Bob

THE HALIFAX FIELD NATURALIST

No. 113
December, 2003 to February, 2004

Point Pleasant Park
1999

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 the 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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WEBSITE **<http://chebucto.ns.ca/Environment/FNSN/hp-fnsn.html>**

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 membership 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

NEWSLETTER DESK

Our able and well-loved editor, Ursula Grigg, has stepped down from her post. This issue is the first to be produced without her guidance, advice, and intelligent scientific and literary input as to content and style. We only hope that we can continue to produce The Naturalist as well as when she was at the helm.

'Calendar' winter is almost here, but, writing this on the 21st of November, with a temperature of 17°C – a lovely blowy day with intermittent showers and leaves still on the trees – it's hard to envision.

I missed both the solar flare aurorae, and the moon's eclipse on 8 Nov. The former I've only viewed from our farmstead in New Brunswick; the latter I had the good fortune to see concurrently with Comet Hale-Bopp on March 24, 1997. It was about 1:00 or 2:00 a.m., and a brilliantly clear, deep-ultramarine sky. It was a thrilling sight I will never forget, rushing between two windows to see them both at the same time.

We have many submissions this issue with lots of reports; two very interesting articles, one on coccolithophores and one on Monarch Butterflies; and of course our talk and field trip write-ups.

Thanks everyone for making this *your* newsletter, and keep those submissions coming!

– Stephanie Robertson
Layout and Production

HURRICANE JUAN/HFN TALKS

Our apologies to members who showed up at the Museum for our October Meeting! The Museum was open upstairs to visitors, but the basement level was closed due to water backup. New flooring and walls are an indication that there was more than a trickle of water! We tried to call individual members, and we apologise if we did not reach everyone. The Nova Scotia Nature Trust talk will be rescheduled in the spring.

We realise that a telephone committee would help us to communicate better with our members in the future. Please volunteer if telephoning a few people is something that you feel you can do from time to time. For those who have email, we will make use of that for timely notices as well.

In this issue is a membership renewal form. On the back is a survey that will help to provide information and ideas for the Board and the Programme Committee.

Please take time to fill it out – thank you in advance for helping to make our organisation more user-friendly!

– Wendy McDonald

HRMs NORTH AMERICAN MIGRATION COUNT

The North American Migration Count (NAMC) is a one-day event in which bird-watchers across North America go out to count birds. It began in 1992 and data has been submitted from Nova Scotia from the start. Thus, 2003 marked the twelfth year of data collection here.

The NAMC is always held on the second Saturday of May (rain or shine, unfortunately). It is complementary to the Christmas Bird Count and the Breeding Bird Survey in providing information about the abundance and distribution of all species of birds.

The NAMC, in particular, provides a 'snap-shot' of how migration is proceeding across North America and in Nova Scotia. This data enhances our knowledge of when and where birds migrate and provides an estimate of their abundance; it can be extremely valuable to ornithologists in understanding the difficulties birds encounter during migration.

Judy Tufts has been the NAMC Provincial coordinator for NS from its inception, while Suzanne Borkowski and I have been coordinating NAMC counters and compiling the data for the HRM for the past several years. The table starting on p. 5, under Special Reports, provides a listing of all species which have been seen on NAMC days within the HRM for the past three years. Our cumulative list since 2001 stands at 165 species. I have not yet analysed the results in detail, but it is interesting to note that despite our increasing 'effort' (as measured by number of observers and party-phours spent at feeders and in the field), there has been only a slight increase in individual birds seen, but a decrease in the number of species.

Needless to say, weather on the chosen NAMC date can play a big part in the day's tally; the weather on May 10th of this year certainly hampered that count. Of course, the rather early date chosen for this cross-North America count means that only our earliest migrants (Great Blue Heron and Willet, for example) had arrived in significant numbers, while most flycatchers and many warblers had yet to arrive.

For those interested in participating in next year's count on May 8th, 2004, please contact:
Suzanne Borkowski, 445-2922;
<suzanneborkowski@yahoo.ca>; OR
Bob McDonald, 443-5051;**<bobathome@hfx.eastlink.ca>**,
early in the new year.

– Bob McDonald

NEW AND RETURNING

Janet L Barlow
Verna Higgins
Karole Haycock Pitman
Joanne Brown Shimeld & John Shimeld
Carolyn & Ron Walsh

SPECIAL REPORTS

FROM THE PRESIDENT

As mentioned by Wendy McDonald on p. 3, on the reverse of the membership renewal form found in this issue of the Halifax field Naturalist, you will find a 'Member's Survey'.

We hope that you will be renewing your HFN membership, and when you do, please take a few moments to complete the survey form as well. This will provide valuable information to the Programme Committee in their planning of future field trip destinations (please suggest a leader if you can), and for speakers for the evening monthly meetings.

We have made slight changes to the membership form. We are now asking for an email address which we may use to contact you when last-minute programme changes come about due to weather events or illness.

This is the last newsletter before the Annual General Meeting in March 2004 and it appears that there will be a number of vacancies on the Board, the executive, and other crucial positions (membership secretary and programme committee, to name only two). If you would like to become more actively involved with the HFN, please consider indicating that on your renewal form.

Finally, following the AGM, Members' Slide Night is always an entertaining and often educational event. However, last year we had only three presenters. I'm sure that this is not representative of our members who take pictures, so I urge you to pick out a selection from a recent trip, locally or to some exotic location, and bring them along in March!

Best wishes for a very happy holiday season.

– Bob McDonald

CONSERVATION

NS PARKS IN THE WAKE OF HURRICANE JUAN

Over 20 Provincial Parks were devastated by Hurricane Juan. The corridor of damage sliced right through HRM and Colchester County before passing on to PEI. Preliminary estimates indicate a price tag in excess of one million dollars to restore these parks.

Damages have been classified into five categories:

Blowdown – the number of trees lying on the ground is extensive and scattered throughout the area.

Leaning – many trees didn't come down completely. Their root system has been weakened and they could fall in the next heavy wind or the first snowfall.

Weakened Trees – many trees were twisted, their roots slightly lifted, their trunks torn. At first glance these trees appear to have escaped damage. They didn't.

Boardwalks – whole sections were blown up, ripped apart and deposited in unlikely places.

Erosion – shorelines have been eroded and weakened by storm surge. Footpaths along the shore have been rendered extremely dangerous.

Harold Carroll of Nova Scotia Parks and Recreation, in his address to the members of the McNabs and Lawlor Islands Advisory Committee on Wednesday, November 7th, stated that many parks have been closed for public safety. Some damage assessment has already been done and is ongoing. Initial clean-up, required for more detailed assessments, has already been implemented.

McNabs and Lawlor Islands is the second most heavily impacted park in the province, Porters Lake Provincial Park being the first. Over 100 trees fell on powerlines. Power has yet to be restored to the islands. The lighthouse breakwater was severely breached. Shore Road is littered with debris. Garrison Pier buckled and the wood is badly damaged. An underground pipe has been exposed and a chemical spill is being addressed by Department of Transport and Public Works.

As to park reparation funding, the only repairs that will be allowed are those which will restore a park to its pre-existing condition. Unfortunately, improvements cannot be covered under budgetary allocations. The work will be contracted out, and DNR will have the final word on how the work is to be done.

Forestry practices such as clear-cutting will not even be considered. At present, they're looking at clearing walking trails for safety and leaving fallen trees in interior areas to decompose naturally. For more information, go to the Natural Resources website: <**http://parks.gov.ns.ca**>, and watch for press releases in the local newspaper.

– Suzanne M. Borkowski

FRIENDS OF POINT PLEASANT PARK

Chris Majka, an associate of the Friends of PPP and Director of The Thousand Eyes Programme at the NSMNH, has been observing Point Pleasant Park 'post-Juan' since the beginning of October. Here is his report:

I didn't visit the tip of the peninsula, but nowhere else did I see more than a 50% loss of trees. Indeed, there are some pockets of the park, perhaps better sheltered from the wind, that are almost unscathed. Not unexpectedly, it was the larger, older, coniferous trees that were affected, although (for instance) many of the large White Pines withstood the blast, even on the waterfront. Most of the deciduous trees are intact or lost only branches.

There are always silver linings to dark clouds and in my view what FPPP ought to do is to make immediate representation to HRM to do the following:

A Management Plan

Use the opportunity of having to re-build after the damage of Hurricane Juan to actually develop and implement a management plan for the Park. This should include:

1) Objectives – What kind of park should this be? What balance of uses should it cater to? What kind of mixture of natural and (human) modified elements should it include? What kind of forest (natural vs. exotic species) should it contain?

2) Means – How to implement the objectives and accomplish the above? How to harness the knowledge

and resources of individuals and organizations in the community.

3) Resources – What sort of commitments (financial and otherwise) need to be in place from HRM and other agencies in order for the above to happen? Are there/ will there be funds available through disaster relief assistance that could be directed towards these goals?

4) A Plan of Action – A realistic timetable and schedule of what needs to take place.

B Consultative Process

To formulate the above, there should be some sort of open, public, consultative process that really engages the citizenry and all of the interest groups (birders, hikers, joggers, tourism interests, theatre-goers, etc.) that utilise the Park. There needs to be a much-improved mechanism for HRM residents to have an input and play a role in the management of the park.

C Avoiding Past Problems

In my view (and the view of FPPP) the Park has been at the receiving end of a long series of processes which have degraded it, leading to a badly managed forest in poor ecological health. To restore the Park, the trend has to go the other way. Things which need to change are:

1) Fallen wood (logs and branches) – So-called Coarse Woody Debris (CRW) should not be removed from wholesale the Park. Trails need to be cleared, dangerous snags taken down, some areas where human use is high need to be cleared, but all the fallen wood should *not* be removed from the park for purely aesthetic reasons. More than removing carbohydrates and other nutrients that recycle into the soil, this has radical effects on the soil micro-climate, allowing too much sun to percolate to the forest floor which changes the moisture regimen there. It removes the habitat of the hugely important (and in the case of PPP, unique) saproxylic invertebrate community, distorting the forest ecosystem itself. Fallen logs should be left to decay where they fell, contributing to the natural process of decay and regeneration in a coastal forest community (and, peripherally, this can be interpretively viewed as a testament to Hurricane Juan itself).

2) Water Deficit – Related to the above is the issue of water deficit in the Park. In my view this is probably the principal ailment of the Park (leading to the Brown Spruce Long-horned Beetle debacle, etc.). Leaving fallen wood will assist in this process. So will a cessation of salting trails. HRM should investigate the possibility of some degree of sub-soil irrigation in the event of continuing summertime droughts (there are already water mains in parts of the Park.)

D Monitoring the Environment

We need to know and monitor what is happening to the environmental health of the Park. In order to be able to assess the recovery (or not) of the Park, there needs to be some information on the Park's environmental health on the basis of which intelligent decisions can be made.

I would recommend that effective immediately the HRM should implement a programme of monitoring:

1) Environmental and physio-chemical parameters (soil moisture, PH, temperature, relative humidity, E-coniferin levels in conifers, etc.);

2) Vegetation – Changes in vegetative cover.

3) Invertebrates – Changes in invertebrate populations (particularly saproxylic organisms).

