

THE HALIFAX FIELD NATURALIST



No. 161

December, 2015 to February, 2016



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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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Programme	Vacant

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NNS Rep.

YNC Rep.

PSAs

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Gillian Webster	453-9244
David Patriquin	423-5716
Doug Linzey	582-7176
David Patriquin	423-5716

FEES

2015	
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** - Bob McDonald; **p. 10** - Black-necked Crane, White-bellied Heron, Ibisbill, J. L. Moores; **Back Cover** - Richard Beazley; **Tide Table** - Canadian Hydrographic Service, Fisheries & Oceans Canada.

HFN NEWS AND ANNOUNCEMENTS

HFN BOOK CLUB



The HFN Book Club met on Wednesday, November 18th, and decided on a new book title for its next meeting, which will be held on February 10th. It will be Canadian author Soren Bondrup-Nielsen's book, A Sound like Water Dripping: In Search of the Boreal Owl, published by Gaspereau Press in 2009.

40TH ANNIVERSARY



Following, please find some participants' remarks about our October 1st's 40th Anniversary event at the Ashburn Golf Club:

From Kathy (Brawn) Aldous, third President of HFN who has recently rejoined – "Congratulations on a very interesting and well-organised evening! It was an additional pleasure for me to reconnect with Debra Burleson, and also Kathy Bethune, Anne Linton Green's sister."

Gillian Webster – "Thank you for a lovely evening – it was a great way to celebrate the fortieth! It went very smoothly, thanks to both your efforts ...". "The refreshments were appreciated – especially the punch! And what a great setting in which to present the Colin Stewart award."

Reneé Lyons – "Last night was terrific. Congrats on an excellent event!"

Bernice Moores – "Congratulations on planning and seeing through a very happy 40th for HFN. It was a 'Class Act' indeed and will be long remembered."

Mike and Suellen Bradfield – "Well done, Grace and Richard. Last night was a great wind-up to an amazing celebration of 40 years! All of the activities have been terrific and you put a lot of thought and work into it. Carefully planned and well executed!"

Judy Keating – "I had a lovely time last night. Kudos to you and the team!"

Debra Burleson – "Thank you so much for including me in the event last night, i.e., cutting the cake. I think it is the first time I've ever looked out and seen so many people I don't know finding value and attachment in something birthed so long ago." (Debra was one of the seven 'subscribers' to HFN's Memorandum of Association. She has recently rejoined.)

Janet Dalton – "Thank you... for such a wonderful evening on the 1st."

Elliott Hayes – "... produced an evening which really raised the profile of HFN and honoured the work which has been done through many years."

40TH ANNIVERSARY DOOR PRIZE WINNERS

HFN member Dr. Peter Wells had donated as door prizes four copies of The Sea's Voice: An Anthology of Atlantic Canadian Nature Writing. Published in 2005, it was edited by none other than our esteemed speaker for the evening, Dr. Harry Thurston. No longer in print, it was therefore indeed even more valuable.

Attendees had been instructed to look for a piece of

blue ribbon tied to the back rung of their chairs (four random chairs had this ribbon). But, *five* people came to the lectern with blue ribbons, (one of them with a very short piece). Luckily, Harry's wife Cathy was able to come to the MC's rescue with a fifth copy. The winners were: new HFN member Ron Arsenault; HFN's long-time Newsletter Editor Stephanie Robertson; Cathy Bethune (sister of Anne Linton Greene, one of HFN's Past Presidents who attended the opening of the HFN Members' Art Exhibit last June); and HFN members Peter Webster and Richard Hatch.



SOMETHING TO THINK ABOUT

Someone has said that membership in any association is made up of four kinds of bones. There are 'wishbones' who spend all their time wishing someone else would do the work. Then there are the 'jawbones' who do all the talking but very little else. Next come the 'knucklebones' who knock everything anyone else tries to do.

Finally, there are the 'backbones' who get under the load and do all the work.

Which one of these are you?

HFN'S FACEBOOK



From member Judith Davies – "A big thank you to all those folks who have taken the time to post pictures, information, and notices on the HFN Facebook site! It is always interesting to see the many varieties of plants, insects, birds, and animals that others are discovering, and to learn when and where to look for them. The comments and discussions are very informative and the pictures are a wonderful way to learn the names of some 'new-to-me' species. I also appreciate reminders of upcoming HFN events. As a new member, with lots to learn, it is all very helpful! Please keep the postings coming!"

ALMANAC

HFN's Almanac will return sometime in the future.



NEW & RETURNING



Returning - Gisele d'Entremont

New - Lara Gibson

New - Nancy Guildford

Returning - Robert Moore

Returning - Jean and Matt Salisbury

SPECIAL ARTICLES/REPORTS

MORAR NATURE NOTES

– Gareth Harding and Renée Lyons

AN AVERTED TRAGEDY

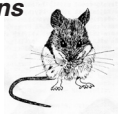
July 6th, 2015 and it was a mild and sunny summer morning at Morar*, with the Robins and Swainson's Thrushes in full throat. A high altitude haze had reduced the sun's warmth, which the local CBC had attributed to the forest fires raging north of the prairies. While I was washing the breakfast dishes Renée commented that the dogs – our Millie and neighbouring dog Jacques Jr. – were showing an unusual interest in the heat vents on our woodstove. I got a flashlight and peered into the exit vents. Sure enough, a newspaper-nest was built at the furthest extremity (fortunately, the need for the regular early morning fire had passed). I got a long stick with a hook at the end, and used it to pull nest material out until I also got a tiny, wriggly, baby mouse. It had a velvety grey sheen all over its all but naked body. I quickly put the little tyke back into the vent and continued washing the dishes. Shortly after, a mother Deer Mouse came into full view, fussed over the nest material on the floor, then climbed up the stove front and into the vent. She returned immediately with a baby mouse, crossed the floor, and disappeared into our wood box, repeating this five times. I called Renée to watch the braveness of such a tiny mother while all this was happening.

After all the babies were safely transferred, reality struck – Renée expressed concern that the litter was now in our kitchen wood-box! Reasoning that it was impossible to keep Deer Mice out of a drafty old farmhouse, I concluded that the Deer Mice were year-round residents whereas we ourselves were the visitors, and, I was happy to have avoided the catastrophe that would have occurred if we had required a little heat on a cool damp summer morning. (My father had instilled the belief into us kids at an early age that we should never harm any living creature needlessly.)

EAGLES SOARING OVER MORAR

September 6th, 2015 – There are two species of eagles known to occur along the east coast. The Golden Eagle is truly rare here, whereas the Bald Eagle is commonly seen soaring over water bodies and river valleys and sitting at the top of trees throughout Nova Scotia. A couple of years ago in mid-summer I spotted an immature Golden Eagle sitting on a large basaltic outcrop along the waterfront near Morar Brook. Golden Eagles are known to have bred locally in Cape Breton, according to the authors of some field guides. The following is an account of our encounters with Bald Eagles.

Renée, Millie, Jacques Jr. and I headed down to the beach mid afternoon early this past September to stretch our legs. After clambering down our scree and emerging onto the beach, we startled two Eagles from further down and high up the bank. To our surprise, one of the Eagles clumsily proceeded to pursue and dive bomb the other. Eagles, being large birds, have a hard slog keeping airborne when the wind is light, which it was on



this particular day. The pursuit continued well out to sea and then back along the bluff over our heads, in a large oval circuit. The beleaguered Eagle turned upside down on several occasions and extended its talons skyward in apparent exasperation. The pursuing Eagle, however, veered upwards thereby avoiding any contact.

We were anxious for the safety of our juicy little Jack Russell Millie, while simultaneously being mesmerised by the air-show. I made sure I was close to Millie when the big Black Lab Jacques Jr. and Renée were not. However, after several circuits the eagles flew east-northeast towards Livingstone Cove and then disappeared around Fox Point. We relaxed and ambled down the beach towards the mouth of Horseshoe Bend Brook where we spotted another white head against the dark spruce bank in front of us. I walked straight towards the third Eagle in the hopes of scaring it off. Perhaps she was a belle and had quietly watched an air-show specially orchestrated for her benefit? At any rate, she acknowledged my approach with the slightest movement of her head, but was not going to move. Not wanting to keep a constant vigil over Millie I picked up a perfectly rounded beach boulder and threw it with force at a large, smoothly-rounded glacial erratic. The resounding 'bonk' made the noble bird somewhat uncomfortable as it moved its head from side to side but not enough for it to spend the energy required to become airborne on such a calm day. However, a second 'bonk' succeeded in ruining a previously peaceful day for the bird. It caused the reluctant Eagle to launch itself from the top of its spruce and heavily flap itself back up to altitude before also disappearing around Fox Point.

Eagles on a windy day are the most graceful of birds. They frequent the bluffs along Northumberland Strait and use the updraft to soar effortlessly along the coast. During the early spring and late fall, I often sense a passing shadow but by the time I locate the source it is well on its way up or down the coast. They are usually silent, but in the spring I'm sometimes notified of the presence of a pair or a threesome by the high pitch "kik-kik-kik" call, seemingly inappropriate for such a fierce predator. There is a pair of local Ravens that hurry Eagles past our farm through mock aerial combat, but other than that the Eagles are sovereigns of the skies. Over my 35 years of puttering at Morar, I have observed the Eagle population recover from being an occasional visitor to an abundant predator along our coast. (The North American ban on DDT and other organochlorine chemicals for agricultural and industrial use in the 1960s has rescued our top avian predators from oblivion). Eagles do not nest anywhere near Morar, preferring the inlets along St. Georges Bay, but there is occasionally a solitary Eagle summering along our coast.

I find that the best way to be a successful observer is to stay inconspicuously in one location for an extended period of time. You can tramp through the woods all day long and conclude that the woods are practically devoid of animal life, but if you sit quietly on a stump you will

be rewarded, as the smaller denizens slowly judge you harmless and resume their daily life. (Mind you, you can also be eaten alive at certain seasons – grin). I was awakened this fall to just how impressive the Eagle migration is along the Strait through hours, days, and weeks spent meticulously reroofing my multi-century barn. A continuous procession of Eagles, presumably from Cape Breton, soared southwest from the Cape, first appearing as mere specs, solitary and in pairs, slowly soaring overhead and finally disappearing towards Malignant Cove, (pronounced ‘Maligant’ by the locals). If in the fall you drive up the dirt road to Dunmaglass* and visit the lobster processing plant’s dump in Lismore, you will encounter hundreds of Eagles delaying their migration south. However, some Eagles stay all winter and direct their attention to the clearcuts inland where they are probably catching novice Snowshoe Hares, Squirrels, Ermine, and/or Ruffed Grouse (known locally as “paatridge”).

*The place names along the Northumberland Strait were taken from locations in the western highlands of Scotland where the first European settlers of this section of coast originated. ‘Morar’ is a transposed word derived from the gaelic ‘ard mor’, meaning ‘great height’. It is quite appropriate given that it is a bit of a puff coming up from the shore to our farmhouse; Cape George is known as the mini Cabot Trail. ‘Dunmaglass’, also Gaelic, translates to ‘field beyond the hill’, which is accurate to the present day.



CHINESE PANDA STATUS

– Patricia Leader

This fall, HFN members Dorothy Turner and Patricia Leader travelled to China with a small SCANS (Senior College of Nova Scotia) group led by their teacher Chinese/Canadian Mai Wang. The class had been learning about Chinese culture and went to experience it first hand.

In the [China News](#) of November 6th, 2015, I read an interesting article which I would like to share with HFN members.

