

THE HALIFAX FIELD NATURALIST



No. 105
December 2001 to February 2002



News & Announcements.....	p. 3	Talks.....	p. 8-10
Reports.....	p. 4-6	Field Trips.....	pp. 10 - 12
Articles.....	p. 7	Almanac.....	pp. 13 & 14
Halifax Tide Table: April - June		p. 15	

Jan - Mar

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 Revenue Canada. Tax-creditable receipts will be issued for individual and corporate gifts. It is an affiliate of the Canadian Nature Federation and an organisational member of the Federation of Nova Scotia Naturalists, 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. 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. Meetings are open to the public.

FIELD TRIPS are held at least once a month, and it is appreciated if those travelling in someone else's car share the cost of gas. All participants in HFN activities are responsible for their own safety. Everyone, member or not, is welcome to take part in field trips.

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MEMBERSHIP is open to anyone interested in the natural history of Nova Scotia. Memberships are available at any meeting of the society, or by writing to: Membership Secretary, Halifax Field Naturalists, c/o NS Museum of Natural History. New memberships starting from 1 September will be valid until the end of the following year. The regular membership year is from 1 January to 31 December. Members receive the HFN Newsletter and notices of all meetings, field trips, and special programmes. The fees are as follows:

Individual	\$15.00 per year
Family	\$20.00 per year
Supporting	\$25.00 per year
FNSN (opt.)	\$ 5.00 per year

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HFN NEWS AND ANNOUNCEMENTS

EDITORIAL

We're at the end of 2001; it has not been an ordinary year. We had a late, cold spring, a hot and very dry summer with few storms, and a late warm autumn. Farmers irrigated early, drawing down ponds and wetlands to the detriment of amphibia and turtles, especially in the Annapolis Valley. A provincial inventory of ground water and plans for protection are needed. The hay crop was reduced, and some was fed to cattle at once; livestock had to be sold off.

Trees suffered from drought; some leaves fell early, and fall colour was reduced. However, rain came in time to save orchard fruits, and put cattle back on pasture. The autumn was mild and late, so dandelions, asters, and forsythia came into bloom, tree buds swelled, and spring peepers were heard in some places. It was a good year for late-migrating birds, and there were insects to feed them.

Two books appeared: One was Carl Munden's 'Native Orchids of Nova Scotia: A Field Guide', an invitation to a summer of searching for wild-flowers. The other was 'The Last Billion Years: A Geological History of the Maritime Provinces of Canada', written by a committee of the Atlantic Geoscience Society. It has led to a popular series of talks at the Museum of Natural History (see the Almanac for dates).

Many conservation issues came to the fore this year, as pressure was put on remaining wild areas and crown lands in Nova Scotia. The Federation of Nova Scotia Naturalists was active on many of these issues, and urges more participation by naturalists (see their Annual Report). Membership in FNSN is a bargain, costing \$5 for HFN members; it provides the quarterly News, and dates for the AGM, a weekend of field trips and discussion (see membership secretary).

Production of this Newsletter has been harder than usual, because only two of the staff are here. Communication with Stephanie Robertson in Bangladesh has gone smoothly, but it's hard to coordinate. We'll see how this issue comes out!

Meanwhile, have a Merry Christmas and a Happy New Year, and may we all find whatever beast or flower we most want to see in 2002!

— Ursula Grigg

LICHENOLOGY: CHALLENGES FOR THE FUTURE



Dr. David H.S. Richardson of St. Mary's University Biology Department will present a personal view of developments in the study of lichens over the last 40 years. He will introduce not only the scientific issues but also some of the key players in the field. He will cover topics as diverse as action studies of lichen reproduction; the role of sugar, fungi and algae; water

and the ecophysiology of algae; and the repopulation of the lichen deserts around the Sudbury smelter stacks. He will also discuss the importance of old growth forest in Nova Scotia. Finally, he will propose ways of attracting students and young scientists to the field of ecology and, in particular, lichenology.

Nova Scotian Institute of Science Public Lecture, at the N.S. Museum of Natural History, on Monday, 7 January, 2002, at 7.30 p.m. For information, call **496-8104**, or e-mail: <gpiiper@shark.stmarys.ca>.

NATURENS

A great deal of information comes to us from a computer listserver.

NatureNS is managed by volunteers, presently by Linda Payzant, and is used by naturalist subscribers who discuss what they are seeing and direct others where to look. It often traces migrations; species appearing further and further north as spring advances, and some dragonflies and shorebirds beginning to turn south in mid-July. This year it was glass eels in July – young American eels which swim in to every stream to grow up in fresh water before returning to sea to breed in a few years time.

There are reports on new and old books, identification keys, occasional recipes, and reminiscences. Anyone wanting to join can e-mail to: <majordomo@chebucto.ns.ca>; leave the subject line blank, then put "**subscribe naturens youremailaddress**" as the message; then send it.

WORMWATCH

The latest subjects for observation are earthworms, and there's a programme to match. 'Wormwatch' is part of a national volunteer monitoring programme to determine just where our Canadian earthworms are – those that survived the Ice Age – and to learn more about them. It's hosted by CNF, Environment Canada, Agriculture Canada, and Agri-Food Canada.

Members of CNF have the details in the Autumn 2001 issue of 'Nature Canada'. Or look at <<http://www.wormwatch.ca>> for details, and look forward to spring!



NEW AND RETURNING

Carole Donaldson
Elliott Hayes
Hanika Koblents
Minga O'Brien
Howard Williams

SPECIAL REPORTS

ATLANTIC CANADA OWL MONITORING WORKSHOP

The Owl Monitoring Workshop took place on Saturday, November 24, 2001, at Mount Allison University, Sackville, New Brunswick

1. Introductions

Becky Whittam, Atlantic Canada Program Director for Bird Studies Canada, welcomed everyone to the workshop, noting that 15 naturalist clubs from all four provinces in Atlantic Canada were represented. The Halifax Field Naturalists were represented by Bob McDonald, HFN President. Everyone was asked to introduce themselves and briefly state their interest in owls and owl monitoring.

Becky then gave a 15 minute presentation to introduce people to Bird Studies Canada (BSC). She talked about the mission of BSC, the Integrated Population Approach, the various international, national, and regional programs of BSC, and more specifically about several Atlantic Canada programs. She then talked briefly about owl monitoring in general; i.e. how owls are not well-monitored by other programs and therefore we know relatively little about their distribution, abundance, and population status. She outlined the national guidelines for owl monitoring, upon which all owl surveys in Canada are currently based.

2. An Introduction to Owls

Denis Doucet (representing L'Association des Naturalistes de la Baie de Bouctouche) gave a very interesting and entertaining talk on the natural history of owls, including excellent renditions of the calls of most species. He generated some discussion over various people's tricks for calling owls (e.g. James Hirtle mentioned that tapping on a fiberglass canoe has been known to elicit responses from Barred Owls!). Denis offered to make his power point presentation available for training purposes if required (see section 6).

3. The Ontario Nocturnal Owl Survey: a 7-year prospectus

Charles Francis spoke about the evolution of the Ontario nocturnal owl survey and the various experiments used to test playback protocols over the first five years of the study. Charles discussed the value (and inherent difficulties) of randomized route selection, as well as the effects of playback on the various species of owls (e.g. Barred Owls seem to require lots of playback before responding, and Northern Saw-whet Owls and Boreal Owls both appear to respond to Boreal Owl playback). Charles discussed short-term trends in

Ontario's owl populations (as shown by owl survey data), concluding that most populations are stable although Boreal Owls and Northern Saw-whet Owls tend to fluctuate widely, perhaps in response to prey. Charles discussed the power of the Ontario survey to detect long-term trends in owl populations, concluding that the survey has adequate power to detect fairly large declines (30-50%) in most species (except Great Grey Owls) but is less effective at detecting small declines. Charles talked a bit about a study of owl habitat selection and suggested that this was something we could emulate in Atlantic Canada.