4) Beetle populations – In a nutshell, invertebrates can be extremely useful in terms of environmental monitoring. They are widespread, numerous, species-rich, easily sampled, and functionally important. They exhibit greater site specificity than vertebrates, and often respond to environmental changes more rapidly than vertebrates or vascular plants. They also have the potential to provide more useful data for environmental monitoring, impact assessment, and conservation practice than inventories of vertebrates and flowering plants.

Consequently, monitoring beetle populations has the possibility of providing us with a lot of information about the changing nature of the Point Pleasant Park environment, the more so because the last four years of work that I have done there on insects, (3,861 Db entries on 6,911 specimens; *not* including the data from 2003), provide a very substantial baseline against which to monitor subsequent changes.

I was intrigued to find two species of beetles in PPP post-Juan (the lady beetle, *Myzia pullata*, and a coastal weevil called *Ceutorhynchus hamiltoni*) which I had not previously found. Whether this represents species blown in by the Hurricane I can't say. It certainly suggests that it is important to follow the many changes which will doubtless take place in the Park in the coming months and years.

– Chris Majka

NAMC 3-YEAR RESULTS

Here are the results of 3-years worth of recent observations in HRM for the annual North American Migration Count:

SPECIES	10/05/03	11/05/02	12/05/01
Red-throated Loon	0	0	1
Common Loon	39	18	55
Pied-billed Grebe	0	0	5
Red-necked Grebe	1	0	10
Northern Gannet	61	37	43
Double-crested Cormorant	406	302	650
Great Cormorant	6	17	7
American Bittern	2	2	3
Great Blue Heron	45	32	39
Great Egret	0	1	0
Turkey Vulture	0	1	0
Canada Goose	17	26	25
Wood Duck	0	4	2
Eurasian Wigeon	0	1	0
American Wigeon	5	10	0
American Black Duck	400	335	323
Mallard	73	56	74
Northern Shoveler	0	3	4
Northern Pintail	1	0	14
Green-winged Teal	24	3	6
Ring-necked Duck	30	28	27
Common Eider	247	462	378
Long-tailed Duck	0	0	2
Surf Scoter	7	7	35
White-winged Scoter	55	6	36

Black Scoter	1	70	21
Bufflehead	0	2	0
Hooded Merganser	3	0	2
Common Merganser	38	24	12
Red-breasted Merganser	18	5	30
Osprey	38	46	52
Bald Eagle	12	17	9
Northern Harrier	3	6	3
Sharp-shinned Hawk	6	8	5
Northern Goshawk	2	2	2
Broad-winged Hawk	2	2	0
Red-tailed Hawk	2	6	1
American Kestrel	2	3	6
Merlin	3	3	1
Peregrine Falcon	0	0	1
Ring-necked Pheasant	11	19	28
Ruffed Grouse	19	13	16
Spruce Grouse	2	2	1
Sora	0	0	2
Black-bellied Plover	6	2	0
Piping Plover	3	1	0
Killdeer	0	5	5
Greater Yellowlegs	151	34	37
Lesser Yellowlegs	7	14	0
Willet	151	109	174
Spotted Sandpiper	0	0	2
Whimbrel	0	1	0
Red Knot	0	0	1
Sanderling	0	0	250
Least Sandpiper	4	0	5
Common Snipe	0	1	8
American Woodcock	11	0	5
Wilson's Phalarope	2	0	0
Black-headed Gull	0	3	0
Bonaparte's Gull	1	0	0
Ring-billed Gull	15	19	28
Herring Gull	2066	1701	1057
Iceland Gull	6	1	1
Glaucous Gull	1	0	0
Greater Black-backed Gull	433	388	162
Caspian Tern	1	0	2
Common Tern	33	21	9
Arctic Tern	4	0	0
Least Tern	0	0	1
Black Guillemot	3	0	1
Rock Dove	414	198	221
Mourning Dove	100	121	161
Yellow-billed Cuckoo	0	0	1
Great Horned Owl	0	1	1
Barred Owl	0	0	2
Long-eared Owl	0	0	1
Northern Saw-whet Owl	1	2	1
Whip-poor-will	0	0	2
Common Nighthawk	0	0	1
Chimney Swift	0	3	0
Ruby-throated Hummingbird	1	4	2
Belted Kingfisher	18	19	15
Yellow-bellied Sapsucker	1	6	2
Downy Woodpecker	26	45	45
Hairy Woodpecker	15	12	22
Black-backed Woodpecker	0	1	1
Northern Flicker	64	81	78
Pileated Woodpecker	1	2	9
Least Flycatcher	0	2	2
Eastern Kingbird	1	0	0
Scissor-tailed Flycatcher	0	0	1
Blue-headed Vireo	12	95	83
Red-eyed Vireo	0	7	6
Gray Jay	5	3	6

Blue Jay	213	222	216
American Crow	721	597	487
Common Raven	26	58	71
Tree Swallow	96	102	185
Bank Swallow	2	1	8
Cliff Swallow	0	40	42
Barn Swallow	51	54	66
Black-capped Chickadee	408	292	310
Boreal Chickadee	18	31	86
Red-breasted Nuthatch	11	29	35
White-breasted Nuthatch	1	4	3
Brown Creeper	4	14	1
Winter Wren	10	48	26
Golden-crowned Kinglet	11	69	31
Ruby-crowned Kinglet	47	178	103
Veery	0	0	1
Swainson's Thrush	0	0	1
Hermit Thrush	35	107	69
American Robin	391	538	426
Gray Catbird	0	2	0
Northern Mockingbird	1	0	0
European Starling	809	552	416
Cedar Waxwing	1	0	0
Tennessee Warbler	1	1	0
Nashville Warbler	2	2	6
Northern Parula	2	16	25
Yellow Warbler	0	4	14
Chestnut-sided Warbler	0	2	2
Magnolia Warbler	0	21	36
Black-throated Blue Warbler	0	2	0
Yellow-rumped Warbler	238	361	443
Black-throated Green Warbler	6	132	118
Blackburnian Warbler	0	0	5
Palm Warbler	55	77	26
Bay-breasted Warbler	0	1	0
Blackpoll Warbler	1	0	6
Black-and-white Warbler	12	45	78
American Redstart	0	1	1
Ovenbird	0	8	26
Northern Waterthrush	3	3	3
Common Yellowthroat	0	5	4
Wilson's Warbler	1	0	0
Summer Tanager	1	0	0
Rose-breasted Grosbeak	0	0	11
Chipping Sparrow	1	6	2
Vesper Sparrow	0	2	0
Savannah Sparrow	50	47	79
Ipswich Sparrow	1	2	0
Fox Sparrow	1	3	7
Song Sparrow	347	267	384
Lincoln's Sparrow	0	1	4
Swamp Sparrow	12	15	16
White-throated Sparrow	138	171	210
White-crowned Sparrow	0	0	8
Dark-eyed Junco	442	344	285
Northern Cardinal	3	1	0
Bobolink	0	1	0
Red-winged Blackbird	76	48	146
Rusty Blackbird	0	6	1
Common Grackle	538	375	472
Brown-headed Cowbird	0	0	5
Baltimore Oriole	0	1	1
Pine Grosbeak	8	7	8
Purple Finch	78	143	85
House Finch	3	3	4
Red Crossbill	0	1	2
White-winged Crossbill	0	0	13
Pine Siskin	22	30	24
American Goldfinch	365	393	485

Evening Grosbeak	12	10	10
House Sparrow	223	91	21
No. of Species	**112**	**126**	**136**
No. of Individuals	**11,420**	**10,680**	**10,010**
Party hours (on foot/by car)	99/73	93/53	73/48
Party km (on foot/by car)	177/1,359	144/1,283	98/1,020
No. of Field counters	55	46	34
No. of Feeder counters	27	22	9

– Bob McDonald

ATLANTIC NATURALISTS' NETWORK

The Atlantic Naturalists Network is a segment of the Canadian Naturalists Network, a newly conceived idea originated by Future Search. Future Search is an initiative of the Canadian Nature Federation (CNF) to enable naturalist communities across Canada to share information and work together.

The Canadian Naturalists Network recognises the existing unofficial relationship among the various levels of naturalist groups and individuals in Canada. As such, it will not add any hierarchical levels to the mix; nor will it dictate specific relationships between organisations. It is intended to enhance the existing network through centralised information technology, and it will enable the naturalist community to deal with specific issues through dedicated committees.

On the weekend of November 14-16, 2003, some 30 representatives of naturalist organisations in Atlantic Canada met with CNF staff to discuss an Atlantic naturalists' network. Participants included nine from Nova Scotia, three from Newfoundland, and 17 from New Brunswick. Attending from Ottawa were CNF president Julie Gelfand and her assistant, Darcie Barnatt, along with a facilitator.

Coming into this meeting, it was evident that many of the participants harboured suspicion about what sort of plans CNF might have in store for us. New Brunswick in particular had reason to be wary, having gone through an unsuccessful experiment in joint membership with CNF and still bearing the scars. As it turned out, beyond our own experiences with CNF (good, bad, or indifferent), many of us were woefully unaware of the reality of how CNF operates in the complex web of Canadian naturalist and environmental organisations at all levels (national, provincial, regional, local, and personal).

Julie explained, that despite its name, the Canadian Nature Federation has never at any time in its history been a real federation. It has always been an organisation operating at the federal level for the promotion and conservation of nature. Through it, 'naturalists' have never had a common voice nationally. Contrast, for example, the Canadian Wildlife Federation, which has a hierarchy of organisations at the provincial and lower levels. There, the 'wildlife' community does tend to have a national common voice.

One possible reason for this situation is psychological, in that naturalists prefer to go quietly about their own enjoyment of nature rather than be particularly activist. Anyone who studies the continuum from the relatively passive pure 'naturalist' to the relatively active 'environmentalist' will conclude that the majority of us in naturalist organisations are much closer to the former. This is not to say that one group is more passionate than the other.

Apart from a common love and concern for nature, there is remarkably little resemblance between provincial naturalist federations (three provinces and two territories don't have them to start with) and between local clubs. They don't have common bylaws, missions, visions, activities, or modes of operation. In other words, any naturalist 'movement' in Canada is bottom-up. People with similar interests get together, and an organisation evolves in its own way. Not all of the more than 280 naturalist clubs in the country belong to provincial organisations, although some of their members do. Likewise, many individual members of CNF do not belong to either local clubs or provincial organisations. The relationships vary widely from province to province.

Because of its nature, CNF has always had a fluid relationship with its members and affiliates. For example, at any given time its membership consists of individuals (currently in the order of 40,000), local clubs (about 100), and provincial affiliates (eight). CNF estimates that it represents directly some 300,000 individual Canadian naturalists.

Clubs that belong to provincial federations have automatic 'affiliation' with CNF. Direct membership in CNF gets you a magazine subscription (which, by the way, is going back to four issues annually), but no special relationship.

Julie explained that only in bellwether or nationally important cases does CNF act at the local level. She acknowledges that a number of clubs prefer direct membership to dealing through provincial organisations, but that this is really an artifact of an earlier time. CNF does not go out of its way to attract club memberships. In fact, as Julie pointed out, membership is a very inefficient way of operating non-profit organisations nowadays – "I'll take a steady $5/month donation over an annual membership any day." Pure donations go a lot further in accomplishing adequate funding, and they don't require a new and costly 'sell' every year.

