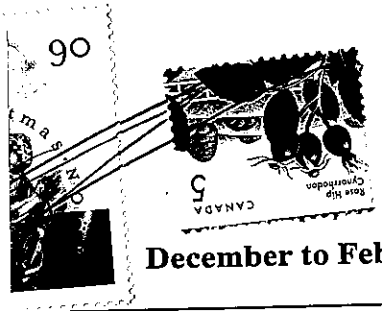
THE HALIFAX FIELD NATURALIST



No. 93
December to February ~~1998~~ 1999

American Crow
Corvus brachyrynchos

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. It is a member organisation of the Federation of Nova Scotia Naturalists and of the Canadian Nature Federation. It is registered for federal income tax purposes. Official receipts will be issued for individual and corporate gifts. HFN is a member of the Federation of Nova Scotia Naturalists — the provincial umbrella association for Nova Scotia Naturalist groups.

Objectives are to encourage a greater appreciation and understanding of Nova Scotia's natural history, both within the membership of HFN and in the public at large. 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 pm 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.

HFN Post Halifax Field Naturalists
c/o Nova Scotia Museum of Natural History, 1747 Summer St., Halifax, Nova Scotia, B3H 3A6
Email hfnexec@chebucto.ns.ca
Web Site http://chebucto.ns.ca/Recreation/FieldNaturalists/fieldnat.html

FNSN Post Federation of Nova Scotia Naturalists
c/o Nova Scotia Museum of Natural History, 1747 Summer St., Halifax, Nova Scotia, B3H 3A6
Email nstn0308@fox.nstn.ca (Doug Linzey, FNSN Newsletter Editor)

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

Executive 1998/99

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Vice-President	Doug Linzey	429-5997
Treasurer	Tony MacKay	462-1179
Secretary	Linda Payzant	861-1607
Past President	Stephanie Robertson	422-6326

Directors Debra Burleson, Ursula Grigg, Linda MacKay, Shirley McIntyre, Bernice Moores, Colin Stewart

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	Carol Klar	443-3385
	Elizabeth Keizer	422-9774
Refreshments	Regina Maass	
Membership	Shirley McIntyre	835-3673
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Distribution	Shirley McIntyre	835-3673
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HFN NEWS AND ANNOUNCEMENTS

EDITORIAL

We have weathered the shortest days, and the stillness and cold of the quietest period of the year is here. Let's hope for snow cover, animal tracks, and a slow but steady return to light and warmth. There is no lucky new moon close to 1 January, but The Globe and Mail reports that there will be two full moons in January, none in February, and two in March. The second full moon in any month is called a blue moon, although the blue tint is seldom seen. This combination of full moons, made possible by the brevity of February, has not been seen since 1915.

Some of our conservation efforts have been successful; we have at least partial protection for McNab and Lawlor Islands, special places, and endangered species. The value of natural space is becoming apparent, and children are being taught to look and listen. It would be wonderful if we could sit back and simply enjoy in future, but the price of keeping our favourite spots will always be eternal vigilance!

Thanks to everyone who helped with the newsletter throughout the year.

— Ursula Grigg

LETTERS

REGARDING PEARL ISLAND MEMORIAL

HFN sent this letter dated 15 December, 1998 to Premier Russell MacLellan:

The Board of Directors of my society has asked me to write to you concerning a proposed location for a memorial to the victims of the Swissair disaster.

We understand that the committee looking into this matter are considering Pearl Island as one of the possibilities. This island is remote and difficult to access, and for this reason it is used as a breeding location for many seabird species, including at times the endangered Roseate Tern.

Human visitation to a memorial located on this island would naturally occur more often in the summer than at any other time of the year, and the resulting disturbance to the nesting seabirds would be very undesirable.

We feel that there are more suitable locations which should be considered for this memorial, and we request that a) you discourage the choice of Pearl Island, and b) you communicate this to the public to allay concerns within the naturalist community.

Sincerely
L. Peter M. Payzant, President

THANK YOU

Each summer, HFN sponsors a child at Sunship Earth Camp. Here is the charming thank you letter, with original spelling and punctuation, from Amy Buckland whom we sent this past summer.

Sunship Earth
Recreation & Leisure Services
Outdoor Centre

Dear Sponcer,

Thankyou for helping me go to camp you wouldn't know how much fun I had.

We did lots of cool things, like swimming and canoeing and we also went in the woods and did lots of neat stuff.

My favorite thing was magic spots, what you do is sit there for awhile until your leader says its time to go, but the good thing about magic spots is you get to sit and listen to the nature and the birds.

Sunship Earth is a very special camp and lots of fun.

Thank you,
Amy Buckland

A NEW BRANCH OF NSNT

A group of Halifax residents who live in the region of Spryfield, Purcells Cove, and Herring Cove have formed a branch of the Nova Scotia Nature Trust. The Trust exists to promote the conservation of natural areas of significance on private lands through various means, such as the receipt of donations and the negotiation of conservation easements. The local group plans to work within the geographic area roughly defined by the road loop from the Armdale rotary to Spryfield, Harrietsfield, Sambro, Ketch Harbour, Purcells Cove, and Flemming park. Members of the Halifax Field Naturalists who would like to join the group should call Regina Maass at 477-1469.

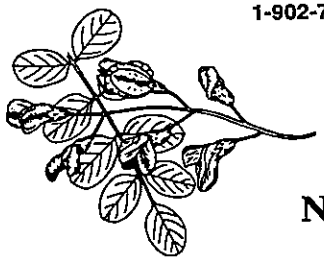
— Martin Willison

DOCUMENTING SENSITIVE HABITATS IN HALIFAX COUNTY

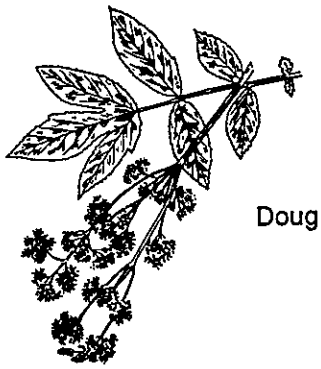
I am conducting a project of identifying and mapping significant habitats in Halifax County for NSDNR. The overall purpose is to locate and document key features so as to potentially protect them from development, etc. Simply documenting an ecologically sensitive site does not preclude its destruction. However, one cannot make ecologically sound decisions without a reasonable level of awareness of what is 'out there.' Specifically, I am seeking assistance in tracking down locations of rare plants. I understand that many HFN members have a good feel for the current state of rare and sensitive flora. I would appreciate any communication about what you consider to be botanically significant within Halifax County.

I am working out of the NSDNR Windsor District Office and can be reached there during the day.

— Donald Sam
1-902-542-7892(h)
1-902-798-2796(w, good until March 30, 1999)
freshair@glinx.com(email)



NEW AND RETURNING MEMBERS



Earl Bradley
Nancy Covington
Nils Kuusisto
John Maly
Maryse Mahy
Joe Omielan
Etta Parker
Doug and Leslie Pezzack
Peter Ryan
Bonnie Sutherland
Jeanne Thomas
Isobel Wainwright

HFN TALKS

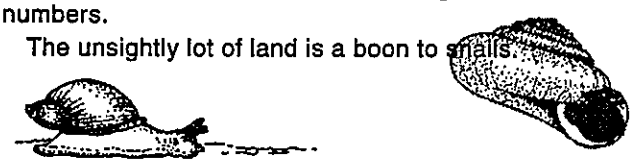
LANDSNAILS 1 OCT.