4. Cape Breton Nocturnal Owl Survey: challenges and results to date

Susann Myers presented the results of the first two years of the Cape Breton nocturnal owl survey, which has been initiated and organized by volunteers. Cape Breton is using a survey protocol based on the national standard protocol, involving playback of Boreal and Barred owls (2 intervals of each). Susann discussed the results of the first two years of the survey (2000 & 2001), noting that the number of routes and participants doubled in the second year, although the number of owls detected per route declined, from an average of 9.5 per route in 2000 to 8.0 in 2001, for a single survey per route. Susann discussed problems of surveying owls in Cape Breton, including high winds, ocean noises and poor spring weather. To try to optimize owl response without lengthy playback, the Cape Breton surveyors have focussed on selecting routes on quiet secondary and backwoods roads, and on learning about ideal weather and seasons for owl vocalizations in their area. Susann reviewed the results from a single survey route that was run four times this year between mid-March and mid-May. It showed steadily increasing response from Barred Owls during that period. Northern Saw-whet Owls have also been found to be more vocal in Cape Breton in May, although Susann suggested that the protocol may not be ideal for detecting these small owls, which she thinks they may call more after midnight.

5. New Brunswick and PEI Nocturnal Owl Survey – methods and results from Year 1

Becky Whittam presented methods and results of the NB and PEI Nocturnal Owl Surveys, which began in 2001. Becky talked about the use of CD players and digital recordings in light of problems experienced with tape recordings in Ontario, and the overall higher quality of digital recordings. Becky discussed the randomised route selection procedure used in both provinces, and the goal of

comparing owl population trends on crown and private land in New Brunswick. The first year of the owl survey in NB and PEI was considered a success given the number of routes run, the number of owls detected, and the number of volunteers involved.

6. Round table discussions

Becky led extensive and wide-ranging discussions on topics dealing with volunteers, survey protocol, survey expansion, and survey management needs. Of particular interest were those which dealt with the expansion of the survey into mainland Nova Scotia.

In general there was strong support for starting up an owl survey in mainland NS. Becky noted, however, that BSC resources were limited and that while she was willing to help set something up, that it could probably not be at the same level as the NB survey unless some support was available. Becky pointed out that the largest tasks involved picking random routes and scouting routes prior to surveying. Both Mark Pulsifer (DNR) and Kevin Middel (Stora Enso Woodlands) said they would be willing to help to pick random routes in the northeastern portion of mainland NS by providing maps and expertise on local roads. Kevin suggested picking routes based on ecoregions in Nova Scotia. Randy Lauff suggested that NS naturalist clubs could be approached individually and asked to take ownership of 2-3 routes per club, to minimize the number of routes set up in the first year (and therefore to minimize the amount of work involved in setting up and managing the survey).

Becky asked Mark Pulsifer if he would be able to speak at all about NS-DNR's potential role in the owl survey. Mark responded by stating that while he was primarily attending the workshop as a naturalist and not a DNR employee, that he would disseminate info learned at the workshop amongst biodiversity staff at DNR. He cautioned, however, that DNR was unlikely to support the owl survey, given their budgetary constraints.

Becky also pointed out that if Nova Scotia decided that playback was a priority, CDs and CD players would be required. There was some debate over whether or not playback was necessary; Randy Lauff was keen on longer surveys (e.g. more stops) with only 2 minutes of silent listening per stop, whereas other folks were more interested in seeing playback. Susann Myers also pointed out that longer routes are not possible in Cape Breton given the available roads, so playback is necessary to maintain survey power; this might also be a problem in mainland NS and NF. Becky pointed out that given the budgetary constraints currently faced in NS, that perhaps a silent listening protocol might be best

for the first year of surveys in NS; playback can be added in later years if funds became available. If, however, playback was deemed a priority, then it was suggested that naturalist clubs could potentially be asked to each purchase one CD player that would be used by surveyors for the routes taken on by that club. Kevin Middel pointed out that Stora-Enso's interest in the owl survey stems from a desire to monitor Barred Owls on the lands that they manage, similar to DNRE's goals in NB. Hence, playback would probably be required.

All club representatives from Nova Scotia agreed that the Workshop was a very valuable experience and that every attempt be made to initiate owl surveys in NS. Although many components contribute to the overall success of such a venture, the most significant one is a supply of willing volunteers. Such volunteers should be willing to undertake some initial training, be prepared to travel up to an hour away from home to survey a pre-selected route, and hopefully be prepared to survey the same route every year. The surveys usually involve a series of 10-20 stops about 1.6-2.0 km apart, listening for owls for a period of 2-8 minutes at each stop, with or without playback. Surveys are carried out only once per year, on an appropriate evening, between one hour after sundown and midnight. Volunteers could be assigned more than one route to cover (if they so desire).

Anyone interested in learning more about the nocturnal owl monitoring program or who would like to volunteer to participate can contact Bob McDonald, 443-5051(h); or <robert.mcdonald@msvu.ca> for further information.

– Bob McDonald



FPPP

Letters

The following is a letter posted by Dr. David H. Webster on NatureNS, June 26, 2001:

"Dear all,

While refreshing my memory re carbon build-up in ecosystems, I came across a paper which bears upon soil/plant effects and the Brown Spruce Longhorn Beetle (BSLB). This paper* involves bark beetles, and some might protest that the BSLB is not a bark beetle, but because most of its tunnelling is in the bark and cambium, it is seen by the tree to be a bark beetle. The tree has the last word.

I have considered for more than a year that low resin due to stress, probably water stress, accounted for the BSLB attacking 'apparently' healthy trees after having been quiescent for a decade or more. The association between resin pressure and vulnerability to insects is old hat. But the series of studies to which this paper makes reference is especially interesting because the comparisons (vulnerable and not vulnerable), are within the same years and within the same site and due to localised soil effects.

In outline, trees on the flats grow more rapidly but are shallow rooted and are thus more affected by dry periods, leading to lower oleoresin exudation pressures when under water stress, and therefore are vulnerable to beetle infestations.

Disclaimer: the above comments are not intended to imply that forest health and tree longevity are more desirable than either ill-health or early death. I think they do bear on whether or not one need be concerned when e.g. insect holes and resin flow start appearing on apparently healthy trees. They hint at the need to understand often well-hidden soil/topography/biota/climate effects even if the objective is limited to protection.

Putting a "Do Not Disturb the Frogs" sign by the frog pond will not do a bit of good if an upslope housing development sends too much potential water down the storm sewer.

– Dr. David H. Webster
Kentville



* Lorio, P.L. Jr. and Hodges, J.D., 1971; "Microrelief, soil water regime, and Loblolly Pine growth on a wet, mounded site. Soil Sci. Soc. Proc. 35; 795-800. (Note: most of the information



is in their previous papers, not seen).

Hemlock Ravine and Point Pleasant Park

The implementation of the drastic broader implications and plenipotentiary power of the CFIA's 'order to cut' for the BSLB on *a*//public and private land, private and public parks, **and remote** and locations has begun. McNabs has been cut, and now It has been claimed that the brown Spruce Longhorn beetle has been found in Hemlock Ravine.

One large corner of the Park had 300-year-old Hemlocks razed and the area clear-cut by an adjacent developer while HRM Staff was on holiday three years ago. Now, further soil dessication and erosion will occur with every tree removed and surrounding underbrush cleared by HRM and/or DNR. This is the most factor in the stressing of trees and their habitat, making them vulnerable to diseases and insects, .

Following is an email from Iain Taylor, President of the Friends of Point Pleasant Park:

"Did anyone note the new 'Wildlife & Watercourses Protection Regulations' which will become law in the Province, on 14 Jan., 2002.

They specify three techniques that must be followed on all lands (including private) and include:

- buffer strips of 20 m to be left along each side of watercourses 50 cm in width;
- clumps of trees to be left standing when harvesting takes place of more than three ha, 10 living trees to be left for each ha cut, and a minimum of 30 trees per clump;
- and finally, coarse woody debris must be left behind, and dead trees are to be left standing in harvested areas to ensure habitat for wildlife and a source of nutrients for the next forest.

The article (Coast Magazine, Nov. 29, 2001, p.5) comments that these regulations have been developed after consultation with the public, forest industry, environmental groups, foresters and biologists, and all are agreed that "these regulations are necessary to help maintain diversity of wildlife and water quality."

Now, given the practice in the Park to clear such deadfall and fell dead standing trees anywhere within sight of the smallest forest path for reasons of 'hazard to users' and insurance considerations, there may be an opportunity to utilise these new regulations to publicise our views about how the Park needs to be sustained and trees cared for in the long run.

– Stephanie Robertson
FPPP Vice President



SPECIAL ARTICLES

HARRY AND HEDWIG

The film 'Harry Potter and the Philosopher's Stone' provides a vicarious field camp for naturalists, many of whom have also enjoyed the book.

