvious that the eager participants were well satisfied with the stroll. Some of the highlight birds at particular sites were: **McCormack's Beach** – Bald Eagle (immature), Black Guillemot, Glaucous Gulls, Iceland Gulls, and White-crowned Sparrow; **Look-Off** – Black, Surf, and White-winged Scoters; **Hartlen's Point** – Bald Eagle (adult), Barrow's Goldeneye, Horned Lark, Rough-legged Hawk, and Snowy Owl; **Sullivan's Pond** – Black-headed, Glaucous, and two immature Lesser Black-backed Gulls, Cardinal, and Eurasian Wigeon.

Other birds seen were American Tree Sparrow, American Wigeon, Black Duck, Blue Jay, Bufflehead, Canada Goose, Chickadee, Common Eider, Common Goldeneye, Crow, Greater and Lesser Scaup, Greater Black-backed Gull, Herring Gull, House Sparrow, Mallard, Pock Pigeon, Raven, Red-breasted Merganser, Ring-billed Gull, Ring-necked Pheasant, Robin, Song Sparrow, and Starling.

Thanks are due to the more experienced birders who shared their knowledge with us. Several new birders told me how much they appreciated this information sharing.

My thanks to all who participated.

HFN BOOK CLUB

– Brian Bartlett

A growing North American cultural phenomenon of the 21st century has been book-discussion groups – gatherings of people who meet in cafés, restaurants, libraries, each other's homes, or other venues to share their thoughts and feelings about books. Some of these groups are open to any genre of writing, but it's also easy to find assembled readers focused on, for instance, novels, or autobiographies and biographies. In the past few months the Halifax Field Naturalists' Book Club, a new local group dedicated to nature writing, met for the first two times. We've decided to meet in each other's homes, rotating the venue from meeting to meeting, and to get together five or six times a year.

November 20th Our first meeting concentrated on the second of Rachel Carson's four major books, The Sea Around Us – a choice appropriate for a book-club in a coastal city. Upon its publication in 1951 this book quickly became a rare thing; a volume of scientific writing that achieves bestseller status in the general public, not merely for a specialised readership. The durability and classic nature of Carson's book were evident even in our discovery that every one of the six HFN members at the inaugural Book Club meeting had brought along a different edition. In fourteen chapters, such as "The Gray Beginnings," "The Sunless Sea," "The Birth of an Island," and "The Global Thermostat," Carson covers a wide range of topics, far too many for a two-hour discussion to encompass. We shared our enthusiasm both for its trove of eye-opening information about oceans and for the clarity and eloquence of its writing. We were also struck by Carson's prophetic mind; decades before depletion of the oceans became a topic known to elementary-school children, Carson wrote, "It is a curious situation that the sea, from which life first arose, should now be threatened by the activities of one form of that life" (for the identity of that "one form", look in the mirror).

January 15th Our book for discussion at this second meeting was one published just two years before Carson's – Aldo Leopold's A Sand County Almanac (1949). Leopold's book, compiled in large part from pieces earlier published in magazines as early as 1932, was edited and published after he'd died tragically while fighting a forest fire. Since its first appearance, A Sand County Almanac has sold over two million copies, has been translated into at least a dozen languages, and has earned the badge "the environmentalist's Bible". One aspect of it we discussed was how the lyrical, descriptive writing of the introductory January-December 'almanac' part of the book gives way to the disturbed, politically sharp, ecologically explicit other two sections. With phrases such as *land ethic, community concept, land pyramid, thinking like a mountain,* and *biotic right*, Leopold invented an environmentalists' set of terms that remains as helpful in 2014 as it was in 1949. As was the case in discussing Carson's book, we were impressed and sobered by how clearly Leopold saw into the future, into conditions with which we now struggle.

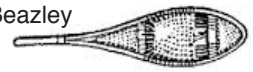
Turning our attention to Canadian writing, the next meeting of the Halifax Field Naturalists' Book Club will discuss Nova Scotian Harry Thurston's most personal book of prose, A Place Between the Tides: A Naturalist's Reflections on the Salt Marsh.

For places and times, contact **gillian.webster@eastlink.ca** or **burkhardplache@gmail.com**.

OPPORTUNE SNOWSHOEING

– Lesley-Jane Butters & Richard Beazley

Dates: Sat., January 25th; Sat., February 8th
Places: Shubie Park; Uniacke Estate Museum Park
Weather: Partly sunny sky, cold northwest wind; a sunny blue sky, -4°C, near-perfect snow
Leaders: Peter Webster; Richard Beazley
Participants: Four; eight



Shubie Park, maintained by Halifax Regional Municipality, lies between the Waverley Road and Highway #118 (east to west) and between Lakes Charles and Micmac (north to south) in Dartmouth. This 40-acre urban park was once part of a larger estate called 'Countryview'. It contains several wooded trails, some of which follow the Historic Shubenacadie Canal, and one which extends along the west side of Lake Charles. Of these beautiful multi-use trails, the less travelled ones offer snowshoeing and cross-country skiing opportunities.

