

THE HALIFAX FIELD NATURALIST



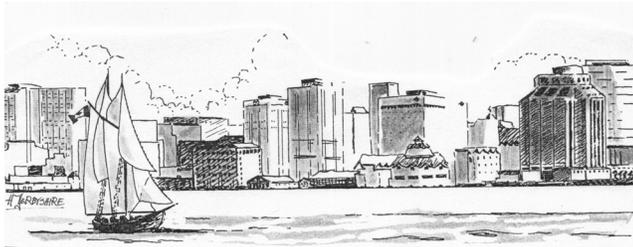
No. 146
March to May 2012



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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 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 in Nova Scotia. **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 quarterly **HFN Newsletter** and **HFN Programme**, and new memberships received from September 1st to December 31st of any year are valid until the end of the following membership year. The regular membership year is from January 1st to December 31st.



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HFN ADDRESS

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Website: halifaxfieldnaturalists.ca

NNS ADDRESS

Nature Nova Scotia, c/o N.S. Museum of Natural History, 1747 Summer St., Halifax, N.S., B3H 3A6
Email: doug@fundymud.com (Doug Linzey, NNS Secretary and Newsletter Editor) **Website:** naturens.ca

EXECUTIVE

2010/2011	
President	Janet Dalton
Vice-President	Clarence Stevens.....
Treasurer	Doris Balch.....
Secretary	Richard Beazley.....
Past President	Allan Robertson.....
Directors	Grace Beazley, Elliott Hayes, Burkhard Plache, Ingrid Plache, Lillian Risley, Stephanie Robertson.

COMMITTEES

2010/2011	
Membership Programme	Lillian Risley
Talks/Trips	James Medill
	Elliott Hayes
	Janet Dalton
	Richard & Grace Beazley.....
	Stephanie Robertson
Design	
Newsletter	
Editor & Design	Stephanie Robertson
Almanac	Patricia Chalmers
Taxonomy	Ursula Grigg
Distribution	Bernice Moores.....
Labels	Doug Linzey
Regine Maass	
Tea Break	Regine Maass
Conservation	Bob McDonald.....
NNS Rep.	Vacant
YNC Rep.	David Patriquin.....
PSAs	Jim Medill
Web Design	David Patriquin.....

FEES 2010/2011

Student	\$15.00 per year
Individual	\$20.00 per year
Family	\$25.00 per year
Supporting	\$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. **Tide Table** - Canadian Hydrographic Service, Fisheries & Oceans Canada.

HFN NEWS AND ANNOUNCEMENTS

FROM THE EDITOR

– *Stephanie Robertson*

Well, so much for the “severe winter” predicted by local meteorologists. The week of March 19th to the 23rd was a lovely and welcome, if not bizarre, respite from our usual dull, grey, cold and windy springs – a delicious foretaste of summer to come, with temperature records broken all across the country.

There was the added bonus of the spectacular conjunction of Jupiter and Venus (for us, across the street and above the trees). Those two bright planets were seen clearly in the west for four hours after sunset, just about the longest for these Northern latitudes. It was one of the best conjunctions of these two that will be seen for years to come. The next one will occur in May of 2013; they will be closer, but will set about an hour after sunset.

On the 22nd, the hottest day, two of my grandchildren came after school, flushed and tired in the heat. We had a supper picnic in Point Pleasant, and it was wonderful to hear so many forest birds rejoicing in the weather with their songs. To our surprise and delight, looking for signs of returning pond life, we spotted an Eastern Painted Turtle swimming around in the Quarry Pond!

Please see more News and Announcements (*on pp. 14 and 16*).



YNC NEEDS NATURAL HISTORY BOOKS!!

The Young Naturalists Club of Nova Scotia is looking for field guides and nature books so that its new chapters will have some resources for its young members and their speakers/leaders. If you have any old guides or natural history books that aren't being used, and which you would be willing to pass along, please contact Robin Musselman at yncns@yahoo.ca.



BIO LECTURE SERIES

To celebrate its Golden Anniversary, the Bedford Institute of Oceanography is continuing its free Public Lecture Series on the 2nd Wednesday of each month, at 7:30 p.m.

On April 11th, Steve Blasco will be talking about **The Arctic**; May 9th will be Ken Lee on the **2010 Gulf of Mexico Oil Spill**; June 13th – Kumiko Azetsu-Scott on **Ocean Acidification**; September 12th – David Mosher on **Tsunamis in Canada**; October 10th – Peter Wadhams on **Ice and Climate Change**; and November 14th, Hilary Moors on the **Whales of the Gully**. These lectures are very interesting and informative.

For more detailed and updated information, go to http://www.bio2012.ca/index_e.php.

ENVIRONMENT BULLETIN

N.S. STEPS UP TO CLIMATE CHANGE

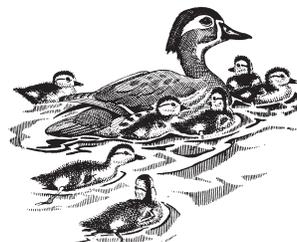
By the end of 2012, N.S. and partners will have given about \$1.5 million to the Atlantic Canada Adaptation Solutions program (ACAS). ACAS promotes new research into the challenges and opportunities from changes in temperature, sea level, rainfall, and extreme weather, using data from more than 30 climate change research projects to help develop action plans. For more information, visit <http://atlanticadaptation.ca>.

We can help gather wetland data – Nova Scotians can help increase understanding of the province's wetlands by gathering and reporting valuable information to the Department of Environment. As part of a new **Vernal Pool Mapping and Monitoring Project**, the department is looking for volunteer citizen scientists to collect data on vernal pools in their communities (vernal pools are small, shallow, often temporary wetlands); the volunteers will send their pool details such as location, size, depth, how long it stays wet, and any digital photos to the Department of Environment using an online form available at www.gov.ns.ca/nse/wetland/docs/Vernal.Pool.Data.Sheet.pdf.

Community renewable energy projects – More than a dozen communities and local groups across Nova Scotia are moving forward with renewable energy projects. The N.S. Community 'Feed-In Tariff' (COMFIT), is designed for renewable electricity projects. To be eligible, projects must be community-owned and connected at the distribution level (typically under six megawatts). For more information on the programme and applicants in your community, visit <http://nsrenewables.ca>.

N.S.; a global leader in tidal energy – Fundy's highest world tides are helping us become an international leader in tidal energy development. These tides can provide an estimated 2,500 megawatts of power, more than Nova Scotia's present peak demand! But, the technology must be able to withstand the incredible force of the bay's currents. Fundy Tidal Inc.'s proposed tidal array in Petit Passage (between Long Island and Digby Neck), was a successful COMFIT applicant. This collection of turbines, along with the company's project in Digby Gut, will be among the first commercial tidal arrays in the world. To learn more, visit <http://nsrenewables.ca>.

NEW AND RETURNING



Nancy Jennings
Don Sinclair
Clarence Stevens
Rachel Watts
Dr. Peter Wells

SPECIAL REPORTS

YEAR END REPORTS FROM THE PRESIDENT



Twenty-five years ago I picked up my mother's copy of *Chatelaine*; she and *Chatelaine* were synonymous, and this particular issue contained an article about the ten best cities to live in, in Canada. The number one city was ... you guessed it ... Bedford, Nova Scotia. It mentioned that Bedford had everything and if there was something missing all one had to do was drive around the Basin a short distance and one could find that missing attribute in Halifax.

Well, the other day I began to think about all the Institutions in Halifax and their volunteer organisations, such as Alumni, Associations, Auxiliaries, Clubs, Fraternities, Guilds, Orders, and Societies. These supportive groups are so important to the institutions as they give a 'face' to the institution, a real personality, and a human touch; not to mention how well-run they are in many ways.

The Museum of Natural History is no exception. There are about half a dozen volunteer groups associated with this museum and Halifax Field Naturalists is one. We have a 'crop' of volunteers that never cease to impress me. Many of whom have been volunteering since HFN's first meeting in 1975, thirty-seven years ago.

I would like to tell you about them. And I have listed them in alphabetical order. If you would like to applaud them please do so at the end of my list. I pray that I have not left any one out and if I have I will make amends at the next meeting.

Doris Balch is our new Treasurer. Grace Beazley is a Director, and takes care of correspondence such as 'Get Well Cards' etc. Richard Beazley is our Secretary and Grace's husband. Richard has the minutes of our executive meeting written up in no time, usually the very next day. I know this, because he posts these minutes on email.

Patricia Chalmers has supplied the Newsletter with her Almanac, and has done this for many years as long as I can remember. Elliott Hayes is a Director and has given us some of the best suggestions for speakers for our monthly meetings. Doug Linzey supplies us with mailing labels for the Newsletters, and he has done this for a long time. Regine Maass organises the tea, juice, and delicious cookies after each meeting. She also makes the best cider drink for our Christmas Social that I have ever tasted.

Bob McDonald is a Director and attends many of the important conservation meetings that are held around HRM, and then reports to the executive at our board meetings that happen four times a year. Unfortunately for HFN, Bob is stepping down from the Board of Directors next year. We will miss Bob for sure.

James Medill is the Programme Coordinator who does a wonderful job of lining up the speakers for meetings and the hikes for each season. What a big job this is and we are so grateful for his skills and efforts. If you have any good ideas for our programme, such as

speakers you have heard or hikes that you've enjoyed, please let Jim know and we may include them in our programme.

Bernice Moores looks after the mailing of the Newsletter, many of which she delivers in person. She purchases the envelopes and stamps too. David Patriquin is our Web Designer; he brought us up to date with a more informative and user-friendly website.

Burkhard Plache is a Director and also our Webmaster. How important he is, as we send endless e-mails each week! Ingrid Plache is a Director as well, and Burkhard's wife. She is a constant supporter of HFN.

Lillian Risley is a Director and our Membership Secretary and keeps track of who has paid their dues. She also keeps a wonderful database of members' addresses etc., and is the person who sends out general messages on the internet. As an example: if the monthly meeting were cancelled due to a winter storm she could send this message out to all members who've supplied their email address.

Allan Robertson is a Director and Past President and is a 'Godsend' if anything goes wrong at meetings, or anytime for that matter. He has filled in when presidents have had to step down, and I don't know what we would do without Allan. He is a long-time member of HFN. He is the essence of what volunteering is all about.

Stephanie Robertson is a Director, the Newsletter Editor, and Allan's wife. The Newsletter is the joy of this organisation and Stephanie does a wonderful job of creating this missal. For the members who can't attend meetings or hikes this Newsletter is the next best thing to being there. I can go on and on about the newsletter and Stephanie's work with it, but I won't for now.

There are two honorary members who should not be forgotten for their efforts in the past and they are Ursula Grigg, who now lives with her daughter in New Minas, and Doris Butters, who lives here in Halifax and is Lesley Jane Butters' mother. Ursula instituted our inclusion of the Halifax Tide Tables in the Halifax Field Naturalist when she was Editor – so important, I am told, to people such as school students and their teachers.

Both Ursula and Doris were volunteers for many years in the past and this organisation wouldn't be the same without their early efforts'. God bless them both, may they never be forgotten!