Dr. Derek Davis shared his enthusiasm for land snails with HFN, bringing part of the Museum's collection to show us their wide range of possible forms. Snail sizes range from about 15 centimetres from tip to lip, to something the size of a pin head. Large species are tropical; Nova Scotia snails are often minute. Many snails, especially in gardens, have been imported with household goods and plant cuttings; they lay small eggs, which are easily overlooked, and most are hermaphroditic.

There are also slugs (not beloved by cooks and gardeners!) Here in Nova Scotia we have a giant, *Limax maximus*, a mottled brown immigrant from Europe, spreading slowly through Halifax City, possibly aided by naturalists. It seems to favour big black composting bins. Most slugs here *are* immigrants, with small mantles (saddles) on their shoulders. One indigenous species, with mantle enveloping the whole back, is found in old woodlands, but is being extirpated as more and more woodlots are cut.

Derek pointed out that snails need moisture to survive, and cannot move far and fast. Their habitat is therefore reduced every time a corner lot is developed, a clump of trees cleared or soil poisoned, reducing animal and bird numbers.

The unsightly lot of land is a boon to snails.



A DESKTOP NIGHT SKY 5 NOV.

...or, how to have your own planetarium! Sherman Williams brought a table-full of Mac computer equipment, to show us the methods he uses to follow astronomical events through our night skies, including the movements of satellites. Those of us who subscribe to NatureNS receive his charts and tables, keeping us in touch with events which we maybe can see with binoculars or telescopes. Watching planetary passages projected by his private planetarium (without clouds of course), was a new revelation.

ROCKY MOUNTAIN HIGH 3 DEC.

Martine Dufresne, who is a botanist, and Blake Maybank, who prefers birds, spent a week high in Cathedral Lakes Provincial Park in British Columbia, especially to see the alpine plants flowering there in the brief summer of 1997. They explored the trails through forests, round lakes, and up to the rim of the nearest peak, finding a great deal that was new to them and making a set of slides for enjoyment later, and also for checking identifications.

Some of the flowers were from families known at lower altitudes — Stonecrops and Campions, for example. There were other things too; they saw Mountain Goats, and Blake finally found, and photographed, his first White-tailed Ptarmigan.

— Ursula Grigg

SPECIAL REPORTS

TWO HISTORIC EVENTS

MCNABS AND LAWLOR ISLANDS

Finally, there is some good news about McNabs Island and Lawlor Island. The long awaited federal-provincial position on the future of the two outer Halifax Harbour islands, the elusive Land Use Strategy, was released on 13 November, three years after public hearings on this issue.

Everyone who took part in the 1995 hearings was invited to a reception at the Citadel to mingle with Parks Canada and N.S. Department of Natural Resources (DNR) brass, and to watch Hon. Kennie MacAskill, Minister of Natural Resources for Nova Scotia; and Hon. Andy Mitchell, Federal Secretary of State (Parks), sign the document.

Naturalists, history buffs, and island afficionados will be pleased with the joint government position. As of 13 November, Parks Canada has transferred Lawlor Island and almost all of its holdings on McNabs Island (except Fort McNab National Historic Site) to the province for a future provincial park.

Lawlor Island will be left to its nesting Great Blue Herons and Ospreys, while there will be only limited infrastructure on McNabs Island in order to preserve its wild character. Acquisition of the remaining few acres of private holdings on McNabs will be a high priority for the province, and the privately owned Devils Island could potentially be incorporated into the future park.

Any thoughts of a fixed link to the mainland are out. An outdoor education centre on McNabs Island is in. Also in are partnerships with interested parties, provided only such development as is compatible with natural and cultural heritage resource conservation and protection objectives takes place.

The eight-page Land Use Strategy makes no mention of the Hugonin Point/ Fort Hugonin property, to this day administered by the Department of National Defence. Hopefully, it also will be transferred to the province at some future date. There is no mention of any new funds for the future provincial park; moreover, there is no time line.

For the first time in the recent history of the two islands there appears to be a broad consensus as to what should be done with them. The two senior levels of government, the local NDP MLA (Kevin Deveaux), the local NDP MP (Peter Stoffer), the local Halifax Regional Municipal Councillor (Harry McInroy), and, most importantly, the public, all agree that the unique and increasingly valuable natural character of the outer harbour islands should be preserved in perpetuity.

— Dusan Soudek, FOMIS

HFN AND NATURALISTS' COALITION HONOUR MLAs

On the Halifax Field Naturalists' conservancy front, there is very good news!

On 3 December, the last sitting of the 1998 Nova Scotian legislature, our Wilderness Protection Act passed into law three years after being tabled in the house. It will protect 31 special wilderness habitats around Nova Scotia.

Its companion, the Endangered Species Act, was also passed and will protect many endangered species including Right Whales, Leatherback Turtles, and the Piping Plover.

On Tuesday, 8 December, a coalition of 55 Naturalist Groups (including the instigators, HFN) who had fought long and hard for these bills with much revising and fine-tuning, presented a beautiful certificate of thanks to all the politicians and MLAs responsible at an appreciation ceremony at the Prince George Hotel. The hour-long ceremony lwas held in the Windsor Room, which was graced with prints of the beautiful 'Sacred Worth' paintings by Alice Reed, and many endangered species/ places sweatshirts and t-shirts.

Certificates were presented to Premier Russell MacLellan, Natural Resources Minister Kenneth MacAskill, Environment Minister Don Downe, Education Minister Robbie Harrison, Health Minister Jim Smith, NDP Leader Robert Chisholm, and Tory Leader John Hamm, as well as to several other MLAs.

— Stephanie Robertson

DAVID SUZUKI IN HALIFAX

David Suzuki was in Halifax on 27 November to promote forward movement on endangered species legislation both federally and provincially; this national tour was arranged by the Canadian Parks and Wilderness Society.

The Halifax leg of the tour was in conjunction with the first annual dinner and silent auction in support of the Nova Scotia Nature Trust. In short, there was a wealth of benefactors from this effort. Over 400 people attended, including a table full of HFN members, with other HFNers sprinkled about at other tables.

David's talk focused on bringing us back to the realisation that we humans are dependant on this world for our survival. Despite appropriating for our own use much of the energy reaching the planet, and despite extensively modifying it to suit our own aspirations, we remain dependent on it. Biological diversity is one of the blocks of the complex of processes which supports us.

David gave us some examples. In one, we were transported back to a time when life on earth was just beginning. We had to equip ourselves properly because initially the air was not breathable, nor the temperature suitable, nor the water drinkable, and as life had not yet begun on earth, there was no food to be eaten either!

Our lack of respect for the planet which we inhabit, and the support systems which have evolved over eons of time, is leading to an unintended experiment in which the dictates of pure economics may prove insufficent to ensure our survival.

Post cards, to advise the Prime Minister or others of the importance of saving species, were available for signing at the dinner. Additional copies will be available at the next few HFN monthly meetings for those wishing to add their voices.

— Colin Stewart

P.S: The passage of Nova Scotia's Endangered Species and Wilderness Areas Protection Acts were announced at the subsequent Suzuki talks in Calgary and Edmonton — to rounds of applause!

POINT PLEASANT PUBLIC MEETING

On 18 November, 1998, another planning and information presentation about Point Pleasant Park's Park and Urban Forest Master Plan was held at the Bell Road Campus of the Nova Scotia Community college.

Members of the PPP Advisory Committee and HRM staff presented an overview of the accomplishments to date through the public consultation process, and their future plans to compete the Master Plan. The Master Plan framework is divided into four Phases:

PHASE I

Data Collection/Framework Development

Completed.

