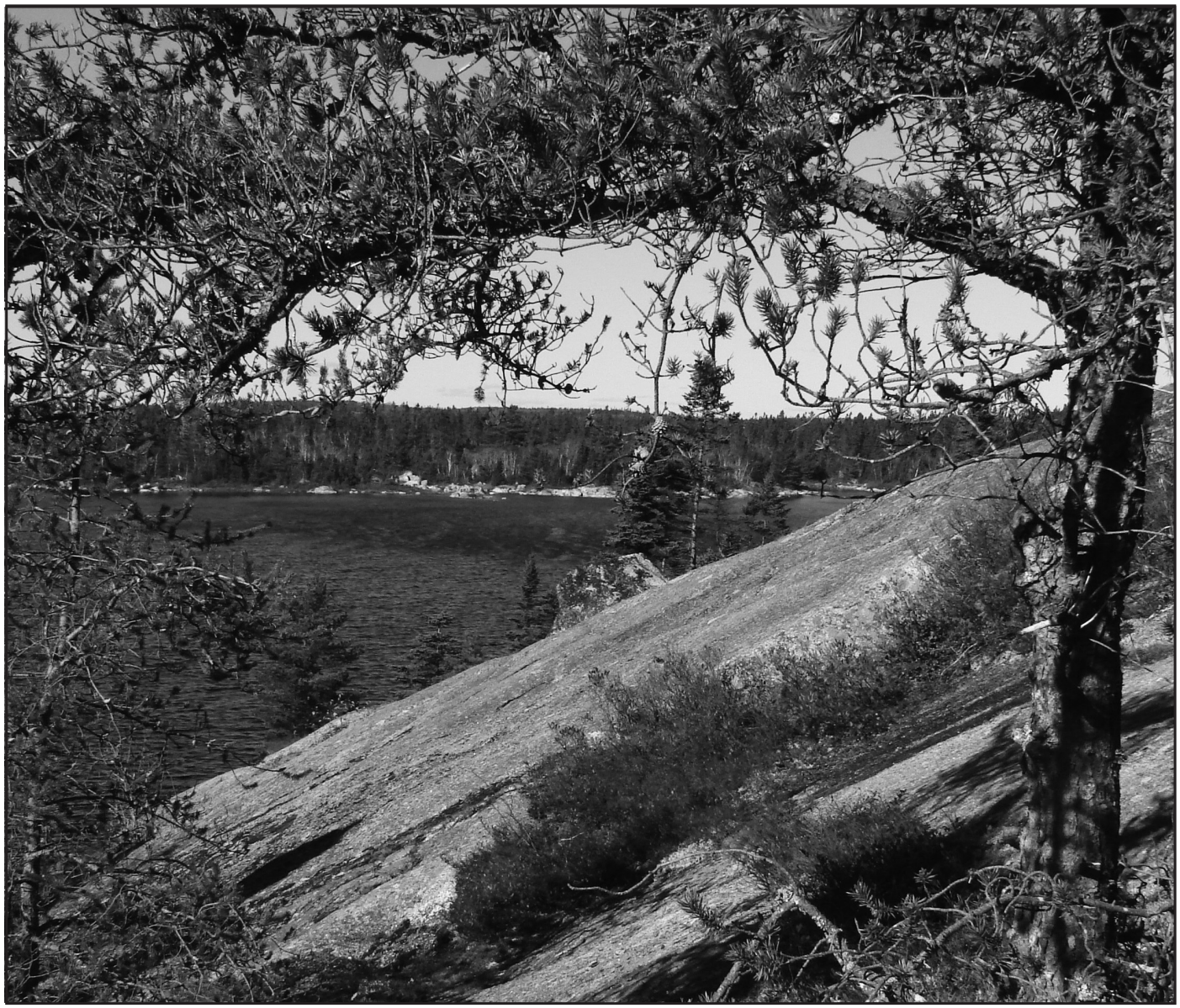
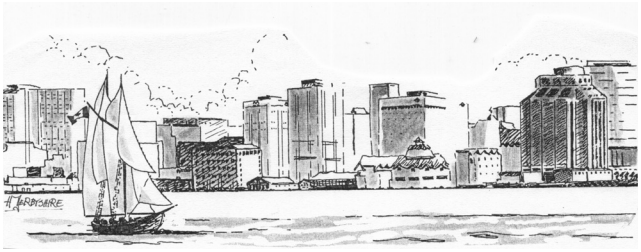
THE HALIFAX FIELD NATURALIST

No. 140
September to November, 2010



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 NEWS AND ANNOUNCEMENTS

FROM THE EDITOR

– Stephanie Robertson

What a wonderful summer! In August, we had the rare privilege of rescuing, (and therefore holding), a young Yellow-rumped Warbler at the cottages at Melmerby Beach. It had been stunned by flying into a window. Brought to me very carefully by a young child, we 'boxed' it for about an hour in a roomy carboard carton, with a towel on the bottom for purchase. Upon opening it up, it looked much recovered; we added a few Black Niger seeds and some water, and closed it up again. An hour later, a very perky bird indeed looked up at us. It was much more energetic and very bright-eyed, so I picked it up very gently and took it to the wooded area behind the cottages, putting it on a small branch where it flew/hopped higher up into the greenery. Everyone breathed a happy sigh of satisfaction. Added to this was the rescue of a pigeon from Blowers St.; another stun, this time by a vehicle. It was taken to Hope Swinimer's Hope for Wildlife Centre, and after recovering, was released in Point Pleasant with other rescued pigeons.

See the well-deserved honouring of Doug Linzey opposite; also, HRM's Urban Forest Master Plan by Bob and Wendy McDonald, and notification of an interesting series of environment lectures at Dal, *(both on p. 4).*

A CALL FOR PHOTOS OF NOVA SCOTIA PLANTS

– Bob McDonald

The Nova Scotia Museum and the E.C. Smith Herbarium at Acadia University are collaborating on an e-flora compendium of Nova Scotia plants. It is hoped that this project will be completed in late 2010 – in time for the 100th anniversary of the Herbarium. Distribution maps for the e-flora are being provided by the N.S. Department of Natural Resources. Images will be colour photos, and naturalists across the Province are requested to contribute digital images of plants for inclusion in the e-book. If you would be willing to share your colour photos for this exciting project, please contact either Marian Munro, **zinckmc@gov.ns.ca**, or Ruth Newell, **ruth.newell@acadiau.ca**, for details on specific species requiring images.

The last time I communicated with Marian, she said that photos of ferns, horsetails, and clubmosses in particular were needed.

NEW COORDINATOR FOR YNC

Hello HFN members,

I would like to introduce myself as the new coordinator of the Young Naturalists Club. My name is Laura Lambie and I have a strong interest in children, nature, education, and hiking. I have greatly enjoyed teaching in schools over the past two decades and now I am extremely happy to be working with YNC, where children actively learn about natural history and enjoy a wide variety of experiences in nature.

Part of YNC's work this year is to reach out to naturalists in communities across Nova Scotia in order that we may start new local chapters of YNC. If you have contacts with naturalists in other parts of our province, please consider passing on their names to me. I would like to contact them to see if there is interest in their community in creating a local YNC. I can be reached at 431-0207, or **yncns@yahoo.ca**.

HFN has been a fantastic supporter of the Young Naturalists Club of Nova Scotia since its creation four years ago by Karen McKendry. I look forward to meeting members of HFN, and to building upon the strong foundation laid by Karen.

Thank you very much for your ongoing support,
Laura Lambie, YNC Coordinator

DOUG LINZEY HONOURED

The following citation, written by Larry Bogan, was read on June 21st, 2010 by Rick Whitman as part of a ceremony awarding a BNS honourary membership to longtime HFN member Doug Linzey.

"Doug Linzey deserves to be recognised for his significant and extensive contributions to the Blomidon Naturalists Society and to the natural history community as a whole. He is deeply concerned about the environment and preservation of our natural history and volunteers to use his talents to their improvement.

I first met Doug in 1996 when I joined the board of the Federation of Nova Scotia Naturalists, which is now called Nature Nova Scotia. At that time Doug lived in Halifax, was the editor of the Federation Newsletter and was also active with the Halifax Field Naturalists. Doug later became representative for Halifax Field Naturalists on the Federation Board, and in 2001 took on the job

Doug receiving his award from Dick Whitman

of Board Secretary. Recently he was re-elected as the Secretary of the Board of Nature Nova Scotia for 2010-2011.

When Doug and his wife, Joanne, moved to the Valley (first Hantsport then Arlington) they joined the Blomidon Naturalists Society. As with his involvement with Halifax Field Naturalists and Nature Nova Scotia, Doug soon volunteered in BNS by taking over the production of the Newsletter. His first issue was the Winter of 2000; in the Summer of 2008, in conjunction with Andrew Steeves, he changed the format to its present spiffy appearance.

Doug has continued to work for Nature N.S. with significant results for the naturalist community in Nova Scotia.

In 2004 he organised and led a successful weekend retreat for the Federation of Nova Scotia Naturalists board to map out its future and purpose.

In 2007, the Federation of Nova Scotia Naturalists was the host for the Nature Canada Annual General Meeting in Wolfville. Doug was the co-chairman of the organisation committee and did much of the design and contact for the program. Many other volunteers from BNS were very much involved in this event.

In 2009, the Federation of Nova Scotia Naturalists annual general meeting was held at Grand Pré and Doug was the main organiser.

During his decade on the Board of the Federation, he has been the Board representative at the N.S. Trails Federation, Nova Forest Alliance, and other related organisations.

As Secretary to the Federation of Nova Scotia Naturalists over five two-year terms, he has kept the board informed and organised. He instituted an email list server, and procedures to do business on the internet.