– Janet Dalton,
Acting President



CONSERVATION

1. Blue Mountain Birch Cove Lakes Regional Park – Ongoing communications with HRM urge it to acquire privately-owned land around Susie's, Quarry and Fox Lakes, and to designate these lands as part of the Regional Park as promised in the Regional Municipal Planning Strategy, 2006. In addition, we have urged HRM to set aside HRM-owned land south of the existing Wilderness Area and within the Birch Cove Lakes Watershed for incorporation into this future Regional

Park, before selling off the balance of the parcel for commercial development. Also, I have met with Nova Scotia Environment (NSE) to better understand their role and guidance in supporting the Regional Park.

2. Our HRM Alliance – HFN is one of some 34 groups (representing business, trail, and environmental/naturalist organisations) encouraging HRM to follow the Regional Municipal Planning Strategy (RMPS) as progress is reviewed after five years. Liveable communities and sustainability are key, with the first of the seven recommended solutions being implementation of a Green Belt to concentrate growth and preserve natural areas. As the review plans are released, we will attempt to keep HFN well informed about how to participate.

3. Urban Forest Master Plan – This is a work in progress with input from groups and individuals like HFN. Final release is anticipated this year, another aspect of the RMPS.

4. Support of the Natural Resources Strategic Plan – As one of many groups participating and supporting the Forest Strategy coming out of this years-long process, HFN submitted comments as a joint effort with Nature Nova Scotia. This is a complex issue, with many possible outcomes regarding our economy, sustainability, culture, and other aspects of Nova Scotia.

5. Conservation of 12% by 2015 – The Conservation Committee has made a submission to the Protected Areas Branch, NSE, on HFN's behalf. Many individuals have also responded to the call for special places. We will keep members advised of next steps when the government presents the 'wish list' for public scrutiny, before final designations by 2015.

The designation of the Five Bridge Lakes Wilderness Area was announced after input from many groups including HFN. This area includes the Bluff Trail, a favourite spot for HFN interpretive walks.

6. Environmental Goals and Sustainable Prosperity Act Review – HFN has participated in the five-year review of this important document, the basis of so many important new strategies and efforts on behalf of Nova Scotia and its environment and natural assets.

– *Bob McDonald and Clare Robinson,*
Conservation Committee



COLIN STEWART CONSERVATION AWARD

Bob Bancroft was nominated by the 2012 CSCA Committee for this year's award.

There is no one project that qualifies Bob Bancroft as a nominee for the CSCA. Rather, his whole adult life has been dedicated in one form or another to conservation of flora and fauna and their habitats – on the land and in the waters of Nova Scotia in particular – and generally in the Maritime Provinces.

Earning a Master's Degree in biology from Acadia University in his hometown of Wolfville in 1973, Bob joined the Nova Scotia Government and filled many positions in regional wildlife biology, conservation enforcement, management, policy development, and education and interpretation.

By the time Bob retired from government service in

1999, he had amassed the experience and knowledge that has been so much in demand since then.

During his career as a biologist, Bob became a well-known writer and editor on conservation issues, a teacher and mentor to university graduate students, an expert on river restoration, an authority on wildlife rehabilitation, and, perhaps most importantly, a superb interpreter of the natural history of Nova Scotia. Since his official retirement, he has been in constant demand as a wildlife consultant, woodland management contractor, and communicator.

Through his many public talks, work with "Land and Sea" and other television and film projects, his articles in *Saltscapes* and other magazines, and perhaps most importantly, his 25 years as CBC Radio's call-in 'wildlife guy', Bob has reached thousands of Maritimers with his enthusiasm for the wonders of nature.

A major, ongoing project in Bob's life is the restoration of a piece of Acadian forest at his home in Pomquet. For more than 30 years, he has been transforming 56 acres of formerly abused farmland into the kind of forest and healthy wetland it once was. His untiring efforts (aided by his wife, Alice) have been remarkably successful, increasing biodiversity at all levels and creating an environment that attracts more and more wildlife and plant species every year. Bob spends much of his time now communicating the lessons he has learned through personal experience, and encouraging everyone he meets to apply principles of conservation and restoration. His principal message to Nova Scotians these days is that we have to stop devaluing our remaining forest resources and concentrate on restoring them to health.

Honours – It's an indication of Bob's influence and reputation that since 1987 he has received 20 awards associated with his work in promoting conservation in nature, eight of them in the last two years alone. Among them are a number of regional and national recognitions – Sierra Club–Atlantic; Nature Canada; Friends of Nature; Canadian Institute of Forestry; Governor General of Canada; Canadian Association of Smallmouth Anglers; and the Canadian Wildlife Federation. In 2007, Bob, along with Alice, was N.S. Woodlot Owner of the Year - Eastern Region, a nice recognition for his labour of love.

Volunteering – Bob is a consummate volunteer. Among the more than 25 conservation-focused organisations that he has supported (many of which he continues to support), he has served on the executive of at least half of them. Since 1992, in his own community, Bob has been serving on the Pomquet Development Society, and he has also served as a volunteer firefighter in Pomquet for 20 years.

A year and a half ago, Bob agreed to become president of Nature Nova Scotia, mainly because he feels at home with naturalists and felt that NNS is a valuable organisation to which he could make a contribution. This has proven to be a synergistic experience in which the organisation benefits from a prominent spokesperson and Bob benefits from the association with a bunch of really nice, down-to-earth people who care about the health of our natural environment. (*cont'd p. 7*)

**Halifax Field Naturalists
Financial Statement (Balance Sheet)
As At December 31, 2011**

	2011	2011	2010	2010	2009	2009
Assets						
Cash		\$1,872		\$872		\$6,556
Bank of Montreal						
Accounts Receivable and Accrued Income		\$774		\$1,033		\$914
Inventories and Prepays		\$579		\$719		\$734
Investments		\$12,544		\$12,554		\$6,554
Fixed Assets						
		<u>\$14,737</u>		<u>\$15,074</u>		<u>\$14,711</u>
Liabilities and Surplus						
Accounts Payable - General						
- NSN		\$195		\$390		\$430
Surplus						
Restricted		\$6,544		\$6,544		\$6,554
Unrestricted		\$9,029		\$8,234		\$7,763
	\$15,573	<u>\$15,768</u>	\$14,778	<u>\$15,168</u>	\$14,307	<u>\$14,737</u>

**Halifax Field Naturalists
Statement of Income and Surplus
Year Ended December 31, 2011**

	2011 Actual	2011 Budget	2010 Actual
Revenues			
Membership	\$2,718	\$2,500	\$2,510
Product Sales	\$0	\$0	\$0
GIC	\$0	\$0	\$0
Interest	\$51	\$0	\$0
Donations	\$0	\$0	\$0
DF List	\$0	\$0	\$0
	<u>\$2,769</u>	<u>\$2,500</u>	<u>\$2,510</u>
Expenses			
Field Trips	\$0	\$25	\$19
Special Projects	\$64	\$25	\$65
Socials	\$3	\$80	\$0
Grants/Donations (13 T-shirts)	\$140	\$200	\$200
Insurance	\$200	\$200	\$200
Meetings	\$100	\$100	\$343
Memberships	\$330	\$450	\$398
Internet Service	\$174	\$180	
Miscellaneous	\$0	\$0	\$0
Newsletters			
Postage	\$454	\$540	\$305
Production	\$436	\$650	\$510
Office Supplies & Expenses	\$74	\$50	\$0
	<u>\$1,974</u>	<u>\$2,500</u>	<u>\$2,039</u>
Net Income	\$795		\$471
Surplus, beginning of year	\$8,234		\$7,763
Surplus, end of year	<u>\$9,029</u>		<u>\$8,234</u>

One of his goals while in office is to meet with as many NNS member clubs as possible to discuss their relationship with NNS and how the federation can serve them.

A Conservation Credo – Like Colin Stewart, Bob Bancroft is a true naturalist. Like Colin also, he has come to devote his life to conservation of nature in Nova Scotia. It is not just coincidence that Bob was named to chair the Colin Stewart Forest Forum.

Very much in the spirit of the main purpose of the Halifax Field Naturalists, Bob spends much of his time educating the citizens of Nova Scotia in the natural history of the province. I don't think there is anyone in Nova Scotia more dedicated to the conservation of the natural history of the province—or anyone who has the credentials and public recognition of Bob Bancroft. He is, in short, the voice of the Nova Scotia natural environment, and he certainly deserves to be recognized for it.

– **Doug Linzey,**

CSCA Nominations Committee



MEMBERSHIP

In 2011 we again experienced a decrease in membership, declining from 119 to 105. The 2011 roll of 105 memberships was made up of 53 Individual, 31 Family, 17 Supporting, two Life, and two Student memberships. In addition we had four dues-paying institutional members (all libraries). Forty-four of our members also chose to join Nature Nova Scotia when joining or rejoining the HFN. This year the number of members who have provided us with their email addresses came in at 88, and we have been able to use this communication option to provide members with information on special events and opportunities to participate in public consultations. We have had some helpful feedback and welcome your comments at any time.

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

Total Memberships by Year

2007	2008	2009	2010	2011
129	127	121	119	107

– **Lillian Risley**

Membership Secretary



PROGRAMME

Our calls for help to expand our program committee were successful as we increased our membership to six members plus two valued consultants. Members were Janet Dalton, Elliott Hayes, Burkhard Plache, Richard and Grace Beazley, and myself. Our two valued consultants are Bob and Wendy McDonald. Our eight presentations included two travelogues, three on conservation, and three on ecology. Our field trips were evenly balanced with half close to home and the other half spread outside the city. We tried a bike trip on the Salt March Trail for a change of pace. Again, two of the most popular hikes were the waterfall hike and the paddle down the next phase of the Shubenacadie River.

A special thanks to Burkhard for developing and training us in the use of 'Google Group' documents, allowing us to organise our ideas and programme sheets in a

format that we can all share and work on together. He has made our jobs much easier.

Finally a big thanks to the volunteer speakers, field trip leaders, and note takers who volunteered their time and knowledge for our organisation.

– **Jim Medill,**

Programme Committee Coordinator



NEWSLETTER

The four issues from March 2011 to February 2012 (#142 - #145) comprised 64 pages of natural history articles, species lists, pictures, nature notes, and included reports on eight HFN talks and 14 HFN field trip write-ups. Thanks to everyone who submitted these, thereby adding to Nova Scotia's natural history records and observations. Last year's cost, including programmes, stamps, and envelopes amounted to \$890.00. Ideas are still being considered regarding reinstating colour covers for all four issues, but nothing has been finalised. It's reported by those who display them, such as libraries, that the colour covers attract much more attention and interest.

The Summer Issue, #143, included a very important and impassioned report by Donna Crossland, at an April 13th, 2011 rally at Province House – a rally not only against the massive, bio-mass clear-cuttings granted by the Provincial Government to Bowater Mersey, New-Page, Northern Pulp, Ledwidge Lumber and others, but also against the Provincial Government's complete disregard for Donna's and Bob Bancroft's excellent, well-researched paper "A Natural Balance: Report to the (forestry) Steering Panel Phase II". This is well worth re-reading, to remind all of us naturalists how 'big forestry' continues to devastate our province, thereby reducing and eliminating habitat for all our flora and fauna, some of which will never be able to recover. Nature Nova Scotia's 2011 AGM weekend in Cape Breton was also covered, with reports on some very informative talks and field trips. Also, the year-end report of the Young Naturalists Club (YNC), which HFN is delighted to support and promote, was also included.