Under its director Zhang, the China Conservation and Research Centre for the Giant Panda began working on Panda linguistics in 2010. Due to the variety of sounds recorded, the scientists began to wonder if they were studying a Panda, a bird, a dog, or even a sheep!

Pandas live solitary lives so the mother is the only language teacher for their young. The youngsters can barely vocalise but later manage ‘gee-gee’ to indicate hunger. ‘Wow-wow’ indicates not being happy while ‘coo-coo’ indicates the opposite. Eventually, they develop roaring, shouting, barking, squeaking, bleating, and even chirping.

The male Panda when in love baas all the time while a potentially willing female continues to tweet. The latter noise can also indicate anxiety when the female is with

her young. Lastly, a bark is used to warn off intruders. So be warned, if it looks like a Panda but sounds like a dog, bird, or sheep...well!

In China there are fewer than 2,000 Pandas living in the wild, mostly in Sichuan and Shaanxi provinces. In 2013, there were 375 in captivity, with 200 being at the research centre. Scientists in the study look forward to the day when a Panda translator can use voice recognition technology to help Pandas survive in the wild. It remains the rarest member of the bear family and the most threatened. Much of this relates to the bear’s diet of various species of bamboo – and only bamboo. Even when available, bamboo is not very nutritious so Pandas have to eat vast amounts, frequently spending over twelve hours of the day dining. Also, areas of bamboo are lost when more land is required for farming.

The Panda toy in all its many sizes is probably equivalent to our well-beloved teddy bear, and it is a popular New year gift for Chinese children. During our visit, Dorothy and I encountered many large school groups and some were wearing a panda hat – a shaggy black and white affair with ears and side pieces. Other objects proclaimed “I love Panda”. It seemed like a good piece of advertising to get people thinking about Panda preservation. Our group had many requests to be included in photographs amid a forest of ‘selfie’ sticks. I drew the line at sporting the shaggy panda hat!



YNC NATURE CONTEST UPDATE

– Robin Musselman,
YNC Coordinator

There were 39 entries in the Junior Writing category; 40 entries in the Senior Writing category; 167 entries in the Junior Art category; and 93 entries in the Senior Art category.

We had a number of teachers enter their entire class (so sending a notice to every school in the Province was a good thing!), and we had entries from all around the Province which was also a great thing!

We didn’t have any French or Mi’kmaq entries in the writing category but I think if we were to do it again we may get the poster and rules translated into each language before we circulate them to those populations.

I know the judges had a challenge picking the winners – there were a lot of good entries. All the winners have been notified and their prizes sent out – I had many a ‘thrilled’ kid and parent expressing their delight.

I want to thank the Wildland Writers and Nature Nova Scotia for supporting us in this event and I think we were successful in raising awareness and getting youth to think about their connection to nature.

I also want to thank our judges Jamie, Paul, Alain, Alice, Twila, and Joanne for taking the time to read over all the entries and for coming into Halifax to spend an afternoon looking at Art.

I have connected with 'Pavia' (a small art gallery here in Halifax) and they are keen on working with us to have an Art Show/Gala night in February in their new space in the Art Gallery of N.S. We will have the Art and Writing winners on display and maybe even have some of the youth read their winning entries. We are also working on getting the winning art pieces made into art cards (blank note cards) that we can sell as a fundraiser, and also maybe explore the idea of auctioning off some of the art work if the kids are keen on it.

I will keep everyone posted about this event and hope many will be able to attend.

Thanks again to everyone involved who helped pull this event off so well. We have already had requests to do it again in a couple years.

WRITING

Senior Category:

First Place – Amelie Parent

Second Place – Angelina Kettle

Third Place – Charlotte Thomas

Honourable Mention – Cadel Jones

Honourable Mention – Darren Roy

Honourable Mention – Dylan Rhyno

Junior Category:

First Place – Jesse Lillford-Brighton

Second Place – Màili Cameron

Third Place – Oona Johnstone-Laurette

Honourable Mention – Elias Jones

Honourable Mention – Griffin Gamble

Honourable Mention – Jonathon Lyon



ART

Senior Category:

First Place – Sally Wilke

Second Place – Jordan Banks

Third Place – Benjamin Hatt

Honourable Mention – Santanna Rafuse

Honourable Mention – Cadel Jones

Junior Category:

First Place – James Banks

Second Place – Isla May Spencer

Third Place – Noah Beaton

Honourable Mention – Alexander Todd Hazelwood

Honourable Mention – Brooklyn Seaboyer

Honourable Mention – Carmen Armstrong

Honourable Mention – Colby Bent

Honourable Mention – Isabella Young

Honourable Mention – Jesse Lillford-Brighton

Honourable Mention – Kayley Bainbridge

Honourable Mention – Mary Rose Mosca

Honourable Mention – Nick Li

Honourable Mention – Renate Alant

Honourable Mention – Varvara Kuznetsova



HALIFAX GREEN NETWORK PLAN STATE OF THE LANDSCAPE REPORT

– Wendy McDonald

October, 2015 – The Regional Municipal Planning Strategy (the Regional Plan) passed in 2014 by Halifax Regional Municipality (HRM) acknowledged the importance of open or green spaces for environmental, health, social, and economic reasons. Over the course of the past several months residents and stakeholders, including members of HFN and others, had the opportunity to discuss the issue alongside an expert team coordinated by an environmental planning group from Calgary.

Tasked to create a 'Greenbelting and Public Open Space Priorities Plan' for the region, the team has completed the first phase. Now renamed the 'Halifax Green Network Plan', its comprehensive and lengthy planning document is called "State of the Landscape, Phase I", and it will help to inform future decision makers on land management, future development, and growth patterns.

Five major themes helped guide public and stakeholder input:

1. Ecosystems & Biodiversity – natural systems which support plant and animal life.
2. Recreation & Trails – places to go for fun and facilities we use to move around.
3. Cultural Landscapes – places which connect us to our history.
4. Communities – places we live and work and play, close to home.
5. Working Landscapes – places which support the economy.

From this input, most residents indicated which 'open space' functions, attributes, or benefits were most important, and these formed the value statements. Of greatest interest to HFN members is perhaps the natural systems value statement:

"Diverse and healthy ecosystems provide a series of important ecosystem services and benefits, such as provisioning (water, food, and fibre), regulating (climate and water), and supporting natural and built environments (habitats, water quality)". Increased development can have a negative effect on water quality, as well as increasing habitat loss and reducing landscape connectivity. Not surprisingly, coastal areas and estuaries were considered to be important natural habitats. Although some biodiversity data has been collected, more research is needed.

Another favourite theme for naturalists is our parks and 'natural' open spaces, where appreciation of nature, citizen science, and environmental education take place. This value statement includes: "Connected parks, wilderness areas, and trails provide a range of recreational and active transportation opportunities near neighbourhoods and communities, which can help promote active lifestyles, contribute to quality of life, and stimulate economic investment." It was noted however that access to our parks and amenities, and connectivity between open spaces, are important issues. Although there is a variety of trails, they are not connected, accessible, or diverse, with incomplete mapping, signage, and way-finding.

This is a gap for both residents and visitors.

To read the Executive Summary or the complete Report, and to learn much more about each of the five themes, visit the Halifax website and search for Halifax Green Network, where maps, both historical and modern, as well as extensive commentary, can be found in much greater detail. A list of 25 key findings is included for the five themes. The website is <http://www.halifax.ca/HalifaxGreenNetwork/>, and this is just a snapshot of the lengthy report. State of the Landscape, Phase II will

continue in 2016 with additional stakeholder workshops and public events. The framework established in the State of the Landscape Report is a basic planning document to evaluate and refine open space options as the team moves ahead.



HFN TALKS

NATURE CONSERVATION 9 SEPT. – Janet Dalton

This talk was presented by Craig Smith, Nova Scotia Programme Director for the Nature Conservancy of Canada. He divided his talk into four sections: Introduction, Conservation Planning, Land Securement, and Stewardship. (I have used notes taken during Craig Smith's talk as well as references, with page numbers, from *A History of the Nature Conservancy of Canada*, 2013, Oxford University Press, by Bill Freedman.)

INTRODUCTION

The Nature Conservancy of Canada (NCC) began in 1962 with the purpose of protecting areas of natural diversity for the benefit of future generations of Canadians. The NCC planned to lead, innovate and use creativity to secure private properties through purchase, donation, or other mechanisms, and to manage these properties for the long term.

The problem facing the NCC was that they saw the earth's biological diversity being lost at a rate which impoverishes our quality of life and threatens our future, and they believed that our society was going to be judged by what it creates in the present and what it conserves for the future (p. 4). One aim was to stop the loss of biodiversity in Canada by protecting wild species and preserving ecological communities. Other aims were to preserve outstanding natural features for scientific observation and research, education, pleasure, predominantly passive recreation, and to restore land and develop techniques and methods to preserve and restore biodiversity (p. 60).

The Nature Conservancy does not position itself on the front lines of public controversies. Instead it leaves this type of advocacy to other environmental organisations, all the while focusing on science-driven conservation and partnerships.

CONSERVATION PLANNING

The first plans were to encourage the wise use of working lands such as are used in forestry. Rather than plantations of seedlings of one or a few conifer species after clear-cutting, the natural regeneration of trees was allowed. This latter method promoted richness of species. Also, the promotion of less intensive forestry methods resulted in more environmental benefits.

Regarding the fishing industry we were told of the environmental benefits from less reliance on bottom dragging which damages coral reefs and sponge beds not to mention young fish habitat. The fishermen were encouraged to use other harvesting practices instead.

Farmers were told of the benefits of leaving pastures as native grassland for grazing rather than converting it to cultivated pasture. Leaving buffers around streams, ponds and other wetlands were pointed out to them to be very beneficial to keeping the water pristine.

The NCC wanted to establish protected areas necessary to sustain old-growth forest and any dependent species that needed wide-ranging areas such as bears, Wolves, Woodland Caribou, and Orcas. Thus parks, wilderness areas, and ecological reserves were essential. They first acquired wetlands, bogs, and lakeside marshes around Lake Ontario (p. 16). In the last three decades many areas have been established across Canada – the Haida Gwaii archipelago; Qu'Appelle Coulee canyon in Saskatchewan; the Alfred Bog 70 km east of Ottawa; Wilson Lake in Nova Scotia for its coastal plain flora; George Stirrett Nature Preserve in New Brunswick famous for its Furbish's Lousewort, *Pedicularis furbishiae*; and Brier Island in Nova Scotia managed by the community of Westport (p. 87). There are many more areas acquired by NCC and it is difficult to list them all – even the Coal River Springs Territorial Park in the Yukon is under their jurisdiction.

LAND SECUREMENT

It takes about twelve months to two years to finalise an agreement of land purchase or donation. First, all the biodiversity is studied using aerial maps and information from local nature groups. In other words, 'no boots' on the land until all research is done. Then there is dialogue with the owners. They are informed about any special flora or fauna species, and they are encouraged to use the land but to try to save the special areas. They also are informed about the benefits of tax reduction and less capital gains on the land should they sell or donate. If they choose to sell, an independent valuation is carried out. Finally, if an agreement is reached, there is legal work to be done to make sure the deed to the land is clear. Then fund raising to purchase the land begins. NCC is dependent on the generosity of its sup-



porters to provide funds for its conservation work, and it tries to accommodate the users of these secured areas. If the local people have used the area for recreational vehicles, they are not stopped, but instead are told of the importance of the site and are asked to stay away from sensitive areas.