PHASE II

Inventory/Assessment

Cultural Resources — forts, walls, vegetation, monuments, archaeological sites

Infrastructure — roads, services, washrooms, paths

Natural Resources — forest, geology, flora, fauna

Special Events

Recreation Resources — dog walking, bicycling, jogging, picnicking, theatre, orienteering, nature study

PHASE III

Evaluation

Cultural — physical condition, level of significance

Recreation/Education — opportunities

Environmentally Sensitive — forest, coastal erosion

PHASE IV

Management Plan

Cultural Resources — policy development, conservation plan

Recreation/Education — policy, programme, infrastructure, zone identification

Environmental Sensitivity — restoration plan, coastal shoreline

Implementation Plan — capital projects, operating and maintenance, procedures, pilot projects, test plots, hours of use

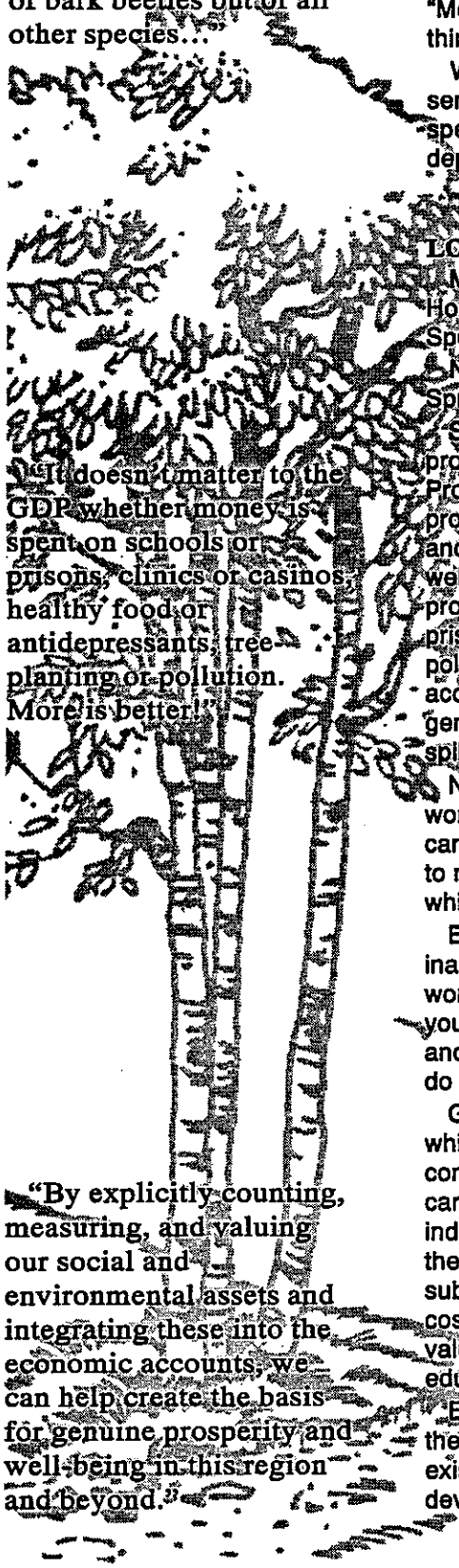
Monitoring/Plan — procedures, frequency, personnel

All phases are still open for public consultation.

— Stephanie Robertson

SPECIAL ARTICLES

"...the *economic* common sense of preserving natural habitats, not only of bark beetles but of all other species..."



"It doesn't matter to the GDP whether money is spent on schools or prisons, clinics or casinos, healthy food or antidepressants, tree-planting or pollution. More is better!"

"By explicitly counting, measuring, and valuing our social and environmental assets and integrating these into the economic accounts, we can help create the basis for genuine prosperity and well-being in this region and beyond."

THE GLAD TIDINGS OF TRUE VALUE...

...looking back to our previous articles the final "Point Pleasant Park Report" (No. 61, Winter '91), "Endangered Species and Forestry" (No. 84, Fall '96), and "More Challenges to Nova Scotian Forests" (No. 91, Summer '98), it seems that things might be looking up for both our local and global ecosystems.

With the recent events and task forces outlined below, the *economic* common sense of preserving natural habitats, not only of bark beetles but of all other species, might finally get through to the more thickheaded of our government departments, our fisheries, and our forestry industries.

LOCALLY

McNabs and Lawlors seem to have been saved from peril, and the Nova Scotia House of Legislature finally has passed the Wilderness Act and the Endangered Species Act after three years of wrangling.

Now there is more good news; GPI Atlantic was set up in Nova Scotia in the Spring of 1997. What's GPI Atlantic? A bit of background...

Society measures progress in strictly materialistic terms — the more we produce, the better off we are. This measure is called the Gross Domestic Product (GDP), and it simply adds up the total quantity of goods and services produced and the total amount of money earned and spent. However, our social and spiritual values and the quality of our environment, which are vital to our well-being and prosperity, have been sidelined when it comes to measuring progress. It doesn't matter to the GDP whether money is spent on schools or prisons, clinics or casinos, healthy food or antidepressants, tree-planting or pollution. More is better! By this measure, higher rates of crime, divorce, car accidents, toxic spills, even war, are all 'good' for progress because they generate economic activity. For instance, tremendous public legal bills, giant oil spill cleanups, and hospital costs all add to the GDP.

Nor does the GDP care if material progress is purchased at the cost of longer work hours, declining free time, increased stress, or rising inequality. The GDP can go up even if most of the population is getting poorer or working longer hours to make ends meet. Overeating and the massive dieting industry add to the GDP while many go hungry.

Even on its own terms, as a measure of total production, the GDP sends inaccurate information because it counts only money exchanges. Vital unpaid work, like volunteer activity, housework, and childcare are ignored. Cleaning your own house, taking care of your own children, voluntarily helping the elderly and disabled count nowhere in our measure of progress; paying someone else to do these same things makes the GDP go up and is counted as progress.

GPI Atlantic promotes the use of a Genuine Product Index (GPI), an index which includes components missing from the ubiquitous GDP. These components include: the value of voluntary work, unpaid housework, and child-care; trends in income distribution; trends in leisure time; a livelihood security index, including the costs of underemployment and the value of unpaid overtime; the costs of crime; natural resource accounts for forestry, soils, agriculture, subsoil assets and wildlife; greenhouse gas emissions; air and water quality and costs of pollution; an ecological footprint analysis; a transportation cost analysis; valuations of durability; trends in debt loads; and, trends in health care and educational quality.

Beginning in July, 1998, data was be released on each of these components as they were available. At the end of 1999, the information will be integrated with existing market statistics to construct an overall index of sustainable development for the province — the Genuine Product Index. In the Spring of

1999, a progress report on the Nova Scotia GPI will be presented to an inter-provincial conference to be held in Halifax and co-sponsored by Statistics Canada.

Ronald Colman, Director of GPI Atlantic, says, "By explicitly counting, measuring, and valuing our social and environmental assets and integrating these into the economic accounts, we can help create the basis for genuine prosperity and well-being in this region and beyond. We look forward to co-operating with as wide a range of partners as possible in helping to forge the new economy of the next millenium. Please join us in this historic effort."

"...the GDP is a woefully insufficient index which sends misleading signals to our policy makers about the state of our environment and our natural resources — the true basis of our prosperity."

GLOBALLY

Internationally, economists with clout and credibility are formulating the reasons for the necessity of protecting wild and natural areas — reasons that have to do with money, cost, GDPs, and GNPs (Gross National Products). They are beginning, finally, to see that the GDP is a woefully insufficient index which sends misleading signals to our policy makers about the state of our environment and our natural resources — the true basis of our prosperity. For example, the GDP counts huge fish exports and timber sales as growth and progress, but it ignores completely the depletion of our fisheries and forests — the natural capital on which that wealth is based. This is simply bad accounting. Revenue Canada would never accept a business or household income statement that showed the sale of capital assets as pure profit.