The CNF board does not directly represent the regions – it's not meant to, although drawing members from across the country is always an important consideration. More important is the skills mix. This is a policy board, and it is considered essential that it contain certain expertise – legal, financial, scientific, government relations – for example. This is deliberate, enabling the organisation to concentrate on overarching and truly countrywide issues.

On the other hand, the board realises the importance of a real workable relationship between the various levels of naturalist organisations. It makes sense that one of CNF's mandates should be to coordinate information flow between the levels and to help facilitate growth and effectiveness of the naturalist movement however possible.

If CNF is not a federation, what is the true picture of the naturalist community in Canada? It is in fact a large network encompassing individuals, local naturalist clubs, provincial federations, CNF, and similar-minded organisations at all levels. Because this network is to a large extent mostly unofficial and self-organised, it serves

some members of the naturalist community better than others, and some not at all.

Realising the true nature of the beast and the frustrations of many clubs and federations wondering just what their relationship with CNF is, CNF organised the Future Search conference in June, 2002. In keeping with the bottom-up philosophy, a group of 45 naturalists from across Canada came together to develop a vision for a Canadian nature network. This is the vision they came up with:

"The Nature Network is an inclusive alliance of all who care for, have a passion for, and celebrate nature. We protect, conserve, restore, and appreciate the diversity of nature. The network empowers and connects people in all eco-regions of Canada. It is well organised, science and knowledge based, and has the resources to achieve its goals."

The participants then went further by looking for a model that would be most likely to work, given the existing situation, and that would best help naturalists work more, and better, together. The one upon which they agreed incorporates and enhances much of the existing, but unofficial, structure, along with the ability to create National Naturalist Committees "to address specific conservation and operational issues." At the same time, it does not add significantly to the management, or organisational, burden.

To make such a network feasible, two things at this point are missing – a guide of some sort for implementing committees, and the technology to enable distance committee work and to handle information organisation and flow.

THE ATLANTIC CANADA MEETING

The purpose of the November Atlantic Canada meeting was to introduce the concept of the new model and to devise a test of the model in a regional context. When Julie had covered the background outlined above, and had assured us that CNF was not out to sell memberships or to impose another layer of hierarchy, we began to relax and open our minds to the possibilities inherent in a true network.

By the end of the weekend, we had pretty well embraced the network concept and had agreed on establishing three committees to tackle immediate concerns: a forestry issue requiring immediate action – the Jaakko Poyry report New Brunswick Crown Forests: Assessment of Stewardship and Management (a potentially devastating policy for increasing fibre production from New Brunswick forests, which has countrywide implications if adopted by the New Brunswick legislature); development of an action plan for promoting youth education programs; and the recording of existing assets of naturalist groups in Atlantic Canada as a first move in establishing a database of skills, procedures, and links available to all.

The three projects deliberately have relatively short time spans of two to five months for completion. The exercise should lead to some conclusions about how such committees can work.

On the question of technology, CNF is aware that it has a major job to do in assessing available Web-based networking and database technologies, and in establishing the components necessary to support a national network. Staff is currently looking at what currently exists.

A PERSONAL NOTE

I went into this exercise a relative babe in the woods, having never paid much attention to CNF and the politics surrounding it. I went with a fairly open mind, but was aware that those with more experience had issues with CNF. I also know that HFN was not alone in wondering what had happened to that special relationship with CNF that club affiliates used to enjoy and what had happened to communication with folks down the line. I must say that, based on what I'd heard and observed, I went with some reservations about the abilities of Julie Gelfand to run this obviously pretty big show.

Coming out of the conference, I felt I had learned a lot about CNF and its relationship to the naturalist community. I developed a lot of respect for Julie, who has a tough job and very limited staff resources to help her. I think she has accurately assessed the Canadian naturalist community situation and has the right attitude about how to improve it. I can't comment directly on the board of CNF, which is a very important, and potentially troublesome, component, but reading between the lines, I conclude that by steering clear of management and concentrating on policy it is probably quite effective.

At this time, I'll to support the network idea. I've joined the committee, along with Larry Bogan of the Blomidon Naturalists Society, and Suzanne Borkowski, that's amassing the existing information on club assets in Atlantic Canada. As for HFN, I'd recommend that the club consider dropping its membership in CNF (save money – you're already an affiliate) and that the board support the idea of a Canadian Naturalists Network, and in particular the Atlantic Naturalists Network – at least in its trial stages.

– Doug Linzey
18 November, 2003

HFN SUBMISSION

On November 20, 2003, on our behalf, President Bob McDonald presented a submission to the Voluntary Planning Task Force which looked into off-highway vehicle use in Nova Scotia.

The following is the text of Bob's submission.

"With the proliferation of OHVs in Nova Scotia, accompanied by the increasingly vocal concerns expressed by those citizens impacted both directly and indirectly by their use and misuse, the time has come to tighten up the regulations and accompanying enforcement relating to the use of OHVs in the province. People are being harassed by irresponsible operators, private lands are being invaded, wildlife is being endangered and destroyed and the environment, and especially sensitive areas like bogs, marshes, lakeshores and other wetlands, are being irreversibly destroyed. Although the task force is using the more general term Off-Highway Vehicle, most of the concern relates to the most common of the OHVs and that is the All-Terrain Vehicle (ATV). Most of the following comments refer primarily to ATVs.

1. Vehicle Registration

It has been estimated that only about 30% of the ATVs operating in the province are registered. Registration of all such vehicles should be required. All new vehicles

should be required to be registered at the point of purchase. Dealers should be required to report the name and address of all vehicle purchasers to the Department of Motor Vehicles. For all vehicles already on the off-road, owners should be given a reasonable period of grace (3-6 months) to register the vehicle.

Enforcement of the registration requirement should be stepped up; presumably more non-uniformed officers will be required. All vehicles should be required to display a large license plate in a conspicuous location so that illegal behaviour can be reported by either enforcement officers or by the general public. Possibly we could adopt a more high-tech solution to recognition of an offending vehicle by embedding a chip on the vehicle such that it can be identified with a remote hand-held chip-reader. If it can be used for green bins in the HRM, it can be used to identify OHVs. One possible avenue to ensure compliance with the registration requirement would be to legislate that only registered vehicles could be serviced at maintenance/service centers.

2. Operator Licensing and Training

ATVs are powerful, heavy vehicles capable of highway speeds. We feel that young children cannot operate them safely and responsibly. For this reason, we believe that all ATV operators must be in possession of a valid NS driver's license, annotated specifically to certify that the driver is capable of operating an ATV. In order to gain such certification, an individual must take an approved course of instruction on the safe and responsible operation of an ATV and be advised that there exist restrictions as to where ATV use is permitted. Additionly, the operator must be informed that there exist environmentally sensitive areas where OHV use is not permitted. Personal injury and public liability insurance must be compulsory for all drivers/registered vehicles. The associated medical and rehabilitation costs resulting from accidents, particularly children involved in ATV accidents, are a burden to families and to society. We cannot afford it in this day of escalating health costs.

3. Restricted Areas

It is imperative that we restrict the use of ATVs in some areas. ATV use should not be permitted in national and federal parks, in provincially designated protected areas, in any wildlife management areas and in any designated environmentally sensitive areas so identified by a national, provincial, or municipal decree. Such sensitive areas might include, but are not restricted to, bogs, fens, marshes, lakeshores and other inland wetland areas, and ocean beaches. They may also include any habitat containing rare or endangered species as designated by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC). These designated areas should be clearly posted, and penalties associated with the unlawful use of these areas should be particularly severe.

ATV use on multi-use trails also needs to be addressed. Many pedestrians feel quite threatened when they encounter one or more ATVs coming upon them. ATVs should be required to slow down to a speed of <5 km/h when passing a pedestrian from either direction, and, when passing from behind, must be absolutely sure that the walker knows that the ATV is there. This point may appear absurd, but when the walker is deaf, it is an important consideration. ATVs should not be allowed to operate close to groups of houses in suburban areas or within the city. ATV use can cause severe damage and erosion to a trail. ATV clubs should take it upon themselves to patrol regularly-used trails in their areas for deterioration and attempt to affect repairs in a timely fashion.

ATV use should be limited to designated trails on either private or crown land. These trails should be maintained thus enhancing the safety aspects of OHV use, and limiting the environmental damage that they can cause. Perhaps areas could and should be set aside which would allow unrestricted ATV use. DNR would have to be confident that the area did not contain any rare or endangered flora or fauna.

It is not clear to us why private landowners should not be able to restrict access to their land by hikers and OHVs alike. Some owners may allow and even welcome ATVers, but others should be able to restrict use by posting signs to that effect. It seems to us that vehicle operators on private land should have to produce written permission from the landowner to be there.

We hear increasing complaints from homeowners living in suburban areas of being harassed by ATVs both during the day and at night. We think that the use of ATVs at night is an issue relating to safety and noise, and for those reasons should not be allowed between sunset and dawn. Harassment is more of a bylaw/ enforcement problem and should be addressed by the local police department.

4. Violations and Enforcement

Penalties associated with infringement of any new legislation should be meaningful and in line with those associated with the illegal operation of any other motorised vehicle. OHVs should also be subject to the same or similar 'moving violations' as are other motorised vehicles. These include driving without a license, driving an unregistered vehicle, driving while intoxicated, and driving in an unsafe or reckless manner, etc. A third conviction of a serious offence should be accompanied by confiscation of the vehicle and loss of license.

Of course, the introduction of new regulations governing the operation of OHVs must be accompanied by enhanced enforcement. ATV operators are quick to point out that the sale of some 5000 vehicles a year in Nova Scotia, at an average cost of $8000, leads to a tax benefit to the province of some $6,000,000. The total benefit to the province may be closer to $10M, if fuel, licensing, registration and servicing of the machines is included. However, I would ask the question: "At what cost to the environment?" In any case, at least some, and perhaps in the first few years, all of this income should be reinvested by the province into enforcing new regulations on the operation of OHVs. It would be money well spent by the province, since without enforcement the introduction of such regulations would be meaningless. It should after all be kept in mind that it is our unspoiled wilderness areas that attract hundreds of thousands of tourists and many millions of dollars each year to the province.

I acknowledge the time and effort that Voluntary Planning has devoted to this controversial, divisive issue. Attending the Halifax public hearing convinced me that our membership (100+) needed to express its concerns. Thank you for allowing such an open and inclusive means for all Nova Scotians to give input."

– Bob McDonald

LICENSE PLATES PROTECT SPECIES

200 Nova Scotians have a new Piping Plover license plate, showing support for Species at Risk Conservation by doing so. They can be purchased at Access Nova Scotia and Registry of Motor Vehicles throughout the province. They cost $70.00. $50.00 goes directly to the Species at Risk Recovery Fund; the extra $20.00 covers the cost of plate production. You don't need to wait until your registration expires; a new plate will be issued upon payment.

The Species at Risk Conservation Fund was created under the Nova Scotia Endangered Species Act. Funds raised from these plates will be used to protect species such as the Piping Plover, Pink Coreopsis, American Marten, and Atlantic Salmon.

Groups and individuals with projects designed to benefit species at risk can request funding assistance.

For more information, phone DNR, 902-679-6091; or go to: **<http://www.gov.ns.ca/natr/wildlife>**.