STEWARDSHIP

NCC's stewardship of natural areas is management which is undertaken to maintain or enhance ecological conditions. In some cases management is as simple as a yearly visit to the area to ensure that the terms of the conservation easement are being respected. In other cases the management may be more complicated, such as the restoration of a cultivated pasture. An example of this is the ditches that were dug to cultivate blueberries in the southern area of Nova Scotia; this effort was eventually abandoned, but even today the ditches still can be seen in aerial photos. There may be a need for the erection of fencing and or signage, forest management, management of invasive species, development of trails, or anything else that will protect and restore the area to sustain ecosystems which define the reserve. To carry out the work of managing a reserve site, local volunteers are engaged to monitor the properties and even to operate a seasonal, educational interpretation facility (p. 190).



THE ONCE AND FUTURE ATLANTIC

1 OCT.

– Gareth Harding and Renée Lyons

The Halifax Field Naturalist Society held its 40th Anniversary at the Ashburn Golf Club. Harry Thurston, the well-known Nova Scotian nature writer, poet, naturalist, and environmentalist, was invited to present a keynote talk to celebrate this occasion. The talk began with an explanation of how Harry became interested in nature, and how along the way he contracted 'biophilia', a love of living things; also, how his early experiences with human effects on nature evolved into his environmentalism, in particular how much of our natural world has been altered and lost by thoughtless resource utilisation and economic development. His current focus is the wonders of the northeastern coast of North America (*The Atlantic Coast: A Natural History*, published in 2011).

A native of Yarmouth County, Harry had had a care-free boyhood roaming the salt marshes, fields, and copses surrounding Brook Farm which overlooked the Chebogue River. (Coincidentally, Harrison F. Lewis, the well-known Nova Scotia wildlife biologist who became the first Director of the Canadian Wildlife Service, had also lived on this farm in the early 20th century.) There, Harry spent his free time observing the living salt marsh, catching frogs and bugs as most young country boys do.



He told us how the call of the Willet, a sizeable marsh shorebird with large white wing flashes, was instilled into his bones.

His first experience with human disruption of the natural world was when the Yarmouth airport was expanded to accommodate aircraft larger than DC-3s. The brook flowing through his farm turned a rusty orange colour and the trout suddenly disappeared. At age 10, Harry had had the life-changing experience which turned him into a leading Canadian environmentalist.

Harry graduated from Yarmouth High School and then attended Acadia University to study biology, as had Harrison Lewis. In his second year, he took a summer job with the then Fisheries Research Board. His project was to measure protein in effluent from a fishmeal processing plant near Yarmouth. The government's concern at the time was about the food wastage rather than the pollution of the coastal waters. The study didn't last the whole summer because the supply of herring ran out. Ironically, the 60 or so seiners (many coming from the Pacific because of a collapse in the west coast herring stocks), had fished out the herring from the northern Gulf of Maine. This was Harry's second wake-up call about the disregard by the federal government for the environment. The young Harry was measuring a 3 to 4% loss of protein from the processing plant, yet the government was apparently oblivious to the removal of an entire link in the food chain for the Gulf of Maine. It wasn't long before the entire Georges Bank herring population had collapsed. It took 30 years for the herring to return in commercial numbers to the Bank.

Human exploitation of marine resources goes back to the arrival of Europeans in the new world. The Basque fishermen first depleted the cod and whales close to their own home – the Bay of Biscay. Then they gradually extended their fishery further north to Iceland and ultimately the northeast coast of America. The North Atlantic Right and Bowhead whales were the first to be depleted because of their abundant storage of rich oil and also ease of capture. Four centuries later both species are still in danger of extinction. There are estimated to be only 500 Right Whales left on this planet. The colonisation of North America by Europeans first depleted the rivers (Atlantic Salmon), then the bountiful coastal fishes (Cod) and the fishery is presently dependent on shellfish (lobster, crab, scallops) and aquaculture. This cascade of resource utilisation and depletion was forecast and highly publicised by Farley Mowat in his *Sea of Slaughter*, published in 1984.

Dalhousie University scientist Heike Lotze has studied the Quoddy region of the Gulf of Maine, using paleontological, archeological, historical, and modern scientific studies. She found that the First Nations thrived on marine life from these rich coastal waters for thousands of years without altering the ecosystem, whereas the Europeans have depleted many of these resources and thereby altered the ecosystem over the span of four centuries. Boris Worm, also from Dalhousie University, has shown how the fisheries first depleted the inshore species and are now depleting the offshore. It is estimated that 90% of the larger fish have gone. The late Ram

Meyers sarcastically commented that DFO's use of the term 'underutilised species' – which encouraged harvesting of plants and animals other than depleted groundfish stocks – was government-speak for 'some left'. Research by Meyers and others has shown that fishable biomass is reduced by 80% within fifteen years after industrialised fishing begins. The journalist J.B. McKinnon has described it as "excuse, permit, adapt, and forget".

For the last ten years the Harper government has censored its scientists from talking about their findings to the public (Chris Turner - War on Science, Muzzled Scientists and Willful Blindness in Stephan Harper's Canada). They closed down several world renown laboratories which were studying the effects of contaminants on aquatic life (Experimental Lakes Area, Kenora, Ontario) and they eliminated Canada's High Arctic atmospheric research on global warming and depletion of the ozone in the upper atmosphere (Tom Duck, Dalhousie University).

Furthermore, they had closed most of their science libraries with the consequent loss of an unknown amount of public information, an act that esteemed environmental scientist Peter Wells of Dalhousie University called "information destruction unworthy of a democracy". With the recent new environmental policy it introduced, that government has removed all protection from most of Canada's waterways and lakes, and half of Canada's fish resources, by protecting only commercially valuable fish stocks.

Harry worries about the state of our democracy in which the public seems to pay little heed to a systematic dismantling of a system meant to protect our environment – "IT IS NOT THE ECONOMY STUPID: IT'S THE ENVIRONMENT" that must be our focus. And we must value, fund, and use science to chart the way forward.

Are we adrift?

In order to lighten a dark talk on what should be a happy 40th anniversary celebration, Harry injected some optimism by highlighting our ability to turn things around. He points out that the shipping lane at the mouth of the Bay of Fundy has been changed in order to lessen the chances of a collision with the threatened Right Whale on its summer feeding grounds. He also praises the late Memorial University Professor Jon Lien for inspiring and training fishermen to free whales from their gear. This strategy not only saves what could be a threatened species but also saves the fishing gear.

Harry began and now ended his talk reminding us to follow the philosophy of his favourite nature poet, Mary Oliver, who advised people to walk slowly and to look carefully with an eye for detail. Paying attention to nature, Harry said, will give us a clear idea of the losses that have occurred in the North Atlantic, and will move us to work to restore the natural resources and biodiversity we should have.



BIRDS OF FLORIDA

5 NOV.

– Clarence Stevens

Long-time HFN member and award winning photographer Keith Vaughan shared tips on photographing birds in Florida. The images he presented were taken during his 2014 excursion to the Sunshine State.

Keith's interest in photography has been a constant feature of his life since his teenage years. In 1973, he joined the Photographic Guild of Nova Scotia of which he is now a 'Life Member'. He gives credit to the Guild for almost everything he has learned about photography. In 1985, he also joined the Photographic Society of America (PSA) which opened his perspective on the world of International Photography and International Exhibitions. To date he has accumulated over 3,000 acceptances in PSA-recognised International Exhibitions around the world.

After seeing his many crystal-clear images, some attendees were surprised to learn that Keith is a big fan of 'auto focus'. These days auto focus systems are both faster and more accurate than trying to focus by eye, delivering great results if one chooses the proper auto focus mode for the situation. Lots of tips can be found online for choosing the right auto focus mode for the subject you want to photograph.

A favorite tool of Keith's is an external light meter. He has found that the internal light meters on digital cameras are often not very accurate. So the use of an external light meter can work wonders when trying to photograph birds. He pointed out that this is especially true when trying to photograph extra dark or extra white birds.

Anyone who has been to Florida knows that there are large white birds everywhere – Great Egrets, American White Pelicans, juvenile Roseate Spoonbills, Snowy Egrets, immature Little Blue Herons, Wood Storks, Cattle Egrets, Great White Herons, white-morph Reddish Egrets, as well as numerous species of gulls and terns. All these birds are a lot easier to photograph with an external light meter, as it helps to eliminate the blur caused by 'blown' highlights.

Another 'in camera' option he likes to use is 'bracketing', where the camera will automatically take a dark, then a light, then a medium shot of the subject, with only one click of the shutter button. This is an easy way to deal with a variety of light conditions and it increases the chances of getting a useable photo.

His presentation included birds from about a dozen of his favorite Florida locations. These are sites which provide a wide variety of birds to photograph and also frequently allow close-up photographic opportunities.

One location that surprised me was the Alligator Farm in St. Augustine, where shots of goofy looking young Great Egrets had the crowd laughing, and close-ups of Roseate Spoonbills had many oohing and aahing!

From there we travelled south to Delray Beach and the Wakodahatchee Wetlands, a 50-acre park which is home to over 150 species of birds. It's not only an easy place to bird but also has a fun name to bounce off the



tongue.

The most southerly site featured during the talk was the Anhinga Trail outside of Homestead. The Anhinga Trail is a short, one-kilometre trail in Everglades National Park which begins at the Royal Palm Visitor Centre. The trail is described as “a paved walkway and a boardwalk over Taylor Slough, a freshwater sawgrass marsh. Abundant wildlife is visible from the trail, including alligators, turtles, anhingas, herons, and egrets. It is one of the most popular trails in the park and for most visitors, the Anhinga Trail is their first glimpse into the Everglades.”

One thing the brochures do not tell you is that when visiting the trail it is important to cover your windshield wipers in order to keep the Black Vultures from stealing them! Inland along Alligator Alley Keith caught these opportunistic Black Vultures feeding from rest-stop garbage cans.

Another inland site mentioned was the Shark Valley Visitor Centre west of Miami, where Wood Storks, Snail Kites, and anhingas may be found daily ‘doing their thing’ along the tram road. Keith described the Wood Stork as “the ugliest bird you will ever see”, – but apparently not too ugly to photograph.

Our first stop on the Gulf Coast was Audubon Corkscrew Swamp Sanctuary, a place famous for its 34 species of mammals, 64 reptiles and amphibians, and over 200 species of birds.

Then we were taken north to Ding Darling National Wildlife Refuge on Sanibel Island, the site of the ever popular four-mile Wildlife Drive – a dream site for nature photographers and birders. Here Keith studied a very resourceful Yellow-crowned Night Heron as it regurgitated its previously eaten food into the water in order to attract and capture crabs, their all-time favorite.

Fort de Soto State Park in St. Petersburg was next. This park is made up of five interconnected keys with palm ‘hammocks’ (small islands of palms), mangroves, wetlands, mudflats, and a sandy beach; it boasts over 325 recorded species inside its park boundaries. The nearby Sawgrass Lake Park also in St. Petersburg is described as an urban oasis and a major beacon for birds. Its wetlands and trails are home to 214 bird species.

Our final stop was the Honeymoon Island State Park in Dunedin. Formerly called Hog Island, its name change has resulted in over one million visitors a year. In addition to birds the park is home to Gopher Tortoises, Grey Foxes, Loggerhead Sea Turtles, Mangrove Buckeyes (butterflies), Marsh Rabbits, Nine-banded Armadillos, and Southern Fence Lizards.

Other sites not featured in his slide show but recommended by Keith are Kissimmee just south of Orlando, Merritt Island near Cape Canaveral, and Venice Rookery in Venice.