"Revenue Canada would never accept a business or household income statement that showed the sale of capital assets as pure profit."

Robert Costanza is an environmental economist from the University of Maryland. He is part of a growing international movement of researchers who are trying to put a value on ecosystems — including not only their commercial products such as forest timber, but also the less visible but nevertheless indispensable ways in which they make our planet habitable. Forests, for instance, prevent soil erosion and mudslides that would be expensive to stop artificially; coral reefs not only act as nurseries for young fish but also help protect shorelines.

In 1997, he and like-minded colleagues put together a rough estimate of the value of the world's ecosystems. Applying the available field work on various habitats — for instance tidal marshes, coral reefs, and forests — to all the major ecosystems worldwide, and sticking to the lowest end of their figures, the total price was astounding: ecosystems, they estimated, provide $33 trillion dollars of services every year — which is $8 trillion more that the gross national product of all the countries on earth! Previous assumptions and estimates were that these services were a very minor part of the GNP — maybe one or two percent.

The Global Ecosystem Map that Costanza's group created revealed that not all ecosystems are created equal. The services provided by forests and grasslands that make up much of the interior of the United States, for instance, are worth about $100 an acre annually. But coastal ecosystems such as estuaries, tidal marshes, sea-grass beds, mangroves, and coral reefs, some of which we have here in Nova Scotia, are much more pricey, running up to as much as $8,000 to $9,000 an acre a year. Although they make up to only 6.3% of the Earth's surface, they make up 43% of the value of its ecological services.

"...ecosystems, they estimated, provide $33 trillion dollars of services every year — which is $8 trillion more that the gross national product of all the countries on earth!"

"In ecology, the 'edges' are where a lot of important things happen", says Costanza. "Sadly, these are some of the world's most endangered ecosystems, partly because over half the world's population lives in coastal regions. We can't count on tidal marshes to take care of our sewage anymore, but at least we have a better idea of the value of what we are losing."

Will all this be too late? Let's hope not! Let's hope that, like those English and French 'Chunnel' engineers, the grassroots movements here at home will finally meet with the international proponents of ecological wisdom to grasp hands and make permanent, effective changes to the way governments and industry use our earth's precious resources.

— Stephanie Robertson

FIELD TRIPS

ANNUAL CANOE PICNIC

DATE: Saturday, 19 September, 1998
PLACE: Musquodoboit River
WEATHER: Sunny, warm, slight breeze
INTERPRETER: David Bessonnette
PARTICIPANTS: 16 boats; 30 people (inc. 6 HFNers)

This was a perfect day to spend out in the natural areas of Nova Scotia.

After leaving the MicMac IGA meeting spot, we aimed for Route 357 and stopped near the Elderbank pull-off. Some then took their vehicles to be left at Meagher, our final stopping place, and this took a good while. When they came back, it took a longer time again to get all gear, vessels, and participants down the short steep bank and into the river. But at last all was ready and off we paddled down the gloriously smooth, dark brown river in the bright sunshine.

Some participants had come with beautifully handcrafted wooden vessels; some had kayaks. The passenger capacity varied from one to three. Our party had had to rent a canoe; the owner, himself an experienced, ardent canoeist, had suggested we take the shorter paddles in order to deal with the lower than usual water levels after our long, hot, dry summer. Indeed, he was correct, and especially along some of the shallower sections of the river, we appreciated his good advice.

Not much wildlife was seen on this trip. On past ventures, Muskrat, Porcupine, and even Beaver had been sighted! However, someone did spot a Bald Eagle that was flushed up and away into the riverbank's lush trees by our oncoming flotilla.

All along the river's edge, Marsh Skullcap crowded in large masses into the water, waving their bunches of small pink flowerets. We hadn't left Elderbank until near lunchtime, so it wasn't long before we pulled out at our traditional campfire stopping place. Here two fires were made, and David produced hot dogs, buns, and marshmallows for roasting to augment the lunches we had brought. We relaxed here for about an hour admiring the mosses, plants, and trees before dousing the fires thoroughly and then setting off once again down the river to our next pull-out — the hike to the very old mill site at the head of the tumbling Milne Brook.

We spotted an unfortunate Garter Snake that had been flattened by a passing vehicle on the gravel road bridge over the brook, and many interesting fungi were seen along the brookside path ascent. David knew them all and talked knowledgeably about their edibility and other characteristics, answering everyone's questions.

At the top of the climb, we carefully wended our way down to the now tumbling and rushing (but very low) water to explore the steeply carved rock formations on either side of the brook. Many photos were taken, and enjoyable, leaf-dappled side-trips were made, before we finally returned to the wooden bridge, across the field, and back to the boats pulled up on the stony banks of the river. We were off again, with a bit of a white-water experience in the offing. In a very shallow riverbed drop, one of the canoes took too wide an arc and became wedged on the rocks. No problem; the water was so low, that one of the canoeists disembarked, and standing in the six-inch deep foaming river, was able to push it off.

Paddling to Meagher, with the sun still shining in the bright blue sky, we banked the boats. Cars were sent to Elderbank to bring back the other vehicles; and all canoes and kayaks were tied down firmly on top of the convoy. Then we were off for home, with well-exercised arms, slightly sunburned faces, and spirits lightened from the fresh air, vigorous exercise, and a whole day spent amidst the natural beauty of Nova Scotia's woods and waters.

Thanks so much David. I hope we do it again next year!

— Stephanie Robertson

Canoe Trip Species

Marsh Skullcap	*Scutellaris galericulata*
Garter Snake	*Thamnophis sirtalis*
Bald Eagle	*Haliaeetus leucocephalus*

INCREDIBLE EDIBLES

DATE: Sunday, 4 October, 1998
PLACE: Kentville Ravine
WEATHER: Sunny and warm
INTERPRETER: Kathleen Fuller
PARTICIPANTS: 23

We were very pleased to have Kathleen Fuller guide us through Kentville Ravine in search of mushrooms. We chose to follow the lower path surrounded by very tall, perfectly straight, Hemlock and Pine trees. A Ruby-Crowned Kinglet and several Black Capped Chickadees came closer to see what we were about.

Kathleen, who graduated with Honours from Acadia with a B.A. in Biology and obtained her Ph.D. at Dalhousie, led the 23 of us from mushroom to mushroom throughout the area. She spent several hours explaining what to watch for to find edible species and where to find different kinds. We discussed fungi growing on logs; gills, cells, spores, colours; slime mold; snapping stems, rings around the stems, taste, clusters, scaly tops, falling spores, and much more. You must always know for certain what species you are eating before you do so. Identification can be helped by making a spore print. This is done by cutting off the stalk at the cap, and placing the cap gills down on a plain sheet of white paper. Cover with a glass or bowl to ensure that no air is circulating, and put a damp cotton ball under the glass to prevent drying out. In about 15 hours the spore print should be made. Sometimes it is not necessary to make a spore print because the spores deposited on the

leaves and grasses beneath the mushroom are obvious. Spore colours range from white, buff, yellow to yellow-brown, pink, reddish, blue, purple to purple-brown, and grey to black.

There are a lot of old wives' tales connected to mushrooms. Some think that a silver coin placed in the cooking pot will turn black if a poisonous mushroom is present. Some believe that an edible mushroom will peel, while a poisonous one will not. *Amanita virosa*, the Angel of Death, which is deadly poisonous, peels very easily. Soaking fungi in salt water will not remove the poison, either. The truth is that people that use these methods have just been very lucky.