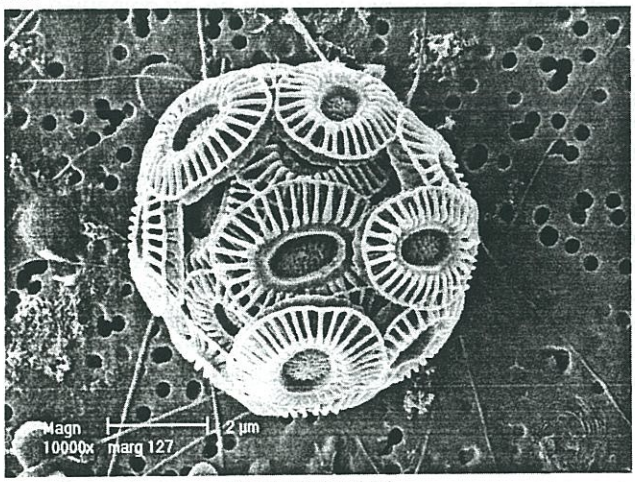
SPECIAL ARTICLES

OCEANIC COCCOLITHOPHORE BLOOMS

What are Coccolithophores?

To answer this, we first have to answer the question, "What is phytoplankton?".

Phytoplankton are microscopic marine plants that live in the upper surfaces of the ocean where there is sufficient sunlight for them to carry on photosynthesis. Although they are not visible to the naked eye, the total biomass of phytoplankton is greater than that of *all* marine animals (including zooplankton, fish, and whales). They are the marine equivalent to green plants on land, and their great importance is that they form the basis of the food chain for almost all marine life.

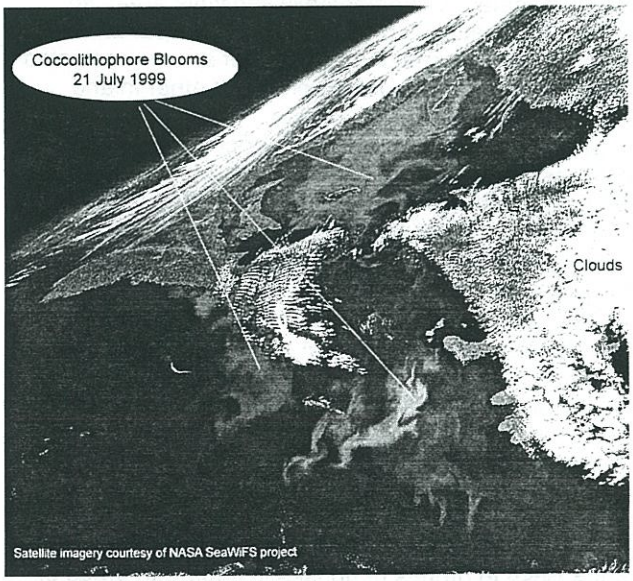


Emiliania huxleyi
(***Photo, Jeremy Young, Natural History Museum, London***)

Coccolithophores are phytoplankton, and hundreds of species have so far been described. Like other phytoplankton, they are plants, and they carry on photosynthesis. But, they are unique in that each single-celled coccolithophore plant is surrounded by plates of calcite known as 'liths' or 'coccoliths', as can be seen, above, in the electron microscope picture of the species *Emiliania huxleyi*, one of the most common species of coccolithophore.

Being only two to 40 micrometers in diameter, coccolithophores are among the smallest phytoplankton and are found in almost all the world's oceans. Most coccolithophores end up being eaten by zooplankton. But the calcite liths are indigestible and end up in the predators' fecal pellets. These pellets sink to the sea floor forming sediments which can be thousands of metres thick in places. Over time the sediments get compacted and transformed into chalk, which may be exposed on the earth's surface; for example, the white cliffs of Dover, England, are formed from the compacted sedimentary calcitic fecal remains.

What are 'blooms'? A bloom is a population explosion of phytoplankton. When conditions are right, there are blooms of phytoplankton in the ocean which can be detected using satellites. The right conditions exist when there are sufficient sunlight and nutrients available (just as for green plants on land). These blooms are sometimes enormous in extent and can cover areas as large as continents. In the North Atlantic, blooms occur every year in the spring and summer, beginning in the south, and progressing northward as the day length increases.



(***Satellite imagery courtesy NASA SeaWIFS project***)

Most phytoplankton blooms are not obvious to the human eye, but coccolithophore blooms are special. Because their calcite plates are highly reflective, especially in sunlight, they give the water a spectacularly milky white or turquoise colour. This usually happens in the open ocean away from human eyes. But occasionally, these blooms will occur near shore, as happened a few years ago in St. John's harbour. It resulted in calls to TV and radio stations to report the strange appearance of tropical-looking turquoise water.

Satellite images of the ocean can reveal these enormous coccolithophore blooms. In the accompanying image on the previous page, you can see large coccolithophore blooms south of Newfoundland (which is mostly covered by clouds), east of Cape Breton, and in the Gulf of St. Lawrence.

This image was captured by the SeaWiFS satellite instrument on July 21, 1999.

– Linda Payzant

LINCOLN BROWER MONARCH LECTURES

In late summer the Department of Biology at Dalhousie University presented a pair of lectures by Dr. Lincoln P. Brower, the eminent Monarch butterfly biologist. At least three members of the HFN were there, enjoying the science and stories about this most famous of all butterflies.

Dr. Brower has been studying the Monarch butterfly for decades, and has published dozens of papers on virtually every aspect of its biology and ecology. He has spent a lot of time in Mexico at the wintering grounds in Michoacan state, and he is concerned about the threats to this area from illegal logging.

He briefly covered the migration cycle of the Monarchs: how they travel north during the spring and summer, with multiple generations following the emergence of milkweed as summer advances; and then, how the final generation, in the fall, flies south to spend the winter in Mexico.

The Monarch is well known to be toxic to birds due to the cardiac glycosides that the larvae acquire from milkweeds, and it was interesting to learn that the toxicity varies, depending upon which species of milkweed the larva has fed. One southern species is very toxic, and the common northern species, *Asclepias syriaca*, is less so.

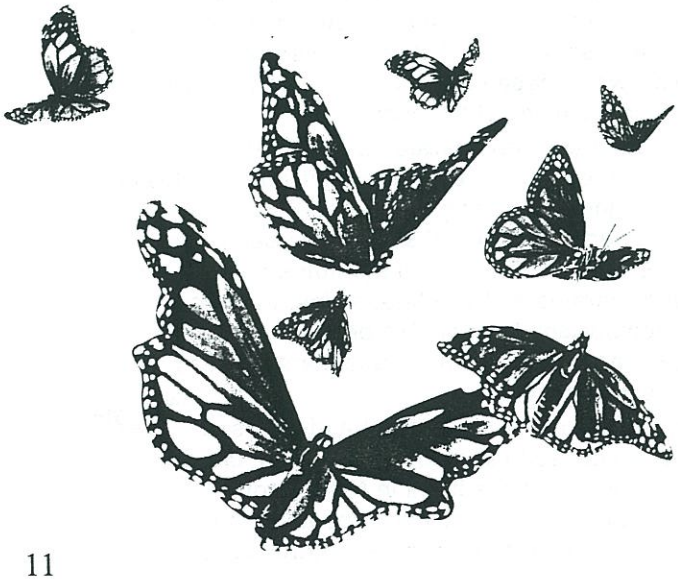
Brower described a famous series of experiments with captive Bluejays, where he proved that these birds can indeed detect bitter tastes (Monarchs taste bitter), and that they learn by experience that the butterflies are poisonous. One naive Bluejay was fed a Monarch; the bird vomited and was then removed from the study lab. Months later, the bird was simply shown a Monarch and it vomited immediately! Monarchs at the overwintering site often show bite marks on the wings, and he concludes that the wings taste so bitter that the bird rejects the insect without causing much damage. Indeed, the greatest concentrations of the bitter toxins are present in the cuticle and wing scales, rather than in the internal organs.

In January 2002, an unusual weather event killed about 80% of the overwintering Monarchs in Mexico. Several days of rain soaked the butterflies, and then the temperature dropped, killing most of them outright. Brower investigated the effect of temperature and moisture on Monarch mortality, and discovered that most can tolerate temperatures down to -8˚C, if they are dry. However, if the butterflies are wet, half of them die at -4˚C. Usually, overnight temperatures in the wintering area don't go much below 0˚C, and there is very little rainfall, so until now they have been reasonably safe. Climate change may be altering all this.

Deforestation is a big problem. The overwintering area consists of a number of Oyamel Fir forests at high elevation. Illegal logging is threatening these forests. The overwintering areas have nominal protection from the Mexican government, but in practice it's not easy to catch and prosecute the tree pirates. Some of the areas have already been completely logged, and the butterflies have been forced to move on to less desirable places in their attempt to survive. In late November of 2003, the Mexican government announced that they had shut down 17 illegal sawmills, confiscated 300 truckloads of contraband timber, and arrested 28 people. Whether this will make any dent in the rate of illegal logging remains to be seen.

However, people are taking matters into their own hands. A project known as The Michoacan Reforestation Fund was established in 1997, and indigenous people of the area are now planting more than 300,000 trees per season. They could use some financial support – check out their excellent web site at **<http://www.michoacanmonarchs.org>** .

— Peter Payzant



HFN TALKS

NS NATURE TRUST OCT. 2

Nature had the upper hand, and the last word, on this presentation at the Nova Scotia Museum of Natural History. Hurricane Juan had caused so much flooding damage in the Museum's auditorium, that the talk was cancelled (*see p. 3*).

It will be rescheduled for Spring, 2004. Watch for its announcement in our Spring Issue's programme insert.

– Stephanie Robertson

RARE NS PLANTS NOV. 6

With a very professional PowerPoint presentation, botanist Sean Blaney, from the Atlantic Canada Conservation Data Centre (ACCDC), shared some beautiful plant slides from his visits to a number of Northumberland Shore river systems between New Glasgow and Amherst. Funded by a Nova Scotia Museum research grant, he was documenting the populations of rare plants, primarily those associated with basic rather than acidic soils. Sean's presentation represented 13 field days in and around Amherst, Pugwash, the Wallace River, the River Phillip, River John, and the East and West Pictou River. This particular project focused on vascular plants. A beautiful close-up of Blue Vervain, *Verbena hastata*, was the first plant example shown.

The ACCDC does data collection and organisation only, and it requires many hours of fieldwork. Sean's collection methods comprise walking in rivers and their floodplains – no more than approximately 500 m inshore from the rivers themselves. Specimens are collected in zip-lock bags, and if later pressed they are dried as herbarium sheets for the Herbarium at Acadia University. For notes Sean uses a hand-held computer. He records numbers, habitats, species (*all* species), phenology, etc. on data sheets, an example of which was shown. His field computer has GPS capability, which negates the 'not repeatable' criticisms of past studies of this type.

Riversides have concentrated plant diversity because of their high level of habitat diversity. This is because of the ever-changing seasonal flooding, which is a primary means of seed dispersal for the plants there. Also, the pH and the nutrient levels are more concentrated in these floodplains, which can vary in composition from cobble beaches, bedrock outcrops, backwater channels, and marshy areas – to isolated oxbow ponds.