Harry is an English schoolboy who learns at age 11 (an academic watershed in the UK) that he is a magician born and has a place reserved for him at Hogwarts Academy for Witchcraft and Wizardry.

A public school in extensive grounds in the English countryside, Hogwarts has all the wilderness needed for a good training in magic, both natural and supernatural. Harry has to get his belongings together before term starts and the school list, of robes, pyjamas, wand, and textbooks, includes an animal familiar to assist with spells.

Owls are the best, and Harry is given Hedwig, a magnificent Snowy Owl, for his birthday. She carries messages for Harry, in between other magical duties, meanwhile maintaining herself by hunting. The lowest form of familiar is Scabbers, the second-hand, old grey rat who lives in the pocket of Harry's friend Ron, and is fed bits of stale sandwich when Ron remembers.

An array of owls appears near the beginning of the film; there are many species and birders have a ball. Some of the owls are living and some are animations. There has been a lot of comment on the management of the live ones and the adequacy of the models, which are said to fly more like terns or nighthawks. However, they enhance the action beautifully and nobody suggests the wrong species appear (because, of course, the place is magical).

According to the trainer employed on the film, owls are not natural actors. Hedwig especially was very hard to direct. They are not good pets either, being unfriendly and hard to maintain. This has frustrated many youngsters in Britain and elsewhere, who want to have pet owls like their hero's. It has probably frustrated PR and marketing people as well! Even if the birds were friendly, they are protected and cannot be held captive without a licence in most countries.

The N.S. Museum of Natural History supplied a list of British owls for the discussion, and comparison with the Nova Scotia list is interesting. Six of the ten Britons occur here as well. These are Long-eared and Short-eared Owls (*Asio otus* and *A. flammeus*); Barn Owl (Barn or Monkey-faced Owl, *Tyto alba*), Tengmalm's Owl (Boreal Owl, *Aegolius funereus*), Hawk Owl (*Surnia ulula*), and a winter visitor, the Snowy Owl (*Nyctea scandiaca*, very rare in UK).

Of the other four, two have close relatives which fill the same roles in both countries; these are the Eagle Owl (*Bubo bubo*) and Tawny Owl (*Strix aluco*) in the UK; and the Great Horned Owl (*Bubo virginiana*) and Barred Owl (*Strix varia*) here. Eagle and Great Horned Owls are both immense birds, have ear-tufts, and hunt hares, ducks, fish and sometimes house-cats. Tawny and Barred Owls are both common, have round heads, dark eyes instead of yellow, and may be seen by day. They are the ones which hoot softly and 'converse' with their mates while hunting; Winnie-the-Pooh's friend 'Wol' is a Tawny Owl.

That leaves two species unmatched: Britain's Scops Owl (*Otus scops*, very rare) and Little Owl (*Athene noctua*). Both have North American relatives but not in Nova Scotia. The Screech Owl (*Otus asio*), in eastern North America, stops short at about the Canada-US border. Little Owls stand up straight on their two feet, and resemble their relatives, the Burrowing Owls of the Prairies (*Athene cunicularia*).

Little Owls are 'my' owls; they were very common in Southern England once and there was always a pair in the immense oak at the end of our roadway. They were locally called Creaky-gates, because their monotonous call – repeated between the members of the pair – sounded like an old-fashioned iron hinge in need of oiling. The pair 'talked' to each other in monotonous tones for most of the night and part of the day in winter and spring, filling the interval between the screaming of vixens (*Vulpes vulpes*, Red Fox) in January and February, and the first Cuckoo (*Cuculus canorus*) in April.

The natural history of the Harry Potter movie seems to be safe and the spell cast over those who know their wildernesses will not be broken carelessly. This is excellent.

– Ursula Grigg



HFN TALKS

BIRDS

4 OCTOBER

Clarence Stevens Jr., longtime member and once and present HFN Director, operates Natural Wonders, a nature interpretation and education company. He also wrote 'Birding in Metro Halifax', an excellent guide to the green spaces in this Municipality, useful to many other naturalists besides birders. Clarence prefaced his talk on easy identification of birds with advice on the best equipment, and appropriate behaviour for birding. Birding differs from the passive sport of bird watching; the birder is extremely knowledgeable, listens and interprets as well as studying the quarry, is likely to be a listener, and is willing to travel to collect a new species for the life list.

Equipment

Clothing should be simple, layered, and should not rustle!

As a general rule, binoculars costing less than \$100 will not be adequate. Magnification should be x7 or x8, with wide lenses to take in maximum light. The lenses will probably be coated, and should be gently wiped rather than thoroughly cleaned, so as to preserve the coating. Binoculars should be comfortable to hold and not too heavy. Good binoculars have neck-straps (harnesses are also available), and lens-covers to protect the eyepieces in rain or fog. They should be sighted-in each time they are used, to accommodate them to the user's eyes and face. Sighting-in is done by focusing with one eye at a time on the same stationary detail on something nearby, and adjusting each eyepiece to give a clear image. Then the binoculars are manipulated until the images coincide.

Here Clarence demonstrated the tiptoe approach, the binocular crouch and other stances beloved of cartoonists, and recommended instead a balanced position, perhaps leaning against something to keep the binoculars steady. Restraint and quiet speech, which do not alarm birds, and gentle gestures towards companions, were also advised. It is important not to alarm or tire birds, or interrupt their feeding and other routines, especially in breeding season or when they are on migration. Pishing and squeaking are acceptable to bring them into view, and sometimes to attract raptors.

Bird books

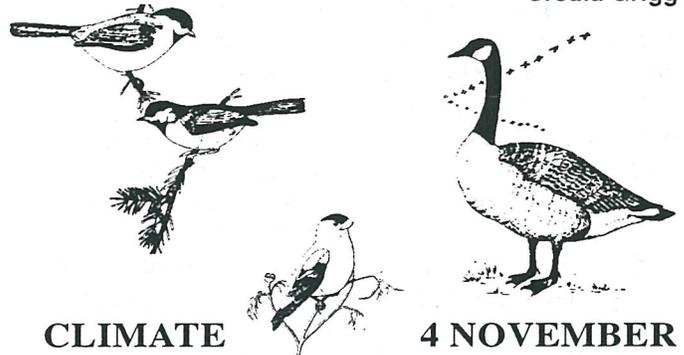
Clarence recommends the Peterson Guides for field trips, and suggests browsing them to learn the general appearance of different groups of birds. The big, black ones are a small group of crows, grackles and blackbirds. The grey and bluish ones with heavy beaks are gulls. Ducks and geese look

like – ducks and geese. Shorebirds are usually brown, streaked, with long legs and long, sometimes bent, beaks; they often run around, on wetlands and beaches. Raptors, hawks and owls are also easily recognisable. Small darting birds with thin bills and bright colours including yellow are usually warblers. Larger birds with heavy bills are finches; if brown, they are probably sparrows.

The first thing to note about a bird is its size, preferably by comparison with something else – 'robin-sized', for example. Next note the colour; third – note the size and shape of the bill. Also note the bird's song or its call. Here a tape or CD of bird calls is a good backup to the Field Guide, and can provide identification when the bird is not clearly seen. Best of all is the companionship of other birders, especially in the field!

(Note: a small pair of sports binoculars with good clear lenses costs much less than \$100, but, taking up little space in handbag or pocket, it beats the best pair left in the closet on a work-day when there's a bird in that bush...)

– Ursula Grigg



CLIMATE

4 NOVEMBER

Howard Donahoe came back to concentrate on the history of the Appalachian Mountains, which run through the Atlantic Provinces. This is a long and complex story, so Howard asked for volunteers to hold pieces of coloured paper, representing various terrains involved in building these Provinces. This introduced a slow and stately dance in which the row of people with their coloured banners split up and came together again in different order and from different directions, to illustrate the events which have affected our local mountain chain.

The Appalachian Chain is very old. It was first formed by collision between two plates during a mountain building period in the late Precambrian Era, more than 600 million years ago (mya), a time when the ancient continent of Rodinia was breaking up. It is older than the Rockies and the Himalayas, and quite likely the mountains were taller. Since then, the Appalachians have been pushed up by subsequent mountain building



pressures, faulted, slipped, subjected to hot and cold climatic regimes and to volcanic activity, and constantly eroded to the height they are today. Erosion has exposed layers from earlier times, many of them contorted, reflecting this long story and making the chain a museum of geological history, although it is very hard to read. For example, the only evidence for the onset of the break-up of Rodinia is some rock found at the tip of the Burin Peninsula in Newfoundland, the northern tip of the Appalachians.