The genus *Amanita* contains some of the more common deadly species, some of which are similar in appearance to edible mushrooms. The deadly Amanita has a white spore deposit, an annulus or ring around the upper part of the stem, gills that are free from the stem, and a cup-like volva surrounding the base. The ring on the stem can wither in dry weather or from age, and the volva or cup can also wither, or may not entirely form but be seen only as a series of partial and inconspicuous rings on the swollen base of the stem. This is one reason why it is important when gathering mushrooms to dig down into the soil to get to the very bottom.

Puffballs are thought by some to be one of the best edible fungi. They should always be split open and the inside examined very carefully to ensure that they are pure white and contain no insects. They should *never* be eaten if they are not pure white inside.

Two of the preferred mushroom books used by Kathleen are The KNOPF Mushroom Book, a Dorling Kindersley Book; and Mushrooms of North America, by Orson K. Miller Jr., Publisher, E.P.Dutton Co., New York.

— Elizabeth Kelzer

Incredible Edibles Species

Mushrooms Collected	
-yellow cap; brown dots	*Suillus americanus*
Slippery Jack	*Suillus lutens*
King Boletus	*Boletus edulis*
-grey to reddish brown	*Tylopilus felleus*
-a large Bolete, dull orange-brown	*Leccinum* sp.
Polypores	
-fan to bean shape	*Daedalea* sp.
Artist's Conk	*Ganoderma applanetum*
Artist's Fungus	*Fomes* spp.
Turkey Tail	*Trametes versicolor*
-violet colour	*Trichaptum abicti*
Agarics (gilled mushrooms)	
Pine or Matsutak	*Armillaria ponderosa*
Honey Mushroom	*Armillaria mellea*
Fly agaric	*Amanita muscaria*
Blusher	*Amanita rubesans*
-bright orange or yellow	*Amanita flavoconia*
-pink-spored	*Entoloma abortivum*
-ashy grey cap	*Clitopilus prunulus*
-grows on wood	*Pleurotus porrigens*
-large, fleshy	*Pholiota* spp.
Bracelet Mushroom	*Cortinarius armillatus*
-blood-red gills	*Cortinarius semiganginarcus*
Smoky-gilled Woodlover	*Naematoloma capnoides*
Cinnamon Milky	*Lactarius chrysorheus*
Peppery Milky	*Lactarius piperatus*
Delicious Milky Cap	*Lactarius deliciosus*
Shaggy Parasol	*Lepiota rachodes*
Rose-red Russula	*Russula rosacea*
Emetic Russula	*Russula emetica*
Woodland Russula	*Russula xerampelina*
Short-stemmed Russula	*Russula brevipes*
-dull to dark green	*Russula aeruginea*
Split-leaf Mushroom	*Schizophyllum commune*
Toothed Mushroom	*Dentinum repandum*
Coral Mushroom	*Clavaria* spp.
Crested Coral Mushroom	*Clavulina* sp.
Gastromycetes	
Puffball	*Lycoperdon pyriforme*
Birds	
Ruby-Crowned Kinglet	*Regulus calendula*
Black Capped Chickadee	*Parus atricapillus*

AUTUMN COLOURS

DATE: Saturday, 17 October, 1998
PLACE: Bissett Road Parklands
WEATHER: Cool and cloudy
INTERPRETER: Stephen Brooks
PARTICIPANTS: 17

We were greeted by a cool, drizzly morning on our hike through the Bissett Road Parklands. However, the sun did emerge briefly, which enabled us to appreciate even better the glorious views that one enjoys on this walk.

We followed the trail through a meadow, and on reaching the top were able to view and photograph the beautiful waters of Cole Harbour. At the bottom, in a small wooded area, Stephen told of his early morning photography trips, where he encountered Warblers, a Pileated Woodpecker, and a hooting Owl, complete with wonderful sunrises. He also told of fields full of wild flowers and apple trees loaded with blossom.

We then explored the new trail, which led to the water's edge. Although the wild flowers had long since gone, the autumn colours were wonderful! Further along the trail where cottages once stood, little evidence remained of their former presence. The walk was further enhanced by crystal clear streams (or was it the same one that we kept on recrossing?)

Out in the open again we climbed through a steep meadow where sheep had formerly grazed and, more recently, large numbers of hens had resided. Gazing out to sea, we could see the railroad causeway, completed in 1918, and used until the 1980s. The principal use was for transporting limestone quarried at Musquodoboit.

A final salute from a glorious stand of Maple and Beech brought the walk to a close. Our thanks are offered to all the dedicated and caring people who make it possible for all of us to enjoy the tranquillity of places like the Bissett Road Parklands.

— Pat and Joe Clifford

P.S. We enjoyed it so much we returned the following day (which was warm and sunny) to take more pictures!

Autumn Colours Bird Species

Great Blue Heron	*Ardea herodius*
Greater Yellow-legs	*Tringa melanoleuca*
Solitary Sandpiper	*T. solitaria*
Downy Woodpecker	*Picoides pubescens*
Blue Jay	*Cyanocitta cristata*
American Crow	*Corvus brachyrhynchos*
Black-capped Chickadee	*Parus atricapillus*
Boreal Chickadee	*P. hudsonicus*
American Robin	*Turdus migratorius*
Red-eyed Vireo	*Vireo olivaceus*
Myrtle Warbler	*Dendroica coronata*

CRANBERRY PICK

DATE: Saturday, 24 October, 1998
PLACE: Taylor Head Provincial Park
WEATHER: Warm and sunny
INTERPRETER: Bernice Moores
PARTICIPANTS: 29

This event was part of the 'Parks are for People' programme. The park was already closed for the season, but Bernice had a key and opened the gate for us.

The cranberry pick outing is always a very unstructured event. Informally we divide into smaller groups, picking in different spots with more, or less, ambition — according to individual inclination. By and by some wander off to look for birds, or to do some beach combing, or explore the woods.

I am always intrigued by remnants of human habitation. We found an old well and a very well-built rock wall with lots of lichens. We looked for apple trees and found one in the fenced-in area that used to be the cemetery.

We had a very pleasant lunch overlooking Pyche Cove, watching a large ship and a smaller one passing behind the islands in the distance.

The cranberries were most abundant at the point of Taylor Head; this is a hike of about 90 minutes from the parking lot. Some berries were round, and some were tear-drop shaped. Some were off-white with red spots, but most were cranberry red, or red-purple.

Taylor Head is a very interesting Provincial Park, shaped by glaciers, wind, and the sea. There are several different habitats: fresh water marshes; peat bogs; forests; barrens; beaches; and excellent hiking trails. It would be worthwhile to explore Taylor Head further on a summer trip.

Thank you, Bernice, for organising this event for us.