In addition to all the great opportunities to photograph southern species, Keith mentioned that some of the best shots of our Nova Scotia species can be taken in Florida as well, because when there, they behave much more tamely. A good example of this is our Great Blue Heron; in Florida one can pretty much walk right up to them.

Another benefit of southern birding sites is the oppor-



tunity to photograph birds, such as egrets, while they are still sporting their full breeding colours – colours that are often missing when these southern birds wander north to Nova Scotia.

One of my favourite statements of the night came during the question and answer period. When asked how much his photographic equipment weighed, Keith replied he has never weighed it because he just doesn’t want to know.

All in all it was a good presentation that brought back many happy memories.



OCEAN TRACKING

5 NOV.

– Peter Webster

Canada’s Ocean Tracking Network (OTN), an ambitious and successful long-time project headquartered at Dalhousie University, has established a well-entrenched global infrastructure for its innovative marine animal tracking techniques and devices, and this highly effective and useful marine-sensor industry was developed right here in Nova Scotia. OTN’s Executive Director Dr. Frederick Whoriskey provided us with a fascinating and enthusiastic look at this important work.

Marine animals have to move around the oceans in order to thrive and satisfy all their needs. ‘Blue Oceans, Green Dollars’ is the watch-phrase for protecting these highly valued marine resources which are struggling to survive in a rapidly changing ocean environment. Tracking these animals reveals the areas they need protected so they can flourish successfully (these special areas ‘move’ along with the animals – sometimes for hundreds of miles, resulting in moving areas of needed protection). Also, tracking leads to a fuller and more detailed understanding of all the conditions the tagged animals need. We were shown a graph of the movements of 22 marine species, illustrating their very wide travel ranges.

A variety of satellite/acoustic sensors and tracking devices are used to tag fish and other marine species – from crabs and lobsters to sharks, turtles, and seals. There are \$400.00 ‘data loggers’ – useful, tiny computer chips for salmon. There are satellite tags (\$5,000.00 to \$6,000.00 each!) which are good only for a year and have to be retrieved to be of any use. (Their use is levelling off, as they are just too expensive.) There are also acoustic tags (\$360.00) which come in different sizes determined by their battery size; these require receivers (\$1,500.00). Almost all of these devices are made right here in Halifax – we are the leaders of this technology. OTN uses arrays of these acoustic receiving/sensor buoys which they deploy right across the world’s oceans. Floating at sea for extended periods of time, they receive and relay back data from tagged animals passing by. The arrays are spaced about one km apart, but an overlapping data reception of about 800 metres makes them even more useful and accurate, especially when animals are tracked for extended time periods.

The receiver network is well developed along the North Atlantic coast of North America and in parts of the

Pacific. Receiving buoys have also been deployed in major Nova Scotia and New Brunswick Atlantic Salmon rivers in order to aid their conservation.

OTN partners work closely with the fishing industry to improve practices and sustainability. For instance, finding out where trawlers usually go in order to avoid putting any technology in those places, while providing valuable evidence to help protect marine wildlife. Also, it is being used to explore the environmental impact of the Nova Scotia undersea power transmission cable, an instance of providing economic benefits while at the same time advancing ocean environmental sustainability.

Marine researchers around the world are sharing the growing store of data being collected, operating their own tagging programmes to track species they wish to learn about and follow. OTN is operating in Australia, North America, Europe, Africa, and South America; almost 400 scientists from 15 countries are currently using it.

Some autonomous devices are 'Wave Gliders' which are surfboard-like device boasting mobile acoustic receivers powered by built-in solar panels and propelled ingeniously using the power of wave action alone. They have been used over long distances in the Gulf of Saint Lawrence and off our Nova Scotia coasts, tracking any tagged fish/animals in their vicinity. Another autonomous vehicle is the 'Slocum Glider' (\$150,000-\$200,000). Powered by the changing density of ocean water, it can be positively or negatively buoyant. They work especially well during storms, gathering oceanographic data which can be used to protect fishermen. Even Canadian naval ships are using OTN's data, making it vitally useful for all marine interest groups. Another instance – local communities are now buying their own marine animal tracking tags.

Tracking results have revealed the truth about movements of young Blue Sharks off the Nova Scotia coast. It was previously thought they travelled widely by moving

long distances *with* the ocean currents. Instead, they move in a confined area, *across* the ocean currents, and they also showed unexpected 'site fidelity'. OTN has worked closely with local sport fishers to better understand and preserve this shark species.

Recently, along the New England coast of the United States, there has been an increased presence of White Sharks, causing new concerns for beachgoers' safety. Acoustic receivers and tracking tags attached to sharks are being used to warn heavily populated beach areas when sharks are in the area.

Seals have migrated from Nova Scotian coasts to areas in New England. Such changes of marine animal territory may be caused by rising sea temperatures and other changes to sea conditions. Increasing seal populations in New England may be part of the cause for rising shark populations, as the seals are one of their prime prey species. OTN tracking has found increased shark populations in many places along the North Atlantic coast – except for Sable Island (OTN's array there was put in place in 2013), home to one of the largest populations of seals. It has been suggested that the large groups of seals there may in fact band together to defend themselves from sharks. Sable Island's seal population is known to prey upon very young sharks.

We saw the adventurous process of catching and attaching tags to sharks and other large sea creatures, such as the electric Atlantic Torpedo Ray – a beautiful creature which stuns its prey with an electric shock, sufficient to knock out or even kill a person.

This was one of the most stimulating and uplifting HFN talks I have attended. Thanks to Dr. Whoriskey for agreeing to share all the interesting details about the Ocean Tracking Network. This report will be continued in the next issue – Spring 2016, Issue #162. We'll hear about 'GliderPalooza' I, II, and III,



HFN FIELD TRIPS

MELMERBY WEEKEND

– *Stephanie Robertson*

Date: Fri./Sun., September 11th to 13th

Place: Melmerby Beach, Pictou County

Weather: A bit of misty rain, cool, then sunny

Leaders: Everyone

Participants: 9

The weather, which is so important for having an enjoyable time at the seaside, was not as pleasant as last year. It was cool on Friday evening and we ate our potluck supper indoors, finishing the evening with a laughter-filled game of 'Spoons' (musical chairs with cutlery and cards played at a table). It remained cool on Saturday as well, with a misty rain for most of the morning. As we did last year, we decided to walk across Roy's Island again. It was beautiful on the grassy track and we saw many interesting mushrooms, but the mosquitoes were as bad as before, and we decided to give



this man-made path a pass next year. Off to the sides of this trackway, in amongst the wooded areas, we spotted remnant piles of older beach-boardwalks, dumped willy nilly amongst the trees. I made a note to contact the powers that be.

After lunch we decided to visit beautiful Park's Falls near Thorburn. Those with boots waded around in the final and lowest of the pools, and some ventured downstream for a short way. This year we decided to explore the other side of the river as well. Climbing back up the path, we crossed the road bridge, walked down the other side, and discovered there a dark and dappled fairyland of old tall conifers, fantastic mushrooms, pine needle paths, and brilliant green, lush mosses. This side boasted an even higher, steeper precipice, and we had breathtaking views of the falls with its stair-step pools and its flat riverside from a very different perspective.

On Sunday the weather began to improve, and after those who wished went for a swim or hiked the beach

lengths, we decided to visit the fossil cliffs of Arisaig. This was a bit of a comic adventure, with incorrect directions from an older couple we flagged down in a truck; being sidetracked to a tourist installation which was closed; having to take an extensive detour because of a local road closure (a bridge wash-out); then missing the sign to the path's entrance when we did reach the park, due to large parked trucks obstructing it! But, finally, the sign was spotted the second time around, and down we hiked along various steep and wooded paths to the beach below. As at Joggins, there were large petrified trees high up on the shattery sedimentary sandstone cliffs. Other fossils were harder to find here however, but we had an informative talk with a young geologist on the beach there – a Sean Murphy – who shared a lot of his knowledge about the area.

On the way back, we sidetracked in order to show some the correct exit to Hwy 104, for here they left for home. The rest of us took the opportunity to explore Church Road on Sutherland's River. As at the cottage, and even more so here, the Choke Cherries were overly abundant and pendulous, both the black and the red, making for very juicy and tasty snacks!

MELMERBY WEEKEND SPECIES

Maritime Sunburst Lichen	<i>Xanthoria parietina</i>
Lungwort	<i>Lobaria pulmonaria</i>
Textured Lungwort	<i>L. scrobulata</i>
Lichen	<i>Parmelia</i> sp.
Agrimony	<i>Agrimonia</i> sp.

Ferns

Cinnamon	<i>Osmunda cinnamomea</i>
Interrupted	<i>Osmunda claytoniana</i>
New York	<i>Thelypteris noveboracensis</i>
Sensitive Fern	<i>Oncoclea sensibilis</i>
Rock Polypody	<i>Polypodium virginianum</i>
Balsam Fir	<i>Abies balsamica</i>
White Spruce	<i>Picea glauca</i>
Eastern Hemlock	<i>Tsuga canadensis</i>
White Pine	<i>Pinus strobus</i>
Bayberry	<i>Myrica pensylvanica</i>
Beech	<i>Fagus</i> sp.
Ironwood	<i>Ostrya virginiana</i>
Yellow Birch	<i>Betula alleghaniensis</i>
Wire Birch	<i>B. populifolia</i>
Alder	<i>Alnus</i> sp.
Bladder Campion	<i>Silene vulgaris</i>
Dock	<i>Rumex pallidus</i>
Wintergreen	<i>Gaultheria procumbens</i>
Highbush Cranberry	<i>Vaccinium</i> sp.
Blackberry	<i>Rubus alleghaniensis</i>
Choke Cherry	<i>Aronia</i> sp.
Hawthorn	<i>Crataegus</i> sp.
Apple	<i>Pyrus malus</i>
Red Chokeberry	<i>A. arbutifolia</i>
Black Chokeberry	<i>A. melanocarpa</i>
Rugosa Rose	<i>Rosa rugosa</i>
Beach Pea	<i>Lathyrus maritimus</i>
Lupins	<i>Lupinus polyphillus</i>

Clovers

Red	<i>Trifolium pratense</i>
Hop	<i>Trifolium campestre</i>
Tall White	<i>Melilotus alba</i>
Sweet	<i>Melilotus</i> sp.
Canada Holly	<i>Ilex verticillata</i>
Sugar Maple	<i>Acer saccharum</i>



Sumac
Poison Ivy
Spotted Touch-me-not
Sarsaparilla
Queen Anne's Lace
Lovage
Mountain Ash
Butter & Eggs
Sticky Groundsel

Goldenrods

Lance-leaved
Rough-stemmed
White
Canada
Seaside

Asters

Heart-leaved
Woodland
New York
Tall White
Calico
Canada Thistle
Joe-pye-weed
Hawkweed
Fall Dandelion
Marram Grass

Birds

Northern Gannet
Great Blue Heron
Semi-palmated Plover
Greater Yellowlegs
Willet
Least Sandpiper
Bonaparte's Gull
Herring Gull
Black-backed Gull
Mourning Dove
Rufous-throated Hummingbird
Northern Flicker
Blue Jay
American Crow
Raven
Black-capped Chickadee
Cedar Waxwing
Savannah Sparrow
Song Sparrows
Goldfinch

Rhus typhina
Toxicodendron radicans
Aralia nudicaulis
Daucus carota
Ligusticum scoticum
Fraxinus sp.
Linaria vulgaris
Senecio viscosus

Euthamia graminifolia
Solidago puberula
S. bicolor
S. canadensis
S. sempvirens
A. cordifolius
A. acuminatus
A. nova-belgii
A. umbellatus
Aster lateriflorus
Cirsium arvense
Eupatorium maculatum
Hieracum sp.
Leontodon autumnalis
Ammophila breviligulata

Morus bassanus
Ardea herodias
Charadrius semipalmatus
Tringa melanoleuca
T. semipalmata
Calidris minutilla
Chroicocephalus philadelphia
Larus argentatus
L. marinus
Zenaidura macroura
Selasphorus rufus
Colaptes auratus
Cyanocitta cristata
Corvus brachyphynchos
C. corax
Poecile atricapillus
Bombicilla cedrorum
Passerculus sandwichensis
Melospiza melodia
Spinus tristis

MARTINIQUE BEACH

– Stephanie Robertson

Date: Sunday, October 4th

Place: Martinique Beach, Eastern Shore

Weather: Sunny, slight breeze, warm

Leader: Scott Cunningham

Participants: 38

Glorious, glorious, glorious – delicious, fresh salty air, a wide expanse of blue sky, soft sand, and a diamond studded ocean gentling to lacy furls against the shore in brilliant sunshine – how wonderful to have such marvelous weather on the 40th anniversary of the very first Halifax Field Naturalists trip ever taken at this very same site. (Back then, we were the Dalhousie Field Naturalists.)