In Precambrian times, the Appalachians were part of the continent of Panamerica, beside the Brazilide Ocean. For most of the Paleozoic Era (~550-250 mya) the chain was successively part of Laurentia, Euramerica (with their Oceans, Iapetus and Rheic) and the supercontinent Pangea, the last time the continents were fused and the oceans between them obliterated. The Paleozoic included the dry Devonian Period and the really arid Permian, separated by the tropical, moist Carboniferous, with its lowland forests which fossilised as coal. The Devonian was the heyday of fish evolution, and beginning of the colonisation of land. By the end of the Paleozoic, land plants, insects and other arthropods were flourishing. The best place for a field trip seems to have been the Carboniferous forests, with their amphibians, dragonflies, cockroaches and the first reptiles, among tree-ferns and horsetails. Perhaps biting insects were the worst threat; hunting dinosaurs and great cats had not yet evolved.

When Pangea split up during the Mesozoic Era (~ 200 mya), opening up the Atlantic Ocean, our mountains stayed with the Americas. Material eroded from the Chain continued to contribute to the local topography, including the present Scotian Shelf and Sable Island off Nova Scotia. The map began to be familiar.

The history of the Appalachian Chain is part of the story in the exemplary book 'The Last Billion Years' (especially pages 74 and 32!), and the series of talks being offered by the Museum of Natural History.

[Mistakes in this shockingly abbreviated account of Howard's talk are strictly the fault of the author - *ed.*]

- Ursula Grigg



MEC

6 DECEMBER

Our guest speaker from the Mountain Equipment Co-op was Allison Penwell, who came to tell members about their new store in Halifax, which sells clothing and equipment 'for having fun outdoors, on self-propelled wilderness activities'. The first Co-op store opened in Vancouver in 1971, the first members being six student climbers from the University of British Columbia, who usually shopped for equipment in the United States. Now there are six MEC stores across Canada, staffed by people who use the gear themselves, and can advise on it. Customers have to be members of the Co-op; a lifetime membership costs \$5, and entitles one to a vote on MEC business, and to sit on the Board of Directors. MEC sells from two catalogues a year, and Allison brought some current ones for us.

MEC members traditionally take part in local environmental issues. They help build trails, clean beaches, and MEC also maintains an environmental fund, for conservation and protection of wilderness.

From the first, MEC looked for environmentally friendly goods, from sources where workers were treated fairly. Members incidentally learned a lot about the cultivation of cotton. They promoted a return to older methods of growing it, inter-cropping with vegetables, which improved the local diet and also served as trap crops for pests. More pesticides have been used on cotton than on any other crop, so withdrawing them affects the industry profoundly; cost of production has fallen by the cost of chemicals and sale of by-products and vegetables, but risen because of the extra hands needed for picking pests and weeds. In fact, cotton is somewhat more expensive when organically grown, but the fibre is softer and harder wearing than when exposed to chemicals. MEC buys mostly from growers in Taiwan, India, and China.

Cotton growers pray for an early frost, which brings the bolls off the plants without the need for hand picking. Otherwise an application of weak organic acid brings them off. The cotton is washed

after harvesting; the less chemicals that have to be washed off, the cleaner the ground water remains. Surplus seed can be fed to cattle or pressed for cooking and lubricating oil. The fibre is milled and woven in Portugal, Taiwan and Thailand. Only vegetable dyes are used for colouring; the colours are not fixed chemically, so are rather muted, and fade pleasantly.

MEC has set a trend, and now a great deal of cotton is produced organically.

Allison said that MEC's warehouses are as pesticide-free as possible but cannot be kept so entirely. The biggest warehouse is in British Columbia, and other stores, mostly in Canada, order from there. All suppliers and affiliates of MEC have to subscribe to organic sources and friendly labour standards, or will lose MEC business. They

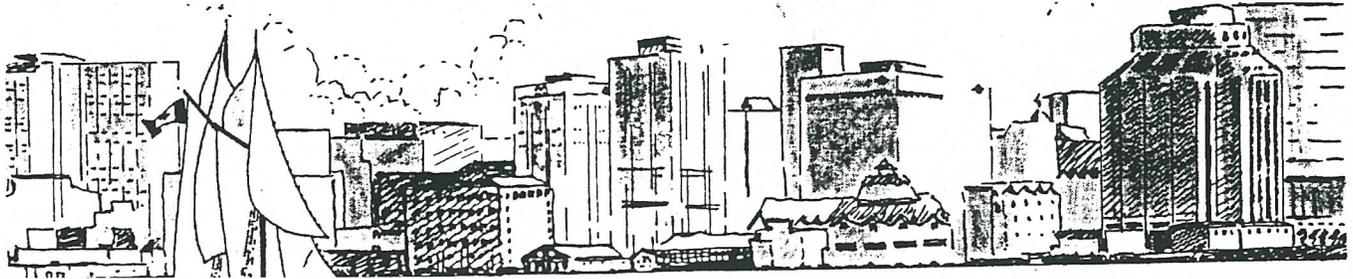
are always looking for new and innovative items, but are hampered by customers who prefer to replace well-tried equipment!

MEC is now turning its attention to production of environmentally friendly wool.

Allison advised on choices for outdoor clothing, especially rain-wear – which must be breathable as well as waterproof! Nylon and polyurethane materials are best, but seams must be securely taped or they will leak. Goretex is an excellent but expensive choice, and is not breathable. The surface nap is sprayed on and erodes, but can be renewed. Leather is still best for boots.

After Allison had been thanked for an informative talk, questions and conversation lasted well into teatime.

– Ursula Grigg



FIELD TRIPS

PROSPECT BOGS AND BARRENS

DATE: Sunday, 9 September

PLACE: Indian Point

WEATHER: Sunny and Warm

INTERPRETER: Janet McGinity

PARTICIPANTS: 18

We had a beautiful day for our trip to the barrens covering this long narrow peninsula southwest of Halifax. We met at the village of Prospect then moved on to Indian Point Road, the starting point of a trail that meanders about five km along the coastline of Shad Bay.

We crossed a tidal brook and continued over the barrens, passing huge granite outcrops rising out of nearly bare ground, with a thin scattering of soil mostly composed of granite pebbles. The landscape was littered with glacial erratics which were dropped 10,000 years ago as the mountain of ice melted.

We stopped along the way to see the vegetation. Only a few plant species can survive in the exposed windy conditions. Typical of these are Black Crowberry, Common Juniper, Small Cranberry and Creeping Juniper. These plants have waxy or leathery leaves to help keep them from drying out.

Uphill on the barrens we found Black Spruce. In poor conditions Black Spruce can spread by

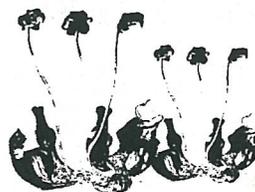
layering. Weighted down to the ground by snow in winter, the branches take root and another tree is formed. Due to the shortage of nutrients, especially nitrogen, these trees grow slowly, so a tree whose trunk is only half an inch thick may be fifty years old.

At the top of the barrens we saw pockets of sphagnum moss. This moss acts as a sponge and can hold many times its weight in water. It is practically sterile and has been used for wound dressings, and also diapers, by native peoples. Peat, its dried form, is used to lighten soil. Compressed and half fossilized, it has been used to burn as fuel.

We found Pitcher Plants. They obtain nitrogen by catching insects; those that land on the lip slide down the slippery, downward-pointing hairs that line the inside of the pitcher, and fall into a pool of liquid containing enzymes which digest them.

We ate our lunch on a large outcrop and then walked back to Indian Point Rd.