The Winter Issue, #145, noted a new provincial YNC coordinator, Robin Musselman. There are now five new YNC chapters around our province – in Wolfville, Lunenburg, St. Margaret's Bay, Stellarton, and Wittenburg (between Stewiacke and Elderbank, Colchester County); it's wonderful to see so many enthusiastic youngsters getting involved in our province's natural history. Kudos to Karen McKendry, Laura Lambie, Robin Musselman, and all the supportive and interested parents. Also in the Winter Issue – an item about longtime HFN members Peter and Linda Payzant, who garnered the Entomological Society of Canada's (ESC) important Criddle Award, presented to non-professional entomologists who through their passion for insects have made significant contributions to entomology in Canada. Bravo, Linda and Peter!

Our useful seasonal Tide Table, Nature Notes, and Pat Chalmers' factual and informative Almanac once again rounded out another year of The Halifax Field Naturalist. Don't hesitate to make suggestions for any changes

you would like; you may submit articles, reports, or items on anything you yourself think is important to the natural history of Nova Scotia and/or to the Halifax Field Naturalists; this is the newsletter of your own local natural history club.

– **Stephanie Robertson,**
Editor



SPECIAL ARTICLES

THE BSLB ‘ADVANCES’

WORRISOME BEETLE FOUND IN NEW BRUNSWICK BSLB ADVANCES: CITIZENS ARE NO FURTHER AHEAD

– **Christopher Majka,**

(Entomologist Christopher Majka, a research associate with the Nova Scotia Museum, specialises in the study of beetles. This article is reproduced, with permission, from the Atlantic Forestry Magazine, November, 2011.)

On August 31, 2011 the Canadian Food Inspection Agency (CFIA) announced that it had collected specimens of the Brown Spruce Longhorn Beetle, *Tetropium fuscum*, (BSLB) in Kouchibouguac National Park in New Brunswick. The CFIA suspected that the beetle may have been transported to New Brunswick on firewood. This was the first report of the BSLB in New Brunswick and the first outside of Nova Scotia.

The CFIA also announced that materials that could contribute to the dispersal of the beetle (i.e., wood) would be restricted from moving in and out of a minimum one-kilometre area surrounding the find-site in the park, and that further restrictions might be required. Should New Brunswickers be concerned? Yes – not about the BSLB, but about the regulatory nightmare and attendant costs that might be inflicted on the province as a result of this finding.

In a series of articles published in 2009 in the Atlantic Forestry Review, I outlined a central problem with respect to the entire CFIA containment, eradication, quarantine, and regulation efforts related to the BSLB – there is no scientific evidence that this beetle is even a pest.

In the smallest of possible nutshells: the BSLB is without doubt an alien species, but this doesn't necessarily imply that it is an invasive one. Only a very small proportion of the former become the latter. It has been very well studied in Europe, where it is not invasive, and there are many scientific reasons to believe that it is behaving no differently in Nova Scotia than it is throughout its European range. There, and here, they feed on dying trees that have reach a certain stage of ill health where they are colonised by various wood and bark boring insects – part of the natural process of decay in

NOMINATIONS

At the March 1st Annual General Meeting of the Halifax Field Naturalists the following members were elected to the HFN Board for the 2012/2013 Year: President, Janet Dalton; Vice President, Clarence Stevens; Secretary, Richard Beazley; Treasurer, Doris Balch; Directors Lillian Risley (Membership), Stephanie Robertson (Newsletter), Grace Beazley, Burkhard Plache, Ingrid Plache, Elliott Hayes, and Allan Robertson (Past President).

– **Allan Robertson**
Nominations Committee



forests. In Nova Scotia they feed almost exclusively on Red Spruce. Virtually all investigators now agree on two key points: Brown Spruce Longhorn Beetles do not attack healthy Red Spruce; and when a tree becomes of sufficiently ill health, BSLBs will feed on it.

The essential question is this: is that level of ill health any different than is the case with respect to the many native wood and bark boring insects already common in our forests? If so, then the BSLB could be considered an invasive pest. If not, then it has simply joined an already existing suite of insects that, from an ecological perspective, do exactly the same thing the BSLB does: help in the natural processes of decay and nutrient recycling in forest ecosystems. BSLB or no BSLB, Red Spruce are dying and insects help in that process of decomposition.

Principle Ignored

Why don't we know the answer to this question? Because the CFIA have never asked it and have never commissioned the relatively simple and inexpensive scientific trials that would be required to do so. It appears that the decision was made at the outset by the CFIA to simply regard the BSLB as an invasive species, and there's been no attempt to actually provide evidence that this is so. A first and central principle of risk assessment and risk management processes must be to actually determine if there is a risk. Otherwise, we fail to distinguish between *bona fide* invasive species and introduced species that are not.

Since 2009, my articles have received considerable attention. I've testified about the matter to the Resources Committee of the Nova Scotia Legislature and more recently before the Canadian Parliament's Standing Committee on Environment and Sustainable Development. I've been contacted by federal and provincial officials interested in the experiment that I proposed that would determine if the BSLB is a pest or not. However, no fieldwork has actually been done that would help settle the question. So, we are no further ahead in 2011 than we were in 2009, or indeed in 2000.

There is, moreover, another dimension to this issue that bears attention. Since the 1960s forest biologists have been documenting the decline in health and vigour of Red Spruce in the United States. In some stands in northern New England, 30 to 60% mortality of Red

Spruce has been observed, and the vigour of surviving trees is diminished. In the Maritime Provinces there are similar concerns. Potential causes of this decline in health are climate change, air pollution (particularly acid rain), insects, and disease.

In one important study conducted in New York and western New England (Proceedings of the National Academy of Sciences 85: 5369-5373), investigators determined that climatic factors – unusually warm summers followed by unusual cold snaps during the winter – were important factors, responsible in part for this decline.

Such increasingly pronounced fluctuations in weather are precisely what is predicted to occur during the course of climate change. Climatologists predict that the broad pattern of climate change will be to accentuate current patterns; dry areas will experience more droughts; wet areas more precipitation; heat waves will be more severe; cold snaps colder; forest fires more frequent; extreme weather events will occur more often.

Consequently, it would be reasonable to expect that, as climate change proceeds, Red Spruce in Eastern Canada will continue to be affected by such weather fluctuations. It will suffer corresponding declines in

health and vigour, more suitable trees will become available for the BSLB – and for many other native species including the Eastern Larch Borer, *Tetropium cinnamopterum*, Ribbed Pine Borer, *Rhagium inquisitor*, and the Black Spruce Borer, *Asemum striatum*, all of which colonise Red Spruce to feed on. We may, therefore, see a deterioration of Red Spruce in the coming decades – but one that is not caused by an invasive species, but one caused by climate change. This would mean that the BSLBs appearance may be a symptom of the problem and not the cause.

Note

Subsequent to the publication of this article, the CFIA announced that the BSLB has now been found on nine properties on the edge of Lunenburg. The CFIA has prohibited the movement of spruce logs, bark, or wood chips from these properties – about 14 hectares in total. In the coming months and years, the residents of Lunenburg can expect to experience the same problems that citizens in the Kouchibouguac area - and countless Nova Scotia communities have faced – in the endless pursuit of this beetle, all without having ascertained if there is any valid reason to be concerned with the presence of this species.



HFN TALKS

UNDER OUR HARBOUR 1 DEC. – Lillian Risley

“A Peek Under Halifax Harbour”, with Bob Chaulk, who has been scuba diving for 25 years in Halifax Harbour and other coastal waters – from Labrador to the Caribbean.

In 1987, Bob began exploring the waters near Sambro, with a particular interest in the wrecked vessels that could be found in that area. A colleague eventually persuaded him to try out the waters of Halifax Harbour, pointing out that most of the objectionable matter making its way into the harbour floated, so it did not interfere with scuba divers who were active at deeper levels! Bob added that, with improvements in water treatment, the Harbour waters are now ‘fairly respectable’.

On one incredibly cold New Year’s Day, on a Purcell’s Cove dive, he found a bottle that he was able identify as a Felix Gray bottle from 1910, and that was the beginning of his passion for finding, and identifying, old bottles in the waters around Halifax. For him, the bottles tell a story of historical development and of the lives of the people living and working on and near the water. A bottle is a personal thing – someone once drank out of it. A pipe, also, found at a particular site, tells us that someone probably sat in his boat at that spot having a friendly smoke. Milk bottles often carried the names of local dairies and one can trace the growth and ultimate demise of a number of them in our area.

Soon he was able to work out the characteristics and

identity of items he found. The early pop bottles were round, made of glass, and had a very heavy bottom because of the uncertainty around the possible eruptive effects of the CO₂ which they contained. The bottles of the old breweries, such as Oland’s, carried their names in the glass. There were perfume bottles, pop bottles, and sauce bottles – including an American one dated 1850. There were crockery vessels for such contents as ink, boot blacking, and salt; one salt container was labelled “British Table”. Some bottles were crooked, some had rounded bottoms, and sometimes the bottle and lip had been made separately. Some were blown, some were rolled out and the bottom flattened. Beer bottles appeared in the late 1800s, along with Halifax pop bottles.

A very large furnace was required to melt the sand for glass manufacturing. Nova Scotia Glass was our first glass manufacturer (1899) and subsequently there was Lamont and one other. These bottles had ‘crown’ tops – the ones we are familiar with today. Milk was first delivered in bottles in 1910 from a Cogswell Street dairy, the Scotia Pure Milk Company. Previously it had been delivered in large jugs and poured into the household-er’s own container. Other milk bottles proudly carried the name Westmount Dairy, Lower Chebucto Road, I. S. Higgins, Prop. Bottle makers soon began to produce coloured bottles for various uses. Green was the first colour, it was created by the iron in the sand used for making the glass. ‘Sun cast’ bottles were another example. Magnesium was included in the glass and it



produced a clear bottle. But when it was exposed to the sun, the ultraviolet light made it turn a really nice pink colour. These bottles were called 'Amethyst'.

There was a thriving glass industry in Nova Scotia. Nova Scotia Glass made plates – the Mount Brothers made bottles. There is a display of these and others in the Museum of Industry in Stellarton. Many bottles were for personal use products. One example was Minard's Liniment, a product invented by Levi Minard who lived in Newport Corner. It was primarily manufactured in the U.S., but Bob has one sample with both the bottle and liniment being manufactured by the Lamont Company in Trenton.

The Northwest Arm and Halifax Harbour also contain a large amount of crockery. The Northwest Arm is especially interesting because of the large estates that existed there. Bob has found a very early Saraguay Club plate and many items of 'shipping' china carrying the crests of various shipping lines. The Red Cross Line (which was owned by the Bowrings and travelled between St. John's, Halifax, and New York) was a prominent source of finds – glass, crockery, and (especially) china that survived very well in the water. Other artifacts found include pieces of the first china bearing the name of the Nova Scotian Hotel. It was manufactured in Limoges, France and dates from the 1920's. Another find carried the initials 'CSN', the Confederate States Navy. Near the Waegwoltic Club, he found a plate decorated with the letter 'K', which he learned came from the home of Thomas E. Kenny, whose father was Sir Edward Kenny, the founder of the Merchants Bank of Halifax. Thomas later became president of the bank and it eventually became the Royal Bank of Canada.