Thirty-eight participants, including Scott Cunningham, the trip's leader both now and 40 years ago, slowly arrived and congregated at the first parking lot on our eastern shore's Martinique Beach, about an hour from Halifax. On the way, several of us were privileged to have observed a female Deer with two fawns crossing the highway, just before the final exit from Hwy 107.

Upon first starting off along the sand at about 10:30 a.m., in amongst the dominant Marram Grass, *Ammophila breviligulata*, another dune grass, *Elymus mollis*, was shown to me by Charles Cron of the Nova Scotia Wild Flora Society. Later research on my part revealed that this plant is another important species in dune ecology. It usually grows on foredunes and embryo dunes, less often on backdunes, and is one of the very first pioneer plants in the early stages of establishing a stable dune environment. In the foremost loose dunes facing the ocean, these plants tolerate the stresses of salt spray, salty sand, little to no fresh water, unstable substrates, occasional inundation during storms, low nutrient levels, and abrasion by wind, water, and ice storms. Seedlings may become buried. Like Marram, they develop and grow from large rhizomes that anchor them in the shifting and unstable sand grains; when there are many plants on a dune, their rhizomes form a network that helps to stabilise it even more. This network becomes the 'skeleton' of the foredune, making it a valuable species for landscape rehabilitation in native beach habitat. Down closer along the shore were many washed up large fronds of kelp, some still attached to their rocks.

Continuing along the beach towards the spit of Bayer's Island, we saw Irish Moss, *Chondrus Crispus*, washed up amongst the piles of dried seaweeds and other plant detritus. Scott explained about its polysaccharide carageenan, widely used in many common products such as chocolate milk, cosmetics, toothpaste, paint, even car tires. Like eggs, carageenan is a thickener and an emulsifier, preventing the separating of mixed components such as cocoa powder in milk.

Black Ducks and Herring Gulls were frolicking in the sea while we spotted some Sea Rocket, *Cakile edentula*. Through a well-established seaside path I noted in passing Beach Pea, Bay, New York Aster, Spruce, and Yarrow; also Blackberry, Wild Mustard, and Wild Roses (*Rugosa*). Back down on the sandy beach, we came across a collection of large, mostly live, Quahogs on the back shore. Had someone gathered and left them there? A few of us took some down and put them in the small waves. As we continued along the beach, out where there were some larger waves we noted one lone surfer. Delightfully, we were constantly preceded on our hike by small, enchanting groups of foraging Sand-erlings, with their comical high-speed little legs running back and forth poking their beaks into the wet sand and shallow waves for tidbits.

We stopped higher up on the beach close to the dunes while Scott talked a little more about the annual Sea Rocket growing out of the sand, a member of the mustard family and also a first coloniser of intertidal zones. Distinguishing features are their small, four-

petalled mauve flowers, their rubbery leaves, and their swollen, rubbery seed pods which did indeed taste quite plainly of mustard. Scott explained that the beach is really like a desert to which its plants have to make certain adaptations to survive, and that Paul Keddy, HFN's first president, did his thesis on the Sea Rocket.

Farther on I found a small blue plastic duck, the kind of moulded toy which is used for making sand shapes. It was upside down and contained sand, water, and many swimming Sandhoppers, *Talitrus saltator*. Sandhoppers are those tiny jumping critters which one always finds amongst the piles of washed-up dried seaweeds along a beach's high tide lines. Scott said they love to eat plants, relating a story of a time when, at another beach, some woven sand-mats of his were slowly being eaten away around their edges by them. We also noted the tiny holes in the sand where they bury themselves to escape desiccation. Their cycle is strongly linked to the tides, with daily migrations of up to 100 metres. They spend the day buried at depths of 10-30 centimetres above the strandline, but emerge at night on the falling tide in order to feed. An important food source for shorebirds, their diet is composed chiefly of those rotting seaweeds which accumulate there.

Quite high up on the beach we came upon a female Green Crab, *Carcinus maenas*, not a native species. I took it down to the water, where it was not happy; I returned to its original spot and put it under a pile of dried seaweeds.

Close to our goal, the spit called Bayer's Island, the sandy beach turned into an extensive area of large, cobbled rock which made for uncomfortable walking. This large cobbled area, with no dune, spread inland at this point with increasing foliage of Beach Pea, Bay, and grasses. Here some of us stopped for lunch, while others continued on to have theirs on the 'island'. In one way the early stoppers were the more fortunate, as very close behind us on the higher, plant-strewn cobbles was a slow and unconcerned grazing Porcupine; it stayed near for a long while enjoying the plethora of Beach Peas. The hikers who had carried on further, however, spotted a seal far out to sea. Nearby, Charles Cron noted the Seabeach Sedge, *Carex silicea*.

Our walk back to our cars was along the other side of the road, on the mucky shore of the back bay, with much Eel Grass of course, *Zostera marina*. This plant is still used for garden fertiliser, and used to be used as house insulation!. I saw an interesting black hairy caterpillar; it didn't have the usual orange ring of the Woolly Bear, *Pyrrharctia isabella*, but upon closer inspection, did sport two very tiny dots of a rusty colour – a mutation perhaps? Another Deer was seen here as we approached the parking lot. This was a lovely trip – thank you Scott, for leading it again.

MARTINIQUE BIRD SPECIES

– Bob McDonald

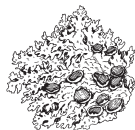
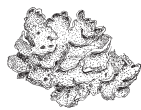
American Black Duck, 6
Common Eider, 15
Northern Gannet, 2
Double-crested Cormorant, ~30
Great Blue Heron, 2
Semipalmated Plover, 75

Anas rubripes
Somateria mollissima
Morus bassanus
Phalacrocorax auritus
Ardea herodias
Charadrius palmarum



Least Sandpiper, 2
 Semipalmated Sandpiper, 12
 Ring-billed Gull, 10
 Herring Gull, 125
 Great Black-backed Gull, 3
 Mourning Dove, 3
 American Crow, 12
 European Starling, 10
 Yellow-rumped Warbler, 2
 Savannah Sparrow, 2
 Song Sparrow, 2
 American Goldfinch, 8

Calidris minutilla
C. pusilla
Larus delawarensis
L. argentatus
L. marinus
Zenaidura macroura
Corvus brachyrhynchos
Sturnus vulgaris
Dendroica coronata
Passerculus sandwichensis
Melospiza melodia
Spinus tristis



LICHENS AND MOSSES

– David Patriquin

Date: Saturday, October 18th

Place: Polly's Cove, near Peggy's Cove

Weather: Sunny, $\pm 14^{\circ}\text{C}$

Leader: Frances Anderson and Anne Mills

Participants: 21

Frances Anderson and Anne Mills led this field trip to Polly's Cove, an area of coastal barrens and bogs close to Peggy's Cove. Mosses and/or lichens always attract an audience and this was no exception, especially with these guides. Frances and Anne frequently work together in field research. Both have developed their skills through extensive field observations, collections, and the associated follow-up studies, and also by attending various courses. Along the way, both have become recognised and sought-after experts on the lichens (Frances) and mosses (Anne) of Nova Scotia. Their passion for these oft-neglected components of our flora (using that term loosely) always comes through in any presentations or field trips, as they patiently explain the basics and show their excitement when they find a species or feature they know will interest participants.

Mosses are one of the three groups (mosses, liverworts, and hornworts) referred to as 'bryophytes'. On this occasion, we saw mosses and liverworts, but no hornworts. Mosses and liverworts have similar habits (most with a stem and leaves) but are readily distinguished under a hand lens by the presence (mosses) or absence (liverworts) of costas (midribs) in their tiny leaves.

Lichens are a symbiotic combination of algae and/or cyanobacteria (the photobionts) and fungi (the mycobiont) – the fungi growing as a meshwork that encloses and supports the phycobionts.

Macrolichens are those with distinct upper and lower surfaces or that stand up. They come in two basic forms: fruticose (branching and bush-like) and foliose (leafy). These are distinguished from the crustose lichens which have very little relief and bind tightly to the substrate – they have been described as looking like spay-paint.

Both mosses and lichens lack roots and are dependent on rain falling directly on them, or trickling down a tree or rock, for both water and mineral nutrients; they

therefore reach their maximum abundance in moist environments. Fog can also hydrate them. Thus both groups do well in Nova Scotia! However, both lichens and mosses can totally shut down when there is no moisture and then rapidly reactivate when moisture becomes available, so they are also found in habitats subject to periodic and extreme drying, such as on exposed rock walls. This feature also facilitates collecting, as samples can be put in paper bags, simply allowed to air dry, and can then be rehydrated later with water in order to view them in an active state.

We focused on two habitats: the first was a large and exposed flattish rock outcrop that dipped into wet boggy ground. Frances talked about the many chemical compounds in lichens such as dark coloured melanins, and usnic acid which confers a yellow-green colour to lichens which contain it. Both compounds protect the lichens against UV rays in highly exposed habitats such as on this rock outcrop. Anne pointed out two bryophytes with unusually dark colours found at the moist edges of the outcrop: *Gymnocolea inflata* (a liverwort) and *Sphagnum pylaesii* (a moss).

It turned out that we were standing on at least eight species of lichens, amongst them several of the hollow tubed cladonias commonly recognized as 'reindeer lichens'. My favourite is certainly *Cladonia stellaris*. This one forms rounded mounds which Frances describes as resembling cauliflower heads; I think of them as snowballs. I had seen literally fields of *Cladonia stellaris* when we visited the Deep Cove Nature Reserve only a week before.

Some of the other lichens which made a lasting impression were: a *Stereocaulon* species – these 'foam lichens' look superficially like the cladonias, but have solid, not hollow, stocks and a foam-like surface; *Rhizocarpon geographicum*, the yellow Map Lichen with its little yellow mounds on a black base; and the two dark, leathery, foliose (leafy) lichens that covered most of a rock erratic (dropped by a receding glacier) – the grayish brown *Lasallia papulosa* (Common Toadskin) and the deep brown *Umbilicaria muehlenbergii* (Plated Rock Tripe). The thickness and dark colour of these last two species are critical to their surviving on very exposed rock surfaces. Another adaptation to periods of extreme light and heat was illustrated in the moss *Racomitrium leniginosum* (Woolly Moss). Through a hand lens we could see that it had hyaline tip ends like awns (spinous end-projections) on leaves. These deflect heat from the sun and reduce moisture loss. *Hedigia ciliata* (Medusa Moss) was also prominent on the exposed rocky substrates. A sphagnum which drew attention in the wet area away from the outcrop was *Sphagnum capillifolium* in a tightly crowded mound of variegated red, pink, and green heads.