— Regina Maass

Cranberry Pick Species

Common Loon, 2	*Gavia immer*
Red-necked Grebe, 10	*Podiceps grisegena*
Great Cormorant, 3	*Phalacrocorax carbo*
Double-crested Cormorant, 2	*P. auritus*
Canada Goose, 7	*Branta canadensis*
American Black Duck, 1	*Anas rubripes*
Surf Scoter, 40	*Melanitta perspicillata*
Common Goldeneye, 1	*Bucephala clangula*
Northern Goshawk, 1	*Accipiter gentilis*
Spruce Grouse, 1	*Canachites canadensis*
Black-bellied Plover, 3	*Pluvialis squaterola*
Greater Yellow-legs, 2	*Tringa melanoleuca*
Greater Black-backed Gull	*Larus marinus*
Herring Gull	*L. argentatus*
Tree swallow, 2	*Iridoprocne bicolor*
Grey Jay, 9	*Perisoreus canadensis*
Northern Raven	*Corvus corax*
American Crow	*C. brachyrhynchos*
Black-capped Chickadee	*Parus atricapillus*
Boreal Chickadee	*P. hudsonicus*
Golden-crowned Kinglet	*Regulus satrapa*
Myrtle Warbler, 7	*Dendroica coronata*
American Goldfinch, 14	*Carduelis tristis*
White-winged Crossbill, 3	*Loxia leucoptera*
Dark-eyed Junco, 1	*Junco hyemalis*
Snow Bunting, 1	*Plectrophenax nivalis*

PROSPECT BEACHCOMBING

DATE: Saturday, 7 November, 1998
PLACE: Prospect, Halifax County
WEATHER: Pleasant
INTERPRETER: Shirley MacIntyre
PARTICIPANTS: 20

The little community of Prospect sits on a part of our coast that is truly beautiful. Looking back at it from the surrounding marsh and large stratified rocks on the shore, the village looked every bit as if it was modelling for a Christmas card, even without any snow.

A family emergency had prevented leader Ron Duggan from coming. However, the 20 people who turned out elected to explore the area anyway; it was a pleasant day for walking.

Shirley MacIntyre was selected to lead and identify plants, now in their winter apparel, as we made our way through the marsh. We stopped occasionally to examine the ducks at sea when some of us saw a Northern Gannet. This is a goose-sized white bird with a black area from the centre to the tip of its wings, a pointed tail and a tapering bill. A Mink was also seen scurrying along the beach edge.

The tidal pools were examined, too. A Hermit Crab, edible Periwinkle, Kelp, and an encrusting seaweed called *Lithothamnion* were found. The sea anemone *Metridium senile* was also present, holding on to the rocks as was a tubeworm that belongs to a group of annelids that live in a hard flexible shell. Some worms make tubes from their own calcareous secretions; others use sand or shell stuck together with a secreted glue.

Irish Moss was found washed up on the sea shore.

Many of us went on to investigate the far beach and found a solidly built shelter made from driftwood. We used our imaginations and came up with all kinds of scenarios of children having a great time building and inhabiting this structure.

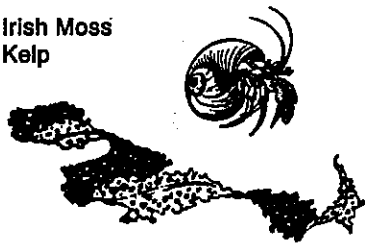
We were delighted by a flock of at least 100 Snow Bunting at this farther beach. These are 6 to 7 1/4 inch birds that change from white and black in the summer to quite brownish in the winter. One of the distinct markings is that when they fly they show the white wing patches. When flying overhead they look almost entirely white. We were delighted to be able to examine them up close and for a long time as they landed no more than 15 feet from us on the beach. Some were very busy feeding on what looked like dried Asters, and were completely oblivious to our presence. The flock continued to fly around us as we walked. The birds spend summers in the Arctic, where they nest, and winter as far South as Central U.S.

Thanks to Paul Dolman for supplying information on the contents of tidal pools.

— Elizabeth Kelzer

Prospect Species List

Northern Gannet	*Morus bassanus*
Snow Bunting	*Plectrophenax nivalis*
Sea Anemone	*Metridium senile*
Edible Periwinkle	*Littorina littorea*
Tubeworm	*Spirorbis* sp.
Hermit crab	*Pagurus acadianus*
Irish Moss	*Chondrus crispus*
Kelp	*Laminaria* spp.



THE GOOD EARTH TOUR

DATE: Saturday, 21 November, 1998
PLACE: Lower Sackville
WEATHER: Cold; intermittent showers
INTERPRETER: Jason Hoffman, operator
PARTICIPANTS: 18 - 20

The Good Earth Organic Resources Group operates a composting facility which handles roughly 6,000 tonne a year of compostable material from institutional, commercial, industrial, and residential sources. Truck come to the site with immense loads of this material a dump it inside the building, on the floor of a large roon with a *very* strong smell. Strong is perhaps not strong enough a word to describe this smell. It is truly and uniquely obnoxious, with such an intense, nauseating pungency that two of our members couldn't stay inside the building during that part of the tour.

First, this raw material is sorted by being fed into a hopper which raises it to a sorting unit about 12 feet above floor level. Uncompostable trash is removed, to be taken to HRM's landfill facility. Sometimes there is quite a bit of this, particularly from residential sources — our new 'green' bins. The operator, Jason Hoffman, reports that residential material from HRM contains roughly ten times as much foreign material as does residential material from East Hants. He figures it is because the East Hants folks have been using bins far longer than HRM residents. He finds toilet seats, toasters, pantyhose, mattresses, treated lumber, clothing — you name it — in the HRM green bins. He can hardly wait until HRM's own processing facility comes on stream and he won't have to handle the HRM trash.

After sorting, it goes through a shredder; then it is screened. At this stage it is fed into large bins capable of holding 25 tonnes of the stuff! There are five of these large bins, one for each working day of the week. The material is left in the bins for one week, where biological breakdown begins. When it heats up and begins to decompose, it loses a bit of volume. At the end of the week it is transferred to one of five slightly smaller bins for another week of composting, then it is transferred to one of five even smaller bins for a third week of composting!

While the material is in the bins, the main challenge is to control the temperature. It gets *very* hot *very* quickly, and must be cooled by large volumes of air drawn down through it. The air passes through grids at the bottom of the compost pile and is then treated by special charcoal filters before being exhausted outside. This completely eliminates any odour. The mass is kept at between 55° and 60°, which is, incidentally, quite high enough to kill any pathogens.

Because the air removes moisture from the composting mixture, the piles have to be sprayed with liquid. Leachate is used for material in the first, largest bins. For the other bin sizes, where the material is getting closer and closer to becoming compost, only well water is used.

Finally, at the end of three weeks, it is ready to be sent off to one of the buildings where it will continue decomposing under controlled conditions. Then it is given another screening, deposited in a loosely covered exterior holding area, ready for bagging. In this holding area was the largest dandelion I have ever seen; at least 60 cm high, with tropical-sized leaves — a very good indication of the compost's high nutrient value!

Jason prefers material from commercial sources like large grocery stores. A typical supermarket will generate from four to six tonnes of garbage a week, all of which, until recently, had to be hauled off to landfills. This material is full of excellent compostable items like meats, vegetables, waxed paper, and corrugated cardboard; but it is a bit on the wet side. Jason says if it's mixed with the comparatively dry residential yard wastes (mainly leaves), they absorb the extra moisture, and the resulting mixture is ideal for composting. If you're worried about fertilisers, pesticides, or herbicides from grocery store products fouling up the process and ending up in the compost you buy, forget it. The process is sufficiently hot for a long enough period to completely eliminate any harmful chemicals.

The cost used to be high for these stores to dispose of their wastes, in the range of $100 per tonne or more. The Good Earth folks charge the supermarkets $50 a tonne to take it away and turn it into compost. This represents a saving to the stores of about $10,000 to $12,000 a year! For those of you who like numbers, the composting plant takes in about 25 tonnes a day (which comes to roughly 6,000 tonnes per year). It has 15 bins for composting, which means that the plant holds a total of 375 tonnes of composting material at any one time (no wonder the smell is *so-o-o-o-o-o* bad!). The conversion is close to 50%; i.e, for every tonne of material going in, about 1/2 a tonne of compost is eventually bagged for sale. If you're buying in bulk (*really* bulk), it'll cost about $40 a tonne. Most of us, however, when we buy some for our garden, will pay a lot more — probably in the neighbourhood of $10 a bag, which works out to the equivalent of $150 to $200 a tonne.