Saturday, January 25th, was a perfect morning to strap on snow shoes and head out for a few hours of relaxation in the winter beauty at Shubie Park. We set off along the Lake Charles Trail and before long we began to enjoy the feel of our snowshoes grabbing the newly fallen snow. The mid-morning light was magical, and we appreciated the peacefulness of being there with so few people. At first we noticed the constant hum of highway traffic, but soon it was replaced by the quietude around us.

We walked, talked, and observed. "Ah, could those be Red Squirrel or Snowshoe Hare tracks"? Later we were able to distinguish between them. The many Hare tracks were bunched close together, while the Squirrel tracks were two side-by-side prints. With all the Hare tracks, Peter wondered aloud about Bobcats in the park. We noticed Black-capped Chickadees in trees close to the trail. Pat Leader had a few roasted almonds in her pack, so I suggested she crunch them with her teeth and hold them out in her hand. Sure enough, the birds came and ate from her palm. We were thrilled to see the flurry of activity.

We felt the cold wind in the open areas along the lake, but mostly we were sheltered by the park's ample forest, where it was like being in the tropics! (Well, almost.) A few 'serious' cross-country skiers flew past us, seemingly annoyed with our presence, but we shrugged them off and continued to enjoy the beauty of Mother Nature at her best.

Uniacke Estate Museum Park, part of Nova Scotia's museum and park network, is in a nearly-500-feet-above-sea-level snow-belt between Halifax and Windsor, thus it often has recreational quality snow when the Halifax metro area does not. This 930-hectare park, part of the former estate of Richard John Uniacke (1753-1830), is located in Mount Uniacke along the west side of Trunk #1. It has seven marked trails, all of which are very good for snowshoeing and a few of which are adequate for cross-country skiing.

At 10:20 a.m. on a spectacularly beautiful morning, six eager snowshoers began their trek along the 5.8 km Old Post Road-Barrens Trail Loop. The sparkling 12-cm-deep fresh snow on top of an excellent base of older snow, a clear blue sky, a light breeze, and a beckoning Acadian Forest of leafless deciduous trees and dark green coniferous trees inspired our start and kept us invigorated till we arrived back at the parking lot just over three hours later. Along the way, two more snowshoers joined us, wanting to be part of a group going along the more remote Barrens

Trail. We saw two Red Squirrels, one Hare path, and a few Deer tracks, and we met a half-dozen or more cross-country skiers on the Old Post Road.

We took the time to look around, take photographs, view the snow-frosted forest, and enjoy delicious chocolates. We shared facts and stories about trees, wetlands, and outdoor winter activities. We stood quietly and enjoyed the sound of wind moving through the treetops and the near silent beauty of the forest in winter. Only occasionally we were aware of the sound of overhead air traffic.

All in all, a wonderfully relaxing outing!

WALKING THE 'ROCK GARDEN'

– Brian Ferguson

Date: Sunday, February 23rd
Place: Spring Garden Road, Halifax
Weather: A breezy, sunny, spring-like day
Leaders: Geologist Howard Donohoe
Participants: 21

Our group of participants for this trip showed up at the main entrance to the Public Gardens to meet Dr. Howard Donohoe, a Professor of Geology at St. Mary's University and a transplanted American who has been here since 1974. He was to be our guide on the fascinating subject of rocks and their uses as building blocks and their relationship to the geological history of the Earth.

Basically there are three types of rocks in this region – igneous, metamorphic, and sedimentary.

Igneous rocks form deep beneath the Earth approximately 200 kilometres down. They start off in a molten state (magma) and then cool slowly over millions and millions of years as they are gradually pushed up from the very hot earth's core to the surface, crystalising to produce hard rocks such as granite. This migration is due to the shifting of the immense continents against each other over millions of years; this causes tremendous stresses and pressures which force the liquid magma upwards and it slowly cools.

These igneous rocks, now at the surface of the Earth, are subject over very long periods of time to weathering and erosion which wears them down into sand and clay. These sands and clays build up into kilometres-deep layers, forming sedimentary rocks of varying hardnesses.

Other rocks are more organic in origin such as limestone. Found on the surface, limestone is formed from very thick kilometres-thick layers of dead seashells from ancient seas and oceans. Using a magnifying lens, Dr. Donohoe showed us the remnants of shells in the limestone used on some of the buildings such as The Lord Nelson Hotel.

He then showed us two basic tools for examining rock. One was the hand lens, already mentioned, and then a small knife used to scrape rock to test its hardness. For example, granite is very hard so the knife leaves no impression, whereas limestone is softer and is easlily scratched.

The older buildings along Spring Garden Road, beginning with The Lord Nelson Hotel, had building material brought in from various quarries from both in and out of province. For example, granite for the hotel's foundation was brought in by ship from a quarry in Guysborough County in the early 1920s.

When the igneous rocks are slowly rising to the Earth's surface, they cool and crystalise at different rates with different minerals mixed within. This creates various forms and different colours which adds to the decor of the older buildings on the street. There are examples of red granite on some of the facades of the buildings; this was brought in from St. George, New Brunswick. Other minerals mixed in include feldspar which is made up of calcium, potassium, sodium, and iron. The iron oxidises, creating a rich, reddish hue on the granite.