Nova Scotian rivers have their headwaters in basalt, as opposed to andstone such as is found in New Brunswick, and the trees in Nova Scotia's floodplain areas are mostly deciduous, comprising Appalachian/Allegheniian flora. The hardwoods usually found are Sugar Maple, White Ash, and Ironwood, etc. One of the floodplain plants shown was Sessile-leaved Bellwort, *Uvularia sessifolia*, or Fairy Bells.

A lot of Nova Scotian plants didn't make it through the traumas of the last glaciation. The soil north of the Cobequid fault for the most part is very rich, while that to the south is poorer and more acidic. Bloodroot and Nodding Trillium are indicator species of the richer soils. We were also shown Zigzag Goldenrod *Solidago flexicaulis*, Large Enchanter's Nightshade, *Circaea Lutetiana*, Trout Lily, *Erythronium americanum*, Wood-nettle, *Laportea canadensis*, Canada Lily (six feet high!), *Lilium canadense*, and Blue Cohosh, *Caulophyllum thalictroides*, found at River Pictou.

Nova Scotia's historic, rich, hardwood floodplain forests are now very rare. One of the causes is land clearance for agriculture. Cattle grazing is another cause, and also of course, the terrible devastations of logging in the province. Even when older farmlands have been deserted, the habitat does not revert to what it was. These areas are dominated now by Choke Cherry and Black Cherry. Also found there are Virgin's Bower, *Clematis virginia*, and Wild Cucumber, *Echinocystis lobata*.

Human settlements, besides clearing out the trees, also bring with them exotic species that compete with the natural flora. Shown were Glossy Buckthorn, *Frangula alnus* – a dense plant that crowds out others; *Impatiens glandulifera*, and a Sedum, two other very hardy introductions. (I've had the *I. glandulifera* in my garden – it is beautiful when first planted and it attracts many murmuring bees – but not in the following spring, when the entire garden bed is covered with their small seedlings. Luckily it is very shallow-rooted, and easy to pull up).

Woolly Sedge, *Carex pellita,* common in New Brunswick, is a *new* rare plant for N.S.! Sean discovered it at East River in Pictou. Woodland Figwort, *Scrophularia nodosa*, which is common in P.E.I, was another surprise find for Sean in the province. We were also shown slides of Moneywort, *Lysimachia nummularia*, and Tiny All-seed, *Radiola linoides* (in the flax family).

In the West River of Pictou, where flood-scouring and deposition occurred (early spring), a very large population of Wild Coffee, *Triosteum aurantiacum*, (in the honeysuckle family), was found. This is *very* rare for this particular area, but not for the East River.

Five new sites were found for the Hairy-leaved Sedge, *Carex* sp., so its 'endangered' rank needs revising from S1 (plants recorded in from 1 - 5 sites) to S2 (6 - 20 sites). The S3 designation is for plants found in 21 - 100 sites. These three designations – S1, S2, and S3, are tracked, but beyond this ranking 'endangered' is not an issue. (Rankings go from S1, the worst endangered, to S10).

Black Ash, *Fraxinus nigra*, is found in swampy forests; River Phillip has the largest remaining stands, but on the whole it is not a healthy population.

Of further interest, Paul found some Canada Tick Trefoil, *Desmodium canadense*, at East River, Pictou. There has been only one other written record of this plant – 100 years ago! We also saw a slide of Bristly Buttercup, *Ranunculus pensylvanicus.*

From River John's shoreline seepage meadow habitat we were shown Shining Ladies' Tresses, *Spiranthes lucida*, and Marsh Bellflower, *Campanula aparinoides.*

Moving back from the 'scours' areas, there are dense meadows, where he found Wild Bean, or Ground-nut, *Apios americana*. It has no seeds, but spreads by its roots. Paul observed that it is definitely spreading its habitat with each season. Also found was the edible wild tuber Jerusalem Artichoke, *Helianthus tuberosus*.

In closing, Sean reminded us of the benefits of data collection; the addition to our understanding of the distribution and status of many species, and the identification of sites of significance in need of stewardship. None of the land on which he did his survey and found these plants is currently protected.

There was a busy question period, always the sign of a good talk.

– Stephanie Robertson

FIELD TRIPS

CARD LAKE PROVINCIAL PARK

Date: Saturday, 31 May
Place: Card Lake Provincial Park, Lunenburg County
Weather: Hazy, warm, and very buggy!
Participants: 10 plus leader Clarence Stevens, Jr.

Card Lake Provincial Park was in the news during the past year, as residents of the Municipality of Chester protested a move by the Department of Natural Resources to close it, without any public consultation. Services had already been withdrawn from the park for the preceding two years, and it was feared that once de-listed, the province might allow logging of the mature hemlock and pine forest surrounding the lake.

The Halifax Field Naturalists were interested in visiting the threatened park, and Clarence Stevens Jr. led a walk there on a warm afternoon in late May. We met at exit 8 on Highway 103, and from there drove about 17 kilometers along Route 14, the Chester to Windsor Road. It would have been easy to miss the park, as DNR had removed all of the signage. However, we found picnic tables in place under a tall canopy of trees, where we fought off biting insects while eating lunch, before setting off to explore.

The DNR website describes Card Lake P.P. thus: "A small park under a canopy of mature softwood trees on the edge of Card lake. The small beach provides an opportunity for a quick dip, or you can launch a canoe or small boat to explore the lake." One could easily be misled by this into thinking there wasn't very much to this park. In fact the park extends for 112 hectares! There are several broad roads down to the long narrow lake, and a well-used boat launch area, but unfortunately no trails have been developed to lead into the woods or along the extensive shoreline.

The mixed woods included an interesting variety of shrubs and understory plants, as well as the majestic conifers. While the soil is acidic, Clarence pointed out some plants which indicated that the soil was richer than it often is along this side of our coast. These indicator plants included Painted Trillium, Indian Cucumber Root, Moose or Striped Maple, and Mountain Maple. Our cool late spring meant that many lovely shrubs were still blooming, such as Rhodora, Pin-cherry, Indian Pear, Red-berried Elder, and Hobblebush. Blueberries and Mountain or False Holly were nearly in bloom.

Clarence is well-known for his skills as a birder, and we found some lovely songbirds, although they were rather shy in the heat of the afternoon. Even when we could not see them, Clarence could identify them by songs or call notes. However, Clarence also has broader interests in ecology, and in observing and understanding the connections between plants and wildlife. He drew our attention to everything from the bone fragments in some animal scat, to the curious behaviour of Green Frogs. He told us about the leeches in the lake, which probably prey on turtles. Clarence encouraged us all to get a whiff of the Hobblebush flowers; he told us their foul, rather fishy smell suggests that the plant is pollinated by flies, rather than by bees or butterflies. In fact we soon spotted two different flies sampling the lacy blossoms.

We would have liked to explore the interior of the park more, but the deer-trail we found along the southern edge of the lake was too narrow to accommodate a group with an interpreter, so we didn't proceed very far. The park is very attractive, with expansive views across the large southern bay of Card Lake. The shoreline of this part of the lake is all parkland, so it has not been disfigured by cottages and recreational development. A well-marked but low-key nature trail and some interpretation would greatly enhance the appeal of this park to visitors.

Later we walked along the road-side, where we found more warblers in the gullies below the guard-rails. The logged lands on the other side of the

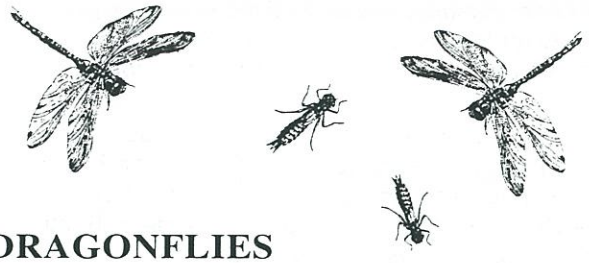
highway had brushpiles which sheltered a Hermit Thrush and some White-throated Sparrows. The logging road itself was made of crushed granite, with occasional purple chunks of amethyst crystals to catch the eye. Emerging from the packed gravel were some lovely specimens of the white Lance-leaved Violet in bloom.

I have since learned that the recently-formed Card Lake Park Conservation Group, Chester Municipal Council, and the Department of Natural Resources signed a three-way management agreement this year. The Municipality of Chester will provide funds for the next five years, to hire students to keep the park open and serviced during the summer.

– Patricia Chalmers

CARD LAKE SPECIES

Plants	
Striped Maple	*Acer pensylvanicum*
Indian Pear	*Amelanchier* sp.
Snowberry	*Gaultheria hispidula*
Indian Cucumber-root	*Medeola virginiana*
Partridgeberry	*Mitchella repens*
Mountain Holly	*Nemopanthus mucronata*
White Pine	*Pinus strobus*
Pin-cherry	*Prunus pensylvanica*
Rhodora	*Rhododendron canadense*
Red-berried Elder	*Sambucus pubens*
Starflower	*Trientalis borealis*
Painted Trillium	*Trillium undulatum*
Hemlock	*Tsuga canadensis*
Blueberry	*Vaccinium* sp.
Hobblebush	*Viburnum alnifolium*
Lance-leaved Violet	*Viola lanceolata*
Insects	
Black flies - lots!	
Dreamy Duskywing	*Erynnis icelus*
Canadian Tiger Swallowtail	*Papilio canadensis*
Clouded Sulphur	*Colias philodice*
Elfin	*Callophrys* sp.
Spring Azure	*Celastrina ladon*
Painted Lady	*Vanessa cardui*
Spear-marked Black Moth	*Rheumaptera hastata*
Amphibians	
Green Frog 	*Rana Clamitans melanota*
Birds	
Northern Flicker	*Colaptes auratus*
Blue-headed Vireo	*Vireo solitarius*
Common Raven	*Corvus corax*
Winter Wren	*Troglodytes troglodytes*
Ruby-crowned Kinglet	*Regulus calendula*
Hermit Thrush	*Catharus guttatus*
Northern Parula	*Parula americana*
Magnolia Warbler	*Dendroica magnolia*
Yellow-rumped Warbler	*D. coronata*
Black-throated Green Warbler	*D. virens*
Black-and-white Warbler	*Mniotilta varia*
American Redstart	*Setophaga ruticilla*
Ovenbird	*Seiurus aurocapillus*
Northern Waterthrush	*S. noveboracensis*
White-throated Sparrow	*Zonotrichia albicollis*



DRAGONFLIES

DATE: Saturday, 20 September
PLACE: The Frog Pond, Purcell's Cove Road
WEATHER: Warm and Sunny
INTERPRETER: Paul Brunelle
PARTICIPANTS: 13 

On Saturday, September 20, thirteen people joined Paul Brunelle at the Frog Pond on Purcell's Cove Road to observe dragonflies and damselflies in their watery habitat.

To start the trip, Paul produced dragonflies for our perusal, which he had caught earlier and and placed in an envelope until required. After our thorough examination of wing structure, colour, and facial details, each dragonfly was released. All but one flew off to resume their dragonfly duties. The hanger-on decided to stay, perhaps to conduct his own examination of another species (us). It was placed on Blake Maybank's hat, and remained there through most of our trip!

The day was perfect, a warm and sunny late summer day and the dragonflies were out in abundance. They flew in front of us, behind us, around us, and many lit on sweaters and shirts for a moment before flying off. As each different species appeared, Paul would point them out and, if luck would have it, caught one for us to look at.