The final, finished product looks and feels like dark earth that doesn't weigh as much as ordinary soil. And for those of you who were wondering about that smell, relax. There is absolutely no odour at the end of the process.

If it works on plants as well as the compost I make in our backyard, it will sell like hotcakes!

— Allan Robertson

Good Earth Species List

Dandelion	*Taraxacum officinale*
Toaster	*Penne umbricum* (rustus) sp.
Matress	*Lettus sporcus*
Clothing	*Vestiarus sconosus*
Treated Lumber	*Legnus wolmanii*
Toilet Seat	*Crappus disarticulata* sp.

NATURAL HISTORY

LICHENS AND THEIR DISAPPEARING HABITAT

If someone asked you to answer these questions, would you know that a single category of plants provides *all* of the answers?

-what did the Egyptians use to stuff mummies?
-what is a common ingredient in Indian curries?
-what do reindeer eat?
-what was the 'manna from heaven' in the Bible?
-what is a gourmet treat in Japan?

Historically lichens have been put to these and many other uses. Now they are used to make such diverse products as antibiotics, litmus, alcohol, henna, and pot pourri.

Lichens are unique in the world of botany. They are formed by algal and fungal cells coexisting in a symbiotic partnership. Whether they look like a 'beard' or a tiny 'British Soldier', each type of lichen has highly specialised habitat requirements. The Latin names are not that hard to learn, for they actually describe the physical characteristics of each species. As well, these names often reflect the historical use of the plant. For example, *Lobularia pulmonaria* was used in mediaeval times to treat lung disorders.

Hardy and adaptable, lichens often thrive where nothing else will grow. A barren piece of ground, a rock ledge, the edge of a gravel road — all these surfaces are colonised by lichens. But increasingly, all of their habitats are under attack. As lichens are now used by scientists to monitor levels of pollution, it is important to protect the places where they flourish.

If a rare flower is threatened, a cry of alarm is raised by those who walk, hike, birdwatch, canoe, photograph, study, or otherwise enjoy nature. Yet only a handful of people understands how entire lichen communities are endangered when trees are felled or boulders are blasted away. Much of this type of habitat destruction is occurring in the wilderness areas of Nova Scotia, often in the name of recreational development.

Average people can do their part to see that lichens are not damaged in their areas. Many rock gardeners carry lichen-covered stones into their yards to add a touch of winter colour. This 'lichen gardening' is encouraged in Europe, as it helps spread reproductive particles that may form new plants.

The presence of a lichen on another plant does it no harm, so leave the *Hypogymnia physodes* that forms a delicate bluish ruffle on the twig of your Rhododendron and remember that without these special plants, the growing pollution problem cannot be so accurately measured and monitored. J. R. Laundon, an eminent British authority, has written how lichens add an aesthetic element to the landscape, often in the most unexpected of places. If that's your yard, then relax and enjoy their beauty.

— Karen Leigh Casselman

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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.

Brrh. It's December again. Padding downstairs early to light the fire I think to myself, no wonder the suicide rates soar at this time of year. Past six o'clock already, and not a gleam of light in the eastern sky. Only the cold glittery stars in sight; not a leaf left on the trees; not a flower to be seen anywhere above the shifting dunes of snow except the sterile specimens etched in frost on my kitchen windows. It feels like the world has died of cold and dark.

— Gary L. Saunders: "December dark, Christmas light" in September Christmas, (1992)

NATURAL EVENTS

21 Dec.	Winter Solstice at 9:58 p.m. AST: Winter begins in the Northern hemisphere.
24/25 Dec.	Annual nocturnal circumglobal migration of Arctic Reindeer.
2 Jan.	Full Moon — the 'Wolf 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 0.2°).
late Jan./early Feb.	'Eagle Days' in Sheffield Mills, King's County.
31 Jan.	Full Moon — the 'Snow Moon'.
6-8 Feb.	Coldest days of Winter (average daily minimum -9.4°).
9 Feb.	Average temperatures start increasing.
16-20 Feb.	Watch the waxing crescent Moon pass Mercury (16th), Venus (17th), Jupiter (18th), and Saturn (20th).
22 Feb.	Daily maximum temperature above 0°.
22 Feb.-6 Mar.	Four bright planets are visible in the evening twilight.
23 Feb.	Spectacular conjunction of the planets Venus and Jupiter.
2 Mar.	Full Moon — the 'Worm Moon'.
mid-Mar.	Sap starts running in the Sugar Maples.
19 Mar.	Venus, Saturn, and the Crescent Moon appear in an evening grouping.
20 Mar.	Vernal Equinox at 9:46 p.m. AST: Spring begins in the Northern hemisphere.
23 Mar.	Daily average temperature above 0°.
late Mar.	Start looking for blooming Coltsfoot, *Tussilago farfara.*
31 Mar.	Full Moon — the 'Pine Moon'.
1 Apr.	Jupiter in conjunction with the Sun.
4 Apr.	Daylight Savings Time begins at 2 a.m.: Turn clocks ahead one hour.

— Sources: Atmospheric Environment Service, Climate Normals 1951-80 Halifax (Shearwater A) N.S.; Colombo's Canadian Global Almanac, 1997, 1998 & 1999; Royal Astronomical Society of Canada's Observer's Handbook 1999; and the personal observations of the compiler.

SUNRISE AND SUNSET ON WINTER AND EARLY SPRING SATURDAYS

5 Dec.	7:35	16:34	2 Jan.	7:51	16:45
12 Dec.	7:42	16:34	9 Jan.	7:51	16:52
19 Dec.	7:47	16:36	16 Jan.	7:48	17:01
26 Dec.	7:50	16:40	23 Jan.	7:43	17:10
			30 Jan.	7:36	17:20
6 Feb	7:28	17:30	6 March	6:44	18:08
13 Feb.	7:18	17:40	13 March	6:31	18:17
20 Feb.	7:08	17:49	20 March	6:18	18:26
27 Feb.	6:56	17:59	27 March	6:05	18:35

— 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, <http://www.go.ednet.ns.ca/~bns/home.htm>.

18 Jan. "The Nova Scotia Nature Trust", with speaker Leslie Rogers.

Burke-Gaffney Observatory — Public shows at the Burke-Gaffney Observatory at Saint Mary's University are held on the first and third Saturday of each month; tours begin at 7:00 p.m. For more information phone 496-8257.

Dartmouth Volksmarch Club — Meets for organised walks, at least 10K, every Sunday at 10:00 a.m. Pick up their schedule at the Trail Shop on Quinpool Road, or phone 435-5252 for more information.

Friends of McNabs Island — For more information call Dusan Soudek, 422-1045, or Mike Tilley, at 465-4563; or <http://chebucto.ns.ca/Environment/FOMIS/>.

Halifax Outdoor Club — Weekly outings meet at Bagel Works on Quinpool Road, for carpooling. For more information phone the Hotline, 492-5450, for details.

Mount Saint Vincent University Art Gallery — For more information, phone 457-6160.

10 Jan.-21 Feb. "Charlotte Lindgren: Winter Gardens", an exhibition of beautiful photographs by HFN friend Charlotte Lindgren.

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, 8:00 p.m. For more information phone 852-2428 (recording), or Fulton Lavender, 455-4966; or <http://chebucto.ns.ca/Recreation/NS-BirdSoc/nsbsmain.html>.