The area of the Narrows between Halifax Harbour and Bedford Basin is also a favourite of divers because it concentrates the items that were thrown away/dropped and the current tends to clear the silt away. Two bridges were built across the Narrows in the days of the Inter-colonial Railway, around the end of the 1800s. Both bridges were swept away, but the construction activities tended to concentrate any throwaways. During dives in that area, Bob found a lantern globe and a number of locks.

During the time when he is not diving, Bob works on his collection of 'finds'. He estimates that he has gathered about 20,000! He's carried out research regarding many of these, and has created a catalogued collection in his house of approximately 1,800 items.

It appears that his enthusiasm and dedication will see him continue his successful retrieval and preservation of many more fragments of Halifax's past.



RISING SEA LEVELS 5 JAN. – *Stephanie Robertson*

Dan Doucette, a professional photographer from Halifax, gave a very interesting presentation on sea level rise in the context of global warming. Dan does much of his work for magazines, and he was pleased that Canadian Geographic asked him a few years ago if

he was 'free' to do a series of photographs for an article on rising sea levels in Nova Scotia. He was given a fair degree of latitude during the assignment, and the magazine provided only limited direction. He was also fortunate that the manuscript of the article which his photographs would illustrate had been completed, so he had the benefit of knowing the story before he began the assignment, a big advantage, but apparently a rare occurrence.

The first part dealt with taking 'environmental portraits' of people referenced in the article. Environmental portraits are taken in a natural setting appropriate to the topic. In this case, most of the portraits were taken at a seaside or harbour front. We saw one of K.J. Gandhi, an architect involved in the development of a waterfront apartment in Bedford Basin. Portraits of Mr. Gandhi were taken at the development's site on the Bedford shoreline (both on the shore and standing in the water). Mr. Gandhi, incidentally, has a great deal of experience working at waters' edge, and he plans a very healthy sea wall for his development; it will be roughly 20 feet high, twice as high as regulations require!

Another environmental portrait was of John Charles, the HRM senior planner responsible for helping to develop HRM's response to sea level change, and for planning for 'the worst' along the Halifax waterfront. John was photographed on the remains of a decaying sea wall near the construction site, and on the Alderney Landing site juxtaposed against a picture of it immediately after its destruction by hurricane Juan in 2003.

There were also included pictures of Donald Forbes of the Geological Survey of Canada, who oversees a project to measure changes in waterfront elevations and marine landforms in our region on a long-term basis. As well, there were shots of scientists measuring elevations at specific sites along the shoreline; these were to be used to illustrate how shoreline elevations have changed over time, and also as input for forecasting what may happen in the future.

There were interesting shots of eroded drumlins, as well as drumlins and headlands in the process of erosion. While showing us these, he noted that had he been at these same locations 100 years ago, he would have been perhaps 20 feet underground!

A chronological series of shots of Horseshoe Island, at the head of the Northwest Arm, showed the extent of sea level rise that has taken place there. It was very evident that water levels are much higher now than when the retaining walls were designed and built. A stone walkway, originally built as an entry to the beach, was now underwater at high tide. There was Dan, sitting at the side of the steps, pondering the water level which was halfway up them.

We saw a high tide shot at the Halifax waterfront; the water level was extremely close to the boardwalk! Then Dan recounted tales of storm conditions where the water level was even higher than we had just seen. One such case was Murphy's restaurant at Cable Wharf, where the main floor had been actually underwater during hurricane Juan. To counteract the rather disturbing shots of high water, and talks about potential water damage, Dan



showed some absolutely gorgeous photographs of the Halifax shoreline taken from the harbour itself. We all ooh-ed and aw-ed appropriately.

Rising sea levels have allowed storms to cause significant damage to our seaside highways. On the paved road near Fisherman's Cove along the Eastern Shore, virtually half the road's asphalt surface had been replaced by gravel. In speaking with local residents, however, he was assured that the roads are washed out and repaired on a fairly regular basis.

There were some very stark pictures of Cow Bay where dead trees had been drowned by saltwater intrusion, and near Lawrencetown and further east, we saw clay cliffs with evidence of erosion and 'slumps' caused by rising sea levels and heavy weather.

Measurements show that sea levels have risen by about 15 cm over the last century, but in Nova Scotia it is worse than that, as our sea levels have risen by 32 cm over the same period. This extra increase is because our area is slowly sinking due to a glacial rebound effect. During the last Ice Age, the huge Laurentide Ice Sheet in the middle of North America was heavy enough to sink the land underneath it. This caused areas on the periphery such as Nova Scotia to rise – rather like the edges of a waterbed when someone is in the middle. The ice subsequently melted and retreated, the load was released (the person gets off the bed), the centre rose up, and the peripheries subsided again. This is all still happening. So, in Nova Scotia, we're not only faced with rising sea levels, as is occurring in other areas of the globe, but also with a sinking landmass due to the glacial rebound.

During bad storms, sea levels rise even more due to lower atmospheric pressure, and in the heavy onshore winds and high tides the destruction wreaked by the storm's surges is heavily compounded. Once again, we saw more dead trees in the middle of other beaches along the south shore, and drowned forests near their waterlines, indicating that water levels have increased substantially over the past few hundred years.

The presentation ended with a simple but dramatic picture of the cement-capped stone wall in the Dingle Park. It was underwater by roughly a foot, it seemed, at a normal high tide!



AMAZON RAINFOREST 2 FEB. – *Stephanie Robertson*

Barbara O'Shea is an occupational therapist, and founding Director of the School of Occupational Therapy at Dalhousie. She's enjoyed travelling for most of her life, to unfamiliar natural environments and different cultures in the Eastern Arctic, Kenya and Tanzania, Antarctica, South Georgia and the Falklands, Iceland, and Haida Gwaii. Barbara travelled to Peru to explore the headwaters of the Amazon with the tour company "International Expeditions".

Boasting some astounding statistics, the Amazon is by far the most immense river system in the world, originating from headwaters high in the Andes Mountains. It fol-

lows its eastward course for over 4,000 miles, including over 1,100 tributaries, 17 of which are over 1,000 miles long, before emptying into the Atlantic Ocean at Belem, Brazil. Almost 14,000 miles of Amazon waterways are navigable, and several million(!) miles of swamp and forests are penetrable by canoe as well.

Over two-thirds of all unfrozen fresh water on earth is found within the Amazon basin, and it discharges more than 500 billion cubic feet of water every day. The terrific force of this current, generated by its immense volume, sends fresh water flowing 125 miles out into the Atlantic as a separate entity before it finally mixes with the salty ocean. The burden of all its silt, finally deposited at the Amazon's mouth, has created the largest river island in the world, roughly the size of Switzerland, and its daily outflow would sustain New York City's fresh water needs for nine years.

Over 20% of Earth's oxygen is produced in the Amazon's rainforest, which supports a very large and diverse natural environment – there are estimates of over one million species of plants (of which only 25,000 have been described!). There are large populations of distinct large and small animals, but many are very hard to see in the dense vegetation. The exceptions are bats – the only flying mammal, and monkeys – which are spotted as they move in groups throughout the forests.

The bird fauna of the Amazon Basin is the most diverse and spectacular in the world; in Peru alone, there are 1,700 species. This whole immense basin boasts more than 4,000 species of butterflies; more than 20,000 species of moths; 143 species of reptiles; 100 species of amphibians; and more than 2,000 species of fish. What a rich area for naturalists and photographers! Plant, animal, and human populations have lived in the Amazon rainforest in harmony for millions of years, but of course, modern man now poses the greatest threat to this amazing, lush ecosystem.

The tour's voyages took place at the headwaters of the Amazon in the Andes, on two of its major tributaries – the Ucayali and Marañon Rivers. They also travelled on many of the smaller tributaries and through some of the swamps and forested areas in smaller boats. Their vessel, 'La Amatista', was 'purpose-built' for tourists and based upon a 19th century design. The separate trip excursions themselves were done in skiffs from La Amista.

Barbara's tour started in Iquitos, Peru, located 2,300 miles inland. From Iquitos they drove down the only paved road in the area; a 100 km stretch. They then boated overnight to the beginning of the Ucayali, from where they explored along to the confluence with the Marañon. They were on the river for seven days.

Many wonderful photos of this lush locale and its exotic wildlife were shared with us; beautiful sunsets and riverside scenes with birds on the shore; a Black Witch Moth; an iguana in the trees; a Great Egret (white); a great Blue Hawk; and a Great Potoo. In the area which they explored, a 40-ft water level change occurred seasonally! We saw shots of local boats travelling on the rivers, and 'taxi-boats' as well.

They embarked at some of the riverside villages where there were 'boat stops' with people waiting for transportation up- or down- river. Here Barbara snapped

a beautiful Yellow-headed Caracara; another iguana; and a Cocoye Heron. There were many mangrove stands, and there was black, brown, and clear water in the rivers, depending upon the place and/or where that particular water came from. We were shown a Houatsin, – a chicken-sized species of bird with a prominent claw on its wing.

The tour's participants were out on the river all day, every day, and every night they would tie up along the shore for sleeping. After viewing a delicious breakfast which had been laid out for them on their skiff, we were shown shots of immense Royal Water-lily Pads – seven-feet across! There was a Laughing Falcon; a boat ferrying produce for sale; an Anhinga; a local with a baby Spectacled Caiman; a Polka-dot Frog; another Great Potoo; and a Three-toed Sloth.

One of their visits was to a natural reserve, the Picaya Reserve. We were shown a giant catfish – the Armoured Catfish, and many houses on stilts with completely open walls. George, their guide and naturalist, had to use his machete when they navigated the swampy densely vegetated areas. There were Neotropical Cormorants; Long-nosed Bats; an Armoured Millipede; and we saw a beautiful shot of a spider in the rain. An interesting talk by local villagers on Achiote fruits and the harvesting of yuccas (also known as manioc or cassava, which they said was good for the skin) was on their agenda, and they did some village shopping and swimming as well. There were good close-ups of Leaf-cutter Ants, and some of the village shamans discussed some of their local herbs and plants.

They stayed at a lodge in the jungle, where pictures had been taken of a beautiful Red Macaw and a blue and yellow one as well. We were shown children in boats, the selling of produce from boats, and Red Howler and brown Capuchin Monkeys. They went on a fishing trip for Red-bellied Piranha, which Barbara learned are not as dangerous as its myths. Later on they ate their catch with yellow potatoes; it was delicious!

After a picture of the huge confluence of the Ucayali and the Marañon, they began to explore the latter. We saw a beautiful Swallowtail Moth, and they hiked in Terra Firma Park and saw Ceiba plants (kapok). There were Black Howler Monkeys, Poison-dart Frogs, Grasshoppers; and lovely flowers. Back at the lodge, they were entertained by their crew which doubled as a musical band called 'The Horned Screammers'!

We also saw the Iquitos market with its centre square, church, lots of motorcycles, and a beautiful bush with orange flowers. George shared some of his slides for Barbara to show as well – there was another Great Potoo, excellent close-ups of birds, some iguanas, and Pygmy Marmosets.