Doug began and maintains the province-wide nature list server on the Chebucto Community Network, called 'naturens'. Many BNS members use and enjoy reading the discussions on this forum.

Doug is an excellent writer and has used this talent to write many letters and documents in support of the natural world and the environment. In his capacity as BNS Newsletter production manager, I am sure that he uses his editing abilities to improve the Newsletters.

I am sure this is only a partial list of Doug's contributions to the naturalist community. I have not mentioned Doug and Joanne's wonderful natural landscaping on their property north of Centreville."

HALIFAX'S URBAN FOREST

*– **Bob and Wendy McDonald***

When the Halifax Regional Plan was adopted in 2006, an Urban Forest Master Plan was included as a necessary component of a healthy city. Planning and data collection have taken place and this summer, the public was invited to participate. Key players include Dr. Peter Duinker, a forester with Dalhousie University's School of Resource and Environmental Studies, and John Simmons, HRM's Urban Forester.

Among the events hosted for public participation was a walkabout, held on and adjacent to the Dalhousie Studley Campus. Included in the walk were students, additional HRM urban foresters and parks staff, and the public. We walked and learned about mixed-age cover, the right tree for the right spot, and how not to plan for new construction. An example of the latter was pointed out adjacent to a parking garage where, on paper, the exit ramps enabled cars to leave; on site, however, the cement covering the root base of the now dead large tree showed that the planning team had not done the necessary ground truthing.

As we walked, we could recognise new, younger trees replaced after Juan damage or other mishaps. We heard that, currently, not all street trees planted by HRM will be native species but rather a mix of species that are hardy to this climate. The Norway maple, popular as a hardy street tree years ago, is no longer used. We discovered a mammoth oak adjacent to Sheriff Hall, a grove of Hemlocks tucked in beside the Killam Library, and a small wetland with a gate where visitors can escape to solitude. We learned that a complete inventory of all the trees on the Dalhousie campus has been completed to enable future planting decisions about its urban forest.

In addition to the two walkabouts, HRM residents were asked to participate in focus groups, discussing the importance of native species and biodiversity within HRM's urban forest, how the urban forest affects a community's sense of well-being, and how we can increase urban forest public education opportunities in HRM. As the Urban Forest Master Plan is completed and made public, we may want to invite the key people to present their findings to HFN at a future meeting.

We also were reminded that individuals who have a concern regarding street trees on their street or neighbouring streets, can report such things as low hanging branches which interfere with walking, dead trees, trimming of new growth at the trunk base, or other issues, to HRM at 490-4000. HRM staff responds on a demand basis and are not routinely checking our trees.

ENVIRONMENT LECTURES

There is a timely and interesting series of Environment, Sustainability, and Society lectures taking place Thursday evenings in Dal's Ondaatje Hall, Marion McCain Arts and Social Sciences Building, 6135 University Ave. All lectures begin at 7:00 p.m. Two are: **Oct. 7th** – a film and panel "The Corporation" (2003); and **Oct. 14th**, "The 1825 Miramichi Fire, an Introduction to Environmental History". For further info and more details, go to **http://sustainability.dal.ca/College_of_Sustainab.php**.

NEW AND RETURNING MEMBERS

Laura Bennett
Frances Anderson

SPECIAL REPORTS

PRESIDENT'S MESSAGE – LOOKING AHEAD

– David Patriquin

In lieu of a report from the President at the spring AGM, which I missed due to an unexpected diversion, I want to offer some assessment of 'where we are' and 'where we might go', and also to invite input from HFN members on the latter. I have been an HFN member on and off since its inception. I began to get seriously re-involved with HFN, after a long hiatus, circa 2005. I joined the board as a director in 2008 and have served as President since March of 2009.

I was a new appointee at Dalhousie University in 1975 when a very active group of naturalist-oriented graduate students formed the Halifax Field Naturalists, led by Paul Keddy, Anne Linton, and others. In its first year, the membership rose to over 300! (Today we are approximately 125.) The students led the charge, and others followed. Paul wrote some pivotal stuff on conservation in Nova Scotia. I still refer to his 1978 article on Endangered Wild Plants of N.S.* when I want to go back to the basics.

Flash forward and we have 35 years behind us with hundreds of talks and field trips, and we're now on Issue #140 of The Halifax Field Naturalist, our quarterly newsletter. Our meetings are well attended, our field trips perhaps somewhat less so but, in general, the interest in natural history remains high. However, HFN demographics are tipped somewhat towards the same people who were or might have been members 30 plus years ago! There are some encouraging signs that this is changing, as more younger faces join us at meetings and fieldtrips.

On the somewhat worrisome side, we have been losing board members faster than we have been replacing them. Currently, most of our board members are in the 50+ age category and some have served for a decade or more. Sooner or later several individuals need a break. Currently we do not have a Vice-President, and we also seem to be quite pressed in some areas, e.g., writing up reports on talks and walks for the newsletter, writing letters on conservation issues, representing or promoting HFN at various functions, responding to requests for biotic surveys, leading hikes and putting a full programme together. Numbers of volunteers (individuals who do particular tasks but don't sit on the board) are more stable than numbers of board members, but there haven't been any new ones for a while.

So what do we need to do to maintain and hopefully increase membership, address the current stress areas, and anticipate turnover in volunteers and board members? How do we ensure that our core activities, (talks, walks, and production of the newsletter) are secure for the coming decade and beyond?

Following are some of the things that I have been pursuing as President over the last year and a half to make HFN a little more visible and, hopefully, that will interest more members in joining the board or volunteering in other activities.

We write letters in the fall to biology and environmental student societies at Saint Mary's, Dalhousie, and Mount Saint Vincent Universities, telling them about our organisation and inviting students to come to meetings and walks. This year we will also have displays at volunteer days for at least two universities.

In 2009, we took out a domain name (halifaxfieldnaturalists.ca) and set up a new Word Press-powered website for HFN which provides details of our organisation and activities and regular news postings; a password-protected area gives members access to minutes. I also developed a password-protected website for the executive, and volunteers, where documents related to running the organisation are posted and archived. This should make it easier for new board members and volunteers to 'get up to speed', and should relieve board members of the need to maintain all of the accumulating files themselves. (I developed web-delivered classes while a professor at Dalhousie, therfore am quite comfortable creating websites and the like.)

I have begun scanning back issues of our newsletter and am making those available online via the website. Published four times a year since 1975 with talk and walk reports, species lists, nature notes, and other articles, the newsletter provides a valuable historical record and source of information on the natural history of Nova Scotia. The posted issues are searchable and are indexed by search engines. Once all issues are posted (at least up to the current two years), and given a little time, I think they will become well used and will 'give some profile' to HFN.

One area I have begun to pursue is to encourage more interaction with environmental groups and also to encourage environmentalists to participate in some of our activities. I do that in part by attending some of the functions of organisations like EAC and Sierra Club and the Nova Scotia Environmental Network, and by 'talking up' HFN. Environmentalists (which are more numerous than naturalists) sometimes complain that naturalists are not as activist as they would like, to which I reply, I don't see a lot of you at naturalist meetings. Really, we need to get together more.

On the organisational side, we are putting together an HFN Procedures Document which will describe in detail what's involved in running HFN and identify areas where we currently, or anticipate we will, need help. We hope the document will make it easier for members at large to figure out what we do and where they might fit in and for new board members and volunteers to carry out their activities and to fill in for particular executive members and volunteers in a pinch.

One option for addressing some of the stresses cited above is to hold more joint activities with other naturalist-oriented organisations. There are far more natural history oriented activities available now to the general public than when HFN was founded. Significant syn-

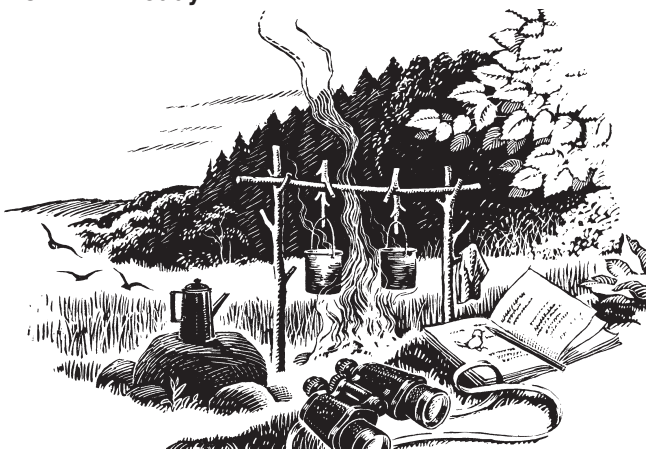
ergisms can be realized by getting together on a few or many of them. The visit of Bridget Stutchbury in the spring, jointly sponsored by EAC, HFN, NS Bird Society, NS Nature Trust, Dalhousie, and others was a very successful venture. A recent field trip to The Bluff Trail was attended by members of all three sponsoring organisations – WRWEO, HFN, and NSWFS.

We welcome members' thoughts on these issues. If you think you would like to help out somewhere, or would like to pursue something new on behalf of HFN, please let us know. I expect that the HFN Procedures Document will be available by December.

I have perhaps painted a picture of an organisation under some stress, but my concerns are really about the longer term, not about how the organisation operates right now. We are in very good shape fiscally, with some dollars in the bank, and we recently took some measures to balance our annual budget, e.g., by producing only one coloured cover a year for our newsletter, rather than four, and offering a PDF option of the newsletter. I am able as President to begin thinking about the future of the organisation because I do not have to deal with a constant barrage of 'brush fires' (or even e-mails) and because the various tasks involved running the HFN are well shared and we communicate well. In fact it has taken some time for me to figure out that there is a lot going on behind the scene or 'organically' as Allan Robertson described it when he was trying to reassure me that taking on the Presidency would not be highly stressful. So I especially thank the directors, officers and volunteers, recent and current, for their substantive work in putting the newsletter together and delivering it, organising our get-togethers after our talks, planning and executing those talks (and walks), managing membership and finances, and representing HFN in Nature Nova Scotia and in the Young Naturalists Club and much more. To me, HFN offers enjoyment and a sense of socially worthwhile activities, with very little stress, even as President.