As we moved away from the rock face and through a bushy barren, Frances spotted a 'Pixie Cup farm' in an area where some of the bushes had died off, allowing the Pixie Cups to form on *Cladonia chlorophaea*. The Pixie Cups, readily visible to the naked eye, are the flared ends of erect, hollow stocks. Through a hand lens we could see brown apothecia on the edges of the cups,



and also the granular soredia on the stocks, both of which function in reproduction.

We walked up the old military road towards the coast, pausing to look at some lichens on the older, needleless branches of a White Spruce. There are two lichens that look superficially similar and often give old trees a shaggy, bearded appearance – an *Usnea* species (Old Man's Beard) and *Evernia mesomorpha* (Boreal Oak-moss Lichen). *Usnea* species have a solid central string or cord which can be revealed by pulling on the outer tissue; *Evernia mesomorpha* does not. *Usnea* spp. and *E. mesomorpha* are considered to be sensitive to pollution, but we do see some Old Man's Beard in Halifax. Apparently *Usnea* spp. have been declining in northern New England, but not much or at all in Nova Scotia, where we are affected by the same atmospheric pollutants. Frances speculated that our generally high humidity may compensate to some extent for the ill effects of air pollution.

We then descended down into a damp, mostly closed canopy of a spruce/fir/Red Maple grove beside some large granite outcrops. Here, the mosses were clearly winning the competition between mosses and lichens, covering the ground, rock faces, and bases of trees as a beautiful green felt. *Hypnum imponens* is pervasive in this kind of moist, shaded forest – growing over rocks, soil and the bases of trees, often interspersed with *Bazzania trilobata*, a liverwort. We laughed at Anne's description of the cushion moss *Dicranum polysetum* as a 'bad-hair-day' moss, and another, *Leucobryum glaucum*, as the 'mother-in-law cushion'. *Mnium hornum* (the Lipstick Thyme Moss) formed distinctive mats on the base of some trees and *Pleurozium schreberi* (Big Red-stem Moss) grew as fluffy mats on the ground. *Cladonia maxima* (Giant Cladonia Lichen) was prominent and quite striking amongst the mosses where it occurred. It had a mottled green colouration, apparently related to the distribution of algae within the thallus. A patch of *Sphagnum palustre* (Blunt-leaved Peat Moss) with a yellowish brown colouration occurred in a wetter, still quite shaded area.

We emerged from this sheltered place close to the rocky seashore, and climbed up to a comfortable site for lunch. The sea was bright, it and the sky blue, the Huckleberry fire engine-red, and we were all very satisfied with this third fall HFN hike since our 40th anniversary on Oct 1st. Many thanks to our very special guides!

I have highlighted only some of the mosses and lichens we encountered and discussed. The following species list tells a larger but still incomplete story.

POLLY'S COVE SPECIES

– David Patriquin and Charles Cron

Lichens

Mealy Pixie Cup	<i>Cladonia chlorophaea</i>
British Soldier Lichen	<i>C. crostatella</i>
Giant Cladonia	<i>C. maxima</i>
Red-fruited Pixie Cup	<i>C. pleurota</i>
Grey Reindeer Lichen	<i>C. rangiferina</i>
Star-tipped Reindeer Lichen	<i>C. stellaris</i>
Thorn Cladonia	<i>C. uncialis</i>
Boreal Oakmoss Lichen	<i>Evernia mesomorpha</i>
Common Toadskin	<i>Lasallia papulosa</i>



Rim lichen
eastern Ragged-rim Lichen
Powdery saucer Lichen
Bottlebrush Shield Lichen
Gnome Fingers
Map Lichen
Rock Foam Lichen
Plated Rock Tripe
Beard Lichens

Lecanora conizaeoides
Loxospora ochrophaea
Ochrolechia androgyna
Parmelia squarrosa
Pycnothelia papillaria
Rhizocarpon geographicum
Stereocaulon saxatile
Umbilicaria muehlenbergii
Usnea sp.

Liverworts

Bearded Pawwort
Three-lobed Bazzania
Inflated Notchwort

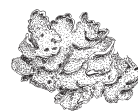
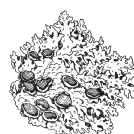
Barbilophozia barbata
Bazzania trilobata
Gymnocolea inflata

Mosses

Silver Moss
Bad-hair-day Moss
Medusa Moss
Brocade Moss
Pincushion Moss
Lipstick Thyme Moss
Big Red-stem Moss
Copper Wire Moss
Hairy Cap Moss
Woolly Moss
Shaggy Moss
Domed Peat Moss
Tricky Peat Moss
Blunt-leaved Peat Moss

Bryum argentum
Dicranum polysetum
Hedwigia ciliata
Hypnum imponens
Leucobryum glaucum
Mnium hornum
Pleurozium schreberi
Pohlia nutans
Polytrichum spp.
Racomitrium lanuginosum
Rhytidiadelphus triquetrus
Sphagnum capillifolium
S. fallax
S. palustre
S. pylaesii
Tetraphys pallucida

Four-tooth Moss



BLANDFORD AND DEEP COVE NATURE RESERVES

– Richard Beazley

Date: Saturday, October 24th

Place: East River, Lunenburg County

Weather: Sunny and cool

Leaders: Brad Armstrong and Doug van Hemessen

Participants: Nine, eight of whom were HFN members

This hike proved to be a great seven-hour adventure into and out of the Blandford and Deep Cove Nature Reserves, on a spectacular autumn day! Led by Brad, an activist for the protection of nature in Lunenburg County, Conservation Director for Friends of Nature, and Chester Municipality Councillor; and Doug, the Nature Conservancy of Canada's Stewardship Coordinator in Nova Scotia, we tread where traffic does not go.

The hike began at a high point on the East River side of the Aspotogan Peninsula. We struck off down an old ATV trail, through a very colourful mixed forest with a moss-covered floor and lichen in abundance. The sights, smells, and quiet of the natural wilderness were invigorating, and the identification of flora species immediately got into high gear (see list below). Animals were unseen, but Bear, Coyote, and Deer scat was observed.

We soon entered the Nature Conservancy of Canada's Deep Cove protected area, which provides habitat for rare lichens, wetlands for Black Spruce, granite barrens for Jack Pine, and a marsh/bog for grasses and sedges.

Interesting stories unfolded on the Jack Pine barren. Many trees are dying, likely due to maturity, but the Jack Pine are regenerating on some open areas atop granite ridges. Open cones on mature trees and the presence of seedling plants provided evidence of some regeneration in the absence of fire. And, this is a special type of pine barrens because of the combination of two species that thrive here – Jack Pine at its southern limit, and Broom Crowberry at its northern limit.

In the bog around Haymarsh Brook, a very wet area with foot-sucking tendencies and innocent looking but surprisingly deep holes, more than one of us reached the other side wet and muddy to mid-thigh. Yet others stayed dry and found exciting grasses and sedges.

After lunch on the edge of beautiful Haymarsh Lake, where we saw a Goshawk in flight, we proceeded gradually upward and into the Blandford Nature Reserve and another Jack Pine barren. Reaching the high point near Feather Pond, we had panoramic views of the forest, pond, and lakes.

Heading toward Hollahan Lake we were treated to a prolonged viewing of a Spruce Grouse on an exposed tree branch; one person with binoculars said: “Absolutely beautiful!” As we walked, the old and overgrown ATV trail veered from the direction we needed to go, whereupon the bushwhacking began in earnest guided by GPS displays. At the lake, we enjoyed strolling in a large stand of 100-year-old Red Spruce and past huge White Pine trees. The destruction of some trees by the Spruce Bark Beetle was more than matched by the young trees sprouting up from the forest floor.

The ‘sublime’ experience ended all too soon when we encountered the ‘ridiculous’ – a pre-protection clear cut area and the typical blown down trees at its windward edge. Skirting this disaster zone and bushwhacking through the clear cut proved pretty challenging, and at the same time we were looking for an old road to take us back to our starting point. Nonetheless, a small Garter Snake was found, viewed closely, and handled gently. The elusive road was eventually found by our dauntless leaders, and we were soon back in our cars heading home, happy to have spent a splendid day in a truly wild, varied landscape.

Brad and Doug, thanks so much for this memorable HFN hike on lands you have helped protect and for which you provide stewardship. Nature-oriented folks like those on the hike appreciate you and what you do. Fellow hikers all, the camaraderie, the ‘one-for-all-and-all-for-one’ attitude that developed among us during this challenging experience was special.

Thanks to Charles Cron and David Patriquin for the species list. They remark that it is quite incomplete, but could say that the species were consistent with the flora they would expect on nutrient-poor, acidic, granite outcrops, fens, and spruce wetlands. The complete absence of Yellow Birch, especially in the mature Red Spruce and Red Maple stand by Hollahan Lake was surprising, and perhaps was due to intensive harvesting of this species in the past.

David Patriquin has posted some beautiful photos at www.halifaxfieldnaturalists.ca/deepcove.



BLANDFORD & DEEP COVE SPECIES

– David Patriquin

Lichens

Reindeer Lichen	<i>Cladonia arbuscula</i>
Fishnet Cladonia	<i>C. boryi</i>
British Soldier Lichen	<i>C. cristarella</i>
Ground Lichen	<i>C. maxima</i>
Pixie Cup Lichen	<i>Cladonia</i> sp.
Star-tipped Reindeer Lichen	<i>C. stellaris</i>
Thorn Cladonia	<i>C. uncialis</i>
Pink-earth Lichen	<i>Dibaeis baeomyces</i>
Common Toadskin	<i>Lasallia papulosa</i>
Lungwort Lichen	<i>Lobaria pulmonata</i>
Textured Lungwort	<i>L. scrobiculata</i>
Yellow Specklebelly Lichen	<i>Pseudocyphellaria perpetua</i>
Plated Rock Tripe	<i>Umbilicaria muehlenbergii</i>
Beard Lichens	<i>Usnea</i> spp.