Marble, which is a metamorphic rock, is highly polished and durable. It was used as flooring in the lobby at The Lord Nelson. Metamorphic rocks are sedimentary rocks that have been changed by intense heat and pressures into different, usually harder rocks. Marble is limestone that has been changed in this way.

Sedimentary sandstone is formed mostly from silica and calcium carbonate. An example can be seen as part of the foundation next to the stairs leading up to the lobby of the Hotel. It carried signs of erosion; sandstone is easy to work with because it is softer but therefore it is more vulnerable to wear and weathering.

Mudstone is a form of shale – a soft, sedimentary, clay rock found near the surface of riverbeds. It can be seen at 5670 Spring Garden Road. Here, the inside is enhanced with decorative marble; outside – mudstone polished to a fine sheen appearing as mottled brown in the bright sunlight.

On a building near the corner of Spring Garden and Queen Street we could see a granite foundation with limestone further up showing signs of erosion. This granite came from Dalhousie's rock quarries on the west side of the Norhwest Arm.

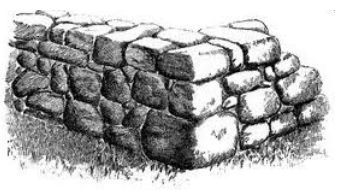
The BMO building at the same intersection has a facade of olive-coloured sandstone brought from Wallace, Nova Scotia. The stairway and main entrance are framed by syenite, a red-colored igneous rock similar to granite with no quartz within it. Dr. Donahoe scratched it hard with his knife but could not make a mark; it is a very hard and uncommon type of rock.

Other examples of buildings nearby include the old Halifax Library with its limestone facade. Across the street, the Courthouse, built in the 1860's, is a combintion of granite and red sandstone. The old part of the Courthouse is decorated with sandstone carvings. Weathering occurs here just above the granite base due to water and salt erosion in a process called exfoliation.

Down at the corner of Spring Garden and Barrington Street stands St. Mary's Basilica, which has the highest granite spire in the world; a few years ago, the granite blocks were reinforced with cement and steel bars to prevent them from coming loose!

Nowadays, for most buildings, concrete is the main building material. Limestone is the principal ingredient in making cement and it is part of the process in forming concrete. A by-product of this process, CO_2 emissions, are a major cause of atmospheric pollution.

Many thanks go to Dr. Donohoe for his informative lecture tour. He imparted so much information it was hard to keep up! The readers of this brief description may at least have some idea of the materials which make up the buildings on Spring Garden Road and will look at that street now with renewed interest.



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.

"Snow in April is abominable", said Anne. "Like a slap in the face when you expected a kiss".
– Lucy Maude Montgomery, in Anne of Ingleside (1939)

NATURAL EVENTS

9 Mar. Daylight Saving Time begins at 2:00 AST: turn clocks ahead one hour.
16 Mar. Full Moon rises at 19:37 ADT.
20 Mar. Vernal Equinox at 16:57 GMT: Spring begins in the Northern hemisphere.
15 Apr. Total Lunar Eclipse, from 4:06 a.m. to 5:25 a.m.
15 Apr. Full Moon. Moonrise at 20:37 ADT.
16 Apr. The daily minimum temperature at Shearwater is above 0°C.
22 Apr. Earth Day.
10 May North American Migration Count Day.
14 May Full Moon. Moonrise at 20:34 ADT.
28 May The date of last spring frost in Halifax; Env. Can. says there is only a 1:10 chance that a spring frost will occur after this date; look forward to 155 frost-free days.
8 Jun. World Oceans Day.
13 Jun. Full Moon. Moonrise at 21:23 ADT.
14 Jun. -16 Jun. The earliest mornings of the year: Sunrise at 5:28 ADT.
21 Jun. Summer Solstice at 10:51 GMT. Summer begins in the Northern hemisphere. The longest day of the year, with 15 hours and 34 minutes of daylight at Halifax.
23 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 2014 Calendar; United States Naval Observatory Data Services.

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

1	**Mar.**	6:52	18:02	**5**	**Apr.**	6:48	19:47
8	**Mar.**	6:40	18:11	**12**	**Apr.**	6:36	19:56
15	**Mar.**	7:27	19:20	**19**	**Apr.**	6:24	20:04
22	**Mar.**	7:14	19:29	**26**	**Apr.**	6:12	20:13
29	**Mar.**	7:01	19:38				
3	**May**	6:02	20:22	**7**	**Jun.**	5:30	20:57
10	**May**	5:52	20:30	**14**	**Jun.**	5:28	21:01
17	**May**	5:44	20:38	**21**	**Jun.**	5:29	21:03
24	**May**	5:38	20:45	**28**	**Jun.**	5:31	21:04
31	**May**	5:33	20:52				

ORGANISATIONAL EVENTS

Blomidon Naturalists Society: Indoor meetings are held on the 3rd Monday of the month, in Room BAC241 of the Beveridge Arts Centre of Acadia University, Wolfville, at 7:30 p.m. Field trips usually depart from the Wolfville Waterfront, Front Street, Wolfville. For more information, go to **http://www.blomidonnaturalists.ca/**.