Thanks!

*See the link at **http://nswildflora.ca/links/conservation.html#keddy**.



HFN TALKS

FOREST REGENERATION 2 SEPT.

– Richard Beazley & David Patriquin

Richard Beazley and David Patriquin independently visited and photographed areas of barrens and associated forest that were burned in the 2009 Spryfield fire. They did this at regular intervals, focusing on two areas – The Purcell's Cove Conservation Lands (made up of adjacent Captain Arnell Conservation Lands and Napier Family Conservation Lands) and an area by Lower Mud Pond close to Herring Cove. They ended up collaborating for the above presentation, and we were delighted that it was attended by Jill Alexander and Chris Field, Chris being one of the seven Field brothers who donated the Captain Arnell lands to the Nova Scotia Nature Trust in 2003. (The Napier Family lands were donated in 2009. Jill Alexander is Chris's mother and the daughter of Captain Arnell.)

HFN has a special interest in the former area – we donated funds towards its land survey and its legal processing, and agreed to conduct a biological inventory of the property which has been an ongoing activity for HFN.

Outdoor and photography enthusiast Richard began by providing a travelogue-like overview of the landscapes and individual plant species as they began to regenerate after the fire. In turn, retired biologist David researched the mechanisms by which plants regenerate after a fire, and also discussed some of the implications of living adjacent to, or in, fire-prone areas. Their images are available on our HFN website, **halifaxfieldnaturalists.ca/spryfieldfire**.

RICHARD – A POST-FIRE TRAVELOGUE

The Spryfield fire began on April 30th and burned for a couple of days into May. A nighttime photo of the fire taken by Ross O'Flaherty from Dartmouth showed a wall of flame above Halifax mainland south. The fire spread from its origin near Roach's Pond over a large area between the Purcell's Cove and Herring Cove Roads, extending southeast to just past York Redoubt. My interest in seeing and photographing the damage created by the fire and the later recovery was piqued by my initial sadness over the human-caused devastation of this wilderness habitat's fauna and flora, and later by the excitement of HFN members over the learning possibilities presented by the fire. Over 14 months, I visited the area seven times.

I made my first visit to the Purcell's Cove Conservation Lands on May 25th – three weeks post-fire. These Lands lie in a 120 m-wide strip extending from Purcells Cove Road to Flat Lake, 1.2 km inland. I described and showed what the area looks like when not burned, using two examples: the granite bedrock, thin soil, and variety of small trees and bushy ground cover at the abandoned Purcell's Cove rock quarry near Purcells Cove Road; and then the mixed forest and large variety of flora and fauna around Purcell's Pond, 500 m inland. The fire had burned strips along and over the granite outcrops and the barrens, moving from the inland extremity of the

Purcells Cove Conservation Lands at Flat Lake towards Purcell's Pond. It missed some larger, lower lying wetland areas, one of which stopped the fire's movement towards the Purcell's Pond area and also parts of the property closer to Purcell's Cove Road. I showed a series of images that illustrated what it looked like as one (i) entered the burned area along a hiking trail, (ii) stood in the midst of what appeared to be a totally devastated landscape, and (iii) stood surrounded by tree skeletons and blackened soil without groundcover. My photographs also showed that life was emerging from the thin, burned-over soil, as illustrated by images of a four-inch high (10 cm) Bracken Fern and a small Painted Trillium already in bloom.

On the 6th of June 2009, a foggy day, I went back for a second visit. My photos show blackened tree skeletons, scorched Jack Pine needles, and 12- to 15- inch-high (30 - 40 cm) Bracken Fern, a Pink Lady's Slipper, and six-inch-high (15 cm) saplings growing from the base of a burned Red Maple tree. I was heartened by the persistence of life exhibited so soon after the fire.

I next visited on August 13th, three months post-fire. I showed one image from this visit that portrayed both the surprising amount of growth in the Huckleberry bushes and the impressive granite outcrops, some of which form rounded hills up to 100 metres high, often with very steep sides.

I made two visits in October, one on the 9th and the second on the 31st, five to six months post-fire. Images from the 9th showed leaves still green on Wire Birch, the beginning of colour changes in Huckleberry leaves, fern fronds turned brown, and suckers with fully reddened leaves on an otherwise lifeless-looking Red Maple tree. The images I shot three weeks later on the 31st recorded Huckleberry leaves in their brilliant red colour, a hillside scene with a variety of tree growth, and ground cover in varying degrees of colour change. One scene showed striking sweeps of fire-engine red Huckleberry below blackened tree trunks; David said it looked as if the area had been reignited as a surface fire!

My first visit in 2010 was on May 18th, one year post-fire. Not surprisingly, one distant image showed the area looking lifeless, much like it had a year earlier, but on closer inspection new growth was abundant, giving evidence to nature's persistence. There were 12-inch-high (30 cm) new sprouts of Rhodora, each with one flower, Blueberry plants and Shadbush in blossom, and three-foot high Wire Birch.

On the 21st of June, 13 months post-fire, I visited the Lower Mud Pond area with David. My images from that day show much second-year growth: four-feet-high (1.2 m) Large-Toothed Aspen; two-feet-high (60 cm) Huckleberry and Rhodora bushes, profusely spreading and flowering Lambkill; Blueberry bushes with green fruit; and four-inch-high (10 cm) Jack Pine seedlings. I concluded my part of the presentation by showing an unburnt wetland that lies adjacent to burnt forest near York Redoubt, and I highlighted the value of wetlands in limiting the spread of the fire and in protecting the flora and fauna.

DAVID – POST-FIRE REGENERATIVE PROCESSES

I went to the Lower Mud Pond area on May 4th, 2009, to view the forest and barrens as soon after the fire as possible. In a word – black! The soil surface and all above-ground vegetation were uniformly charred, and most of the finer branches of trees had burned off completely. When I brushed the blackened soil surface, brown peaty soil was revealed a few millimetres below. There was a stubble of burned off Huckleberry stems where once extensive and vigorous plants had stood one to four or more feet (30 -120 cm) high. The fire had stopped abruptly at the Leatherleaf stands surrounding Lower Mud Pond. However, smaller wetlands were affected – most striking were the mats of Sphagnum which were bleached or browned, evidently killed but not burned. I was very excited to see what I had hoped to see – the serotinous cones of Jack Pine had opened and were releasing their seed into the wind. I could even see them on the soil surface.

Three major categories of forest fires are commonly described: "**Ground fires** are mostly smoldering combustion of compacted duff or peat, with little flaming. A ground fire may creep only a few feet per day through the thick forest floor duff under a shady coastal forest. **Surface fires** burn above the ground in leaves, grasses and herbs, shrubs, and downed woody debris. **Crown fires** spread through the canopies of trees by torching out trees as the surface fire ignites them from below or by spreading through tree canopies independently of the surface fire. Crown fires are usually driven by strong winds or aided by steep slopes. (Arno, F. & Allison-Bunnell, S. 2003. Flames in Our Forest: Disaster or Renewal? Island Press) The Spryfield fire was a surface and canopy fire, killing most everything above ground. As suggested by Richard's images, there was evidently a lot below ground that wasn't killed.

I visited the Purcell Cove Conservation Lands and/or the Lower Mud Pond Area at one to two month intervals through the spring, summer and fall of 2009 and again in 2010. The Lower Mud Pond Area is more readily accessible than the burnt areas on the Purcells Cove Conservation Lands, but otherwise they are similar landscapes. Like Richard, I marvelled at how quickly the burnt areas were becoming revegetated. (I have enjoyed a similar experience in walks though Point Pleasant Park, recovering after Hurricane Juan.)

On my most recent visit to Lower Mud Pond (August 27th, 2010) there was a blanket of leafy vegetation over the previously treed areas, reaching two m high in places. On the more open barrens areas, Huckleberry, Rhodora, Lambkill, and Blueberry had returned close to their previous heights and were already producing fruit. This rapidly regenerating vegetation consisted of deciduous species that regenerate from buds on the root crown, roots, or rhizomes when current top growth is removed or damaged by disturbances such as cutting, grazing, or fire. Species responding to fire this way at Lower Mud Pond and on the Purcell's Cove Conservation lands included trees (Red Maple, White and Wire birch, Large-toothed Aspen, and Shadbush), larger shrubs (Witherod, Mountain Holly, Alder), and smaller shrubs (Huckleberry, Rhodora, Lambkill, Blueberry).

The areas slowest to revegetate have been the small wetlands and areas where mats of Broom Crowberry had occurred on the open barrens. In places on the small burnt wetlands, Cranberry and Hairy Cap Moss were growing over the still largely dead mats of Sphagnum, and there were a few spots where Sphagnum appeared to be regrowing again (Aug. 27th, 2010).