Some of the last pictures of this wonderful tour were of many monkeys including Night Owl Monkeys with their huge eyes, a fantastic looking spider, and alligators.

Thank you to Barbara for this truly wonderful presentation; I'm sure everyone in the audience who hadn't been there was wishing they could go sometime in the future!



2012 HFN AGM & MEMBERS'

SLIDE NIGHT

1 MAR.

– Gillian Webster (author) & Grace Beazley (recorder)

Again this year, Peter Webster coordinated the programme after the HFN AGM in March when members share their photographs. Over the years this tradition has been called Members' Slide Night. However, now that name seems no longer appropriate with members using digital images and even video! It would be helpful if members would suggest a new name for this HFN programme highlight. Why not call the HFN Newsletter Editor Stephanie Robertson with your idea at 422-6326, or email her at sdhaythorn@ns.sympatico.ca.

This annual presentation provides a forum for HFN members who prefer not to give an extensive 'talk', but who are willing to share some favourite natural history or vacation images. Also, this year the presenters were requested to provide a brief description about their presentations. The following tapestry, woven from their descriptions and notes taken by the co-authors, shows you some of the highlights.

IGUAZU FALLS

Patricia Leader gave the first presentation and began by showing a map of South America and pointing out where she travelled in Argentina and Brazil during November, 2011. She went there to see Iguazu Falls, having already seen Victoria and Niagara Falls. She also gave some size statistics of the three falls for comparison sake.

After arriving in Sao Paulo, Pat took a four-hour flight to Manaus, a city of two million people; it is the capital of Amazonia. From there, her tour group took other flights to the Pantanal and Mines area, eventually arriving at Iguazu Falls, on the Iguazu River. She showed images of the magnificent falls, which are one of the world's largest; there are actually some 275 falls making up the whole. The falls are semi-circular in shape, cover an area of about 2,700 m (nearly two miles), and have a number of levels. The different levels of hiking paths allow one to take excellent views of the cataracts, several of which were featured dramatically in the movie, "The Mission."

Pat explained that the Iguazu Falls are on the border between Brazil and Argentina. She was thrilled to be visiting the Brazil side on November 12th, 2011, the day they were announced to be one of the "New7Wonders of Nature". In fact, Brazil was chosen as the home of not one, but two, of the New7Wonders of Nature: both the Amazon river itself, and the Iguazu Falls. (For more information, visit <http://nature.new7wonders.com>). She also told us about trying to find out if the Bay of Fundy was named one of the New7Wonders and only learned later it had not made the cut. While her photos looked as if some had been taken from the air, Pat was really on some of the local man-made 'walkways' there! Two particularly beautiful images showed a rainbow in the mist rising up from the waterfalls.

The next day, Pat hiked on the Argentine side of the falls. As at our own Niagara Falls, visitors have their own reasons for choosing their preferred viewing sites.



Below its confluence with the San Antonio River, the Iguazu River forms the boundary between Brazil and Argentina. Iguazu National Park, with the falls as its main feature, was added to the World Heritage List some years ago for two reasons – its exceptional natural beauty, and its habitat of rare and endangered species. Pat also showed images of some of fauna she saw, including close-ups of a large lizard (Monitor or Komodo??) and a Golden Headed Tanager.

Pat commented that “the Brazilian falls are spectacular. But I think the Argentina side was the best, even though it rained all day as against the +30°C of the previous day.” She also explained that unlike at Canada’s Niagara Falls, the Brazilian side has allowed only one hotel to be built in the park, and that commercial outlets around the falls are kept to a minimum.”

ST. MARY’S SCIENCE FACULTY CALENDAR

Peter Webster suggested his presentation would be a ‘change of pace’, as he showed 12 winning photographs from the 2010 and 2011 photographic contests held by Saint Mary’s University Science Faculty. Each year, 12 photos are featured in a calendar, and they are submitted from diverse members of the Saint Mary’s Community (SMC): undergraduate and graduate students; faculty; staff; and alumni. One photographer scored twice with her talents in Peter’s selection! The professionalism of the chosen photos is so high, that before publication, the internet is checked to make sure there are no plagiarised photos!

The first image showed a Snapping Turtle, followed by a panorama taken from the top of B.C.’s Granite Mountain, and then a cunning close-up of a squirrel emerging from its home in a tree. The macro-style photos captured an astounding array of landscapes and animals. Some macros of a feather, a dragonfly, a caterpillar, and a raft of baby swallows being fed by their mother were amazing in their details. The photo of a nebula in the Monoceros constellation (the Greek name for unicorn) was stunning. The constellation is difficult to see with the naked eye; however, with a telescope, it can be seen to contain many clusters and nebulae.

Below are the titles given to the 12 images by the photographers, their names, and their SMC connections:

Snapping Turtle – near Eagle Lake, Ontario; Brian Hotson, SMU Writing Centre.

Granite Mountain – Rossland, B.C.; Alison Bijman, Undergraduate, Environmental Science & Biology.

Life and How to Live It – Shubie Park, N.S.; Tara Inman, Geology, Forensic Science & Animal Care.

Balance – a dragonfly trying to balance itself on a windy day while resting; Xiang Yang, Regional Analytical Centre.

Salto Angel – Angel Falls, Bolivar State Venezuela – Juliana Frisso, Undergraduate, Chemistry.

Rosette Nebula – a planetary nebula in the constellation Monoceros; a mosaic of four images taken from the Florida Keys using a five-inch telescope; Dave Lane, Astronomy.

Green Turtle Survey – at Sipidan (Malaysian Borneo); Oliver Woods, M.Sc. Applied Science candidate.



Flight Over a Virtual Universe – showing the temperature of gas in a slice of a simulated universe where red equalled hot and blue equalled cold, and every dot was a galaxy; Dr. Rob Thacker, CRC Computational Astrophysics.

Changing Seasons – Shane Costantino, Graduate Studies & Research.

Swallow Babies – adult Swallows feed their young shortly after fledging; Shannon Doane, ITSS.

Punk Rocker of Caterpillars – at Graves Island, N.S.; Tara KcKinney, B.Com., 2001.

Light as a Feather and Water – at Ovens Park, N.S.; Tara KcKinney, B.Com., 2001.

HFN FIELDTRIPS 2006-2011

Jim Medill presented a video of photographs from HFN fieldtrips he and his wife **Jenny** took in their first five years in Nova Scotia. This 10-minute video could be used to ‘sell’ field trips to future members and/or to entice current members to go on more field trips! The images had been labelled and so the video could stand on its own. Jenny took most of the photos, and the resulting video production was a joint computer project. It captured the flavour of coastal hikes and inland routes, and featured several Nova Scotia folksongs, which punched home the beauty of the province’s landscape.

There were shots of hikers posing for photos – anywhere from visiting the Fundy Tidal Bore, exploring Noggins Corner Historic Walking Trail, to paddling in the Shubie Canal waterways in 2011. Images at Windhorse Farm showed the winding forest paths and the big red barn that many recognise as the Farm’s ‘poster’ feature.

The magical journey continued along the shorelines of the province, including the coastal Gaff Point Trail along from Hirtle’s Beach, and the well-known Pennant Point Spine Walk along Crystal Crescent Beach. Further afield, on a beautiful day in May, an HFN group was shown enjoying the Cape Split Trail along the cliffs of Blomidon in the Annapolis Valley. Indeed, a unique and beautiful presentation!

ROADSIDE WILDFLOWERS IN NOVA SCOTIA

Richard Beazley introduced his presentation saying: “To whet your appetite for what is coming soon to a road near you, I’m taking you with me on a speedy visit to some of the native and introduced wildflowers that grew in beautiful profusion along the roads of Nova Scotia last spring, summer, and fall.”

This delightful road trip around the province gave both a broad, landscape view and a macro, eye-level view of many beautiful wildflowers. Richard’s macro shots of the centres of many of the flowers were stunning; they showed nature’s miracles of design that is usually missed unless one looks more closely.

His presentation concentrated on late summer and fall, when many of our showiest wildflowers line the roadsides. We were treated to some lovely shots of asters, both the white New York variety and the purple New England one. We stopped to look at abundant stands of Chicory, whose delicate flowers last only one day. Commenting on a host of wildflowers, Richard paused to remark on the Common Cattail which has numerous

male flowers that form a narrow spike at the top of the vertical stem. Each male (staminate) flower is reduced to a pair of stamens and hairs, and withers once the pollen is shed. The very large numbers of tiny female flowers form the characteristic, dense, sausage-shaped 'finger' on the stem below the male spike.

Richard showed us both fields of flowers and their corresponding individual close-ups. This was a fascinating way of seeing such tiny plants as Hop Clover and Sweet Yellow and White Clover. On the other end of the size scale, a single, dignified, Common Mullein stood by itself – like a hitch-hiker beside the road. In between were shots of pink and purple Lupins, Japanese Knotweed, Black Knapweed, Yellow Hawkweed, Ox-Eye Daisies, Bull Thistle, and many more plants. The other flowers shown were Birdfoot Trefoil, Black-eyed Susan, Rabbit Foot Clover, Coltsfoot, Curley Dock, Daisy Fleabane, Evening Primrose, Fireweed, Goldenrod, Jewelweed, Spotted Joe-Pye Weed, King Devil Hawkweed, Purple Loosestrife, Meadowsweet, Pearly Everlasting, Queen Anne's Lace, Soapwort or Bouncing Bet, Staghorn Sumac, Vetch, Crown Vetch, and Yarrow.

As Richard pointed out, when he talked to people who quizzed him on why he was taking pictures of weeds, he would protest that they were not weeds, but wildflowers. One person then asked him to take their particular 'weeds' back to Halifax with him!



COSTA RICA

Burkhard Plache gave the fifth presentation and in it he shared images taken in Costa Rica where he and his wife Ingrid vacationed for two weeks in February, 2011. On a map, he pointed out the Corcovado and Manuel Antonio National Parks. Both are located on the Pacific Coast and differ in a number of ways, some of which Burkhard pointed out. Corcovado is accessible only via 40 km (two hours) of dirt road, whereas Manuel Antonio is close to the town of Quepos, and thus easily reached.

The first part of their journey led into the Corcovado National Park in southwestern Costa Rica. It is famous for its wildlife, jungles, and in particular, its remoteness. It looked breathtakingly wild and one of the first things Burkhard and Ingrid did to access their destination was to walk a long, narrow beach, paralleled on each side by the sea and the jungle.

Ingrid had taken photos of the Park from the small plane which took them out. Burkhard explained that the remoteness of Corcovado ensures the survival of wildlife not seen in many other regions, including Jaguar, Tapir, and American Crocodile; however, they did not see any of these. The first image showed a white-nosed Coati, a member of the raccoon family, and just as bold. Another shot captured a Northern Tamandua (a large species of anteater) making its way through the lower canopy branches. Their guide located for them all four species of monkeys present in Costa Rica. Burkhard showed images of the Spider, Squirrel, and White Capuchin Monkeys but not the fourth type, the Howler Monkey. Brown Pelicans flew overhead, and on the beach, coconut seedlings sprouted from their parent coconuts lying around their tree roots. Burkhard remarked that this was the first time he had seen germinating coconut seed-

lings. It was quite a remarkable natural history image for the audience too!