– Grace Kendall



BOGS & BARRENS SPECIES

Birds

10-12 Double-crested Cormorant	<i>Phalacrocorax auritus</i>
1 Common Eider Duck	<i>Somateria mollissima</i>
1 Osprey	<i>Pandion haliaetus</i>
18 Whimbrel	<i>Numenius phaeopus</i>
Herring Gull	<i>Larus argentatus</i>
Great Black-backed Gull	<i>L. marinus</i>
1 Kingfisher	<i>Ceryle alcyon</i>
1 Northern Raven	<i>Corvus corax</i> (heard)
6-8 Cedar Waxwing	<i>Bombycilla cedrorum</i>
2 Savannah Sparrow	<i>Passerculus sandwichensis</i>
6-8 American Goldfinch	<i>Carduelis tristis</i> , flock

Butterflies

Mustard White	<i>Pieris napi</i>
Clouded Sulphur	<i>Colias phylodice</i>
1 Red Admiral	<i>Vanessa atalanta</i>
1 American Painted Lady	<i>V. virginensis</i>

Plants

Black Spruce	<i>Picea mariana</i>
Tamarack	<i>Larix laricina</i>
Common Juniper	<i>Juniperus communis</i>
Creeping Juniper	<i>J. horizontalis</i>
Pitcher plant	<i>Saracenia purpurea</i>
Black Crowberry	<i>Empetrum nigrum</i>
Bearberry	<i>Arctostaphylos uva-ursi</i>
Small Cranberry	<i>Vaccinium oxycoccus</i>
Wintergreen	<i>Pyrola elliptica</i> ??

Moss

Sphagnum



BUTTERFLIES II

DATE: Saturday, 11 August

PLACE: Uniacke Estate Museum Park

WEATHER: Hot and dry

INTERPRETERS: Peter and Linda Payzant

PARTICIPANTS: 10

This past summer was incredibly hot and dry, and this had a dramatic effect on the butterflies at Mount Uniacke.

In early July, we had the usual numbers of species and individuals at this location, but from mid-July on, there was no rain and day after day of hot sun.

By the date of this field trip, there had been no rain for 24 days, and the fields were dry and crisp. Knapweed (*Centaurea nigra*) was in bloom, but apparently contained little or no nectar, because there was almost nothing visiting it. We saw fewer than 20 individual butterflies in only six species at Mount Uniacke.

The highlight of this remarkable day was seeing a reasonable number of Common Branded-skippers on the drumlin hill in the park. This is a relatively recent discovery for this area, and this skipper is always a treat to see, partly because it flies considerably later than other skippers, and partly because it has fritillary-like silver markings on the underwings. However, even though the butterflies were scarce, there were lots of interesting plants to be seen, especially in the woods beside the lake. Carl Munden was kind enough to conduct a kind of spontaneous mini field trip for us, identifying and commenting on the various plants we encountered.

Our other usual site, a woods road through the Pockwock watershed, was closed due to a general ban on woods travel.

– Peter Payzant

BUTTERFLIES II SPECIES

Common Branded-skipper	<i>Hesperia comma</i>	<i>Sulphur</i> sp.
Colias sp		
Atlantis Fritillary		<i>Speyeria atlantis</i>
Painted Lady		<i>Vanessa cardui</i>
Red Admiral		<i>Vanessa atalanta</i>
Common Wood Nymph		<i>Cercyonis pegala</i>



SACKVILLE RIVER

DATE: Saturday, 10 November

WEATHER: Cold and windy!

LEADER: Rich Peckham, ably assisted by Walter Regan, Executive Director of the Sackville Rivers Association.

PARTICIPANTS: about 20

November 10 was a very cold, windy day but the sun compensated and winter jackets, hats, and gloves kept the 20 or so participants warm.

The field trip took us to three sites, two on the Sackville River and one on the Little Sackville River. (Some readers will remember an evening walk on a trail developed by the SRA along the Little Sackville after the banquet at the last Halifax conference of the Federation of Nova Scotia Naturalists.)

We began at the Ponderosa Steak House in Bedford and walked about half a kilometre upstream. Despite the apartment buildings on the far side of the river and a ballfield on the other, the multi-use trail is very pleasant. It follows the river closely – but not so closely that the great diversity of plant life along the riverbank is prevented from flourishing. However, this wasn't a wildflower walk

– we were there to learn about the river.

The first thing we learned is that the civilising hand of man over a couple of hundred years has dramatically altered the character of the lower Sackville River. In its natural state, it would be significantly narrower, would meander, would be deeper generally, making it less prone to heat up – and dry up – in summer. It would have much more variation in current speed and depth, creating bars, gravel beds and cool, deep pools, all of which would make it a much better habitat for fish and invertebrates. The river was originally affected by damming and straightening by the lumber industry, but in modern times urban development has also had an impact. While immediate pollution can also affect habitat, this has now largely been mitigated. Acid rain remains the worst external factor in degrading water quality. Siltation, largely originating from the Little Sackville River (I'll discuss this further later), has also drastically affected the ability of salmon to spawn successfully in the lower Sackville.

If the river were given some space – a decent natural floodplain buffer zone – it would eventually revert to its natural state. Sadly, this just isn't going to happen. So, ironically, more intervention is required in order to create artificially a healthier environment for fish and other wildlife which properly belong in the river ecosystem.

Over a period of several years, the Sackville Rivers Association has undertaken a variety of initiatives, both to restore the river to a healthy state, and provide access to the river and educate the public regarding the importance of a healthy waterway as a community resource. Ongoing biological monitoring has proved the success of the former activities; the multi-use trail is an important effect of the latter effort. People care about what they can see.

We were shown one of the more recent works constructed by the SRA – rock sills angled at 60° across the river. These contribute to aeration, create deep pools, and alter current direction and speed, allowing bars to form more easily. While some salmon do spawn in 'redds' in this part of the river, the gravel is really too small and siltation too severe for successful reproduction.

We next drove to a site on the Little Sackville River in a subdivision off the Old Sackville Road. Access to the river is provided by a storm sewer right-of-way – is it a surprise that the Little Sackville is the major source of silt below its junction with the Sackville?

Like the main river, the Little Sackville, though quite narrow, is wider than it should be, in this case due to bank erosion rather than deliberate works. The effects are much the same, however – a shallow river which gets hot and dries up in

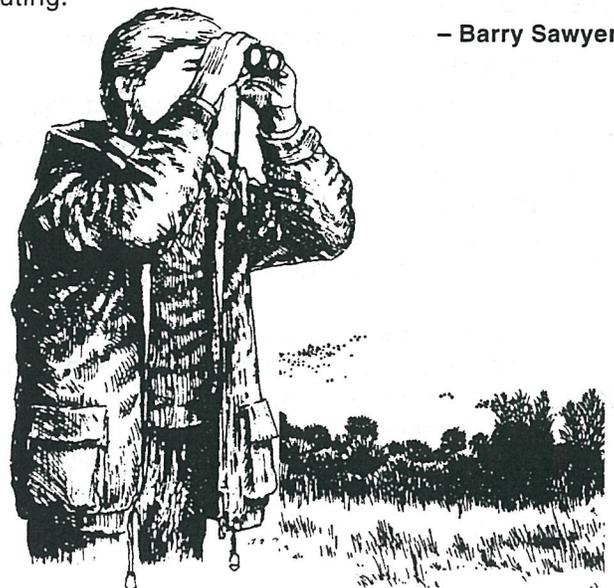
summer, though it also suffers the indignity of violent flushing during heavy rains. Some undeveloped floodplain remains, but it is privately owned; its loss would have a serious detrimental effect on the Little Sackville, and the SRA is trying, with no success so far, to get HRM to acquire the property. Meeting with an equal lack of success are efforts to convince HRM that it would be advantageous to construct artificial wetlands at storm sewer outfalls. These would mitigate flash-flooding and maintain steady drainage rates through dry periods.

Efforts to improve habitat through the installation of 'digger' logs (which do the same job as the rock sills), upper bank stabilisation, and revêtements to protect the lower banks and deflect current are helping, as recent biological monitoring of invertebrate life and electro-fishing to census fish population proves. As mentioned above, a recreational trail has been developed along part of the Little Sackville. Unfortunately, adjacent property owners are not pleased with this trail (which is not built to the standard of the gravel-surfaced multi-use trail in Bedford), and extension is proving difficult. The Little Sackville, unlike the lower river, is still somewhat littered – with plastic, chip bags, beer cans, and the occasional wrecked sofa.

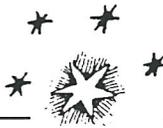
Lastly, we visited the fish ladder and monitoring facility at the impressive Sackville River falls just behind Heffler's Mill. It's important for salmon to reach the upper Sackville, as gravel beds found there are more suitable for spawning. Residential development is now beginning to encroach on this watershed area too, so the future is uncertain. As many as 260+ salmon – all wild stock – have been counted here, but numbers have been declining. There were only 63 (I think) this Spring. The gaspereau run remains impressive, and lots of eels and sea trout have been counted too.