In some areas of thin soil on open barrens, Teaberry, Three-toothed Cinquefoil, and one or two graminoids (sedges, grasses, rushes) had grown up from rhizomes. However, the extensive areas where Broom Crowberry had previously thrived were still largely bare on that date. Broom Crowberry, a creeping shrub with evergreen, needle-like leaves, is commonly found on granitic outcrops in the area of the shallowest soils between bare rock and Huckleberry stands; it's often mixed with Reindeer Lichen, and extends into the outer fringes of the Huckleberry. In places, fire and/or subsequent erosion had removed the thin soil and litter, exposing old burnt rhizomes. There was no sign of new growth from rhizomes right after the fire, but on August 27th I observed, for the first time, a few areas with Broom Crowberry seedlings. I expect there will be much wider distribution of Broom Crowberry seedlings by the same time next year. I also observed for the first time, seedlings of Goldenheather, another creeping shrub much less common than Broom Crowberry. Both species are considered to be fire-adapted and fire-stimulated. While the thin, shallow-lying rhizomes are readily killed by fire, seeds deposited in the soil seedbank survive and are scarified (stimulated to germinate) by the heat. Mountain Sandwort, which I first observed after the fire in September of 2009, also appeared to have regenerated from seed, rather than rhizomes.

Reindeer and other lichens, which were burnt to a crisp by the fire, had hardly come back at all by August 27th, 2010. However, on that date I observed what appeared to be young colonies of Reindeer Lichen in some of the Broom Crowberry areas, as well as several small patches of Hairy Cap Moss and Broom Moss. Also, Richard and I observed a large and visually striking patch of Purple Horn-toothed Moss in burnt forest near York Redoubt on June 21st, 2010.

Seedlings of Wire Birch and of a few weedy species, likely derived from outside sources, were observed in the fall of 2009 and subsequently in the open barrens and in the soil exposed where trees were uprooted during or after the fire.

Fire-adapted Conifers

The two conifers Jack Pine and Black Spruce were common in the burned areas prior to the fire. Both are boreal species, well adapted to recurrent stand-replacing canopy fires which are normal in the boreal forest. They survive by producing 'above ground seedbanks'. Jeffrey Danter summarises fire adaptations of Jack Pine as follows: "Jack Pine is well-adapted to fire. Serotinous cones, which have a waxy outer coating to protect the seeds, remain on the tree rather than dropping to the forest floor. Seeds can remain viable on the tree for 20 years or longer. When a fire occurs, the thick cone protects the Jack Pine seed from the intense heat. Jack Pine seeds have been known to still be viable after exposure to heat at 1000 degrees Fahrenheit. That heat, however, opens the scales of the cone and releases the seed onto the ground where the fire has removed much of the existing vegetation and litter. Jack Pine seeds require contact with mineral soil to germinate, so fire serves to prepare the seedbed, reduce competition from other plants, and release the Jack Pine seed. In addition, the short stature of Jack Pines makes crown fires a high likelihood; these very crown fires are necessary to release the seeds from dormancy." (Danter, K.J. n.d. Fire Dependent Ecosystems of the United States, **http://www.nifc.gov/preved/comm_guide/wildfire/fire_6.html**).

Black Spruce is not so extreme in its adaptations; it produces semi-serotinous cones which stay on a tree for several but not many years. As noted above, I observed cones of Jack Pine to be open and releasing seeds within a few days of the fire. I also observed groups of blackened Black Spruce cones on the ground and some still remaining attached on burnt trees. I observed only a few seedlings of Jack Pine in the fall of 2009; they become quite common by the late summer of 2010. I have

not yet seen seedlings of Black Spruce, but I may not be looking hard enough.

Jack Pine is generally considered to be a 'fire-dependent' species, and thus its presence in an area to be indicative of a history of recurrent fires. (Black Spruce is not so fire-dependent. It is longer lived than Jack Pine and is shade-tolerant so is not so affected by competition as the shade-intolerant Jack Pine.) Commonly cited intervals for fire in Jack Pine stands are in the range of 25 to about 120 years. Seed production begins at five to ten years, and if fires repeat at very short intervals, Jack Pine gives way to a treeless (barren) landscape. It rarely lives more than about 170 years, and is generally replaced by other species after intervals of 200 to 300 years without fire. The likelihood of fire in Jack Pine stands increases with time: "The accumulation of litter and debris on the forest floor over time increase the likelihood of moderate- or high-severity fire… A lichen mat, a highly flammable and continuous fuel source at ground level, develops within 40 years and is important in supporting fires in Jack Pine forests." (Carey, J.H. 1993. Fire Effects Information System: **Pinus banksiana, http://www.fs.fed.us/database/feis/**).

The precise relationship of Jack Pine to fire in Nova Scotia needs to be clarified through scientific study. In the boreal forest, most cones on Jack Pine are the closed serotinous type, but in Nova Scotia there tends to be a mixture of closed serotinous cones and cones that have opened without fire, with one or the other often much more numerous according to the tree and site. There may be some situations where disturbances and stresses other than fire are sufficient to maintain this shade-intolerant species. However, it seems pretty likely that the abundance of Jack Pine, as well as Broom Crowberry, on the more exposed granitic landscapes of Halifax mainland south reflects a history of recurrent fires. A local resident told me that the last big fire in the Lower Mud Pond Area occurred 45 years prior to the 2009 fire. At the HFN talk, Jill Alexander said the last big fire on the Captain Arnell property was in 1917. Certainly, fires have been common since the Europeans arrived. Likely before that, fires were less frequent, but First Nations Peoples tended to settle mostly near the coast and also set fires deliberately or accidentally, and lightening can spark fires in these sorts of environments. The important point, I think, is to recognize that areas with abundant Jack Pine are likely to be very prone to fires.

Forests and Fire in HRM

Halifax is surrounded by forest, not farmlands as are most cities. Most of the areas where the city has expanded have been in typical mixed Acadian forest which has a relatively low susceptibility to fire. More and more, however, there is pressure to build in what were once very challenging areas – the barrens and associated pockets of forest on high granitic outcrops. Indeed they can be exceptionally beautiful places to situate a residence. The first time I went into Jack Pine stands close to Halifax, I was reminded of the lovely, quasi-open fire-prone Aleppo pine forests with shrubby understories at Kareas, a suburb on the hills overlooking Athens, Greece, which I visited in the mid-1980s. In July of 1998, international news reports showed footage of a horrendous fire which swept through that area. The flames of the Spryfield fire, which I viewed from the Halifax Peninsula on April 30th, 2009, presented very similar images.

As in other places where people settle in areas of fire-prone vegetation, we are faced with a dilemma – we want to prevent and/or put out fires quickly, but by doing so, we allow the fuel load to increase, in this way increasing both the likelihood of fire and its intensity when it does strike.

So how do we address this issue in HRM? Landscape-specific building codes requiring extended buffer zones and use of fire-resistant building materials in fire-prone landscapes may be part of the answer. It's obviously important to retain whatever wetlands we have in these landscapes. Personally, I think there should be significant restrictions on development in the areas of granite barrens and associated forest on the Chebucto Peninsula, both for public safety and for conservation of species like Broom Crowberry (a coastal plain species that is 'apparently secure' in Nova Scotia, but imperiled elsewhere; it is declining in N.S. because of development and other pressures), Goldenheather (imperiled), and Mountain Sandwort (imperiled), and a dozen or so more rare species found in the 'permanent coastal barrens' as documented by Jeremy Lundholm and colleagues at Saint Mary's University. Contribution of private lands for conservation in the area (The Purcells Cove Conservation Lands) is an especially encouraging move in this direction. Let's hope there will be more! There are some big chunks of crown land in the area as well (see: The Herring Cove Backlands Wilderness Area, **www.publicland.ca/herringcovebacklands.html**). I do hope that these issues will be flagged in HRM's Urban Forest Management Plan, currently under development.

FOR MORE INFORMATION:

On the coastal barrens –

Oberndorfer, Erica C. & Lundholm, J.T. 2009. Species richness, abundance, rarity and environmental gradients in coastal barren vegetation. Biodiversity & Conservation 8:1523-1553

Burley, S.T. & Lundholm, J.T. 2010. Environmental predictors of forest expansion on open coastal barrens. Biodiversity & Conservation 19: 3269-3285.

On wildfires and fire ecology –

Le Goff, H. & Sirois, H. 2004. Black Spruce and Jack Pine dynamics simulated under varying fire cycles in the northern boreal forest of Quebec, Canada. Canadian Journal of Forest Research 34: 2399–2409

Martine, C.T., et al. 2005. The biology of *Corema conradii*: natural history, reproduction, and observations of a post-fire seedling recruitment. Northeastern Naturalist 12(3): 267-286.

The U.S. Fire Effects Information Service provides detailed information on the fire ecology of individual species at **http://www.fs.fed.us/database/feis/plants/index.html**

Wildland fire in ecosystems: effects of fire on fauna, ecosystems, cultural resources, and archeology, soil, and water. Comprehensive documents by the U.S. Forest Service. See links listed at **http://frames.nacse.org/1000/1287.html**.

Is Your Home Fire Smart? –

http://www.gov.ns.ca/natr/forestprotection/wildfire/firecentre/fire-smart.asp. This also gives links to other N.S. Government pages dealing with wildfires.

On Jack Pine and Broom Crowberry in N. S. –

See listings under 'Ericaceae' in the Species section of the Nova Scotia Wild Flora Society website, **nswildflora.ca**.