While the accommodation at Corcovado was satisfactory to the visitors, the 'evening drop-ins' were less so; many large insects, each exceeding ten cm in length, were attracted to the lights of the lodge. One image showed a huge green moth that had landed on a man's shirt front. Another showed a Rhinoceros Beetle, one of a large group of beetles, with many differently shaped mouth-pieces. Going to their room one night, Ingrid and Burkhard found a large and beautiful grasshopper waiting for them on the doorknob, looking for all the world as if it was about to open the door!

The second part of their vacation, to the smaller and much visited Manuel Antonio National Park, was also rewarding. Burkhard remarked that they went without a guide this time, and as a consequence, saw fewer animal species. Nonetheless, quite a few animals had become used to human visitors, and thereby offered many photo opportunities. They got quite close to a number of reptilians; images shown included a Whiplash Lizard, a Black Ctenosaur Iguana (also called the Black Spiny-tailed Iguana) and a Common Basilisk Lizard. It is nicknamed the 'Jesus Christ Lizard' because, when fleeing from a predator, it can run very fast for up to a few metres on top of the water. A very hairy Two-toed Sloth and numerous birds were seen, two of the species being Toucans and Brown Pelicans. The last image was of a magnificent, fantastic sunset after a rainy day!

Words of Thanks Many thanks are offered to Peter Webster for his efforts in coordinating this special HFN members' photo forum, and also to Gillian Webster for becoming the main author along with the volunteer recorder. As well, many thanks are offered to the presenters for sharing their photographs and also for writing up the requested brief descriptions about them.



EAC NATIVE PLANT TALKS

EAC is presenting a series on native plants – how to use, protect, and grow them – every second Thursday from 7:00 to 8:30 p.m. at the North Branch Library, Gottingen Street, Halifax. The schedule for April and May so far is as follows:

12 April – Savayda Jarone, MNIMH, Medicinal Plants; uses, protection, and how to grow. **26 April** – Jayme Melrose, BCD, PDC; landscape design, permaculture, and plant communities.

10 May – David Patriquin, PhD; plant identification, habitats, and native species in the Halifax area.

For more information, contact Rebecca Singer, urban-garden@ecologyaction.ca, or go to www.ecologyaction.ca.

FIELD TRIPS

CRYSTAL CRESCENT HIKE

Changes to the crystal Crescent species list –
In July of last year, HFN conducted a hike to Crystal Crescent Beach, and Bob McDonald would like to share some changes to its species list (*Issue #144*,; pp. six and seven).

His reference to Tall Meadow-Rue should be changed to just Meadow-Rue, *Thalictrum pubescens*; there is only one species in Nova Scotia. Also, the reference to Purple Meadow-Rue should be deleted. Although it does exist as a species, it is not found in N.S.

Mountain Sandwort is now *Minuartia grœnlandica* (not *Arenia grœnlandica*).

The reference to Dwarf Huckleberry was incorrect; it should have been Bog Huckleberry, *Gaylussacia dumosa*. He didn't realise that a blueberry, *Vaccinium*, would ever be referred to as a huckleberry.

Mountain Holly is *Nemopanthus mucronata*, and so not a true holly at all. Patricia Chalmers pointed this out, and it is also so named in Ray Fielding's shrub book, which Bob highly recommends. It is also called False Holly, but Bob dislikes using the term 'false' to describe any species.

Sarsaparilla is Wild Sarsaparilla, *Arelia nudicaulis*.

Whorled Aster should be Wood Aster, *Aster acuminatus*. Actually, the asters now have a different genus, *Symphotrichium* (mostly!)

The Fireweed is the *Epilobium* species. Bob didn't realise that there was another flora species in N.S. called Fireweed.

Gall-of-the-Earth, a name also used by Pat Chalmers, is also called Lion's Paw, *Prenanthus trifoliolata*. It is not the same as Pearly Everlasting, *Anaphalis margaritacea*.



SHUBENACADIE CANAL HIKE

– Janet Dalton

Date: Sunday, January 15th

Place: Fairbanks Museum, Shubie Park, Dartmouth

Weather: Cloudy and cold, -10°C

Leader: Janet Dalton

Participants: 10



This was more of a history hike than a nature hike, and the day was very, very cold with a strong wind. We gathered in the museum there, where we met Bernie Hart for a 20-minute talk about the canal – why it was built, how it was built, who built it, and how long it was in operation. After his presentation we hiked along both sides of the waterway; the paths were very icy, so we walked with great caution.

The canal was begun in June, 1826. It had been

a long-time dream of Sir John Wentworth who had watched the Mi'kmaq use this chain of lakes as their travel route to the Bay of Fundy. Although Wentworth died in 1820, his idea of building a canal was shared by many businessmen of the time. Back then, travelling by road was very difficult as they were in very poor condition. Also, it was too long and dangerous a journey to sail around Cape Sable to reach the Bay of Fundy. Canal building was popular at the time, with the start of the Welland Canal joining Lake Ontario to Lake Erie, and the Rideau Canal that joined Kingston to Bytown (Ottawa). So, shares were sold and the Shubenacadie Canal Company was formed, with members such as Alexander Keith, Lord Dalhousie, Samuel Cunard, and others. Unfortunately, they ran out of money after 13 of the 17 locks were either completed or in mid-construction.

The canal development stood still from 1831 to 1853. Then it was decided to begin construction again, but this time the canal would be built in the American fashion, not the more expensive British system. Instead of using quarried stone and hiring many stone masons to build the walls, they used wooden slats built vertically between locally found stones. The canal was in service from 1853 to 1870. Ironically, one of the products that was transported through the canal was iron for railroad building; the railroad, of course, hastened the end of the canal's usefulness.

In 1984, Dr. Stephen Davis from St. Mary's University, along with some of his students, had excavated the ruins of a 'canal camp' there. They found the stone foundations of a large house and a smaller hut. There was also a round foundation that may have held explosives used in the canal's construction. There were also ceramic shards, horse and oxen shoes, and, most interesting – a bone-handled iron knife which had been placed under the stones of a hearth. This was a Scottish tradition of the times that warded off 'bad fairies'! These foundations and their illustrated signs can be seen on the hike around this part of the canal.

Bernie mentioned that Sullivan's Pond, closer to the harbour and part of the canal system, was dug out all by hand and was part of the early canal construction. After the canal closed, many of the lock stones were scavenged and used for other purposes. The retaining wall at Dartmouth's St. James Church is one example, and since the blocks were placed backwards, you can see the mason's marks in them. For a more detailed history on the Shubenacadie Canal, one of many good books about it is [River of Dreams \(The Saga of the Shubenacadie Canal\)](#), by Donna Barnett.

Due to the very cold weather, there was little wildlife to be seen. The Black and Mallard Ducks were eager to eat the corn that Jim Mediil brought, and there were many Red Squirrels, but there were no Chickadees or Chipmunks seen, which are numerous there on most days.

This is a picturesque hike that takes about an hour. It is well worth a visit any time of the year.

ANNUAL EAGLE WATCH

– Janet Dalton

Date: Saturday, January 28th

Place: Sheffield Mills Community Hall

Weather: Warm, windy, and sunny, -4°C

Leader: Jim Medill

Participants: 6 HFN members

The day was windy and sunny. Arriving at 9:00 a.m., we started off with a delicious and warming breakfast at the Sheffield Mills Community Hall – two large pancakes with maple syrup or blueberry sauce, two sausages, orange juice or apple cider, with tea or coffee, and all for \$7.00, with children being charged only \$4.00.

Due to the strong wind the eagles and hawks were not flying much this Saturday! We did see four roosting eagles in the trees around the perimeter of the field where the chicken carrion is dropped by the farmers.



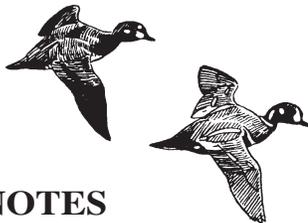
The eagles can be seen quite close up from the road. The farmers use this field to deposit the dead hens in order to keep disease, carried by the wild birdlife, away from the chicken farms. The farmers had placed a dead tree about 200 feet from the entrance to this field to be used as a roost for the birds, and around this tree the carrion was dropped. The eagles would fly across the field from time to time surveying the situation. Usually there are about 60 eagles feeding on these deposits, but not this day. There was a large crowd of about 100 people watching and waiting to get that perfect photo. We stayed for about an hour and then returned to the little museum on the second floor of the community hall. It is best to go on a calm day to see more birds. The breakfast is served for four week-ends in late January and early February each year. It is well worth a second visit.

BIODIVERSITY IN NOVA SCOTIA

The **HRM Wild: Biodiversity in HRM** project aims to establish community-based long-term biodiversity monitoring protocols which can be used to analyse species presence and abundance in 20 representative locations within HRM.

The Sierra Club is hosting its **Go Wild in HRM** workshop on April 5th, from 1:00 - 4:30 p.m., and we have been invited to take part. They want key 'experts' like HFN members to participate in a workshop aimed at refining a protocol for HRM citizens to monitor biodiversity in this huge and diverse region. The aim of the monitoring protocol is to increase the understanding of many of HRM's unique places, to use this information to improve land use planning, and to gauge how biodiversity changes over time. This project complements Sierra Club Atlantic's nature immersion program for children, **Wild Child**, and is supported by the Sustainable Environment Management Office of HRM and the Dalhousie University's Co-op Programme.

Please contact Jessica Miller, 902-444-3113, or email atlanticcanadachapter@sierraclub.ca if you would like to take part.



NATURE NOTES

DECEMBER

– Lillian Risley

In late November, Bob McDonald participated in "Wild for Waterfowl", an event sponsored by the Nature Conservancy. The 20 people involved were organised into five groups which monitored waterfowl found in three South Shore areas and the Kedji Adjunct. **Ducks** were observed mostly in groups of 6 – 20, with 64 being the largest grouping. Perhaps the most interesting sighting was a **Harlequin Duck**.

Regine Maass also spotted a **Harlequin Duck** at a distance of only 30 feet in Sandy Cove (just beyond Ketch Harbour).

Janet Dalton had been having success with putting out peanuts for **Blue Jays** and had also attracted a **Grey Jay**.

Dennis Hippert observed a **female Baltimore Oriole** in his backyard in Dartmouth.



FEBRUARY

– Allan Robertson

Stephanie Robertson reported a **Baltimore Oriole** she saw in a friend's back garden at the most southerly end of Robie Street. Her friend contacted Fulton Lavender for advice on the best feed to use.

Pat Leader noted a **great commotion among the crows** in her back garden a few weeks ago. The reason – a **small owl**, but an owl, nonetheless.

Leslie Jane Butters, while skating on Black River Lake on the last Sunday in January, found a **dead White-tailed Deer** on the ice. **Coyotes** had left only a bit of fur and the jaw. She also saw **five Bald Eagles** (two were juveniles) picking at the leavings.

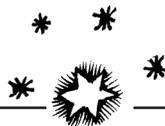
Shirley MacIntyre saw a **Cardinal** at a feeder on Star's Point Road near Port Williams.

Judy Hayes reported on a **Bohemian Waxwing** she saw in January, as well as a **male Red-bellied Woodpecker**. On the same day, she also saw **Italian Bluebells** emerging.