Mosses

Bazzania	<i>Bazzania trilobata</i>
Red-stemmed Moss	<i>Pleurozium schreberi</i>
Polypody	<i>Polypodium appalachianum</i>
Sphagnum	<i>Sphagnum</i> spp.
Stair-step Moss	<i>Hylocomium splendens</i>

Vascular Plants

Balsam Fir	<i>Abies balsamea</i>
Red Maple	<i>Acer rubrum</i>
Green Alder	<i>Alnus viridis</i>
Shadbush	<i>Amelanchier</i> sp.
Pearly Everlasting	<i>Anaphalis margaritacea</i>
Chokeberry	<i>Aronia melanocarpa</i>
Wood Aster	<i>Aster acuminatus</i>
White Birch	<i>Betula papyrifera</i>
Wire Birch	<i>B. populifera</i>
Long Sedge	<i>Carex folliculata</i>
Leatherleaf	<i>Chamaedaphne calyculata</i>
Goldthread	<i>Coptis trifolia</i>
Broom Crowberry	<i>Corema conradii</i>
Bunchberry	<i>Cornus canadensis</i>
Mayflower	<i>Epigaea repens</i>
Tawny Cottongrass	<i>Eriophorum virginicum</i>
Creeping Snowberry	<i>Gaultheria hispidula</i>
Teaberry	<i>G. procumbens</i>
Huckleberry	<i>Gaylussacia baccata</i>
Wych Hazel	<i>Hammamelis virginiana</i>
Inkberry	<i>Ilex glabra</i>
Mountain Holly	<i>I. mucronata</i>
Canada Holly	<i>I. verticillata</i>
Lambkill	<i>Kalmia angustifolia</i>
Tamarack	<i>Larix laricina</i>
Sweet Fern	<i>Myrica gale</i>
Bayberry	<i>M. pensylvanica</i>
Cinnamon Fern	<i>Osmundastrum cinnamomeum</i>
Black Spruce	<i>Picea marina</i>
Red Spruce	<i>P. rubens</i>
Jack Pine	<i>Pinus banksiana</i>
White Pine	<i>P. strobus</i>
Big-tooth Aspen	<i>Populus grandidentata</i>
Red Oak	<i>Quercus rubra</i>
Rhodora	<i>Rhododendron canadense</i>
Labrador Tea	<i>R. grœnlandicum</i>
Beakrush	<i>Rhynchospora</i> sp.
Pitcher plant	<i>Sarracenia purpurea</i>
Deer Grass	<i>Scirpus caespitosus</i>
Wool Grass	<i>S. cyperinus</i>
Lowbush Blueberry	<i>Vaccinium angustifolium</i>
Cranberry	<i>V. macrocarpon</i>
Wild Raisin	<i>Viburnum cassinoides</i>
Bracken Fern	<i>Pteridium aquilinum</i>

HOPE FOR WILDLIFE

– *Bobbie Wilson*

Date: Saturday, December 5th

Place: Hope for Wildlife, 5909 Hwy 207, Seaforth

Weather: Sunny, warm

Interpreter: Hope Swinimer

Participants: 25



Norman, Oliver, Cornelius, Clover, and Tilly are just a few of the permanent residents that 25 Halifax Field Naturalists met at Hope for Wildlife (HFW).

The tour started in the Education Centre with Hope explaining how she managed to obtain the facility's property. Her mission is twofold: first – to rehabilitate orphaned and injured wildlife; and second – to educate the public regarding what people can do to mitigate the difficulties that we humans cause for wildlife. Hope showed us a mural which depicts thirteen reasons wildlife come to HFW. Chief among those reasons is domestic cats, the second is road hazards.

Hope explained to us the difference between tortoises and turtles – tortoises are land-based and vegetarian, whereas turtles are aquatic and eat both plants and meat. Clover the tortoise came to HFW because he was found in someone's luggage at the airport, having been smuggled from Africa. He now belongs to the Federal Government and Hope looks after him. He could live to be about 100 years old; he's now about 30 or 40.

Three tiny baby Snapping Turtles will overwinter with Hope, they are all that remain from twenty or more that hatched in the HFW hospital this fall. The rest had already been released. She also had some Wood Turtle eggs but sadly they did not hatch. The temperature where these eggs incubate determines which sex the hatchlings will be.

There are two main types of snakes – those which constrict and those which are venomous. The Corn Snake and the Ball Python at HFW are both constrictors. They get fed once a week – usually dead mice.

Norman, a Kestrel, came to HFW from the University of Prince Edward Island. The Kestrel is the smallest of the falcons. He had a dislocated wing while a baby and unsuccessful attempts were made several times to fix it at The Veterinarian School there, but eventually the wing had to be amputated. They had planned to keep him for their education programme, but due to funding cuts that particular programme disappeared and Norman came to live at Hope for Wildlife. He has jesses on his legs so that when he is being held he will not fall and hurt himself.



Hope spoke briefly about the fundraising that is necessary to keep HFW in operation. At least \$60,000.00 dollars a year is spent on animal food alone, even though a lot of food is donated as well. Apart from money, donations of eggs and berries are especially useful.

The next area visited was the fully certified veterinary hospital which caters exclusively to wildlife. There is a digital X-ray machine (donated) and a fully equipped surgical theatre, along with equipment for blood tests. The veterinary work over the years used to be done for free by Dartmouth Vet, but is now done by Dr. Barry's



Veterinarian practice in Burnside.

The pavilion area houses Crimson the rabbit who is there to help teach the public the differences between hares and rabbits. Visitors learn that rabbits cannot survive in the wild, unlike their feral cousins, the hares. Tilly the crow came in sporting pink toenails, after having likely been kept as a pet. He has an injured wing which will heal, but is very tame and so is between two worlds and will not be released.

There is a wildlife garden separated into various sections; it is planted with indigenous plants. All the plants in the Mi'kmaw medicinal garden section are grown for their healing properties. The pollination garden section contains several types of plants which attract bees; local beekeeper maintains a hive there in the summer. A 'peace pole' has also been installed on a special platform. There are over 200,000 of them around the world and they all have "Let there be peace on Earth" inscribed upon them in eight languages which are chosen locally.

Shelley and Martin, two Skunks, were introduced. Martin is missing a leg, while Shelley was too young to be released before winter. Ellie, a young porcupine, will stay over the winter as well. Several members stroked Ellie (one way, front to back only!). Hope explained that many of the porcupines that come in have mange. Mange is caused by a specific mite, and although it can be cured, healing the skin can take several months. Porcupines do not throw their quills; rather, they move their tails very fast and as the quills are loosely attached, if the tail comes into contact with something, the quills stick.

The deer pen was nearby, but the deer were all hiding! Hope had 26 fawns this year, the most ever, and approximately 18 have survived. They will get released far from human habitation after the hunting season is over this year in Nova Scotia. Several intrepid souls climbed to the top of HFW's observation tower to see the view.

Questions were asked about how many volunteers are involved in the day to day operation of HFW. There are about 30 people who do animal collections around the province, and many others who do everything from animal care, laundry, cutting meat, and even to making artwork. Recently, the paid staff increased from one to five, each with a particular area of responsibility. Hope does not take a salary from HFW.

The new building was the next stop; it has only been operating for about one month, and it replaces the old red barn which is being demolished. There were thoughts of trying to save the barn, but it was over 100 years old and most of it was either rotten and/or mouldy. Hope's old white house has also been removed and she now lives in another area on the property. Much of the money for the new building was left to HFW in the will of Mitchell Fenton – the same gentleman who donated the X-ray machine.

The ground floor of the new building contains the food storage area, comprised of storage bins for dry food, a large walk-in freezer for the meat and fish, a walk-in refrigerator, and the meat-cutting station. There is also a room containing four Jacuzzi-type tubs for animals

which need water for their rehabilitation. Each has netting around it to keep the animals contained, particularly for birds. Living quarters for the interns are also on the bottom floor of the new building, including two rooms with bunks and a large lounge-kitchen area and a spacious office.

On the second floor is the main kitchen and animal care area, both designed with cleanliness in mind. It boasts a separate laundry room, a dishwasher, separate counters for bird food preparation and animal food preparation, and a special counter for other animal care needs. There are three nursery areas currently in use – the first has stainless steel cages for the mammals, the second has mesh cages specifically designed for songbirds, and the third is a quieter area boasting fibreboard cages (with windows in the front) for the highly stressed animals. The size of the cages can be adjusted according to the needs of the occupant. At least two other nursery rooms are available but don't have cages as yet.

At the front of the building is a large outdoor balcony with several mesh-sided cages which are also adjustable in size. There is a soft release door at each end of the balcony.

We met Gretel, the Pine Marten – Hope's special pet. Gretel has her own penthouse apartment off the living room of Hope's house, with a special conduit to an outside enclosed pen. Gretel has been with Hope for many years and is now very old. She came to Hope as a baby from a captive breeding program in New Brunswick. She was not allowed to be released in Nova Scotia as it was thought that the gene pool in New Brunswick was different than that in Nova Scotia. It has recently been determined that the two gene pools are the same. Pine martens are endangered in the Maritimes.

Finally, back on the ground, Hope introduced us to Oliver, the Barred Owl, another permanent resident. He goes on visits to many schools and is a prime example of why it is so important for injured animals to get proper care as early as possible. He had had a badly broken wing, but the people who found him had kept him for about a month. By the time he got to Hope the wing could not be repaired and had to be removed. Also, he had not been fed properly and because of it developed glaucoma. One eye had to be removed and he has only partial sight in the other.

Due in part to the HFW TV series which has been running for the past five years, Hope for Wildlife is known around the world.

When asked why she does it, she said, "Because they" (the animals) "matter."



NATURE NOTES



– Allan Robertson

NOVEMBER

Peter Wells noticed a **Painted Turtle** on his front lawn which backs on to the Frog Pond in Fleming Park.

Winter 2015, #161

On the west coast during a climbing trip recently he saw a **Wolverine**. It was only the second time he had seen this most elusive of creatures. Clarence Stevens reported that in October, on HFN's Facebook page, there were pictures of **Snapping Turtles** while hatching, and one of a **Blanding's Turtle**. Stephanie Robertson noted that during a recent low tide, **two seals** perched on the exposed rocks off Point Pleasant Park were making many groans and barks. It was pointed out that this is normal for males on breeding grounds. Judy Davies said she and John recently saw two **flocks of Mergansers** on the Lawrencetown marsh.

Leslie Jane Butters reported that in mid-October in Albany New **two Ovenbirds** were present. She wondered why they were staying around, until she noticed that they were feasting on **Virginia Creeper berries**. Apparently they usually feed on insects when bulking up for the trip south. After they had finished the berries, they left on their migration. Clarence Stevens reported another photo posted on HFN's Facebook page – a **Blue Stain Fungus**. It grows on wood, is typically turquoise in colour, and fruits very infrequently. It was the first time he'd seen one 'in bloom'.

DECEMBER

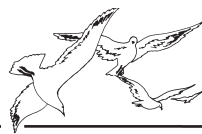
Clarence Stevens recounted seeing twelve **pods of Milkweed** in Minas Marsh Park. He described its critical role in feeding Monarch butterflies during their long migrations. Peter Wells reported seeing **three Deer** in Fleming Park a few weeks previous. Dennis Hippen mentioned seeing **many winter moths** – many others mentioned that they had as well. Gareth Harding saw a number of **American Pippets** on their migration while at his cottage on the north shore. Bob McDonald indicated that **Wych Hazel** was still in bloom; rare for this time of year.



Clarence Stevens Sr. reported seeing **Buttercups** at St. Mary's Point, near Digby. Judy Davies reported seeing what she thought might have been a **Red Crossbill** on her backyard grapevine in Dartmouth. It looked like a young female – apricot, dusty yellow, and slatey grey with bands on the wings. Some felt it might have been a Pine Grosbeak, which are very fond of crabapple trees (perhaps a bit like grape vines?), but those usually travel in largish groups. Judi Hayes sees **many Deer** in her Bedford backyard vegetable garden – usually a **doe and a fawn**. A few days ago she saw a different doe accompanied by a **buck**.

Leslie Jane Butters saw a **Red Backed Salamander** recently under a log near her cottage in Albany New. She also found both **Pussy Willows** and **Wych Hazel still in bloom**. Pat Leader saw a **Grouse** in her garden in Bedford, as well as **buds on her Forsythia and Lilac bushes**. Clarence Stevens Sr. reported seeing **two Mountain Bluebirds** on Cape Sable Island (near Barrington Passage, south of Yarmouth), and **three Eastern Bluebirds** near French Basin in Annapolis Royal. Michael Downing saw a **pair of Piping Plovers** in Toronto last summer – reportedly the first time since 1934 that they had been present there. Also, while on a late-season trip to Hawk Mountain in Pennsylvania, he saw ten raptor species.