FOREST REGENERATION SPECIES

Reindeer Lichen	*Cladonia* spp.
Sphagnum Moss	*Sphagnum* spp.
Hairy Cap Moss	*Polytrichum* spp.
Broom Moss	*Dicranum* spp.
Purple Horn Tooth Moss	*Ceratodon purpureus*
Black Spruce	*Picea mariana*
White Pine	*Pinus strobus*
Jack Pine	*Pinus banksiana*
Red Oak	*Quercus rubra*
Wire Birch	*Betula populifolia*
White Birch	*Betula papyrifera*
Mountain Sandwort	*Minuartia groenlandica*
Large-toothed Aspen	*Populus grandidentata*
Broom Crowberry	*Corema conradii*
Teaberry	*Gaultheria procumbens*
Golden-heather	*Hudsonia ericoides*
Rhodora	*Rhododendron canadense*
Lambkill	*Kalmia angustifolia*
Leatherleaf	*Chamaedaphne calyculata*
Blueberry	*Vaccinium angustifolium*
Cranberry	*Vaccinium oxycoccos*
Shadbush	*Amelanchier* spp.
Three-toothed Cinquefoil	*Sibbaldiopsis tridentata*
Red Maple	*Acer rubrum*
Painted Trillium	*Trillium undulatum*
Pink Lady's Slipper	*Cypripedium acaule*

FIELD TRIPS

MEDICINAL GARDEN WALK

– Bob McDonald

Date: Tuesday, June 15
Place: 25 Spectacle Lake Drive, Dartmouth
Weather: Sunny
Leader: Rénelle Léger, Doctors Nova Scotia
Participants: 14

A sunny spring evening found us exploring the back yards of Burnside Industrial Park – yes, the Doctors Nova Scotia Headquarters is located near Spectacle Lake, just off the main roads. When constructed, only a small footprint was used so that the surrounding natural habitat was not disturbed. Over time, some trees and shrubs have been added and there is always room for more plant material. However, we enjoyed sharing the surprises of spring as we walked on the trail. Our guide Renelle, who has adopted the garden along with her day job behind a desk in the office, was excited as we pointed out some hidden blossoms that she had not yet discovered this spring, including the Indian Cucumber-Root.

The garden is enjoyed by staff and visitors throughout the year: in winter when the bird feeders are well stocked and visited by the many species including ring-necked pheasant; in early spring when the blossoms are on the flowering shrubs; in summer when people can eat lunch or use their laptops on the patio; and in fall when the grapes are ripe! Recently, a hummingbird was spotted at the blossoms.

Rénelle has updated the 'Guide to the Garden' and it is available at the reception desk during open hours. The Guide includes the plants and their traditional uses in medicinal application in days gone by. As well, in the reception area, display cases house some exhibits of relevant and associated archival material.

When our arranged Medicinal Garden walk was finished, several of us continued walking along to the Spectacle Lake Trail through the bogs and the boardwalks. As well as the bog plants in bloom, we observed the resident Osprey carrying home supper to the family in the large nest on the power structure – easy to spot!

This little known interesting trail can also be reached from Spectacle Drive.

MEDICINAL GARDEN NATIVE SPECIES

Plants

Cinnamon Fern	*Osmunda cinnamomea*
Bracken	*Pteridium aquilinum*
White Pine	*Pinus strobus*
Mayapple	*Posophyllum peltatum*
Whych Hazel	*Hamamelis virginiana* L.
Sweet Fern	*Comptonia peregrinia*
Red Oak	*Quercus rubra* L.
Willow	*Salix* sp.
Blueberry	*Vaccinium* sp.
Bog Huckleberry	*Gaylussacia dumosa*

Blackberry	*Rubus* sp.
Cinquefoil	*Potentilla* sp.
Sarsaparilla	*Aralia nudicaulis*
Valerian	*Valeriana officinalis*
Ox-eye Daisy	*Chrysanthemum leucanthemum*
Indian Cucumber-root	*Medeola virginiana* L.
Wild Lily-of-the-Valley	*Maianthemum canadense*
Pink Lady's Slipper	*Cyprepedium acaule*
Bush Honeysuckle	*Diervilla lonicera* P. Mill.
Birds	
Osprey	*Pandion haliaetus*
Red-eyed Vireo	*Vireo olivaceous*

FERN IDENTIFICATION

– Richard Ballard

Date: Saturday, August 7th
Place: Conrad's Beach & Dollar Lake Provincial Park
Weather: Sunny,; 20˚C
Participants: 16
Leader: Rick Ballard

We met at 10:00 a.m. at Conrad's Beach, where participants were provided with a Nova Scotia Fern Checklist.

At Conrad's we hoped to find specimens of the Moonwort Grape Fern, *Botrychium lunaria*. It has been seen there in the dunes for over 20 years and the population was still evident in 2009. However, none were found this year, even in previously known locations. Since this is a northern fern, possibly there was a problem with this year's hotter-than-normal summer.

After our Conrad's foray, we travelled to Dollar Lake Provincial Park, where are found examples of more normal fern habitats. Here we saw several different ferns in their various habitats.

FERN IDENTIFICATION SPECIES

Royal Fern	*Osmunda regalis*
Cinnamon Fern	*Osmunda cinnamomea*
Interrupted Fern	*Osmunda claytonia*
Bracken Fern	*Pteridium aquilinum*
New York Fern	*Thelypteris novaboracensis*
Northern Beech Fern	*Phegopteris connectilis*
Sensitive Fern	*Onoclea sensibilis*
Christmas Fern	*Polystichum acrostichoides*
Spinulose Wood Fern	*Dryopteris carthusiana*

Christmas Ferns were scattered in the richer hardwood areas, and Cinnamon and Interrupted Ferns were common in the sun along the trails. There were dense areas of Royal Fern right in the water at a lake inlet. Sensitive Fern was common in dense stands in damp areas; we saw both the current and last years fertile fronds. New York Fern was extremely common on the roadsides. Long Beech Fern was less common in the woods. Bracken Fern was occasionally seen along the trails, and Spinulose Wood Fern was common in the woods.

COLE HARBOUR TRAILS

– Stephanie Robertson

Date: Saturday, September 25th
Place: Cole Harbour Heritage Park
Weather: Warm, overcast, then sunnier and very warm
Leader: Michael McFadden
Participants: 21

We joined Cole Harbour Heritage Trail Society member Michael McFadden (a former SeaKing pilot!) in front of the interpretive map near the Bissett Road red barn. His knowledge of the anecotes, history, and trails of the park was impressive, and he traced for us the route we would be taking – the Poor's Farm Road to the Poor's Farm Reservoir, and then back via the Panorama Trail (there are 23 km of total trails), roughly two and one half hours, with 15 or 20 minutes inside the barn at the end of the hike.

There are several brooks in the area, and Michael said there had been lots of salamanders and frogs this year. One of the waterways, 'Stinky Brook', boasted more than one wooden bridge, which we crossed during our hike.

We came to a spot which had in the past been 'Ware Corner' where there had been a Ware Inn. Local lore has it that George V had stayed there, but this has not been confirmed. All along the trail edges there were many buttercups (not in bloom), along with Maianthemum, Wild Strawberries, a plethora of Fall Asters, grasses, and various weeds. There were very many large Tamarack, birches, maples, spruce, and other conifers. We also saw the alien invasive – Buckthorn. There were many rosehips, and lots of blackberry and raspberry bushes, some still bearing ripe fruit!

Veering off to the right onto the Costley Farm Trail, we spotted large mushrooms and Bunchberry, more Maianthemum and lots of ferns, both large and small, unidentified. We stopped at the Ira Settle Bridge over Stinky Brook where Michael explained that the deadfalls from Juan and Earl had been kept in place when they had fallen across waterways, as their shade keeps the water much cleaner and healthier for water wildlife. We saw some canopyless patches looking through the wooded areas, where Juan had decimated the trees there. They have wisely kept the deadhead trees standing – about ten per acre. There are at least ten Piliated Woodpeckers in the Park, and there are many eagles and Osprey which like those deadheads as well. Michael also reported many hummingbirds. We saw some uprooted trees as well from the recent hurricane Earl.

Almost all of the trails we traversed were gravel and crusher dust. But there were some natural ones somewhere, because Michael mentioned that people had been widening these more and more by avoiding the muddier centres and going to the edges, as do ATVs on boggy dirt roads and paths through wildlands – making the pathways wider and wider, with the flora and fauna on the edges being gradually eradicated. They are looking to construct corduroy roads in these places, as are found in the muddier, lower areas of cape Split.

On the way to the Poor Farm's site, we stopped at

a hill gravesite, where Michael gave us a bit of history. The farm was constructed in 1887 for 20-30 people who were (then described as) poor, destitute, and harmlessly insane; they also accepted unwed mothers. There was a Superintendant who looked after the farm and supervised those who could help in the production of the market produce, and a matron who looked after the people themselves. It was generally believed this was a healthier environment than somewhere in a city, with fresh air, an occupation, and a safe place to stay where they could be in the outdoors (there were fences.). Records show that these two caretakers did many extras for their charges as well. The buildings burnt down in 1929, and it was a credit to them that everyone was safely rescued.

At the sorry little gravesite overlooking the Cole Harbour Salt Marsh, with its white, anonymous wooden crosses (some broken), Michael said the only records extant were those of the deaths themselves, and that no graves could be assigned to specific people. The large salt marsh had been dry fields of salt hay until 1917, made so by a dyke to keep out the tides (there had been a narrow channel left). It was quite a local bone of contention, and had been blown up on a few times; after the last breach, the elderly resident decided not to rebuild it again, thus the expanse of water we see today.

We trailed back to Poor Farm's Road over a boggy, drumlin; there were large stands of aspens and some mosquitoes!

Later, at the expanse of beautiful grassy field where the Poor Farm had been, we had a magnificent unimpeded view of the Cole Harbour salt marsh, and to one side of the lower field, there was biggest Sycamore Maple I had ever seen. There were remnants of the farm's apple orchards along the approach, and Michael explained that there had been man-made pools for forest fires and other uses, all gravity fed. The field site is now in the process of being archaeologically studied; there had been two two-storey Cape Cod structures with dormitories, a small power generator, and a kitchen house, all presently marked with NSM 'Special Places' signs.

After the 1929 fire, the 'inmates' were sent to various places in Halifax until the new Rehabilitation Centre was built in '39. We glimpsed these buildings across the road from the red barn, which are now closed down, awaiting demolition.