5 Apr. "Amethyst Cove Rockhounding and Photography", with leaders Chris Sheppard and Don Crowell.
12 Apr. "Herbert River Canoe Trip", with leader Patrick Kelly, 472-2322, **patrick.kelly@dal.ca**.
19 Apr. Clean Across Nova Scotia", a joint event with the Friends of The Kentville Ravine Society.
21 Apr. "The Evolution of Birding Culture; Examples from N.S. and Elsewhere", with speaker Ian McLaren, Dalhousie University.
11 May "Cape Split Hike"; leaders Jim Wolford & Patrick Kelly, 472-2322, **patrick.kelly@dal.ca**; a joint trip with HFN.
18 May "Pond Life in Blomidon Prov. Park", with leader Jim Wolford, 542-9204, **jimwolford@eastlink.ca**.
19 May "Old-growth Forest Remnants in the Maritimes", with speaker Jamie Simpson, author of Journeys Through Old Forests: A Narrative Guide to Eastern Old-Growth Forests.
14 Jun. "Herbert River Trail", with leader Patrick Kelly, 472-2322, **patrick.kelly@dal.ca**.

Burke-Gaffney Observatory: Public shows at the Burke-Gaffney Observatory at Saint Mary's University are held on the 1st and 3rd Saturday of each month, except from June through September when they are held every Saturday. Tours begin at 7:00 p.m. between November 1st and March 30th, and at either 9:00 p.m. or 10:00 p.m. (depending on when it gets dark) between April 1st and October 31st. For more information, 496-8257; or go to **http://www.smu.ca/academic/science/ap/**.

Friends of McNab's Island Contact Faye Power, 443-1749, or go to **http://www.mcnabsisland.ca/**.

Nature Nova Scotia For more information, go to **http://www.naturens.ca/**.

30 May -1 Jun. "Nature Nova Scotia Annual Meeting", at Gaelic College, St. Anne's, **www.gaeliccollege.edu**.

Nova Scotia Bird Society: Indoor meetings usually take place on the 4th Thursday of the month, September to April, at the N.S. Museum of Natural History, 7:30 p.m. For more information, Chris Pepper, 829-3478, **cpepper@ymail.com**, **or** email the trip leader, **or** go to **nsbirdsociety.ca**.

27 Mar. "Landbirds at Risk in Forested Landscapes of Nova Scotia", with speaker Cindy Staicer, Dalhousie University.

29 Mar. **Storm date: Mar. 30** "Baccaro/Blanche Peninsula, Shelburne Co.", with leader James Hirtle, 530-2101, **jrhbirder@hotmail.com**.

30 Mar. "Rainbow Haven Beach"; leaders Chris Pepper, 483-6693; Kate Steele, 476-2883, **katefsteele@gmail.com**.

12 Apr. "Martinique Beach" with leader Ian McLaren, 429-7024, **iamclar@dal.ca**.

19 Apr. "New Birders Walk, W. Chezzetcook"; Chris Pepper, 483-6693, Kate Steele, 476-2883, **katefsteele@gmail.com**.

24 Apr. "Allied Cats", with speaker Mark Butler, Policy Director with The Ecology Action Centre.

3 May "Amherst Point Bird Sanctuary" with leader Kathleen Spicer, 392-2815, **kbspicer902@gmail.com**.

11 May "Walk for Wildlife, Jerry Lawrence Provincial Park"; leader Kate Steele, 476-2883, **katefsteele@gmail.com**.

16 May -19 May "Bon Portage Island", with leader Claire Diggins, 825-6152, **claire_diggins@hotmail.com**. **Pre-registration is necessary!**

17 May "Bird Walk, Middle Musquodoboit", with leader Verna Higgins, 384-2286, **vjhiggins@xplornet.com**.

17 May "Birding in Kings County Forest", with leader Rick Whitman, 542-2917, **rick.whitman@ns.sympatico.ca**.

19 May "Historic Hants County", with leader Suzanne Borkowski, 488-0345, **suzanneborkowski@yahoo.ca**.

31 May "Bird Walk - Middle Musqudoboit", with leader Verna Higgins, 384-2286, **vjhiggins@xplornet.com**.

14 Jun. "Herbert River Trail, Hants County", with leader Patrick Kelly, 472-2322, 494-3294, **patrick.kelly@dal.ca**.

6-8 Jun. "Annual NSBS Out-of-town Meeting", in the Amherst/Tantramar Region. **This replaces the May meeting**.

15 Jun. "New Birder's Walk, Windsor"; with leader Patrick Kelly, 494-3294, 472-2322, **patrick.kelly@dal.ca**. **Pre-registration is required!**

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://www.novascotiaparks.ca/**.

Nova Scotia Museum of Natural History: For more information, 424-6099, 424-7353; **http://museum.gov.ns.ca/mnhnew/**.

to 19 May Bugs Outside the Box"; ten-foot-tall beetles, giant butterflies with five-foot wingspans, and more!