With years of experience behind him, Paul was adept at the 'sweep and snap' technique required for catching dragonflies with a net. Once released, the dragonflies seemed very eager to go about their business which, at this time of year, was eating. They eat on the wing and Paul likened them to "flying lamp posts with meat grinders for mouths".

After circling the pond and checking out an almost dry stream, we crossed the road to another pond. Dozens of dragonflies hovered or flew over the water and through the reeds like miniature jeweled helicopters. Paul assured us that earlier in the season there are even more dragonflies located there, a sight certainly worth returning to see.

In all, we saw nine species. Thanks to Blake Maybank for compiling the list.

– Wendy McDonald

DRAGONFLY SPECIES

Ebony Jewelwing	*Calopteryx maculata*
Spotted Spreadwing	*Lestes congener*
Variable Dancer 	*Argia fumipennis*
Canada Darner	*Aeshna canadensis*
Variable Darner	*Aeshna interrupta*
Common Green Darner	*Anax junius*
Cherry-faced Meadowhawk	*Sympetrum internum*
Yellow-legged Meadowhawk	*Sympetrum vicinum*
Band-winged Meadowhawk	*Sympetrum semicinctum*

COLE HARBOUR

DATE: Saturday, 4 October
PLACE: Cole Harbour Woodland Trail
WEATHER: Cool; bright sun
INTERPRETER: Elizabeth Corser
PARTICIPANTS: 19

It was perfect weather for this afternoon walk at the Cole Harbour Heritage Woodland trail and properties. Brilliantly sunny with only slight breezes – the cool temperature therefore wasn't too uncomfortable, and the low, early winter sun emblazoned and illuminated everything. We met in a bright parking lot near a barn and field off Bissett Road, and heard a good bit of history of these heritage farmlands from Elizabeth.

This trip is not new for HFN. On April 28, 2001, another trip write-up was submitted by Clarence Stevens, Jr. in our summer issue #103, where he reported the sighting of 35 species of birds, two mammals, two ferns, six flowering plants, and many mosses.

But I, side-winded by the beautiful late fall day and surroundings, lapsed into irresponsible enjoyment, and did not take notes on the Cole Harbour Lands history, nor, later on, any species. Being out in the bright air and under a limitless bowl of blue, with all the magnificent views offered by the drumlin fields, it was enough to be relaxed and fulfilled by the sheer beauty of these old abandoned meadows and woods. After the walk, when we had returned for our Heritage Farm supper, we learned of the publication of Along the Cole Harbour Road, a Journey Through 1765 - 2003, by Harry Chapman, published by the Cole Harbour Heritage Society. With full-colour pictures and 320 pages, it should prove a fascinating account of the area's history and its importance within Dartmouth and HRM.

We started off on a damp dirt and gravel trail through a large grassy field. This track continued on down through a small copse, and then opened up to a grand hill of green grasses, occasional late autumn flowers, and quite a few sulphur butterflies. We had a grand, impossibly expansive view of the waters of the Cole Harbour-Lawrencetown Coastal Heritage Provincial Park, with its straight 'rails-to-trails' salt marsh track across the water far in the distance. With our binoculars, suspected specks of wading water birds morphed into at least 50 or more Great Blue Herons, widely spaced in the shallow waters before the rail line, strutting and feeding in the shallows. A beautiful sight indeed.

We continued across and down into a wood, noting Juan-downed trees that Elizabeth said would probably be cleared away later, when possible, by Heritage Society volunteers. Later on in this area Pat Chalmers brought our attention to many delightful clumps of Beech Drops, *Epifagus virginiana*, spread out under a shady stand of Beech trees.

We crossed a small brook in a hollow, and then continued on to the rocky shore, where we had closer looks at the herons. I had the urge to investigate smaller things, so hunkered down on one of the sunny boulders in the muddy shore to study the interesting behaviour of some very small water insects. They swam on the surface like water-striders, intermittently dove down and swam underneath, and also occassionally reached the shore and hopped and ran over the stones and pebbles.

Across Cole Harbour we could see the small graveyard where 'maroons' and early settlers were buried. I straggled well-behind along the shore (no tigers), noting an extremely large, hollow, cement artifact behind the stony beach, rather like a buoy.

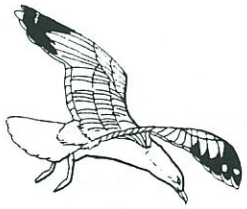
Most of the group then took another woodland trail, but two of us were irresistably drawn to that first wide grassy drumlin again, where we flopped down to examine and enjoy the herbage, revel in the butterflies, and look at the sunny sky. A very pleasant surprise here, we were met by Colin Stewart walking his dog Nahanni, and we talked and shared in the glorious day and surroundings.

The others soon joined us, and we were off to a delicious homemade supper of warm tea biscuits, chili, lemonade, tea and coffee, and apple crisp and ice cream, in the historic Cole Harbour Farm Tea-house and Gift shop.

A lovely ending to a perfect day.

– Stephanie Robertson

YOU BE THE EXPERT!



Date: Saturday, 15 November
Place: Crystal Crescent Beach
Weather: Overcast, 1°C, windy
Participants: 5
Interpreters: All of us!

Although the park was officially closed for the season, five hardy souls ventured into it for an invigorating walk. The seas were high, with spectacular surf, the snow crystals were intermittent, and the wind was penetrating.

However, we were rewarded with excellent views of Red Throated Loon (±10), a single Iceland Gull, and a Bonaparte's Gull, in the sheltered water of the coves. Dovekie and Gannets were offshore as well. Robins flew over as we made our way along the boardwalk, some of which had been rearranged as a result of the high waters and the winds of Juan.

At Mackerel Cove, the kelp and Irish Moss had accumulated to quite a depth as a result of more recent high winds. A Ruddy Turnstone was enjoying the feeding ground. Nearby were a Sanderling and Greater Yellowlegs, still here long after their mates had flown south.

In the shelter of the spruces, we found both Black-capped and Boreal Chickadees, Red-breasted Nut-

hatches, and Blue Jays. Snow Buntings and Horned Larks flew past.

The special bird of the walk was a Palm Warbler, later noted as the western species. Offshore, a Grey Seal was spotted, and a Mink ran along the first beach. A couple of squirrels were always within spotting sight.

Although this park is more popular in the summer months, it was interesting to try and identify the shrubs and bushes that are more easily identified when in bloom or full of fruit. The birds had been feeding so most berries were gone.

We did identify Alder, Bayberry, Canada Holly, False, or Mountain, Holly, Witherod, and Chokeberry.

The only flower in bloom was a late Dandelion. No butterflies or damselflies were spotted!

For those who participated, we all agreed that it was a worthwhile effort in spite of tingling toes!

– Wendy McDonald

CRYSTAL CRESCENT SPECIES

Birds	
Red Throated Loon	*Gavia stellata*
Great Cormorant	*Phalacrocorax carbo*
Double-crested Cormorant	*P. auritus*
Northern Gannet	*Morus bassanus*
Greater Yellowlegs	*Tringa melanoleuca*
±10 Ruddy Turnstone	*Arenaria interpres*
Sanderling	*Calidris alba*
Bonaparte's Gull	*Larus philadelphia*
Herring Gull	*L. argentatus*
Iceland Gull	*L. glaucoides*
Greater Black-backed Gull	*L. marinus*
Dovekie	*Alle alle*
Blue Jay	*Cyanocitta cristata*
Common Raven	*Corvus corax*
American Crow	*C. brachyrhynchos*
Horned Lark	*Eremophila alpestris*
Black-capped Chickadee	*Poecile atricapilla*
Boreal Chickadee	*P. hudsonica*
Red-breasted Nuthatch	*Sitta canadensis*
American Robin	*Turdus migratorius*
Palm Warbler	*Dendroica palmarum*
Song Sparrow	*Melospiza melodia*
±35 Snow Bunting	*Plectrophenax hyperboreus*
American Goldfinch	*Carduelis tristis*
Mammals	
Red Squirrel	*Tamiasciurus hudsonicus*
Plants	
Bayberry	*Myrica pensylvanica*
Alder	*Alnus* sp.
Chokeberry	*Aronia* sp.
Canada Holly	*Ilex verticillata*
False Holly	*Nemopanthus mucronata*
Witherod	*Vibernum nudum*
Dandelion	*Taraxacum officinale*

POST-JUAN NOTES

WINTER BIRDS

The following was posted on NatureNS by Dr. Ian McLaren on the 10th of November:

"I checked out a few North/West-end bird hotspots this morning, and was much disappointed. Perhaps intersting things haven't been consolidated in the few wild patches yet.

There are two other factors that may make our winters increasingly bleak:

1) A number of hotspots are being tidied up, or encroached upon. There's not much left of the famous scrubby hillside at Fairview Cemetary.

2) The fungus blight on the hips of multiflora roses continues to make most of them inedible. As an indication of this, the only relatively unblighted patch I came across this morning, in Flinn Park, also had the only assemblage of birds – six Cedar Waxwings, several Robins, three House and two Purple Finches, six American Goldfinches, and three White-throated Sparrows.

The few, wild, scrubby, overgrown patches of habitat in Metro, both sides of the harbour, are precious for our wintering birds.

I wonder if NSBS, and or HFN, might take it upon themselves to inventory these, and try to get some sort of management policy, at least for those on public land (which might be taken as including Dal, below the President's house), St. Mary's (the marvelous Gorsebrooke property), the cemeteries, railway cuts, and rights-of-way, etc. Also, the whole issue of tree replacement in Point Pleasant park might benefit from naturalists' input. The pre-Juan habitat was really quite sterile, and in addition to suggestions to restore it with something more like the 'Acadian Forest', maybe naturalists ought to push for more short-term restorations involving lots of scrub and food plants. Then maybe I'll see some improvements in my lifetime!"

– Ian A. McLaren

JUAN AUGMENTS NS WILDLIFE

European Wild Boars, *Sus scrofa*, are farmed in many parts of North America for food and hunting, and there is a herd in Nova Scotia. When wild boars escape, as sometimes happens, they form parties which root up farmland and raid crops. They breed readily, and can be dangerous. In fact, killing a wild boar on foot has been a rite of passage in past times, when hunters have sometimes lost their lives.

After Hurricane Juan had passed on 30 September, the owners of the Canadian Wild Boar Farm in Nova Scotia found their fences flat and the herd missing!

However, the story had a happy ending. The farmers prepared the morning's rations, and when someone stood at the barn door, beating with a spoon on a saucepan, and calling "Piggy! Piggy! Piggy!", every 'pig' came in to feed. The farmers rushed to fix the fences before the herd had eaten and scattered, and by the end of the day, all pigs were confined safely and everyone breathed easily again.

– Ursula Grigg

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.