So far the archaeological research has yielded 30,000 pieces of glass, many nails and pieces of pottery, and buttons, (which, because styles changed from year to year, can pinpoint the date of those finds rather accurately). For instance, one of the buttons was manufactured in Prince Edward Island, between 1878-1881. Pipe stems that have been found can be dated by the diameter of their holes. Also found was a knife in its leather sheath and a boot top or spat. There are lots of historical accounting records and archives are being amassed.

At the north end of the trail, Michael said lots of deer have been seen; there are also coyotes in winter, and pheasants as well. We crossed Brook Trail and Jersey Jack Trail over the creek called 'The Run' along the northern edge of the lands. 'Jersey Jack' was quite a local character who came from the Isle of Jersey and jumped ship in the 1870s. Here we spotted a Striped Maple, and Cormorants, Black Ducks, and mergansers on the water. There were a series of squatters' cottages here in the 1930s, but now not a trace can be seen. Also noted, a fuzzy yellow caterpillar, Poplars, and Old Man's Beard, which was of course on trees all along the trails.

Back at the parking lot, Michael unlocked the large red barn for us and it was a cool and welcome respite from the increasing heat. Built in 1935, the cavernous, very well-preserved interior used to hold hay, while the cows were kept in the lower area under the barn at the back (the barn is on a hill, so the back entrance is one level lower than the front). The Cole Harbour Parks and Trails Association has held a long-standing goal to use this historic barn as an education centre; presently, it is being used for storage and workspace, but there are many opportunities to provide programme space for park-relatied activities. (Currently, it is being proposed as the Titus Smith Education Centre and Maria Morris Miller Heritage Centre, the former to serve local groups and schools and as a model for low-carbon footprint community projects; the latter to provide exhibit space celebrating Cole Harbour's rich history and vibrant, contemporary culture.)

After the barn visit, we were off to the Cole Harbour Heritage Farm on Otago Road for our homemade lemonade, chili, tea biscuit, salad, blueberry crumble, tea/coffee supper – and very delicious it was. Thanks to Michael McFadden and HFN's programme organisers for an informative and wonderful hike.

COLE HARBOUR SPECIES

Plants

Old Man's Beard	*Usnea* sp.
Spruce	*Picea* sp.
Tamarack	*Larix laricina*
Birch	*Betula* sp.
Trembling Aspen	*Populus tremuloides*
Poplar	*Populus sp.*
Red Raspberry	*Rubus idaeus* L.
Common Blackberry	*Rubus allegheniensis*
Wild Strawberry	*Fragaria* sp.
Wild Rose (hips)	*Rosa* sp.
Bunchberry	*Cornus canadensis* L.
Buckthorn	*Rhamnus* sp.
Striped Maple	*Acer pensylvanicum* L.
Sycamore Maple	*Acer pseudoplatanus* L.
Asters	*Aster* sp.
Wild Lily-of-the-Valley	*Maianthemum canadense*

Birds

American Black Duck	*Anas rubripes*
Merganser	*Mergus* sp.
Cormorant	*Phalacrocorax* sp.

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.

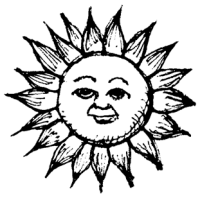
"The autumn is long, and the weather is then delicious; this is decidedly the most pleasant portion of the year. There are usually heavy rains in November; but when not wet, the weather is fine and pleasant; the rivers generally close during the latter part of this month, and in December winter fairly sets in."

– Moses H. Perley, "Course of the Seasons" in A Hand-Book of Information for Emigrants to New Brunswick (1857)

NATURAL EVENTS

23 Sept. Autumnal Equinox at 00:09 ADT: Fall begins in the Northern Hemisphere.
23 Sept. Full Moon (the Harvest Moon) rises at 18:57 ADT.
28 Sept. Seventh anniversary of Hurricane Juan.
30 Sept. Average date for first frost in Halifax (i.e. Env. Canada predicts a 1:10 chance of frost before this date). Look forward to 210 days of frosty weather.
22 Oct. Full Moon (the Hunter's Moon) rises at 17:53 ADT.
7 Nov. Daylight Saving Time ends (clocks are set back one hour, from Atlantic Daylight Time to Atlantic Standard Time) at 02:00.
21 Nov. Full Moon (the Beaver Moon) rises at 16:43 AST.
22 Nov. Daily minimum temperature goes below 0˚C.
7 Dec. Daily average temperature goes below 0˚C.
14 Dec. -5 Jan. Audubon Christmas Bird Count.
21 Dec. Winter Solstice at 19:38 AST. Winter begins in the Northern hemisphere, but though the temperature drops, the days begin to lengthen.
21 Dec. Full Moon (the Cold Moon) rises at 17:23 AST.
21 Dec. **Total lunar eclipse**, visible to all of North America, begins at 02:32 AST according to NASA.

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



4	**Sept.**	6:40	19:46	**2**	**Oct.**	7:13	18:53
11	**Sept.**	6:48	19:33	**9**	**Oct.**	7:22	18:40
18	**Sept.**	6:57	19:19	**16**	**Oct.**	7:31	18:28
25	**Sept.**	7:05	19:06	**23**	**Oct.**	7:40	18:17
				30	**Oct.**	7:49	18:06
6	**Nov.**	7:59	17:57	**5**	**Dec.**	7:35	16:34
13	**Nov.**	7:08	16:49	**12**	**Dec.**	7:42	16:34
20	**Nov.**	7:18	16:42	**19**	**Dec.**	7:47	16:36
27	**Nov.**	7:26	16:37	**26**	**Dec.**	7:50	16:40

– Sources: Natural Events – the RASC Observer's Calendar 2010, edited by Dave Lane; emails D. Lane
Sunrise/Sunset – timeanddate.com

ORGANISATIONAL EVENTS

Blomidon Naturalists Society: Indoor meetings are on the 3rd Monday of the month, in the auditorium of The K.C. Irving Environmental Science Centre, University Avenue, Wolfville, 7:30 p.m. Field trips usually depart from the Wolfville Waterfront, Front Street, Wolfville. **http://www.blomidonnaturalists.ca/**.

9 Oct. "Tidal Bore Watch", with leader Sherman Williams, 542-5104; **sherm@glinx.com**.
9 Oct. "Blomidon Provincial Park Hike", with the Chebucto Hiking Club. Contact Dawn or Tom, 434-9447.
18 Oct. "Climate Change - Yea or Nay?", with speaker Dr. Raeside, environmental scientist, Acadia University.
12 Nov. "Astronomy Observation", with the Minas Observatory Group. Pat Kelly, 472-2322; R. Bishop, 542-3992.
15 Nov. "Project UFO, Invasive Exotics", with speaker Martha Jones, associate professor, Cape Breton Univeristy.
13 Dec. TBA, with speaker Dr. Hugh Broders, population ecologist, St. Mary's University
18 Dec. "Wofville Christmas bird Count". **$5.00 fee**. **Pre-register** with Alice Bogan, 678-0446; **alison@bogan.ca**.
21 Dec. "Winter Solstice Family Frolic"; with leaders Charlane Bishop, 542-2217, and Harold Forsyth, 542-5983.
29 Dec. "West Hants Christmas Bird Count", with leader Pat Kelly, 472-2322. **$5.00 fee**.
17 Jan. "Big Blows; Bad Floods…", with speaker Dr. David Duke.
29/30 Jan. "Eagle Watch Weekend I", with leader Richard Hennigar, 582-3044; **hennigar@xcountry.tv**; **wwweaglens.ca**.
5/6 Feb. "Eagle Watch Weekend II", with leader Richard Hennigar, 582-3044; **hennigar@xcountry.tv**; **wwweaglens.ca**.
5 Feb. "Winter on Snowshoes", with leader Sorun Bondrup-Nielsen, 582-3971.

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: For more information, go to **http://www.mcnabsisland.ca/**.

17 Oct. "Fall Foliage Tour"; **reservations required for space on the boat. Bring lunch and water.**

Maritime Museum of the Atlantic: For more information, 424-7491(7490); or go to **http://museum.gov.ns.ca/mma/index.html**.

3 Nov. "Facing the Atlantic; How Marine Sciences began on Canada's East Coast", with speaker Eric Mills, Professor of Oceanography, Dalhousie University.

10 Nov. "Mapping Halifax Harbour; What Have We Learned?", with speaker Gordon Fader, Atlantic Marine Geo. Consulting Ltd.

23 Nov. -27 Nov. "Nautical Rope Wreath Workshops". Bring a knee pad and gardening gloves. **Pre-registration required!**

4 Dec. "Halifax Explosion Memorial Concert".

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, phone Suzanne Borkowski, 445-2922; or go to **http://nsbs.chebucto.org/**.

2 Oct. "New Birders' Walk, Halifax", with leader Bonnie Carmichael; **bonniecarmichael@hotmail.com**.

16 Oct. "Cheticamp Island, Inverness Co.", with leader Gordon Delaney, 224-2490; **gordondelaney@pc.gc.ca**.

30 Oct. "Port Hawkesbury", with leaders David Johnston, 625-1534; **dwj.jem@ns.sympatico.ca,** and Dave McCorquodale, 563-1260; **david_mccorquodale@capebretonu.ca**.

6 Nov. "New Birders' Walk, Halifax", with leader Bonnie Carmichael; **bonniecarmichael@hotmail.com**.

28 Nov. "Antigonish Coastal Waters", with leader Randy Lauf, 867-2471; **rlauff@stfx.ca**.

Nova Scotia Museum of Natural History: For more information, phone 424-7353; or go to **http://m useum.gov.ns.ca/mnh/**.

1 Oct. -Jan. "Canada's Waterscapes"; an exhibit about our amazing Canadian aquatic ecosystems and their flora and fauna.

Nova Scotia Nature Trust: For more information, 425-5263; or go to **http://www.nsnt.ca/**.