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, Heather Drope, 423-7032; or go to **http://www.nswildflora.ca/**.

24 Mar. "Karst Rare Plant Communities", with speaker Sean Basquill, Department of Natural Resources.

19 Apr. or 26 Apr. "Field trip to Avon Peninsula"

end Apr. **TBA**. "Field trip to Antigonish area Sugar Maple woods"

28 Apr. AGM & "Rare plants of LaHave River, Pollets Cove, and Blair River", with speaker Sean Blaney

25 May "Field trip – Canadian Wildlife Federation Walk for Wildlife, Wentworth"

26 May "Evening Outdoor Meeting and Walk; Piggy Mountain"

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

18 Mar. "Norse/Native Contacts in North America"; speaker Dr. Patricia Sutherland, 11:30 a.m.-12:30 p.m., Rm 242, Life Sciences Centre, Dalhousie University.

7 Apr. "Dark Energy in the Cosmos", with speaker Dr. Rob Thacker, Saint Mary's.

Royal Astronomical Society of Canada (Halifax Chapter): Meets the third Friday of each month in Room L176 of the Loyola Academic 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 - 11:30 a.m. Field trips take place every fourth Sunday, at 1:00 p.m. For more information, Karen McKendry, 404-9902, **ynchalifax@yahoo.ca**; or, go to **http://nature1st.net/ync**.

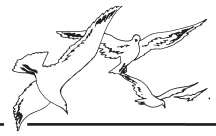
23 Mar. **Field Trip**; "Animal tracks and Traces".

19 Apr. **Meeting**; 10:30 a.m -12:00 p.m., Museum of Natural History.

27 Apr. **Field Trip**; "Pledge to Fledge".

– compiled by Patricia L. Chalmers

HALIFAX TIDE TABLE



April-avril

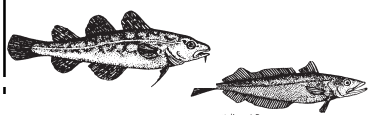
Day	Time	Feet	Metres	jour	heure	pieds	mètres
1	0607	**0.7**	0.2	**16**	0604	**2.0**	0.6
	1134	**5.6**	1.7		1157	**5.2**	1.6
MO	1829	**1.6**	0.5	TU	1827	**2.6**	0.8
LU	2348	**5.9**	1.8	MA			
2	0709	**0.7**	0.2	**17**	0003	**5.2**	1.6
	1229	**5.2**	1.6		0653	**2.0**	0.6
TU	1937	**1.6**	0.5	WE	1244	**4.9**	1.5
MA				ME	1926	**2.6**	0.8
3	0044	**5.6**	1.7	**18**	0051	**4.9**	1.5
	0812	**1.0**	0.3		0744	**2.0**	0.6
WE	1333	**4.9**	1.5	TH	1341	**4.9**	1.5
ME	2042	**1.6**	0.5	JE	2023	**2.6**	0.8
4	0151	**5.2**	1.6	**19**	0148	**4.9**	1.5
	0913	**1.0**	0.3		0837	**2.0**	0.6
TH	1451	**4.9**	1.5	FR	1449	**4.9**	1.5
JE	2145	**1.6**	0.5	VE	2117	**2.6**	0.8
5	0311	**5.2**	1.6	**20**	0256	**4.9**	1.5
	1013	**1.0**	0.3		0929	**2.0**	0.6
FR	1611	**5.2**	1.6	SA	1553	**5.2**	1.6
VE	2246	**1.3**	0.4	SA	2209	**2.3**	0.7
6	0428	**5.6**	1.7	**21**	0403	**4.9**	1.5
	1111	**1.0**	0.3		1020	**1.6**	0.5
SA	1711	**5.6**	1.7	SU	1644	**5.2**	1.6
SA	2344	**1.3**	0.4	DI	2259	**1.6**	0.5
7	0530	**5.6**	1.7	**22**	0459	**5.2**	1.6
	1206	**1.0**	0.3		1110	**1.3**	0.4
SU	1759	**5.9**	1.8	MO	1727	**5.6**	1.7
DI				LU	2349	**1.3**	0.4
8	0037	**1.0**	0.3	**23**	0549	**5.2**	1.6
	0621	**5.9**	1.8		1158	**1.0**	0.3
MO	1256	**1.0**	0.3	TU	1807	**5.9**	1.8
LU	1843	**5.9**	1.8	MA			
9	0125	**0.7**	0.2	**24**	0038	**0.7**	0.2
	0707	**5.9**	1.8		0635	**5.6**	1.7
TU	1342	**1.0**	0.3	WE	1245	**1.0**	0.3
MA	1924	**6.2**	1.9	ME	1849	**6.2**	1.9
10	0209	**0.7**	0.2	**25**	0126	**0.3**	0.1
	0751	**5.9**	1.8		0721	**5.6**	1.7
WE	1424	**1.0**	0.3	TH	1333	**0.7**	0.2
ME	2004	**6.2**	1.9	JE	1932	**6.6**	2.0
11	0250	**0.7**	0.2	**26**	0215	**0.0**	0.0
	0833	**5.9**	1.8		0807	**5.9**	1.8
TH	1502	**1.3**	0.4	FR	1422	**0.7**	0.2
JE	2043	**5.9**	1.8	VE	2017	**6.6**	2.0
12	0328	**0.7**	0.2	**27**	0305	**0.0**	0.0
	0915	**5.6**	1.7		0855	**5.9**	1.8
FR	1537	**1.6**	0.5	SA	1514	**0.7**	0.2
VE	2121	**5.9**	1.8	SA	2105	**6.6**	2.0
13	0404	**1.0**	0.3	**28**	0357	**0.0**	0.0
	0955	**5.6**	1.7		0944	**5.9**	1.8
SA	1610	**2.0**	0.6	SU	1612	**1.0**	0.3
SA	2200	**5.9**	1.8	DI	2154	**6.2**	1.9
14	0440	**1.3**	0.4	**29**	0454	**0.0**	0.0
	1035	**5.6**	1.7		1035	**5.9**	1.8
SU	1646	**2.3**	0.7	MO	1716	**1.3**	0.4
DI	2239	**5.6**	1.7	LU	2244	**6.2**	1.9
15	0520	**1.6**	0.5	**30**	0553	**0.3**	0.1
	1115	**5.2**	1.6		1127	**5.6**	1.7
MO	1732	**2.3**	0.7	TU	1824	**1.6**	0.5
LU	2320	**5.6**	1.7	MA	2337	**5.9**	1.8