Someone saw **six seals** sunning themselves on the rocks off Indian Point, near Liscombe.



ALMANAC



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

“Hark, I hear a robin calling!
List, the wind is from the south!
And the orchard-bloom is falling
Sweet as kisses on the mouth.”

– Lucy Maud Montgomery, first verse of “Spring Song” (1922)

NATURAL EVENTS

- 20 Mar.** Vernal Equinox at 02:14 DST: Spring begins in the Northern hemisphere.
- 6 Apr.** Full Moon; moonrise at 20:05 ADT.
- 7 Apr.** Moon at close Perigee; large tides for several days.
- 16 Apr.** The daily minimum temperature at Shearwater is above 0°C.
- 22 Apr.** Earth Day.
- 6 May** Full Moon; moonrise at 21:29 ADT.
- 6 May** Moon at close Perigee; large tides for several days.
- 12 May** North American Migration Count Day.
- 28 May** The date of last spring frost in Halifax (i.e. Environment Canada says that there is only a 1:10 chance a spring frost will occur after this date); look forward to 155 frost-free days.
- 3 Jun.** Moon at close Perigee; large tides for several days.
- 4 Jun.** Full Moon; moonrise at 21:20 ADT.
- 5 Jun.** A Transit of Venus will be visible from Nova Scotia, beginning at 7:04 p.m. Wear suitable eye protection!
- 8 Jun.** World Oceans Day.
- 14 Jun. -16 Jun.** The earliest mornings of the year; sunrise at 5:28 ADT.
- 20 Jun.** Summer Solstice at 20:09 ADT. Summer begins in the Northern hemisphere. The longest day of the year, with 15 hours and 34 minutes of daylight at Halifax.
- 22 Jun. -29 Jun.** The latest evenings of the year; sunset at 21:04 ADT.

– Sources: Atmospheric Environment Service, Climate Normals 1951-80 Halifax (Shearwater A) N.S.; United States Naval Observatory Data Services.

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



3 Mar.	6:48	18:05	7 Apr.	6:44	19:50
10 Mar.	6:35	18:15	14 Apr.	6:31	19:59
17 Mar.	7:22	19:24	21 Apr.	6:19	20:07
24 Mar.	7:09	19:32	28 Apr.	6:08	20:16
31 Mar.	6:56	19:41			
5 May	5:58	20:25	2 Jun.	5:32	20:54
12 May	5:49	20:33	9 Jun.	5:29	20:59
19 May	5:42	20:41	16 Jun.	5:28	21:02
26 May	5:36	20:48	23 Jun.	5:30	21:04
			30 Jun.	5:33	21:03

ORGANISATIONAL EVENTS

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

- 16 Apr.** “Maritimes Butterfly Atlas: Two Years In”; speaker John Klymko, Atlantic Canada Conservation Data Centre.
- 5 May** “Native Plant Sale”; Friends of the Acadian Forest, Botanical Gardens, 9:00-12:00, Acadia University.
- 13 May** “Cape Split Hike I”; leaders Jim Wolford, 542-9204, jimwolford@eastlink.ca & Patrick Kelly, 472-2322, patrick.kelly@dal.ca.
- 19 May** “Blomidon Provincial Park”; leader Jim Wolford, 542-9204, jimwolford@eastlink.ca.
- 21 May** “Lady Beetles... Biological Pest Control Agents”; speaker Dr. Susan Bjornson, Saint Mary’s University.
- 18 Jun.** “Atlantic Coastal Plain Flora”; speaker Alain Belliveau, Dalhousie’s School of Resource and Environmental Management.

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

Friends of McNab's Island: <http://www.mcnabsisland.ca/>, or Contact Faye Power, 443-1749. Meets at the Maritime Museum of the Atlantic at 7:00 p.m.

- 2 May AGM, followed by "The Coastline of McNab's Island"; speaker Gavin Manson, BIO geologist.
- 3 Jun. Rain date 10 Jun. "McNabs and Lawlor Islands Beach Cleanup".
- TBA "McNab's Island Picnic".



Nature Nova Scotia: <http://www.naturens.ca/>.

- 25 May -27 May. "Nature Nova Scotia AGM", Tatamagouche. Visit the website for complete programme details.

Nova Scotia Bird Society: Indoor meetings take place on the 4th Thursday of the month, September to May, at the Nova Scotia Museum of Natural History, 7:30 p.m. For more information, Chris Pepper, 829-3478, cpepper@ymail.com; or email the trip leader; or go to <http://nsbs.chebucto.org/>.

- 7 Apr. "New Birders' Walk, Lawrencetown Beach"; leader Bonnie Carmichael, bonniecarmichael@hotmail.com.
- 14 Apr. "Martinique Beach"; leader Ian McLaren 429-7024, iamclar@dal.ca.
- 28 Apr. "Wolfville Area, Kings Co."; leader Richard Stern, sternrichard@gmail.com.
- 5 May Storm date 6 May. "Amherst Pt. Bird Sanct."; leader Kathleen Spicer, 392-2815, kbspicer@ns.sympatico.ca.
- 19 May "Port L'Hebert, Shelburne Co."; leader Dorothy Poole, 354-4844, dpoolex@ns.sympatico.ca.
- 21 May "Historic Hants County"; leader Suzanne Borkowski, 488-0345, suzanneborkowski@yahoo.ca.
- 23 May "Fred Dobson Warbler Walk, Hfx. Co."; leader Joan Waldron, waldrojo@ns.sympatico.ca.
- 25 May -28 May. "Bon Portage Island"; leader Claire Diggins, 825-6152, claire_diggins@hotmail.com.
Pre-registration is required!
- 26 May Storm date 27 May. "Conquerall Mills"; leader James Hirtle, 530-2101, jrhbirder@hotmail.com.
- 26 May "Middle Musquodoboit"; leader Verna Higgins, 384-2286, vjhiggins@xplornet.com.
- 16 Jun. "Herbert River Trail"; leader Patrick Kelly, 472-2322, patrick.kelly@dal.ca.
- 22 Jun. Rain date 19 Jun. "Tern Festival, West Pubnico"; contact 902-762-3380, musee.acadien@ns.sympatico.ca.
<http://www.museeacadien.ca>.
- 25 Jun. "New Birders' Walk, Windsor"; leader Patrick Kelly, 494-3294(w), 472-2322(h), patrick.kelly@dal.ca.
Pre-registration is required!



Nova Scotia Department of Natural Resources: Many outings that will take place in Provincial Parks are listed in the "Parks are for People" Programme. The most current information is on the web at <http://www.novascotiaparks.ca/>.

Nova Scotia Museum of Natural History: For more information, 424-7353; or go to <http://museum.gov.ns.ca/mnh/>.

- 27 Jan. - 22 Apr. "Life Under the Canopy - Animals of the Rainforest".

Nova Scotian Institute of Science: Meets 1st Monday of the month, September to April, usually at the Nova Scotia Museum of Natural History, 7:30 p.m. For more information, got to <http://www.chebucto.ns.ca/Science/NSIS/index.html>.

- 2 Apr. "A Noble Legacy: "The... Future of Gold Mining in Nova Scotia"; speaker Dr. Jacob Hanley, at the Windsor Lecture Theatre, Art Gallery of Nova Scotia.
- 7 May "... Victorian Popularisers of Science"; speaker Dr. Bernard Lightman, at the Alumni Hall, King's College.

Nova Scotia Wild Flora Society: Meets on the 4th Monday of the month, September to May, at the Nova Scotia Museum of Natural History, 7:30 p.m. For more information, Heather Drope, 423-7032, or go to <http://www.nswildflora.ca/>.

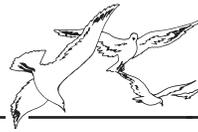
- 23 Apr. "AGM & Sean Blaney on N.S. Flora" with speaker Sean Blaney, Atlantic Conservation Data Centre, Sackville, N.B.
- 28 Apr. Rain date 29 Apr. "In Search of Hepatica... in the Antigonish Area"; leader Charlie Cron.
- 10 Jun. "Gypsum Barrens & Lady's Slipper Orchids, Windsor Area"; leader Katherine Clough.
- 25 Jun. "Moonwort at Conrad Beach".

Young Naturalists' Club: A fun, free nature club for children eight and older. Meetings take place every 3rd Saturday of the month, excepting July and August, Maritime Museum of the Atlantic, 1675 Lower Water St., at 10:00 a.m. Field trips take place every 4th Sunday, at 1:00 p.m. For more info, Robin Musselman, 455-5643, yncns@yahoo.ca or; or go to <http://nature1st.net/ync>.

- 14 Apr. "Harbour Sky Observatory", 6:00 p.m.
- 21 Apr. "Starlings and Other Birds"; Joel Slade, Saint Mary's University.
- 29 Apr. "Bird Watching Field Trip"; location to be announced.
- 12 May "Turtles"; Mary MacDonald, Museum of Natural History.
- 27 May "Gaspereau Fish Run & River Restoration"; Walter Reagan, Sackville Rivers Association, 1:00 p.m.
- 16 Jun. "YNC AGM"; at the N.S. Museum of Natural History. All are welcome – there will be games and a potluck!