HALIFAX TIDE TABLE



January-janvier

February-février

March-mars

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	0032	1.7	5.6	16	0016	1.8	5.9	1	0120	1.6	5.2	16	0144	1.7	5.6	1	0030	1.6	5.2	16	0122	1.6	5.2
FR	0735	0.7	2.3		0722	0.4	1.3		0816	0.6	2.0		0908	0.3	1.0		0725	0.6	2.0		0849	0.3	1.0
VE	1247	1.5	4.9	SA	1234	1.7	5.6	MO	1346	1.4	4.6	TU	1425	1.5	4.9	TU	1259	1.5	4.9	WE	1408	1.5	4.9
	1926	0.6	2.0	SA	1937	0.3	1.0	LU	2012	0.7	2.3	MA	2129	0.4	1.3	MA	1932	0.7	2.3	ME	2117	0.5	1.6
2	0121	1.7	5.6	17	0108	1.8	5.9	2	0211	1.6	5.2	17	0251	1.6	5.2	2	0117	1.6	5.2	17	0231	1.6	5.2
SA	0824	0.7	2.3		0823	0.3	1.0		0907	0.6	2.0		1008	0.3	1.0		0820	0.6	2.0		0949	0.3	1.0
SA	1340	1.5	4.9	SU	1334	1.6	5.2	TU	1450	1.4	4.6	WE	1545	1.5	4.9	WE	1356	1.4	4.6	TH	1531	1.5	4.9
SA	2013	0.6	2.0	DI	2037	0.3	1.0	MA	2110	0.7	2.3	ME	2231	0.5	1.6	ME	2033	0.7	2.3	JE	2218	0.5	1.6
3	0214	1.6	5.2	18	0207	1.7	5.6	3	0310	1.6	5.2	18	0405	1.7	5.6	3	0213	1.6	5.2	18	0350	1.6	5.2
SU	0913	0.6	2.0		0923	0.3	1.0		0959	0.5	1.6		1107	0.3	1.0		0917	0.5	1.6		1047	0.4	1.3
DI	1441	1.4	4.6	MO	1443	1.5	4.9	WE	1601	1.4	4.6	TH	1700	1.5	4.9	TH	1508	1.4	4.6	FR	1646	1.6	5.2
	2103	0.6	2.0	LU	2138	0.4	1.3	ME	2206	0.7	2.3	JE	2330	0.5	1.6	JE	2132	0.7	2.3	VE	2316	0.5	1.6
4	0310	1.6	5.2	19	0312	1.7	5.6	4	0409	1.6	5.2	19	0512	1.7	5.6	4	0320	1.6	5.2	19	0458	1.6	5.2
MO	1000	0.6	2.0		1023	0.3	1.0		1053	0.4	1.3		1203	0.3	1.0		1014	0.5	1.6		1142	0.3	1.0
LU	1547	1.4	4.6	TU	1559	1.5	4.9	TH	1703	1.5	4.9	FR	1759	1.6	5.2	FR	1622	1.5	4.9	SA	1741	1.6	5.2
	2155	0.6	2.0	MA	2240	0.4	1.3	JE	2301	0.6	2.0	VE				VE	2229	0.6	2.0	SA			
5	0405	1.6	5.2	20	0420	1.7	5.6	5	0504	1.7	5.6	20	0026	0.4	1.3	5	0427	1.7	5.6	20	0009	0.5	1.6
TU	1047	0.5	1.6		1123	0.2	0.7		1145	0.3	1.0		0607	1.8	5.9		1109	0.4	1.3		0552	1.7	5.6
MA	1648	1.4	4.6	WE	1710	1.6	5.2	FR	1755	1.5	4.9	SA	1255	0.2	0.7	SA	1720	1.6	5.2	SU	1232	0.3	1.0
	2248	0.6	2.0	ME	2341	0.4	1.3	VE	2354	0.6	2.0	SA	1847	1.7	5.6	SA	2324	0.5	1.6	DI	1825	1.7	5.6
6	0454	1.6	5.2	21	0522	1.8	5.9	6	0554	1.8	5.9	21	0116	0.4	1.3	6	0524	1.8	5.9	21	0057	0.4	1.3
WE	1134	0.4	1.3		1219	0.2	0.7		1235	0.2	0.7		0655	1.8	5.9		1201	0.2	0.7		0637	1.7	5.6
ME	1740	1.5	4.9	TH	1810	1.7	5.6	SA	1841	1.6	5.2	SU	1341	0.2	0.7	SU	1809	1.7	5.6	MO	1317	0.3	1.0
	2338	0.6	2.0	JE				SA				DI	1930	1.8	5.9	DI				LU	1905	1.7	5.6
7	0540	1.7	5.6	22	0039	0.4	1.3	7	0044	0.5	1.6	22	0201	0.4	1.3	7	0018	0.4	1.3	22	0139	0.4	1.3
TH	1219	0.3	1.0		0618	1.8	5.9		0642	1.9	6.2		0738	1.8	5.9		0616	1.9	6.2		0718	1.8	5.9
JE	1827	1.6	5.2	FR	1312	0.2	0.7	SU	1322	0.1	0.3	MO	1422	0.2	0.7	MO	1251	0.1	0.3	TU	1356	0.3	1.0
				VE	1902	1.7	5.6	DI	1924	1.7	5.6	LU	2011	1.8	5.9	LU	1854	1.8	5.9	MA	1942	1.8	5.9
8	0025	0.6	2.0	23	0132	0.4	1.3	8	0133	0.4	1.3	23	0241	0.4	1.3	8	0111	0.3	1.0	23	0215	0.4	1.3
FR	0623	1.8	5.9		0708	1.9	6.2		0728	1.9	6.2		0820	1.8	5.9		0705	1.9	6.2		0758	1.8	5.9
VE	1304	0.2	0.7	SA	1400	0.2	0.7	MO	1408	0.1	0.3	TU	1459	0.3	1.0	TU	1339	0.0	0.0	WE	1429	0.3	1.0
	1910	1.6	5.2	SA	1950	1.8	5.9	LU	2008	1.8	5.9	MA	2049	1.8	5.9	MA	1940	1.9	6.2	ME	2018	1.8	5.9
9	0111	0.5	1.6	24	0220	0.4	1.3	9	0222	0.3	1.0	24	0317	0.4	1.3	9	0203	0.2	0.7	24	0247	0.4	1.3
SA	0706	1.8	5.9		0755	1.9	6.2		0814	2.0	6.6		0900	1.8	5.9		0754	1.9	6.2		0836	1.8	5.9
SA	1349	0.1	0.3	SU	1445	0.2	0.7	TU	1453	0.0	0.0	WE	1531	0.3	1.0	WE	1426	0.0	0.0	TH	1457	0.4	1.3
SA	1952	1.7	5.6	DI	2035	1.8	5.9	MA	2052	1.9	6.2	ME	2126	1.8	5.9	ME	2025	2.0	6.6	JE	2052	1.8	5.9
10	0156	0.4	1.3	25	0305	0.5	1.6	10	0313	0.2	0.7	25	0350	0.5	1.6	10	0256	0.1	0.3	25	0317	0.4	1.3
SU	0750	1.9	6.2		0840	1.9	6.2		0901	1.9	6.2		0939	1.8	5.9		0843	1.9	6.2		0914	1.7	5.6
DI	1433	0.1	0.3	MO	1526	0.2	0.7	WE	1540	0.0	0.0	TH	1559	0.4	1.3	TH	1515	0.0	0.0	FR	1523	0.4	1.3
	2033	1.7	5.6	LU	2116	1.8	5.9	ME	2137	1.9	6.2	JE	2201	1.8	5.9	JE	2112	2.0	6.6	VE	2126	1.8	5.9
11	0242	0.4	1.3	26	0347	0.5	1.6	11	0407	0.2	0.7	26	0424	0.5	1.6	11	0350	0.1	0.3	26	0348	0.4	1.3
MO	0834	1.9	6.2		0923	1.9	6.2		0949	1.9	6.2		1017	1.7	5.6		0932	1.9	6.2		0950	1.7	5.6
LU	1517	0.1	0.3	TU	1603	0.3	1.0	TH	1629	0.0	0.0	FR	1626	0.5	1.6	FR	1607	0.0	0.0	SA	1550	0.5	1.6
	2116	1.8	5.9	MA	2156	1.8	5.9	JE	2222	1.9	6.2	VE	2237	1.8	5.9	VE	2158	2.0	6.6	SA	2200	1.8	5.9
12	0331	0.4	1.3	27	0428	0.5	1.6	12	0504	0.2	0.7	27	0501	0.5	1.6	12	0447	0.1	0.3	27	0422	0.4	1.3
TU	0918	1.9	6.2		1005	1.8	5.9		1037	1.8	5.9		1054	1.6	5.2		1022	1.8	5.9		1026	1.6	5.2
MA	1603	0.1	0.3	WE	1638	0.4	1.3	FR	1723	0.1	0.3	SA	1658	0.5	1.6	SA	1704	0.1	0.3	SU	1622	0.6	2.0
	2159	1.8	5.9	ME	2235	1.8	5.9	VE	2308	1.9	6.2	SA	2312	1.7	5.6	SA	2246	1.9	6.2	DI	2235	1.7	5.6
13	0424	0.4	1.3	28	0508	0.6	2.0	13	0604	0.2	0.7	28	0543	0.6	2.0	13	0546	0.1	0.3	28	0502	0.5	1.6
WE	1004	1.9	6.2		1045	1.7	5.6		1127	1.8	5.9		1132	1.6	5.2		1112	1.8	5.9		1102	1.6	5.2
ME	1651	0.1	0.3	TH	1711	0.4	1.3	SA	1821	0.2	0.7	SU	1739	0.6	2.0	SU	1806	0.2	0.7	MO	1704	0.6	2.0
	2243	1.8	5.9	JE	2313	1.8	5.9	SA	2355	1.8	5.9	DI	2350	1.7	5.6	DI	2334	1.8	5.9	LU	2310	1.7	5.6
14	0522	0.4	1.3	29	0551	0.6	2.0	14	0705	0.3	1.0	29	0631	0.6	2.0	14	0647	0.2	0.7	29	0550	0.5	1.6
TH	1051	1.8	5.9		1126	1.6	5.2		1219	1.7	5.6		1213	1.5	4.9		1204	1.7	5.6		1141	1.6	5.2
JE	1743	0.2	0.7	FR	1747	0.5	1.6	SU	1923	0.3	1.0	MO	1831	0.7	2.3	MO	1910	0.3	1.0	TU	1758	0.7	2.3
	2328	1.8	5.9	VE	2352	1.7	5.6	DI				LU				LU			MA	2349	1.7	5.6	
15	0622	0.4	1.3	30	0637	0.6	2.0	15	0046	1.8	5.9					15	0025	1.7	5.6	30	0644	0.6	2.0
FR	1141	1.8	5.9		1208	1.6	5.2		0807	0.3	1.0						0749	0.2	0.7		1224	1.5	4.9
VE	1839	0.2	0.7	SA	1828	0.6	2.0	MO	1317	1.6	5.2					TU	1301	1.6	5.2	WE	1902	0.7	2.3
				SA				LU	2026	0.4	1.3					MA	2014	0.4	1.3	ME			
				31	0034	1.7	5.6												31	0034	1.6	5.2	
					0726	0.6	2.0													0742	0.6	2.0	
				SU	1253	1.5	4.9													1317	1.5	4.9	
				DI	1918	0.6	2																



NEXT DEADLINE

21st of February for the March 2016 Issue

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