May-mai

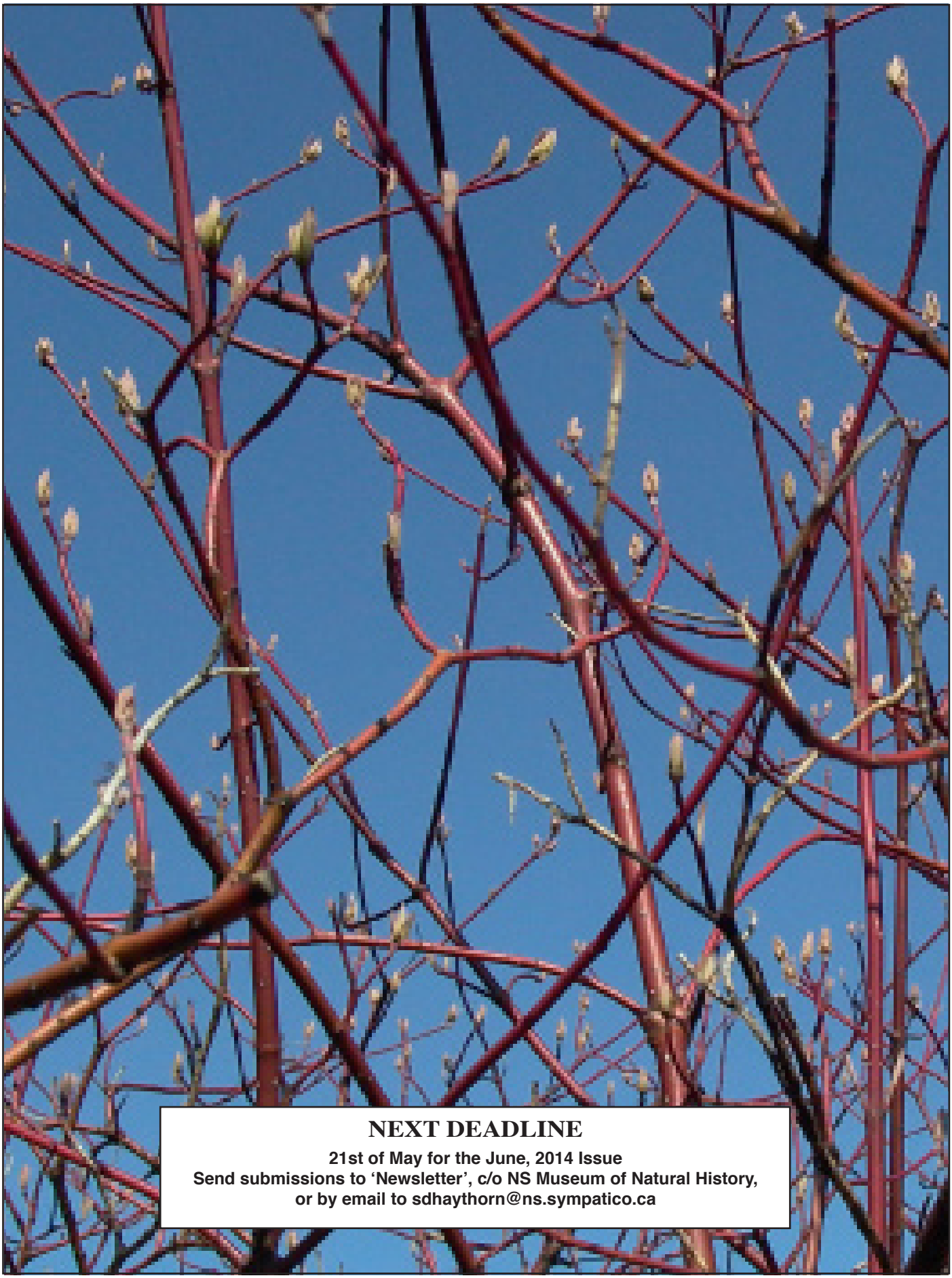
Day	Time	Feet	Metres	jour	heure	pieds	mètres
1	0655	**0.7**	0.2	**16**	0609	**2.0**	0.6
	1223	**5.6**	1.7		1212	**5.2**	1.6
WE	1930	**1.6**	0.5	TH	1847	**2.6**	0.8
ME				JE			
2	0034	**5.6**	1.7	**17**	0013	**5.2**	1.6
	0755	**1.0**	0.3		0659	**2.0**	0.6
TH	1325	**5.2**	1.6	FR	1259	**5.2**	1.6
JE	2034	**1.6**	0.5	VE	1943	**2.6**	0.8
3	0140	**5.2**	1.6	**18**	0103	**4.9**	1.5
	0855	**1.0**	0.3		0750	**2.0**	0.6
FR	1435	**5.2**	1.6	SA	1354	**5.2**	1.6
VE	2135	**1.6**	0.5	SA	2038	**2.3**	0.7
4	0256	**5.2**	1.6	**19**	0203	**4.9**	1.5
	0953	**1.0**	0.3		0842	**1.6**	0.5
SA	1546	**5.6**	1.7	SU	1452	**5.2**	1.6
SA	2233	**1.3**	0.4	DI	2132	**2.0**	0.6
5	0411	**5.2**	1.6	**20**	0311	**4.9**	1.5
	1049	**1.3**	0.4		0934	**1.6**	0.5
SU	1644	**5.6**	1.7	MO	1548	**5.6**	1.7
DI	2328	**1.0**	0.3	LU	2225	**1.6**	0.5
6	0512	**5.2**	1.6	**21**	0417	**4.9**	1.5
	1143	**1.3**	0.4		1027	**1.6**	0.5
MO	1732	**5.9**	1.8	TU	1639	**5.9**	1.8
LU				MA	2318	**1.0**	0.3
7	0019	**1.0**	0.3	**22**	0515	**5.2**	1.6
	0602	**5.6**	1.7		1121	**1.3**	0.4
TU	1234	**1.3**	0.4	WE	1727	**6.2**	1.9
MA	1815	**5.9**	1.8	ME			
8	0105	**0.7**	0.2	**23**	0011	**0.7**	0.2
	0648	**5.6**	1.7		0607	**5.2**	1.6
WE	1320	**1.3**	0.4	TH	1215	**1.0**	0.3