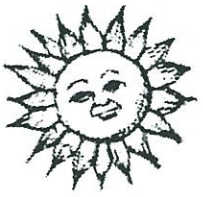
"To tell you the truth, in California I missed the wildness of the Canadian winter. There is something stirring about a blizzard, something elemental about pitting oneself against driving, stinging snow in below zero temperatures. I often think it accounts for the general peacefulness of the Canadian character, all the aggressive energy has been used up in battling and surviving nature."
– Blanche Howard, The Immortal Soul of Edwin Carlysle, 1977

NATURAL EVENTS

7 Dec. Daily average temperature goes below 0˚.
8 Dec. Full Moon.
13 Dec. Geminid Meteor Shower; the best views will be before the Moon rises at 21:00.
14 Dec.-5 Jan. Audubon Christmas Bird Count period.
22 Dec. Winter Solstice at 03:01; winter begins in the Northen Hemisphere; though temperatures drop, the days begin to lengthen.
22 Dec. Moon at perigee; large tides.
27-31 Dec. Latest sunrise of the year at 07:51.
28-Dec.-7 Jan. Quadrantid meteor showers; they peak on 3 January.
7 Jan. Daily maximum temperature at Shearwater goes below 0˚.
7 Jan. Full Moon.
13-24 Jan. 'January Thaw'; the temperature stops falling, and the average actually rises 0.2˚.
24 Jan.-1 Feb. 'Eagle Days' in Sheffield Mills, King's County; two weekends of organised events.
6-8 Feb. Coldest days of winter; average daily minimum -9.4˚.
6 Feb. Full Moon.
9 Feb. Average temperatures start increasing.
22 Feb. Daily maximum temperature above 0˚.
6 Mar. Full Moon.
20 Mar. Vernal Equinox at 02:48 AST; spring begins in the Northern hemisphere.
23 Mar. Daily average temperature above 0˚.
4 Apr. Daylight Savings Time begins at 02:00 AST; turn clocks ahead one hour.

– Sources: Atmospheric Environment Service, Climate Normals 1951-80 Halifax (Shearwater A) N.S.; Blomidon Naturalists Society's 2003 Calendar; Burke-Gaffney Observatory, Saint Mary's University.

SUNRISE AND SUNSET ON LATE AUTUMN AND WINTER SATURDAYS



6 Dec.	7:36	16:34	**3 Jan.**	7:52	16:47
13 Dec.	7:43	16:34	**10 Jan.**	7:50	16:54
20 Dec.	7:48	16:36	**17 Jan.**	7:47	17:02
27 Dec.	7:51	16:40	**24 Jan.**	7:42	17:12
			31 Jan.	7:35	17:21
7 Feb.	7:27	17:31	**6 Mar.**	6:43	18:10
14 Feb.	7:17	17:41	**13 Mar.**	6:30	18:19
21 Feb.	7:06	17:51	**20 Mar.**	6:17	18:28
28 Feb.	6:55	18:00	**27 Mar.**	6:04	18:36

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

ORGANISATIONAL EVENTS

Blomidon Naturalists Society: **<http://www.go.ednet.ns.ca/~bns/>**. 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.

20 Dec. "Wolfville Christmas Bird Count". Phone Ian Paterson, 902-582-1273, to participate.
19 Jan. "Annual Show and Tell". Open to all. Rooms 308 and 325 in Patterson Hall, Acadia Biology building.

Burke-Gaffney Observatory: <**http://apwww.stmarys.ca/bgo/**>. 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 1 November and 30 March, and at either 9:00 p.m. or 10:00 p.m. (depending on when it gets dark) between 1 April and 31 October.

Maritime Museum of the Atlantic: <**http://museum.gov.ns.ca/mma/**>, or phone 424-7490 for more information about programmes.

to May "Charting the Waters: Hydrography in Atlantic Canada".

Nova Scotia Bird Society: <**http://www.chebucto.ns.ca/Recreation/NS-BirdSoc/**>, or phone Suzanne Borkowski, 445-2922. Indoor meetings take place on the 4th Thursday of the month, October to April, at the Nova Scotia Museum of Natural History, 7:30 p.m.

14 Dec. The Halifax/Dartmouth Christmas Bird Count – phone Fulton Lavender, 455-4966.

28 Dec. The Bedford/Sackville Christmas Bird Count – contact Rich Peckham, 835-6918; email <**af930@chebucto.ns.ca**>.

10 Jan. "Sewer Stroll I, Hfx/Dart. Area", with Bob McDonald, 443-5051; email <**bobathome@hfx.eastlink.ca**>. **Storm Date – 11 January.**

22 Jan. "Skills Workshop: Recognising Eagles & Large Raptors", with Jim Wolford; and "Members' Slide Night".

14 Feb. "Sewer Stroll II, Hfx/Dart. Area", with Fulton Lavender, 455-4966. **Storm dates: 15, 21,or 22 February.**

26 Feb. "Exploring the Sounds Around Us", with Dennis Jones.

28 Feb. "Beginning Birders Field Trip & Orientation" with Suzanne Borkowski, 445-2922; email <**sborkowski@hfx.eastlink.ca**>. **Storm Date – 29 February.**

21 Mar. "Along the Fundy Shore", with Richard Stern, 902-678-1975; email <**rbstern@ns.sympatico.ca**>.

25 Mar. "Meeting & Skills Workshop – Identifying Gulls Part II", with Richard Stern

27 Mar. "Baccaro and Blanche Peninsula", with Donna Ensor, 902-875-4269; email <**ensorg@auracom.com**>. **Storm date – 28 March.**

Nova Scotia Museum of Natural History: <**http://museum.gov.ns.ca/mnh/**>, or phone 424-6099, 424-7353.

to 30 Jan. "Wolves – Hangin' with the Dawgs", Photographs by Len Wagg.

to 22 Feb. "The Secrets of Silver", featuring Carl Poul Peterson, Silversmith.

21 Jan. "Silver & Other Precious Metals in Nova Scotia", with geologist Paul Smith, N.S. Dept. of Nat. Resources.

28 Jan. "Silver Exposed – A History of Photography", with Susan McEachern from N p SCAD.

2 Feb. "Composting in Halifax Regional Municipality", with Jeff Traver of Miller Waste Systems.

Feb. Three Wednesday evening talks about hurricanes; dates to be announced.

8 Feb. "High Tea & Silver Tour", with museum curator, Alex Wilson. **Pre-register by calling 424-3563**.

18 Feb. "The Fossil Cliffs of Joggins: Coal Age Galapagos", with Dr. John Calder, N.S. Dept. of Nat. Resources.

1 Mar. "Mussel Monitoring: The Good, the Bad, and the Safe", with Shawna MacKinnon, Institute for Marine Biosciences, NRCC.

13-21 Mar. "The Mysterious East – An Asian Adventure", exhibits and programmes for March Break.

24 Mar. "Mountains in the Maritimes: Exploring our Geological Heritage", with Brendan Murphy, St. FXU.

Nova Scotia Wild Flora Society: <**http://www.chebucto.ns.ca/~nswfs/**>, or phone Carl Munden, 469-1856. Meets 4th Monday of the month, September to May, at the Nova Scotia Museum of Natural History, 7:30 p.m.

23 Jan. "Members' Slide Night", phone Heather Drope, 423-7032 to participate.

23 Feb. "Flora of Coastal British Columbia", with Chris and Mary Helleiner.

Photographic Guild of Nova Scotia: <**http://www.photoguild.ns.ca/~nswfs/**>. Meets 2nd Monday of the month, as well as the 1st and 3d Sundays of the month, at the Nova Scotia Museum of Natural History, 7:30 p.m. Shows are held at Saint Mary's University, Theatre A, Burke Education Centre.

4 Jan. "Ellsmere Island – Alexandria Arctic Oasis", with Dr. Bill Freedman and Dr. Chris Harvey Clark.

7 Mar. "Nature's Design", with Stephen Scott Patterson.

20 Mar. "14th Halifax International Exhibition Slide Show".

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

– compiled by Patricia L. Chalmers

TIDE TABLE

January-janvier

Day	Time	Feet	Metres	jour	heure	pieds	metres
1	0300	5.2	1.6	16	0155	5.6	1.7
	1010	1.6	0.5		0905	1.3	0.4
TH	1535	4.6	1.4	FR	1430	4.9	1.5
JE	2205	2.0	0.6	VE	2105	1.6	0.5
2	0355	5.2	1.6	17	0255	5.9	1.8
	1055	1.6	0.5		1005	1.0	0.3
FR	1640	4.6	1.4	SA	1540	4.9	1.5
VE	2300	2.0	0.6	SA	2210	1.6	0.5
3	0445	5.2	1.6	18	0400	5.9	1.8
	1145	1.3	0.4		1105	0.7	0.2
SA	1735	4.9	1.5	SU	1655	4.9	1.5
SA	2350	2.0	0.6	DI	2315	1.6	0.5
4	0530	5.2	1.6	19	0505	6.2	1.9
	1225	1.3	0.4		1205	0.7	0.2
SU	1825	4.9	1.5	MO	1800	5.2	1.6
DI				LU			
5	0035	2.3	0.7	20	0020	1.3	0.4
	0615	5.2	1.6		0605	6.2	1.9
MO	1305	1.0	0.3	TU	1305	0.3	0.1
LU	1910	5.2	1.6	MA	1900	5.6	1.7
6	0115	2.3	0.7	21	0120	1.3	0.4
	0655	5.6	1.7		0705	6.6	2.0
TU	1340	1.0	0.3	WE	1400	0.3	0.1
MA	1950	5.2	1.6	ME	1955	5.9	1.8
7	0150	2.3	0.7	22	0215	1.3	0.4
	0735	5.6	1.7		0800	6.6	2.0
WE	1415	1.0	0.3	TH	1450	0.0	0.0
ME	2025	5.2	1.6	JE	2045	5.9	1.8
8	0225	2.0	0.6	23	0310	1.3	0.4
	0815	5.9	1.8		0850	6.2	1.9
TH	1455	1.0	0.3	FR	1540	0.3	0.1
JE	2105	5.2	1.6	VE	2135	6.2	1.9
9	0300	2.0	0.6	24	0405	1.3	0.4
	0855	5.9	1.8		0940	6.2	1.9
FR	1535	1.0	0.3	SA	1630	0.3	0.1
VE	2140	5.2	1.6	SA	2220	6.2	1.9
10	0340	2.0	0.6	25	0500	1.6	0.5
	0935	5.9	1.8		1025	5.9	1.8
SA	1610	1.0	0.3	SU	1715	0.7	0.2
SA	2220	5.6	1.7	DI	2300	5.9	1.8
11	0425	2.0	0.6	26	0555	1.6	0.5
	1010	5.9	1.8		1110	5.6	1.7
SU	1655	1.0	0.3	MO	1800	1.0	0.3
DI	2255	5.6	1.7	LU	2345	5.9	1.8
12	0515	2.0	0.6	27	0645	1.6	0.5
	1055	5.6	1.7		1200	5.2	1.6
MO	1735	1.0	0.3	TU	1845	1.3	0.4
LU	2335	5.6	1.7	MA			
13	0610	2.0	0.6	28	0030	5.6	1.7
	1135	5.6	1.7		0740	1.6	0.5
TU	1820	1.0	0.3	WE	1245	4.9	1.5
MA				ME	1935	1.6	0.5
14	0015	5.6	1.7	29	0115	5.6	1.7
	0705	2.0	0.6		0830	2.0	0.6
WE	1225	5.2	1.6	TH	1340	4.6	1.4
ME	1910	1.3	0.4	JE	2025	2.0	0.6
15	0100	5.6	1.7	30	0205	5.2	1.6
	0805	1.6	0.5		0925	2.0	0.6
TH	1325	5.2	1.6	FR	1445	4.6	1.4
JE	2005	1.6	0.5	VE	2120	2.3	0.7
				31	0305	5.2	1.6
					1015	1.6	0.5
				SA	1555	4.6	1.4
				SA	2220	2.3	0.7