Thanks to Rich and Walter for an informative outing.

– Barry Sawyer



ALMANAC



This almanac is for the dates of events which are not found in our 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.

At the December solstice, when the planet began to turn its northern flank southward, I wondered, absurdly, how long its inhabitants could rely on this convenient routine, which after all, has sometimes changed in the past, with spectacular results. But lengthening daylight by mid-January reassured me.

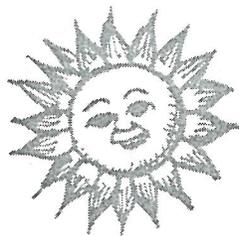
— Bruce Hutchison, "The year's low tide" in A life in the Country (1988)

NATURAL EVENTS

- 7 Dec. Daily average temperature goes below 0°.
- 4-14 Dec. Earliest sunset of the year at 16:34.
- 13-14 Dec. Geminid Meteor Shower.
- 21 Dec. Winter Solstice at 15:19: Winter begins in the Northern Hemisphere. But though the temperature drops, the days begin to lengthen.
- 24/25 Dec. Annual nocturnal circumglobal migration of Arctic Reindeer (*Rangifer tarandus*).
- 30 Dec. Full Moon – the second one this month, therefore it is a 'Blue Moon'.
- 7 Jan. Daily maximum temperature at Shearwater goes below 0°.
- 13-24 Jan. 'January Thaw' (the temperature stops falling, and the average actually rises by 0.2°).
- 24/25 Jan. 'Eagle Days' In Sheffield Mills, King's County.
- 28 Jan. Full Moon – the 'Wolf Moon'.
- 6-8 Feb. Coldest days of winter (average daily minimum -9.4°).
- 9 Feb. Average temperatures start increasing.
- 22 Feb. Daily maximum temperature above 0°.
- 7 Feb. Full Moon – the 'Snow Moon'.
- 20 Mar. Vernal Equinox at 15:16: Spring begins in the Northern hemisphere.
- 23 Mar. Daily average temperature above 0°.
- 28 Mar. Full Moon – the "Worm Moon".
- 7 Apr. Daylight Savings Time begins at 2:00: turn clocks ahead one hour.

– Sources: Atmospheric Environment Service, Climate Normals 1951-80 Halifax (Shearwater A) N.S.; Colombo's Canadian Global Almanac 2001; and the personal observations of the compiler.

SUNRISE AND SUNSET FROM WINTER THROUGH EARLY SPRING SATURDAYS



1 Dec.	7:31	16:35	5 Jan.	7:51	16:48
8 Dec.	7:39	16:34	12 Jan.	7:49	16:56
15 Dec.	7:45	16:35	19 Jan.	7:46	17:05
22 Dec.	7:49	16:37	26 Jan.	7:40	17:15
29 Dec.	7:51	16:42			
2 Feb.	7:32	17:24	2 Mar.	6:50	18:03
9 Feb.	7:23	17:34	9 Mar.	6:38	18:12
16 Feb.	7:13	17:44	16 Mar.	6:25	18:22
23 Feb.	7:02	17:54	23 Mar.	6:12	18:30
			30 Mar.	5:59	18:39

— courtesy of David Lane, Burke-Gaffney Observatory, Saint Mary's University

ORGANISATIONAL EVENTS

Blomidon Naturalists Society: Indoor meetings take place on the third Monday of the month at Room 241 in the Beveridge Arts Centre, Acadia University, 7:30 p.m. Field trips usually depart from the Robie Tufts Nature Centre, Front St., Wolfville. For more information, go to <<http://www.go.ednet.ns.ca/~bns/home.htm>>.

21 Jan. "Show and Tell", in Patterson Hall, Rooms 308 & 325.

18 Feb. "The Atlantic Bird Observatory and Monitoring of Migratory Bird Populations via Banding on Bon Portage and Seal Islands, N.S.", with speaker Trina Fitzgerald.

18 Mar. "Conservation Challenges in West Africa — Mt. Peko National Park, Cote d'Ivoire", with speaker Phil Taylor.

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 Sept., when they are held every Saturday. Tours begin at 7:00 p.m. between November 1 and March 30, and at either 9:00 p.m. or 10:00 p.m. (depending on when it gets dark) between April 1 and Oct. 31. For more information, phone 496-8257; or go to <<http://apwww.stmarys.ca/bgo/>>.

Friends of McNabs Island: For more information call Cathy McCarthy, 434-2254; or Mike Tilley, 465-4563; or go to <<http://chebucto.ns.ca/Environment/FOMIS/>>.

23 Feb. "Annual Dinner and Silent Auction" at Royal Artillery Park, phone Victor Dingle at 463-4761.

Nova Scotia Bird Society: Indoor meetings take place on the fourth Thursday of the month, October to April, at the Nova Scotia Museum of Natural History, 7:30 p.m. For more information phone 852-2428 (recording), or Fulton Lavender at 455-4966, or go to <<http://www.chebucto.ns.ca/Recreation/NS-BirdSoc/>>.

25 Jan. Members' Slide Night.

2 Feb. Sewer Stroll II, Halifax/Dartmouth Area, with leader Blake Maybank, 852-2077; or <maybank@ns.sympatico.ca>.

21 Feb. "A Yankee Birds Down Under", with speaker Dr. Andy Horn, NSBS President.

21 Mar. Topic and speaker to be announced.

30 Mar. "Baccaro and Blanche Peninsula", with leader Donna Ensor, 875-4269.



Nova Scotia Museum of Natural History: For more information about programmes phone 424-6099, 424-7353; or go to <<http://museum.gov.ns.ca/mnh/>>.

3 Nov.-17 Feb. "Belugas: The Next Wave", a scientific exhibit on the Beluga whales of the St. Lawrence.

16 Jan. "Tropical Times", with John Calder of DNR. **Part of the talk series "The Last Billion Years" – all about our Maritimes' fascinating geological history.**

23 Jan. "The Unique Lives of Solitary Beluga Whales", with Cathy Kinsman of the Whale Stewardship Project.

5 Feb. "Whale Watching Code", with Deborah Tobin of East Coast Ecosystems.

6 Feb. "The Desert of Northwest China", with Yau-Sun Tong of the Photographic Guild of Nova Scotia.

12 Feb. "Limits to Genetic Engineering", with Dalhousie Biology Professor Martin Willison.

13 Feb. "Stimulating Talk: Coffee, Tea, Chocolate, and Cocoa", with Marian Munro, Assistant Botany Curator.

19 Feb. "Let's Talk Turkey", with Stephen Gloade of the N.S. Chapter of the Wild Turkey Federation.

20 Feb. "The Birth of an Ocean", with Hans Wielens and Chris Jauer of the Geological Survey of Canada.

Part of the talk series "The Last Billion Years".

27 Feb. "Rain Forests on Three Continents", with NSMNH Research Associate Fred Scott.

20 Mar. "The Big Chill: the Story of Glaciers in the Maritimes", with Ralph Stea of DNR. **Part of the talk series "The Last Billion Years".**

Nova Scotia Wild Flora Society: Meets fourth 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.chebucto.ns.ca/~nswfs/>>.

28 Jan. Members' Slide Night.

25 Feb. "The Herbarium of the Nova Scotia Museum", with speaker Alex Wilson of the N.S. MNH, followed by a tour.

25 Mar. "Alpine Flora of Italy", with speakers Mary and Chris Helleiner.

Royal Astronomical Society of Canada (Halifax Chapter): Meets the third Friday of each month at the Nova Scotia Museum of Natural History, 8:00 p.m. For more information, go to <<http://halifax.rasc.ca>>.