ME	1856	**5.9**	1.8	JE	1815	**6.2**	1.9
9	0147	**0.7**	0.2	**24**	0104	**0.0**	0.0
	0732	**5.6**	1.7		0658	**5.6**	1.7
TH	1402	**1.3**	0.4	FR	1309	**1.0**	0.3
JE	1935	**5.9**	1.8	VE	1905	**6.6**	2.0
10	0225	**0.7**	0.2	**25**	0156	**0.0**	0.0
	0814	**5.6**	1.7		0749	**5.9**	1.8
FR	1439	**1.6**	0.5	SA	1405	**1.0**	0.3
VE	2014	**5.9**	1.8	SA	1956	**6.6**	2.0
11	0300	**0.7**	0.2	**26**	0249	**−0.3**	−0.1
	0855	**5.6**	1.7		0840	**5.9**	1.8
SA	1511	**2.0**	0.6	SU	1502	**1.0**	0.3
SA	2053	**5.9**	1.8	DI	2048	**6.6**	2.0
12	0334	**1.0**	0.3	**27**	0343	**−0.3**	−0.1
	0934	**5.6**	1.7		0933	**5.9**	1.8
SU	1543	**2.0**	0.6	MO	1603	**1.0**	0.3
DI	2132	**5.9**	1.8	LU	2140	**6.6**	2.0
13	0407	**1.3**	0.4	**28**	0439	**0.0**	0.0
	1012	**5.6**	1.7		1025	**5.9**	1.8
MO	1617	**2.3**	0.7	TU	1707	**1.3**	0.4
LU	2211	**5.6**	1.7	MA	2233	**6.2**	1.9
14	0443	**1.3**	0.4	**29**	0536	**0.3**	0.1
	1051	**5.6**	1.7		1117	**5.9**	1.8
TU	1659	**2.6**	0.8	WE	1813	**1.3**	0.4
MA	2250	**5.6**	1.7	ME	2326	**5.9**	1.8
15	0523	**1.6**	0.5	**30**	0635	**0.7**	0.2
	1130	**5.2**	1.6		1210	**5.9**	1.8
WE	1751	**2.6**	0.8	TH	1916	**1.3**	0.4
ME	2330	**5.2**	1.6	JE			
				31	0022	**5.6**	1.7
					0733	**0.7**	0.2
				FR	1306	**5.6**	1.7
				VE	2017	**1.3**	0.4