February-février

Day	Time	Feet	Metres	jour	heure	pieds	metres
1	0405	4.9	1.5	16	0340	5.6	1.7
	1100	1.6	0.5		1055	1.0	0.3
SU	1705	4.6	1.4	MO	1645	4.9	1.5
DI	2315	2.3	0.7	LU	2310	1.6	0.5
2	0500	4.9	1.5	17	0455	5.9	1.8
	1145	1.3	0.4		1155	0.7	0.2
MO	1800	4.9	1.5	TU	1755	5.2	1.6
LU				MA			
3	0000	2.3	0.7	18	0015	1.6	0.5
	0550	5.2	1.6		0600	5.9	1.8
TU	1230	1.3	0.4	WE	1250	0.7	0.2
MA	1845	4.9	1.5	ME	1850	5.6	1.7
4	0040	2.3	0.7	19	0110	1.3	0.4
	0635	5.6	1.7		0655	6.2	1.9
WE	1315	1.0	0.3	TH	1345	0.3	0.1
ME	1925	5.2	1.6	JE	1940	5.9	1.8
5	0120	2.0	0.6	20	0205	1.3	0.4
	0715	5.6	1.7		0750	6.2	1.9
TH	1355	0.7	0.2	FR	1430	0.3	0.1
JE	2000	5.2	1.6	VE	2025	6.2	1.9
6	0155	2.0	0.6	21	0255	1.3	0.4
	0755	5.9	1.8		0835	6.2	1.9
FR	1430	0.7	0.2	SA	1515	0.3	0.1
VE	2040	5.2	1.6	SA	2110	6.2	1.9
7	0235	1.6	0.5	22	0340	1.3	0.4
	0835	5.9	1.8		0920	6.2	1.9
SA	1510	0.7	0.2	SU	1555	0.7	0.2
SA	2115	5.6	1.7	DI	2150	6.2	1.9
8	0320	1.6	0.5	23	0425	1.3	0.4
	0915	5.9	1.8		1000	5.9	1.8
SU	1545	0.3	0.1	MO	1635	1.0	0.3
DI	2150	5.6	1.7	LU	2230	5.9	1.8
9	0405	1.3	0.4	24	0515	1.3	0.4
	0955	5.9	1.8		1045	5.6	1.7
MO	1625	0.7	0.2	TU	1715	1.3	0.4
LU	2230	5.9	1.8	MA	2305	5.9	1.8
10	0450	1.3	0.4	25	0600	1.6	0.5
	1035	5.6	1.7		1125	5.2	1.6
TU	1705	0.7	0.2	WE	1750	1.6	0.5
MA	2305	5.9	1.8	ME	2345	5.6	1.7
11	0545	1.3	0.4	26	0650	1.6	0.5
	1120	5.6	1.7		1210	4.9	1.5
WE	1755	1.0	0.3	TH	1835	2.0	0.6
ME	2345	5.9	1.8	JE			
12	0645	1.3	0.4	27	0025	5.6	1.7
	1205	5.2	1.6		0740	2.0	0.6
TH	1850	1.3	0.4	FR	1255	4.6	1.4
JE				VE	1930	2.3	0.7
13	0030	5.6	1.7	28	0110	5.2	1.6
	0745	1.3	0.4		0830	2.0	0.6
FR	1300	4.9	1.5	SA	1355	4.6	1.4
VE	1950	1.6	0.5	SA	2035	2.6	0.8
14	0125	5.6	1.7	29	0210	4.9	1.5
	0845	1.0	0.3		0920	2.0	0.6
SA	1405	4.9	1.5	SU	1510	4.6	1.4
SA	2055	2.0	0.6	DI	2135	2.6	0.8
15	0225	5.6	1.7				
	0950	1.0	0.3				
SU	1520	4.9	1.5				
DI	2205	2.0	0.6				

March-mars

Day	Time	Feet	Metres	jour	heure	pieds	metres
1	0315	4.9	1.5	16	0330	5.2	1.6
	1010	2.0	0.6		1040	1.0	0.3
MO	1630	4.6	1.4	TU	1645	4.9	1.5
LU	2230	2.6	0.8	MA	2305	1.6	0.5
2	0425	4.9	1.5	17	0450	5.6	1.7
	1105	1.6	0.5		1140	1.0	0.3
TU	1730	4.9	1.5	WE	1750	5.2	1.6
MA	2320	2.3	0.7	ME			
3	0520	5.2	1.6	18	0005	1.6	0.5
	1155	1.3	0.4		0555	5.9	1.8
WE	1815	4.9	1.5	TH	1235	0.7	0.2
ME				JE	1835	5.6	1.7
4	0005	2.3	0.7	19	0100	1.3	0.4
	0605	5.6	1.7		0645	5.9	1.8
TH	1240	1.0	0.3	FR	1325	0.7	0.2
JE	1855	5.2	1.6	VE	1920	5.9	1.8
5	0050	2.0	0.6	20	0150	1.0	0.3
	0650	5.9	1.8		0730	5.9	1.8
FR	1320	0.7	0.2	SA	1410	0.7	0.2
VE	1930	5.6	1.7	SA	2000	6.2	1.9
6	0130	1.6	0.5	21	0235	1.0	0.3
	0730	5.9	1.8		0815	5.9	1.8
SA	1400	0.3	0.1	SU	1450	0.7	0.2
SA	2005	5.6	1.7	DI	2040	6.2	1.9
7	0215	1.3	0.4	22	0315	1.0	0.3
	0810	5.9	1.8		0855	5.9	1.8
SU	1435	0.3	0.1	MO	1525	1.0	0.3
DI	2040	5.9	1.8	LU	2115	6.2	1.9
8	0255	1.0	0.3	23	0355	1.0	0.3
	0850	5.9	1.8		0935	5.6	1.7
MO	1515	0.3	0.1	TU	1555	1.3	0.4
LU	2120	5.9	1.8	MA	2150	5.9	1.8
9	0345	0.7	0.2	24	0430	1.3	0.4
	0935	5.9	1.8		1015	5.6	1.7
TU	1555	0.7	0.2	WE	1625	1.6	0.5
MA	2155	6.2	1.9	ME	2225	5.9	1.8
10	0430	0.7	0.2	25	0510	1.3	0.4
	1015	5.6	1.7		1055	5.2	1.6
WE	1640	0.7	0.2	TH	1700	2.0	0.6
ME	2235	6.2	1.9	JE	2305	5.6	1.7
11	0525	0.7	0.2	26	0550	1.6	0.5
	1100	5.6	1.7		1135	4.9	1.5
TH	1735	1.3	0.4	FR	1745	2.3	0.7
JE	2320	5.9	1.8	VE	2340	5.2	1.6
12	0625	1.0	0.3	27	0640	2.0	0.6
	1150	5.2	1.6		1220	4.9	1.5
FR	1840	1.6	0.5	SA	1845	2.6	0.8
VE				SA			
13	0005	5.6	1.7	28	0025	5.2	1.6
	0730	1.0	0.3		0730	2.0	0.6
SA	1245	4.9	1.5	SU	1310	4.6	1.4
SA	1945	2.0	0.6	DI	1955	3.0	0.9
14	0100	5.6	1.7	29	0115	4.9	1.5
	0835	1.0	0.3		0825	2.0	0.6
SU	1350	4.9	1.5	MO	1420	4.6	1.4
DI	2055	2.0	0.6	LU	2055	3.0	0.9
15	0205	5.2	1.6	30	0220	4.9	1.5
	0935	1.0	0.3		0920	2.0	0.6
MO	1515	4.6	1.4	TU	1545	4.6	1.4
LU	2200	2.0	0.6	MA	2150	2.6	0.8
				31	0340	4.9	1.5
					1015	1.6	0.5
				WE	1650	4.9	1.5
				ME	2240	2.3	0.7

! This tide table is for Halifax only. All times are Standard Times and are based on the 24 hour clock !

!!! HUNTING SEASON !!!

Be aware; hunters are still abroad in Nova Scotia for the following species:

Ruffed Grouse
October 1 to December 31
excluding Sundays

Rabbit (Snowshoe Hare)
November 1 to last day of February
excluding Sundays.

Nature Notes from HFN Monthly Meetings

February (*not previously reported*)

– Ursula Grigg commented that she saw the footprints of a leaping rat which was inspecting her bird feeder. – Joan Czapalay replied that there must be a new 'rat city' at the end of South Street; she saw four dead rats at the corner of South and Oxford streets since Christmas. – Regine Maass saw a Bald Eagle flying over the Northwest Arm in the morning. – Pat Chalmers reported that her parents still have Northern Flying Squirrels at their feeders; they feed after dark. – Peter Payzant reported up to 50 Common Goldeneye in Rocky Lake, between Bedford and Waverley; also on sunny warm days in the past month, he saw what he takes to be Winter Crane Flies on the wing. – Bob McDonald had deer coming to his bird feeders; they apparently like black oil sunflower seed. – Linda Payzant also had deer, eating the buds off her azaleas.

October

– a newly hatched, pristine Black Swallowtail was seen at Riverview Herbs in Maitland by Ursula on 27 July, resting on a wall; Chris Majka said they are strongly attracted to Lovage, which Riverview grows and sells, therefore, they are not popular there! – In the NorthWest Arm, a long and unusual ebb-surge revealed a very expansive depth of sea-bed; displaying, among other things, soft-shelled clams. – On a trip near Parrsborough, from the height of East Gore, Pat Chalmers could see five Counties; 10 species of flowers were seen on that trip.

November

– Ursula saw a Cabbage White butterfly on a late-blooming Aster on Chebucto Road (sunny side of the steet) between Phillip and Mumford; also, late at night on returning home, a *very* fat racoon fastidiously eating grapes, one by one, from a basket on her porch! – Three Yellow-billed Cuckoos were seen by Bob McDonald at Briar Island. – There were lots of sightings of the wonderful sunflares and the Northern Lights.

December

– Regina Maass reported seeing a dovekie on the NW Arm, at the end Nov., and one Forsythia bloom! – Pat Chalmers reported at least 700 Canada Geese flying in to join about 300 already on Bissett Lake; lots of other waterfowl as well – Pintails, Scaup, four American Coots, and a Pied-billed Grebe; – The moon eclipse was noted on Saturday, 8 Nov. – a beautiful clear night. – Dandelions and asters were observed blooming on Chebucto Road, just before the November meeting. – A Sea Otter on the NW Arm, on 3 Dec., came up with a crab and a sea urchin to eat, with difficulty, because it's usual wharf/dining tables were gone, with Hurricane Juan; also observed there were three rollicking racoons. – A fox was observed at Point Pleasant Park on 27 Nov. on a public tour; fox had not been observed there before; lack of dogs? – Tree branches are still falling because of Hurricane Juan's damage to trees – Ursula Grigg was hit with one.

! NEXT DEADLINE !

21 February for March Issue
contributions to the 'Newsletter'
c/o NS Museum of Natural History