13 Oct. Volunteer Orientation Session, NSNT Office, 2085 Maitland Street.

28 Oct. Annual Dinner and Silent Auction, with guest speaker New Glasgow native Dr. George Archibald.

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

27 Sept. "The Ecology of Coastal Barrens", with speaker Jeremy Lundolme, plant ecologist, of St Mary's University.

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**.

4 Oct. "Mountains: Past, Present, and Future", with speaker Dr. Brendan Murphy, St. Francis Xavier University.

1 Nov. "The Leatherback Turtle… Giant Jellyfish Predator", with speaker Dr. Mike C. James, Dalhousie University.

6 Dec. "Currents, Critters, and Climate… Canadian Arctic", with speaker Kate Collins, Dept. Fisheries and Oceans.

10 Jan. "How Reliable is Science Anyway?"; a panel discussion, Sobey Bldg., St. Mary's University.

Royal Astronomical Society of Canada (Halifax Chapter): Meets 3rd Friday of each month in Room L176 of the Loyola Academic Building at Saint Mary's University, 8:00 p.m. For more information, go to **http://halifax.rasc.ca/**.

Young Naturalists' Club: A fun, free nature club for children eight and over. Meetings take place every 3rd Saturday of the month at the NSMNH at 10:00 a.m.. Field trips are every 4th Sunday, 1:00 p.m. For more information, Laura Lambie, 431-0207; or go to **ync.nature1st.net**.

16 Oct. TBA. YNC regular meeting.

24 Oct. TBA. YNC regular hike.

20 Nov. "Early Mi'kmaq Life", with speaker Laura Lambie, YNC Co-ordinator.

28 Nov. "Early Mi'kmaq Life Hike", at the Natural Resources Education Centre, Musquodobit.

18 Dec. "A Holiday Surprise!"

Halifax Northwest Trails Association: Local walks based on Michael Haynes' new HRM trails book. For contacts, go to **info@halifaxnorthwesttrails.ca**; for more information, go to **www.northwest trails.ca**, or **www.carpnovascotia.ca**.

7 Oct. "Bedford-Sackville Connector", with leader Shirley McIntyre.

16 Oct. "First Trail Lake, Lwr. Sackville", with leader Bob Taylor.

19 Oct. "Beechville/Lakeside/Timberlea Trail", with leader Catherine Klefenz.

23 Oct. "Cole Harbour Heritage Trail", with leader Holly Woodill.

28 Oct. 'Shubenacadie Canal Commission", with leader Bernie Hart.

30 Oct. "McIntosh Run", with leader Carolyn Mont.

– compiled by Stephanie D. Robertson

HALIFAX TIDE TABLE

October-octobre

Day	Time	Feet	Metres	jour	heure	pieds	mètres
1	0042	**4.9**	1.5	**16**	0227	**4.9**	1.5
	0734	**2.3**	0.7		0927	**2.3**	0.7
FR	1252	**5.6**	1.7	SA	1444	**4.9**	1.5
VE	2017	**1.3**	0.4	SA	2140	**2.0**	0.6
2	0147	**4.9**	1.5	**17**	0343	**4.9**	1.5
	0839	**2.3**	0.7		1021	**2.3**	0.7
SA	1359	**5.6**	1.7	SU	1558	**4.9**	1.5
SA	2117	**1.3**	0.4	DI	2231	**1.6**	0.5
3	0306	**4.9**	1.5	**18**	0441	**5.2**	1.6
	0942	**2.0**	0.6		1111	**2.0**	0.6
SU	1518	**5.6**	1.7	MO	1655	**4.9**	1.5
DI	2214	**1.0**	0.3	LU	2318	**1.6**	0.5
4	0421	**5.6**	1.7	**19**	0526	**5.2**	1.6
	1045	**1.6**	0.5		1154	**2.0**	0.6
MO	1634	**5.6**	1.7	TU	1741	**5.2**	1.6
LU	2311	**0.7**	0.2	MA			
5	0519	**5.9**	1.8	**20**	0001	**1.6**	0.5
	1146	**1.0**	0.3		0603	**5.6**	1.7
TU	1737	**5.9**	1.8	WE	1231	**1.6**	0.5
MA				ME	1823	**5.2**	1.6
6	0006	**0.7**	0.2	**21**	0038	**1.6**	0.5
	0610	**6.2**	1.9		0636	**5.6**	1.7
WE	1245	**0.7**	0.2	TH	1306	**1.3**	0.4
ME	1833	**5.9**	1.8	JE	1903	**5.2**	1.6
7	0059	**0.3**	0.1	**22**	0112	**1.6**	0.5
	0658	**6.6**	2.0		0709	**5.6**	1.7
TH	1339	**0.3**	0.1	FR	1339	**1.0**	0.3
JE	1925	**6.2**	1.9	VE	1941	**5.2**	1.6
8	0151	**0.3**	0.1	**23**	0145	**1.6**	0.5
	0745	**6.9**	2.1		0741	**5.6**	1.7
FR	1432	**0.0**	0.0	SA	1414	**0.7**	0.2
VE	2016	**6.2**	1.9	SA	2018	**5.2**	1.6
9	0242	**0.3**	0.1	**24**	0218	**1.6**	0.5
	0832	**6.6**	2.0		0815	**5.9**	1.8
SA	1523	**0.0**	0.0	SU	1451	**0.7**	0.2
SA	2105	**5.9**	1.8	DI	2055	**5.2**	1.6
10	0334	**0.7**	0.2	**25**	0254	**1.6**	0.5
	0918	**6.6**	2.0		0851	**5.9**	1.8
SU	1614	**0.3**	0.1	MO	1531	**0.7**	0.2
DI	2153	**5.9**	1.8	LU	2132	**5.2**	1.6
11	0428	**1.3**	0.4	**26**	0333	**1.6**	0.5
	1004	**6.2**	1.9		0929	**5.9**	1.8
MO	1707	**0.7**	0.2	TU	1615	**1.0**	0.3
LU	2240	**5.6**	1.7	MA	2211	**5.2**	1.6
12	0526	**1.6**	0.5	**27**	0419	**2.0**	0.6
	1050	**5.9**	1.8		1010	**5.9**	1.8
TU	1801	**1.0**	0.3	WE	1704	**1.0**	0.3
MA	2328	**5.2**	1.6	ME	2253	**5.2**	1.6
13	0628	**2.0**	0.6	**28**	0516	**2.3**	0.7
	1138	**5.6**	1.7		1053	**5.6**	1.7
WE	1857	**1.3**	0.4	TH	1759	**1.3**	0.4
ME				JE	2339	**5.2**	1.6
14	0019	**5.2**	1.6	**29**	0621	**2.3**	0.7
	0730	**2.3**	0.7		1142	**5.6**	1.7
TH	1230	**5.2**	1.6	FR	1858	**1.3**	0.4
JE	1952	**1.6**	0.5	VE			
15	0116	**4.9**	1.5	**30**	0031	**5.2**	1.6
	0829	**2.3**	0.7		0727	**2.3**	0.7
FR	1331	**4.9**	1.5	SA	1237	**5.6**	1.7
VE	2047	**1.6**	0.5	SA	1956	**1.3**	0.4
				31	0133	**5.2**	1.6
					0830	**2.0**	0.6
				SU	1343	**5.6**	1.7
				DI	2053	**1.3**	0.4

November-novembre

Day	Time	Feet	Metres	jour	heure	pieds	mètres
1	0242	**5.6**	1.7	**16**	0347	**5.2**	1.6
	0932	**1.6**	0.5		1029	**2.0**	0.6
MO	1459	**5.2**	1.6	TU	1611	**4.6**	1.4
LU	2149	**1.0**	0.3	MA	2221	**2.0**	0.6
2	0350	**5.6**	1.7	**17**	0436	**5.2**	1.6
	1033	**1.3**	0.4		1112	**1.6**	0.5
TU	1615	**5.6**	1.7	WE	1705	**4.9**	1.5
MA	2246	**1.0**	0.3	ME	2307	**2.0**	0.6
3	0449	**6.2**	1.9	**18**	0517	**5.6**	1.7
	1132	**0.7**	0.2		1152	**1.3**	0.4
WE	1720	**5.6**	1.7	TH	1752	**4.9**	1.5
ME	2343	**1.0**	0.3	JE	2351	**2.0**	0.6
4	0541	**6.2**	1.9	**19**	0554	**5.6**	1.7
	1229	**0.3**	0.1		1231	**1.0**	0.3
TH	1817	**5.6**	1.7	FR	1835	**4.9**	1.5
JE				VE			
5	0039	**1.0**	0.3	**20**	0034	**2.0**	0.6
	0631	**6.6**	2.0		0630	**5.6**	1.7
FR	1323	**0.0**	0.0	SA	1311	**0.7**	0.2
VE	1909	**5.9**	1.8	SA	1915	**5.2**	1.6
6	0134	**1.0**	0.3	**21**	0114	**1.6**	0.5
	0719	**6.6**	2.0		0707	**5.9**	1.8
SA	1413	**0.0**	0.0	SU	1351	**0.7**	0.2
SA	1959	**5.9**	1.8	DI	1955	**5.2**	1.6
7	0226	**1.0**	0.3	**22**	0154	**1.6**	0.5
	0807	**6.6**	2.0		0747	**5.9**	1.8
SU	1503	**0.0**	0.0	MO	1433	**0.3**	0.1
DI	2049	**5.9**	1.8	LU	2035	**5.2**	1.6
8	0318	**1.3**	0.4	**23**	0236	**1.6**	0.5
	0854	**6.2**	1.9		0828	**5.9**	1.8
MO	1551	**0.3**	0.1	TU	1516	**0.3**	0.1
LU	2136	**5.9**	1.8	MA	2116	**5.2**	1.6
9	0410	**1.6**	0.5	**24**	0322	**1.6**	0.5
	0940	**6.2**	1.9		0911	**5.9**	1.8
TU	1640	**0.7**	0.2	WE	1602	**0.7**	0.2
MA	2223	**5.6**	1.7	ME	2158	**5.6**	1.7
10	0505	**2.0**	0.6	**25**	0413	**2.0**	0.6
	1027	**5.9**	1.8		0956	**5.9**	1.8
WE	1729	**1.0**	0.3	TH	1652	**0.7**	0.2
ME	2309	**5.6**	1.7	JE	2243	**5.6**	1.7
11	0601	**2.3**	0.7	**26**	0512	**2.0**	0.6
	1115	**5.6**	1.7		1042	**5.9**	1.8
TH	1819	**1.3**	0.4	FR	1745	**0.7**	0.2
JE	2356	**5.6**	1.7	VE	2330	**5.6**	1.7
12	0659	**2.3**	0.7	**27**	0615	**2.0**	0.6
	1205	**5.2**	1.6		1132	**5.9**	1.8
FR	1909	**1.6**	0.5	SA	1839	**1.0**	0.3
VE				SA			
13	0047	**5.2**	1.6	**28**	0021	**5.6**	1.7
	0755	**2.3**	0.7		0718	**2.0**	0.6
SA	1259	**4.9**	1.5	SU	1227	**5.6**	1.7
SA	1958	**2.0**	0.6	DI	1935	**1.0**	0.3
14	0145	**5.2**	1.6	**29**	0116	**5.6**	1.7
	0850	**2.3**	0.7		0820	**1.6**	0.5
SU	1400	**4.9**	1.5	MO	1330	**5.2**	1.6
DI	2046	**2.0**	0.6	LU	2032	**1.0**	0.3
15	0248	**5.2**	1.6	**30**	0216	**5.6**	1.7
	0941	**2.3**	0.7		0920	**1.3**	0.4
MO	1508	**4.6**	1.4	TU	1442	**5.2**	1.6
LU	2133	**2.0**	0.6	MA	2129	**1.3**	0.4