— compiled by Patricia L. Chalmers

HALIFAX TIDE TABLE

HALIFAX AST Z+4

2002

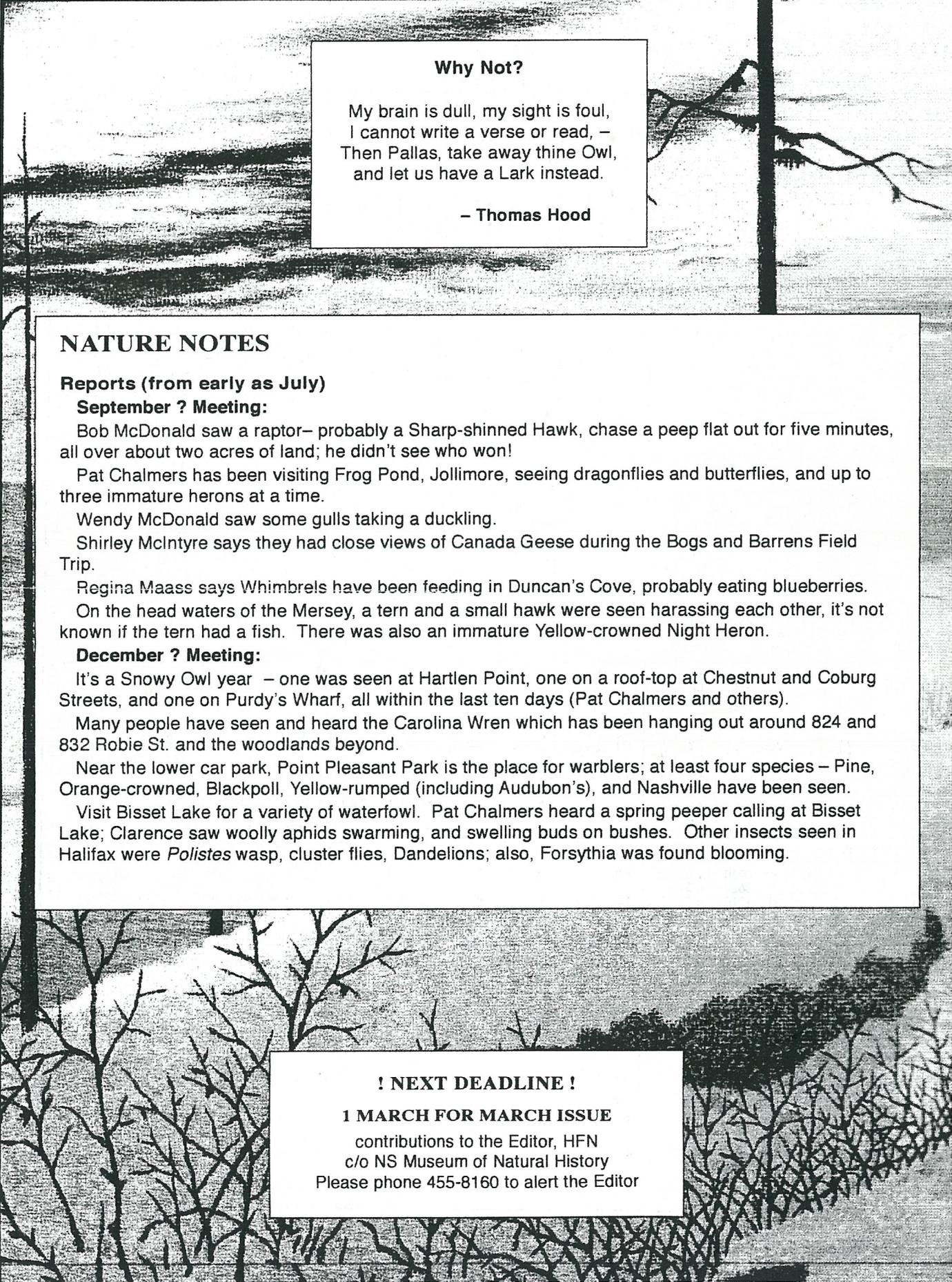
TIDE TABLES

January-janvier

February-février

March-mars

Day	Time	Feet	Metres	jour	heure	pieds	metres	Day	Time	Feet	Metres	jour	heure	pieds	metres	Day	Time	Feet	Metres	jour	heure	pieds	metres
1	0315	1.6	0.5	16	0355	2.0	0.6	1	0455	1.0	0.3	16	0430	1.6	0.5	1	0340	0.7	0.2	16	0330	1.3	0.4
	0905	6.6	2.0		0945	5.9	1.8		1030	6.6	2.0		1035	5.6	1.7		0930	6.6	2.0		0935	5.6	1.7
TU	1555	0.3	0.1	WE	1615	1.0	0.3	FR	1720	0.3	0.1	SA	1645	1.3	0.4	FR	1605	0.0	0.0	SA	1540	1.3	0.4
MA	2150	6.2	1.9	ME	2225	5.6	1.7	VE	2305	6.6	2.0	SA	2300	5.6	1.7	VE	2155	6.9	2.1	SA	2155	5.9	1.8
2	0410	1.6	0.5	17	0430	2.3	0.7	2	0555	1.3	0.4	17	0510	2.0	0.6	2	0435	0.7	0.2	17	0405	1.3	0.4
	0955	6.6	2.0		1025	5.9	1.8		1120	6.2	1.9		1110	5.2	1.6		1015	6.6	2.0		1010	5.6	1.7
WE	1645	0.3	0.1	TH	1650	1.3	0.4	SA	1815	0.7	0.2	SU	1720	1.6	0.5	SA	1655	0.3	0.1	SU	1610	1.3	0.4
ME	2240	6.2	1.9	JE	2300	5.6	1.7	SA	2355	6.2	1.9	DI	2335	5.6	1.7	SA	2240	6.6	2.0	DI	2225	5.6	1.7
3	0510	1.6	0.5	18	0505	2.3	0.7	3	0655	1.3	0.4	18	0555	2.0	0.6	3	0535	0.7	0.2	18	0440	1.3	0.4
	1045	6.2	1.9		1105	5.6	1.7		1210	5.6	1.7		1150	5.2	1.6		1105	6.2	1.9		1045	5.2	1.6
TH	1740	0.7	0.2	FR	1725	1.3	0.4	SU	1915	1.0	0.3	MO	1800	2.0	0.6	SU	1750	1.0	0.3	MO	1645	1.6	0.5
JE	2325	6.2	1.9	VE	2340	5.6	1.7	DI				LU				DI	2325	6.2	1.9	LU	2255	5.6	1.7
4	0615	1.6	0.5	19	0555	2.3	0.7	4	0045	5.9	1.8	19	0010	5.2	1.6	4	0630	1.0	0.3	19	0525	1.3	0.4
	1135	5.9	1.8		1145	5.2	1.6		0800	1.3	0.4		0650	2.0	0.6		1155	5.6	1.7		1120	5.2	1.6
FR	1840	0.7	0.2	SA	1805	1.6	0.5	MO	1310	5.2	1.6	TU	1230	4.9	1.5	MO	1850	1.3	0.4	TU	1725	2.0	0.6
VE				SA				LU	2010	1.3	0.4	MA	1855	2.0	0.6	LU				MA	2330	5.6	1.7
5	0020	5.9	1.8	20	0015	5.2	1.6	5	0140	5.6	1.7	20	0050	5.2	1.6	5	0010	5.9	1.8	20	0615	1.6	0.5
	0720	1.6	0.5		0645	2.3	0.7		0900	1.3	0.4		0750	2.0	0.6		0730	1.0	0.3		1200	4.9	1.5
SA	1230	5.6	1.7	SU	1225	4.9	1.5	TU	1415	4.9	1.5	WE	1320	4.6	1.4	TU	1245	5.2	1.6	WE	1820	2.3	0.7
SA	1935	1.0	0.3	DI	1855	2.0	0.6	MA	2115	1.6	0.5	ME	1950	2.3	0.7	MA	1950	1.6	0.5	ME			
6	0115	5.9	1.8	21	0100	5.2	1.6	6	0240	5.6	1.7	21	0140	5.2	1.6	6	0105	5.6	1.7	21	0010	5.2	1.6
	0825	1.6	0.5		0740	2.3	0.7		1000	1.3	0.4		0850	2.0	0.6		0830	1.3	0.4		0715	1.6	0.5
SU	1330	5.2	1.6	MO	1315	4.9	1.5	WE	1530	4.9	1.5	TH	1425	4.6	1.4	WE	1345	4.9	1.5	TH	1250	4.9	1.5
DI	2035	1.3	0.4	LU	1940	2.0	0.6	ME	2215	2.0	0.6	JE	2055	2.3	0.7	ME	2055	2.0	0.6	JE	1925	2.3	0.7
7	0215	5.9	1.8	22	0145	5.2	1.6	7	0350	5.2	1.6	22	0245	5.2	1.6	7	0205	5.2	1.6	22	0100	5.2	1.6
	0925	1.3	0.4		0835	2.0	0.6		1100	1.3	0.4		0955	1.6	0.5		0930	1.3	0.4		0820	1.6	0.5
MO	1440	5.2	1.6	TU	1410	4.6	1.4	TH	1650	4.9	1.5	FR	1540	4.6	1.4	TH	1505	4.6	1.4	FR	1350	4.6	1.4
LU	2135	1.3	0.4	MA	2035	2.3	0.7	JE	2320	2.0	0.6	VE	2205	2.3	0.7	JE	2200	2.3	0.7	VE	2040	2.3	0.7
8	0320	5.6	1.7	23	0240	5.2	1.6	8	0455	5.6	1.7	23	0355	5.2	1.6	8	0315	4.9	1.5	23	0205	5.2	1.6
	1020	1.3	0.4		0935	2.0	0.6		1155	1.3	0.4		1055	1.3	0.4		1030	1.3	0.4		0925	1.3	0.4
TU	1555	4.9	1.5	WE	1520	4.6	1.4	FR	1750	4.9	1.5	SA	1655	4.9	1.5	FR	1630	4.6	1.4	SA	1510	4.6	1.4
MA	2235	1.6	0.5	ME	2130	2.3	0.7	VE				SA	2310	2.0	0.6	VE	2300	2.3	0.7	SA	2145	2.3	0.7
9	0420	5.9	1.8	24	0340	5.2	1.6	9	0015	2.0	0.6	24	0500	5.6	1.7	9	0435	4.9	1.5	24	0320	5.2	1.6
	1120	1.0	0.3		1030	1.6	0.5		0555	5.6	1.7		1155	1.0	0.3		1130	1.3	0.4		1025	1.3	0.4
WE	1705	5.2	1.6	TH	1625	4.6	1.4	SA	1245	1.0	0.3	SU	1755	5.2	1.6	SA	1735	4.9	1.5	SU	1630	4.9	1.5
ME	2335	1.6	0.5	JE	2235	2.3	0.7	SA	1840	5.2	1.6	DI				SA	2355	2.0	0.6	DI	2250	2.0	0.6
10	0515	5.9	1.8	25	0435	5.6	1.7	10	0105	2.0	0.6	25	0010	1.6	0.5	10	0540	5.2	1.6	25	0435	5.6	1.7
	1215	1.0	0.3		1125	1.3	0.4		0645	5.9	1.8		0600	5.9	1.8		1225	1.3	0.4		1125	1.0	0.3
TH	1800	5.2	1.6	FR	1725	4.9	1.5	SU	1330	1.0	0.3	MO	1250	0.7	0.2	SU	1825	5.2	1.6	MO	1730	5.6	1.7