HALIFAX TIDE TABLE

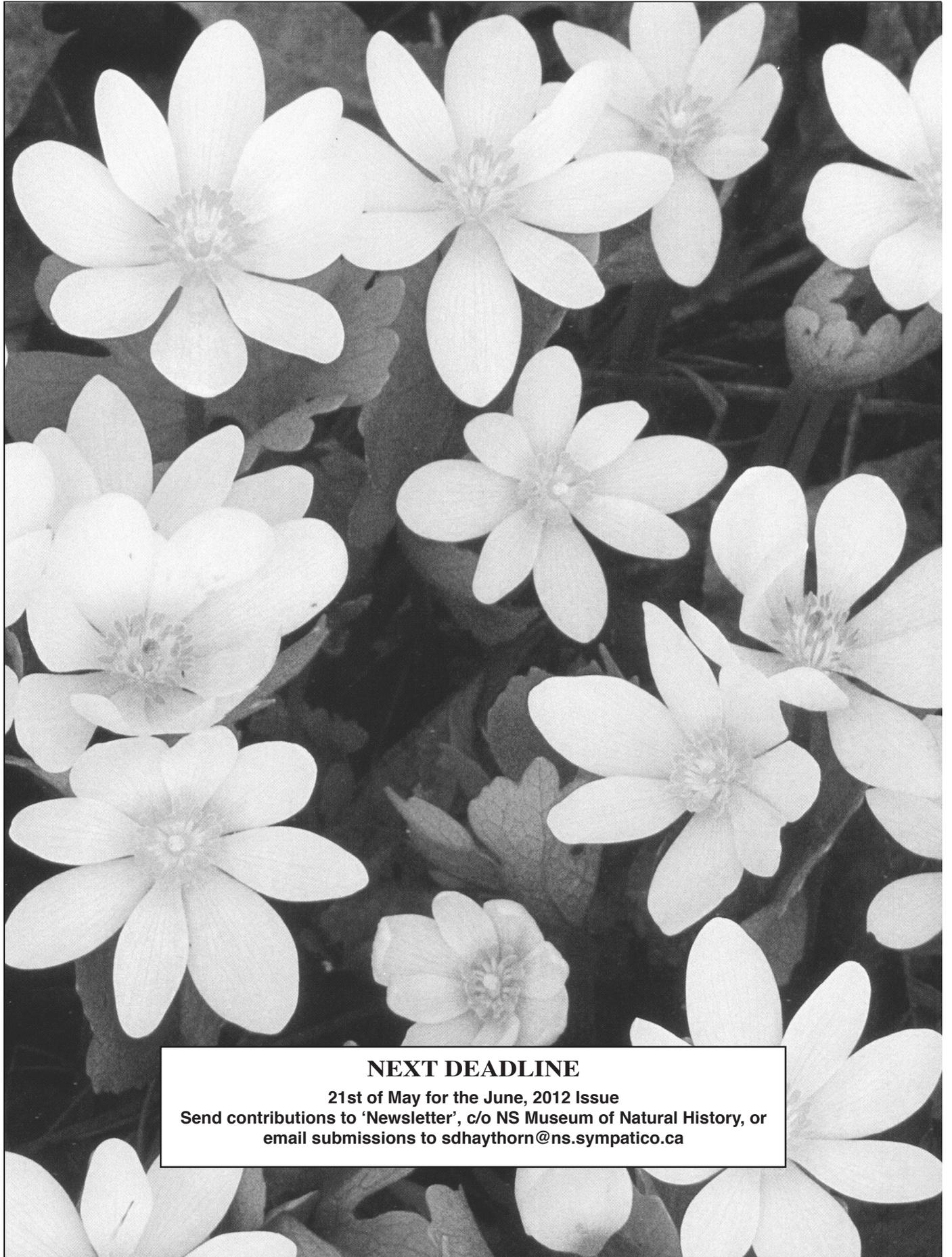


April-avril

May-mai

June-juin

Day	Time	Feet	Metres	jour	heure	pieds	mètres	Day	Time	Feet	Metres	jour	heure	pieds	mètres	Day	Time	Feet	Metres	jour	heure	pieds	mètres
1	0220	5.2	1.6	16	0414	5.2	1.6	1	0250	5.2	1.6	16	0443	4.9	1.5	1	0438	5.2	1.6	16	0001	1.3	0.4
	0920	1.6	0.5		1054	1.3	0.4		0933	1.3	0.4		1112	1.6	0.5		1054	1.3	0.4		0554	4.9	1.5
SU	1530	4.9	1.5	MO	1655	5.2	1.6	TU	1542	5.6	1.7	WE	1702	5.6	1.7	FR	1655	6.2	1.9	SA	1211	2.0	0.6
DI	2147	2.3	0.7	LU	2329	1.6	0.5	MA	2216	1.6	0.5	ME	2351	1.3	0.4	VE	2349	0.3	0.1	SA	1752	5.2	1.6
2	0333	5.2	1.6	17	0513	5.2	1.6	2	0402	5.2	1.6	17	0534	5.2	1.6	2	0540	5.6	1.7	17	0041	1.0	0.3
	1014	1.3	0.4		1146	1.3	0.4		1027	1.3	0.4		1201	1.6	0.5		1155	1.0	0.3		0640	4.9	1.5
MO	1632	5.2	1.6	TU	1740	5.6	1.7	WE	1637	5.9	1.8	TH	1745	5.6	1.7	SA	1751	6.6	2.0	SU	1251	2.0	0.6
LU	2243	2.0	0.6	MA				ME	2313	1.0	0.3	JE				SA				DI	1833	5.6	1.7
3	0439	5.6	1.7	18	0018	1.3	0.4	3	0505	5.6	1.7	18	0034	1.0	0.3	3	0046	0.0	0.0	18	0118	1.0	0.3
	1106	1.0	0.3		0600	5.2	1.6		1121	1.0	0.3		0620	5.2	1.6		0637	5.6	1.7		0722	5.2	1.6
TU	1721	5.6	1.7	WE	1234	1.3	0.4	TH	1728	6.2	1.9	FR	1245	1.6	0.5	SU	1255	1.0	0.3	MO	1327	2.0	0.6
MA	2338	1.3	0.4	ME	1820	5.6	1.7	JE				VE	1824	5.6	1.7	DI	1845	6.6	2.0	LU	1912	5.6	1.7
4	0535	5.6	1.7	19	0101	1.0	0.3	4	0009	0.7	0.2	19	0112	1.0	0.3	4	0141	0.0	0.0	19	0154	1.0	0.3
	1156	0.7	0.2		0644	5.6	1.7		0601	5.6	1.7		0703	5.2	1.6		0732	5.9	1.8		0801	5.2	1.6
WE	1806	5.9	1.8	TH	1316	1.3	0.4	FR	1216	0.7	0.2	SA	1323	1.6	0.5	MO	1354	1.0	0.3	TU	1401	2.0	0.6
ME				JE	1857	5.9	1.8	VE	1817	6.6	2.0	SA	1901	5.6	1.7	LU	1940	6.6	2.0	MA	1952	5.6	1.7
5	0031	0.7	0.2	20	0140	1.0	0.3	5	0104	0.0	0.0	20	0147	1.0	0.3	5	0236	-0.3	-0.1	20	0230	0.7	0.2
	0626	5.9	1.8		0725	5.6	1.7		0655	5.9	1.8		0744	5.2	1.6		0826	5.9	1.8		0838	5.2	1.6
TH	1245	0.7	0.2	FR	1353	1.3	0.4	SA	1311	0.7	0.2	SU	1356	2.0	0.6	TU	1453	1.0	0.3	WE	1436	2.0	0.6
JE	1850	6.6	2.0	VE	1932	5.9	1.8	SA	1907	6.9	2.1	DI	1938	5.6	1.7	MA	2033	6.6	2.0	ME	2030	5.9	1.8
6	0123	0.3	0.1	21	0214	1.0	0.3	6	0157	-0.3	-0.1	21	0219	1.0	0.3	6	0329	0.0	0.0	21	0307	0.7	0.2
	0715	5.9	1.8		0805	5.6	1.7		0747	5.9	1.8		0822	5.2	1.6		0919	6.2	1.9		0915	5.6	1.7
FR	1334	0.3	0.1	SA	1424	1.6	0.5	SU	1406	0.7	0.2	MO	1426	2.0	0.6	WE	1552	1.0	0.3	TH	1514	2.0	0.6
VE	1935	6.6	2.0	SA	2007	5.9	1.8	DI	1958	6.9	2.1	LU	2014	5.6	1.7	ME	2126	6.6	2.0	JE	2109	5.9	1.8
7	0215	0.0	0.0	22	0245	1.0	0.3	7	0251	-0.3	-0.1	22	0252	1.0	0.3	7	0422	0.0	0.0	22	0345	1.0	0.3
	0804	5.9	1.8		0843	5.6	1.7		0839	5.9	1.8		0859	5.2	1.6		1010	6.2	1.9		0952	5.6	1.7
SA	1424	0.3	0.1	SU	1451	1.6	0.5	MO	1504	0.7	0.2	TU	1457	2.0	0.6	TH	1652	1.3	0.4	FR	1557	2.0	0.6
SA	2022	6.6	2.0	DI	2042	5.6	1.7	LU	2049	6.6	2.0	MA	2052	5.6	1.7	JE	2217	6.2	1.9	VE	2148	5.9	1.8
8	0307	0.0	0.0	23	0316	1.0	0.3	8	0345	-0.3	-0.1	23	0327	1.0	0.3	8	0516	0.3	0.1	23	0425	1.0	0.3
	0854	5.9	1.8		0920	5.6	1.7		0932	5.9	1.8		0936	5.2	1.6		1059	5.9	1.8		1029	5.6	1.7
SU	1517	0.3	0.1	MO	1518	2.0	0.6	TU	1604	1.0	0.3	WE	1533	2.0	0.6	FR	1752	1.6	0.5	SA	1644	2.0	0.6
DI	2110	6.6	2.0	LU	2118	5.6	1.7	MA	2141	6.6	2.0	ME	2129	5.6	1.7	VE	2307	5.9	1.8	SA	2227	5.9	1.8
9	0401	0.0	0.0	24	0348	1.0	0.3	9	0442	0.0	0.0	24	0405	1.0	0.3	9	0609	0.7	0.2	24	0507	1.0	0.3
	0944	5.9	1.8		0956	5.2	1.6		1024	5.9	1.8		1012	5.6	1.7		1147	5.9	1.8		1107	5.6	1.7
MO	1615	0.7	0.2	TU	1550	2.0	0.6	WE	1708	1.3	0.4	TH	1614	2.3	0.7	SA	1852	1.6	0.5	SU	1737	2.0	0.6
LU	2158	6.6	2.0	MA	2153	5.6	1.7	ME	2232	6.2	1.9	JE	2207	5.6	1.7	SA	2358	5.6	1.7	DI	2309	5.6	1.7
10	0459	0.0	0.0	25	0425	1.3	0.4	10	0539	0.3	0.1	25	0446	1.3	0.4	10	0702	1.0	0.3	25	0554	1.3	0.4
	1035	5.9	1.8		1032	5.2	1.6		1116	5.9	1.8		1050	5.6	1.7		1236	5.6	1.7		1148	5.6	1.7
TU	1719	1.0	0.3	WE	1630	2.3	0.7	TH	1813	1.6	0.5	FR	1703	2.3	0.7	SU	1949	1.6	0.5	MO	1834	2.0	0.6
MA	2248	6.2	1.9	ME	2230	5.6	1.7	JE	2324	5.9	1.8	VE	2246	5.6	1.7	DI				LU	2356	5.6	1.7
11	0559	0.3	0.1	26	0508	1.6	0.5	11	0638	0.7	0.2	26	0532	1.3	0.4	11	0051	5.2	1.6	26	0644	1.3	0.4
	1127	5.6	1.7		1110	5.2	1.6		1209	5.6	1.7		1130	5.6	1.7		0755	1.3	0.4		1232	5.6	1.7
WE	1826	1.3	0.4	TH	1722	2.6	0.8	FR	1917	1.6	0.5	SA	1759	2.3	0.7	MO	1329	5.6	1.7	TU	1932	1.6	0.5
ME	2340	5.9	1.8	JE	2309	5.6	1.7	VE				SA	2328	5.6	1.7	LU	2044	1.6	0.5	MA			
12	0700	0.7	0.2	27	0557	1.6	0.5	12	0019	5.6	1.7	27	0621	1.3	0.4	12	0150	4.9	1.5	27	0048	5.2	1.6
	1222	5.2	1.6		1151	5.2	1.6		0736	1.0	0.3		1213	5.6	1.7		0847	1.6	0.5		0738	1.3	0.4
TH	1932	1.6	0.5	FR	1822	2.6	0.8	SA	1306	5.6	1.7	SU	1858	2.3	0.7	TU	1425	5.6	1.7	WE	1322	5.9	1.8
JE				VE	2351	5.2	1.6	SA	2017	1.6	0.5	DI			MA	2138	1.6	0.5	ME	2031	1.3	0.4	
13	0035	5.6	1.7	28	0651	1.6	0.5	13	0119	5.2	1.6	28	0015	5.2	1.6	13	0256	4.6	1.4	28	0149	5.2	1.6
	0801	1.0	0.3		1238	5.2	1.6																



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