June-juin

Day	Time	Feet	Metres	jour	heure	pieds	mètres
1	0122	**5.2**	1.6	**16**	0028	**5.2**	1.6
	0831	**1.0**	0.3		0710	**1.6**	0.5
SA	1406	**5.6**	1.7	SU	1307	**5.6**	1.7
SA	2116	**1.3**	0.4	DI	2001	**2.0**	0.6
2	0230	**4.9**	1.5	**17**	0121	**4.9**	1.5
	0927	**1.3**	0.4		0802	**1.6**	0.5
SU	1509	**5.6**	1.7	MO	1357	**5.6**	1.7
DI	2212	**1.3**	0.4	LU	2056	**1.6**	0.5
3	0342	**4.9**	1.5	**18**	0224	**4.9**	1.5
	1023	**1.3**	0.4		0856	**1.6**	0.5
MO	1609	**5.6**	1.7	TU	1454	**5.6**	1.7
LU	2305	**1.0**	0.3	MA	2153	**1.3**	0.4
4	0446	**4.9**	1.5	**19**	0333	**4.9**	1.5
	1118	**1.6**	0.5		0953	**1.6**	0.5
TU	1700	**5.6**	1.7	WE	1554	**5.9**	1.8
MA	2356	**1.0**	0.3	ME	2250	**1.0**	0.3
5	0541	**5.2**	1.6	**20**	0441	**5.2**	1.6
	1210	**1.6**	0.5		1052	**1.6**	0.5
WE	1747	**5.6**	1.7	TH	1652	**6.2**	1.9
ME				JE	2347	**0.7**	0.2
6	0042	**1.0**	0.3	**21**	0541	**5.2**	1.6
	0629	**5.2**	1.6		1152	**1.3**	0.4
TH	1258	**1.6**	0.5	FR	1749	**6.6**	2.0
JE	1830	**5.6**	1.7	VE			
7	0124	**0.7**	0.2	**22**	0044	**0.0**	0.0
	0713	**5.2**	1.6		0638	**5.6**	1.7
FR	1339	**1.6**	0.5	SA	1252	**1.0**	0.3
VE	1911	**5.6**	1.7	SA	1845	**6.6**	2.0
8	0201	**0.7**	0.2	**23**	0139	**0.0**	0.0
	0756	**5.6**	1.7		0733	**5.9**	1.8
SA	1415	**2.0**	0.6	SU	1352	**1.0**	0.3
SA	1951	**5.6**	1.7	DI	1940	**6.9**	2.1
9	0236	**1.0**	0.3	**24**	0233	**−0.3**	−0.1
	0836	**5.6**	1.7		0827	**6.2**	1.9
SU	1447	**2.0**	0.6	MO	1451	**1.0**	0.3
DI	2030	**5.9**	1.8	LU	2034	**6.6**	2.0
10	0309	**1.0**	0.3	**25**	0326	**−0.3**	−0.1
	0914	**5.6**	1.7		0920	**6.2**	1.9
MO	1518	**2.0**	0.6	TU	1551	**1.0**	0.3
LU	2109	**5.9**	1.8	MA	2128	**6.6**	2.0
11	0341	**1.0**	0.3	**26**	0420	**0.0**	0.0
	0950	**5.6**	1.7		1011	**6.2**	1.9
TU	1551	**2.3**	0.7	WE	1652	**1.0**	0.3
MA	2147	**5.6**	1.7	ME	2220	**6.2**	1.9
12	0415	**1.3**	0.4	**27**	0515	**0.3**	0.1
	1027	**5.6**	1.7		1100	**6.2**	1.9
WE	1631	**2.3**	0.7	TH	1754	**1.3**	0.4
ME	2225	**5.6**	1.7	JE	2311	**5.9**	1.8
13	0452	**1.3**	0.4	**28**	0610	**0.7**	0.2
	1103	**5.6**	1.7		1149	**6.2**	1.9
TH	1718	**2.3**	0.7	FR	1854	**1.3**	0.4
JE	2302	**5.6**	1.7	VE			
14	0534	**1.6**	0.5	**29**	0002	**5.6**	1.7
	1141	**5.6**	1.7		0706	**1.0**	0.3
FR	1811	**2.3**	0.7	SA	1238	**5.9**	1.8
VE	2342	**5.2**	1.6	SA	1952	**1.3**	0.4
15	0620	**1.6**	0.5	**30**	0056	**5.2**	1.6
	1222	**5.6**	1.7		0802	**1.3**	0.4
SA	1906	**2.3**	0.7	SU	1330	**5.6**	1.7
SA				DI	2049	**1.3**	0.4



ALL TIMES ARE AST



NEXT DEADLINE

21st of May for the June, 2014 Issue
Send submissions to 'Newsletter', c/o NS Museum of Natural History,
or by email to sdhaythorn@ns.sympatico.ca