December-décembre

Day	Time	Feet	Metres	jour	heure	pieds	mètres
1	0318	**5.9**	1.8	**16**	0337	**5.2**	1.6
	1019	**1.0**	0.3		1023	**1.6**	0.5
WE	1556	**5.2**	1.6	TH	1619	**4.6**	1.4
ME	2228	**1.3**	0.4	JE	2214	**2.3**	0.7
2	0419	**5.9**	1.8	**17**	0425	**5.2**	1.6
	1117	**0.7**	0.2		1109	**1.3**	0.4
TH	1703	**5.2**	1.6	FR	1715	**4.6**	1.4
JE	2328	**1.3**	0.4	VE	2307	**2.0**	0.6
3	0515	**6.2**	1.9	**18**	0511	**5.6**	1.7
	1213	**0.3**	0.1		1155	**1.0**	0.3
FR	1801	**5.6**	1.7	SA	1804	**4.9**	1.5
VE				SA	2357	**2.0**	0.6
4	0026	**1.3**	0.4	**19**	0555	**5.6**	1.7
	0608	**6.2**	1.9		1242	**0.7**	0.2
SA	1306	**0.3**	0.1	SU	1849	**4.9**	1.5
SA	1855	**5.6**	1.7	DI			
5	0121	**1.3**	0.4	**20**	0045	**2.0**	0.6
	0658	**6.2**	1.9		0639	**5.9**	1.8
SU	1356	**0.3**	0.1	MO	1328	**0.7**	0.2
DI	1945	**5.6**	1.7	LU	1932	**5.2**	1.6
6	0213	**1.3**	0.4	**21**	0132	**1.6**	0.5
	0747	**6.2**	1.9		0724	**5.9**	1.8
MO	1444	**0.3**	0.1	TU	1414	**0.3**	0.1
LU	2034	**5.9**	1.8	MA	2015	**5.6**	1.7
7	0303	**1.6**	0.5	**22**	0219	**1.6**	0.5
	0835	**6.2**	1.9		0810	**6.2**	1.9
TU	1529	**0.7**	0.2	WE	1459	**0.3**	0.1
MA	2120	**5.9**	1.8	ME	2059	**5.6**	1.7
8	0350	**2.0**	0.6	**23**	0309	**1.3**	0.4
	0921	**5.9**	1.8		0857	**6.2**	1.9
WE	1613	**0.7**	0.2	TH	1546	**0.3**	0.1
ME	2205	**5.9**	1.8	JE	2144	**5.9**	1.8
9	0438	**2.0**	0.6	**24**	0403	**1.3**	0.4
	1007	**5.9**	1.8		0944	**6.2**	1.9
TH	1655	**1.0**	0.3	FR	1634	**0.3**	0.1
JE	2247	**5.9**	1.8	VE	2230	**5.9**	1.8
10	0527	**2.3**	0.7	**25**	0501	**1.3**	0.4
	1052	**5.6**	1.7		1033	**5.9**	1.8
FR	1737	**1.3**	0.4	SA	1725	**0.3**	0.1
VE	2330	**5.6**	1.7	SA	2316	**5.9**	1.8
11	0618	**2.3**	0.7	**26**	0603	**1.3**	0.4
	1137	**5.2**	1.6		1123	**5.9**	1.8
SA	1817	**1.6**	0.5	SU	1819	**0.7**	0.2
SA				DI			
12	0013	**5.6**	1.7	**27**	0003	**5.9**	1.8
	0709	**2.3**	0.7		0704	**1.3**	0.4
SU	1224	**5.2**	1.6	MO	1216	**5.6**	1.7
DI	1859	**2.0**	0.6	LU	1915	**1.0**	0.3
13	0059	**5.6**	1.7	**28**	0053	**5.9**	1.8
	0759	**2.3**	0.7		0804	**1.3**	0.4
MO	1314	**4.9**	1.5	TU	1314	**5.2**	1.6
LU	1944	**2.0**	0.6	MA	2014	**1.0**	0.3
14	0150	**5.2**	1.6	**29**	0148	**5.9**	1.8
	0849	**2.3**	0.7		0903	**1.0**	0.3
TU	1411	**4.6**	1.4	WE	1421	**4.9**	1.5
MA	2031	**2.0**	0.6	ME	2114	**1.3**	0.4
15	0244	**5.2**	1.6	**30**	0248	**5.6**	1.7
	0936	**2.0**	0.6		1002	**1.0**	0.3
WE	1516	**4.6**	1.4	TH	1534	**4.9**	1.5
ME	2122	**2.3**	0.7	JE	2215	**1.6**	0.5
				31	0352	**5.6**	1.7
					1101	**0.7**	0.2
				FR	1646	**4.9**	1.5
				VE	2316	**1.6**	0.5

ALL TIMES ARE AST

NATURE NOTES

SEPTEMBER

Bob McDonald mentioned that **flora has bloomed two to three weeks early this year**, including Atlantic Costal Plains flora in Yarmouth County, where he attended a Bioblitz on two properties of the Nature Conservancy of Canada two weekends ago. Fortunately, there were no insects.

Wendy McDonald reported seeing a **Monarch Butterfly** feeding on **Knapweed**, Briar Island.

Dick Evans reported that Halifax residents who had planted **Milkweed** had had visits by **Monarch Butterflies**.

John Carpenter reported that the **hummingbirds** at his Sambro Harbour feeder have been absent for a week, and that neighbors had seen a **Minke Whale** and **porpoises** in the harbour.

Pat Leader commented that **hummingbirds** were still very active at her feeder in Bedford.

Burkhard Plache reported seeing a school of **Grey Trigger Fish** just off Clam Harbour Beach. These fish do not usually venture this far north.

Pat Chalmers reported seeing **Greater and Lesser Yellowlegs** during low tide at Hartlen Point, and also several **Osprey**, one of which was sitting on its nest.

Brian Bartlett commented that near Sydney he recently had a close, non-threatening encounter with an adult **Red Fox** that had a very large tail. He wondered if this was unusual behavior. Answer – yes, it is!

Charles Cron reported a similar incident occurring in Newfoundland where a **Black Fox** came very close to him.

! HUNTING SEASON !

Black Bear Hunting	Sept. 13th to Dec.r 4th, excluding Sundays
Black Bear Snaring	Oct. 1st to Dec. 4th, excluding Sundays
White-tailed Deer (Bowhunting)	Sept. 25th to Oct. 28th, & December 6th to Dec.11th, excluding Sundays
White-tailed Deer (General Open Season)	October 29th to December 4th, excluding Sundays
White-tailed Deer (Youth Hunters)	Oct. 15th-23th , excluding Sundays
Moose	Sept. 28th-Oct. 3rd, Oct. 5th-10th, & December 8th-10th
Ring-necked Pheasant	Nov. 1st to Dec. 15th, excluding Sundays in Annapolis, Kings, & Hants.Counties Oct. 1st to Dec. 15th, excluding Sundays in all other Counties
Ruffed Grouse	Oct. 1st to Dec. 31st, excluding Sundays
Snowshoe Hare Hunting	Nov. 1st to the last day of Feb., excluding Sundays
Snowshoe Hare Snaring	Nov. 1st to the last day of Feb., excluding Sundays

! REMEMBER, IT'S HUNTING SEASON, SO DRESS TO BE SEEN IN THE WOODS !

NEXT DEADLINE

21st of November for the December Issue
Send contributions to 'Newsletter', c/o NS Museum of Natural History, or email submissions to sdhaythorn@ns.sympatico.ca