JE				VE	2335	2.0	0.6	DI	1925	5.2	1.6	LU	1850	5.9	1.8	DI				LU	2355	1.3	0.4
11	0030	1.6	0.5	26	0530	5.9	1.8	11	0145	2.0	0.6	26	0105	1.3	0.4	11	0045	2.0	0.6	26	0540	5.9	1.8
	0610	5.9	1.8		1220	1.0	0.3		0730	5.9	1.8		0655	6.2	1.9		0630	5.6	1.7		1220	0.3	0.1
FR	1305	0.7	0.2	SA	1820	5.2	1.6	MO	1410	1.0	0.3	TU	1340	0.3	0.1	MO	1305	1.0	0.3	TU	1825	5.9	1.8
VE	1855	5.6	1.7	SA				LU	2005	5.6	1.7	MA	1940	6.2	1.9	LU	1905	5.2	1.6	MA			
12	0120	1.6	0.5	27	0030	1.6	0.5	12	0225	1.6	0.5	27	0155	1.0	0.3	12	0125	1.6	0.5	27	0050	1.0	0.3
	0655	5.9	1.8		0620	6.2	1.9		0810	5.9	1.8		0750	6.6	2.0		0710	5.6	1.7		0640	6.2	1.9
SA	1350	0.7	0.2	SU	1310	0.7	0.2	TU	1445	1.0	0.3	WE	1425	0.0	0.0	TU	1345	1.0	0.3	WE	1315	0.3	0.1
SA	1940	5.6	1.7	DI	1910	5.6	1.7	MA	2045	5.6	1.7	ME	2025	6.6	2.0	MA	1945	5.6	1.7	ME	1915	6.2	1.9
13	0205	1.6	0.5	28	0120	1.6	0.5	13	0255	1.6	0.5	28	0250	0.7	0.2	13	0200	1.6	0.5	28	0140	0.7	0.2
	0740	6.2	1.9		0715	6.6	2.0		0850	5.9	1.8		0840	6.6	2.0		0750	5.6	1.7		0730	6.6	2.0
SU	1430	0.7	0.2	MO	1400	0.3	0.1	WE	1515	1.0	0.3	TH	1515	0.0	0.0	WE	1415	1.0	0.3	TH	1405	0.0	0.0
DI	2025	5.6	1.7	LU	2000	5.9	1.8	ME	2120	5.6	1.7	JE	2110	6.6	2.0	ME	2020	5.6	1.7	JE	2000	6.6	2.0
14	0245	2.0	0.6	29	0210	1.3	0.4	14	0325	1.6	0.5	29	0230	1.6	0.5	14	0230	1.6	0.5	29	0235	0.3	0.1
	0825	6.2	1.9		0805	6.6	2.0		0925	5.9	1.8		0825	5.6	1.7		0825	5.6	1.7		0820	6.6	2.0
MO	1510	0.7	0.2	TU	1450	0.0	0.0	TH	1545	1.0	0.3	FR	1455	0.0	0.0	TH	1445	1.0	0.3	FR	1455	0.0	0.0
LU	2105	5.6	1.7	MA	2045	6.2	1.9	JE	2155	5.6	1.7	VE	2045	6.9	2.1	JE	2050	5.9	1.8	VE	2045	6.9	2.1
15	0320	2.0	0.6	30	0305	1.0	0.3	15	0355	1.6	0.5	15	0300	1.3	0.4	15	0300	1.3	0.4	30	0325	0.0	0.0
	0905	5.9	1.8		0855	6.9	2.1		1000	5.9	1.8		0905	5.6	1.7		0905	5.6	1.7		0910	6.6	2.0
TU	1545	1.0	0.3	WE	1535	0.0	0.0	FR	1610	1.3	0.4	SA	1510	1.0	0.3	TU	1545	1.0	0.3	SA	1540	0.3	0.1
MA	2145	5.6	1.7	ME	2135	6.6	2.0	VE	2230	5.6	1.7	VE	2120	5.9	1.8	MA	2145	5.6	1.7	VE	2130	6.9	2.1
				31																			



Why Not?

My brain is dull, my sight is foul,
I cannot write a verse or read, –
Then Pallas, take away thine Owl,
and let us have a Lark instead.

– Thomas Hood

NATURE NOTES

Reports (from early as July)

September ? Meeting:

Bob McDonald saw a raptor – probably a Sharp-shinned Hawk, chase a peep flat out for five minutes, all over about two acres of land; he didn't see who won!

Pat Chalmers has been visiting Frog Pond, Jollimore, seeing dragonflies and butterflies, and up to three immature herons at a time.

Wendy McDonald saw some gulls taking a duckling.

Shirley McIntyre says they had close views of Canada Geese during the Bogs and Barrens Field Trip.

Regina Maass says Whimbrels have been feeding in Duncan's Cove, probably eating blueberries.

On the head waters of the Mersey, a tern and a small hawk were seen harassing each other, it's not known if the tern had a fish. There was also an immature Yellow-crowned Night Heron.

December ? Meeting:

It's a Snowy Owl year – one was seen at Hartlen Point, one on a roof-top at Chestnut and Coburg Streets, and one on Purdy's Wharf, all within the last ten days (Pat Chalmers and others).

Many people have seen and heard the Carolina Wren which has been hanging out around 824 and 832 Robie St. and the woodlands beyond.

Near the lower car park, Point Pleasant Park is the place for warblers; at least four species – Pine, Orange-crowned, Blackpoll, Yellow-rumped (including Audubon's), and Nashville have been seen.

Visit Bisset Lake for a variety of waterfowl. Pat Chalmers heard a spring peeper calling at Bisset Lake; Clarence saw woolly aphids swarming, and swelling buds on bushes. Other insects seen in Halifax were *Polistes* wasp, cluster flies, Dandelions; also, Forsythia was found blooming.

! NEXT DEADLINE !

1 MARCH FOR MARCH ISSUE

contributions to the Editor, HFN
c/o NS Museum of Natural History
Please phone 455-8160 to alert the Editor