20 Dec. "Halifax Christmas Bird Count", compiler Fulton Lavender.
3 Jan. "Bedford-Sackville Christmas Bird Count", compiler Rich Peckham.
9 Jan. "Sewer Stroll I", Halifax/Dartmouth area, with Fulton Lavender.
23 Jan. "Winter Birding in Pictou County", with Ken McKenna, 752-7644.
28 Jan. "Members Slide Night".
6 Feb. "Sewer Stroll II", Halifax/Dartmouth area, with Fulton Lavender.
25 Feb. "Birds of Texas", with Joan Waldron and Blake Maybank.
27 Feb. "Barrington, Cape Sable Is.", with Johnny and Sandra Nickerson, 745-2958.
13 Mar. "Owl Prowl, Pictou and Antigonish Co.", with Calvin Brennan, 923-2780.
20 Mar. "Chebucto Head to Pennant Point", with Peter LeBlanc.
27 Mar. "Baccaro and Blanche Peninsula", with Donna Ensor, 875-4269.

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

19 Jan. "To Cull or Not to Cull Gulls: A Tough Question", with Tony Lock.
2 Feb. "Is Industry Putting Our Deep Water Coral at Risk?", with Derek P. Jones
10 Feb. "El Nino - La Nina ... The Sequel", with Owen Hertzman.
24 Feb. "Palaces for Plants ... Gardens Under Glass", with Alex Wilson.
13 Mar.-24 May "Fossil Art", an exhibit from Germany.
31 Mar. "Through the Eyes of Geologists", a Fossil Gallery Tour.
7 Apr. "Bugs that Bite", with Edith Angelopolis.

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.

25 Jan. "Forests of Virginia", with Nick Hill.
22 Feb. "Wild Flowers of the West", with Gerry Lunn.
23 Mar. "Ecology and Conservation of the Wild Leek", with Liette Vasseur.

Orchid Society of Nova Scotia — Meets second Sunday of the month, September to June, at the Nova Scotia Museum of Natural History, 7:30 p.m. Orchids are usually on display before the meeting. For more information phone Jean Hartley, 443-3080; or <http://www.chebucto.ns.ca/Recreation/OrchidSNS/orchid.html>.

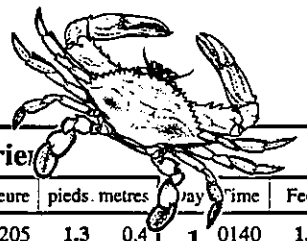
10 & 11 Apr. Orchid Show and Sale, Nova Scotia Museum of Natural History.

Photographic Guild of Nova Scotia — Meets second Monday of the month, as well as the first and third Sundays of the month, at the Nova Scotia Museum of Natural History, 7:30 p.m. Special Seminars and Shows are held at Saint Mary's University, Theatre A, Burke Education Centre. For more information phone Gilbert van Ryckevorsel, 463-2695; or <http://chebucto.ns.ca/Recreation/PGNS/PGNS.html>.

Royal Astronomical Society of Canada (Halifax Chapter) — Meets third Friday of each month at the Nova Scotia Museum of Natural History, 8:00 p.m. For more information, <http://halifax.rasc.ca>. Public shows previously held at the Planetarium in the Sir James Dunn Building, Dalhousie University, have been discontinued.

— compiled by Patricia L. Chalmers

HALIFAX TIDE TABLE

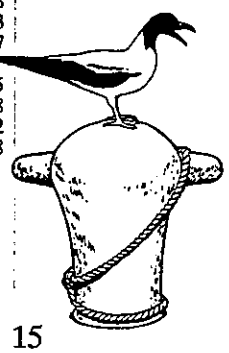


January-janvier

Day	Time	Feet	Metres	jour	heure	pieds	metres
1	0110	1.0	0.3	**16**	0105	2.0	0.6
	0655	6.6	2.0		0700	5.9	1.8
FR	1350	0.0	0.0	SA	1340	1.0	0.3
VE	1935	6.2	1.9	SA	1940	5.6	1.7
2	0205	1.0	0.3	**17**	0145	1.6	0.5
	0745	6.9	2.1		0740	6.2	1.9
SA	1440	0.0	0.0	SU	1420	0.7	0.2
SA	2025	6.2	1.9	DI	2020	5.6	1.7
3	0255	1.3	0.4	**18**	0225	1.6	0.5
	0835	6.6	2.0		0820	6.2	1.9
SU	1525	0.3	0.1	MO	1455	0.7	0.2
DI	2115	6.2	1.9	LU	2100	5.9	1.8
4	0345	1.3	0.4	**19**	0305	1.6	0.5
	0925	6.6	2.0		0900	6.2	1.9
MO	1615	0.3	0.1	TU	1535	0.7	0.2
LU	2200	6.2	1.9	MA	2140	5.9	1.8
5	0435	1.6	0.5	**20**	0350	1.6	0.5
	1010	6.2	1.9		0945	6.2	1.9
TU	1700	0.7	0.2	WE	1620	0.7	0.2
MA	2245	5.9	1.8	ME	2220	5.9	1.8
6	0530	1.6	0.5	**21**	0440	1.6	0.5
	1055	5.9	1.8		1025	6.2	1.9
WE	1750	1.0	0.3	TH	1705	0.7	0.2
ME	2330	5.9	1.8	JE	2300	5.9	1.8
7	0625	2.0	0.6	**22**	0535	1.6	0.5
	1140	5.6	1.7		1110	5.9	1.8
TH	1840	1.3	0.4	FR	1755	1.0	0.3
JE				VE	2345	5.9	1.8
8	0015	5.6	1.7	**23**	0635	1.6	0.5
	0715	2.0	0.6		1155	5.6	1.7
FR	1225	5.2	1.6	SA	1850	1.3	0.4
VE	1925	1.6	0.5	SA			
9	0105	5.2	1.6	**24**	0030	5.9	1.8
	0810	2.3	0.7		0740	1.6	0.5
SA	1320	4.9	1.5	SU	1250	5.6	1.7
SA	2015	2.0	0.6	DI	1950	1.3	0.4
10	0155	5.2	1.6	**25**	0125	5.9	1.8
	0900	2.0	0.6		0840	1.3	0.4
SU	1420	4.6	1.4	MO	1355	5.2	1.6
DI	2100	2.0	0.6	LU	2050	1.3	0.4
11	0255	5.2	1.6	**26**	0230	5.9	1.8
	0955	2.0	0.6		0940	1.3	0.4
MO	1530	4.6	1.4	TU	1510	5.2	1.6
LU	2155	2.3	0.7	MA	2155	1.6	0.5
12	0355	5.2	1.6	**27**	0335	5.9	1.8
	1045	2.0	0.6		1045	1.0	0.3
TU	1635	4.6	1.4	WE	1625	5.2	1.6
MA	2245	2.3	0.7	ME	2300	1.6	0.5
13	0450	5.2	1.6	**28**	0445	5.9	1.8
	1130	1.6	0.5		1145	0.7	0.2
WE	1730	4.9	1.5	TH	1735	5.6	1.7
ME	2335	2.3	0.7	JE			
14	0535	5.6	1.7	**29**	0005	1.3	0.4
	1215	1.3	0.4		0545	6.2	1.9
TH	1820	4.9	1.5	FR	1240	0.7	0.2
JE				VE	1830	5.6	1.7
15	0025	2.0	0.6	**30**	0100	1.3	0.4
	0620	5.6	1.7		0640	6.2	1.9
FR	1300	1.3	0.4	SA	1335	0.3	0.1
VE	1900	5.2	1.6	SA	1925	5.9	1.8
				31	0150	1.3	0.4
					0735	6.6	2.0
				SU	1420	0.3	0.1
				DI	2010	6.2	1.9

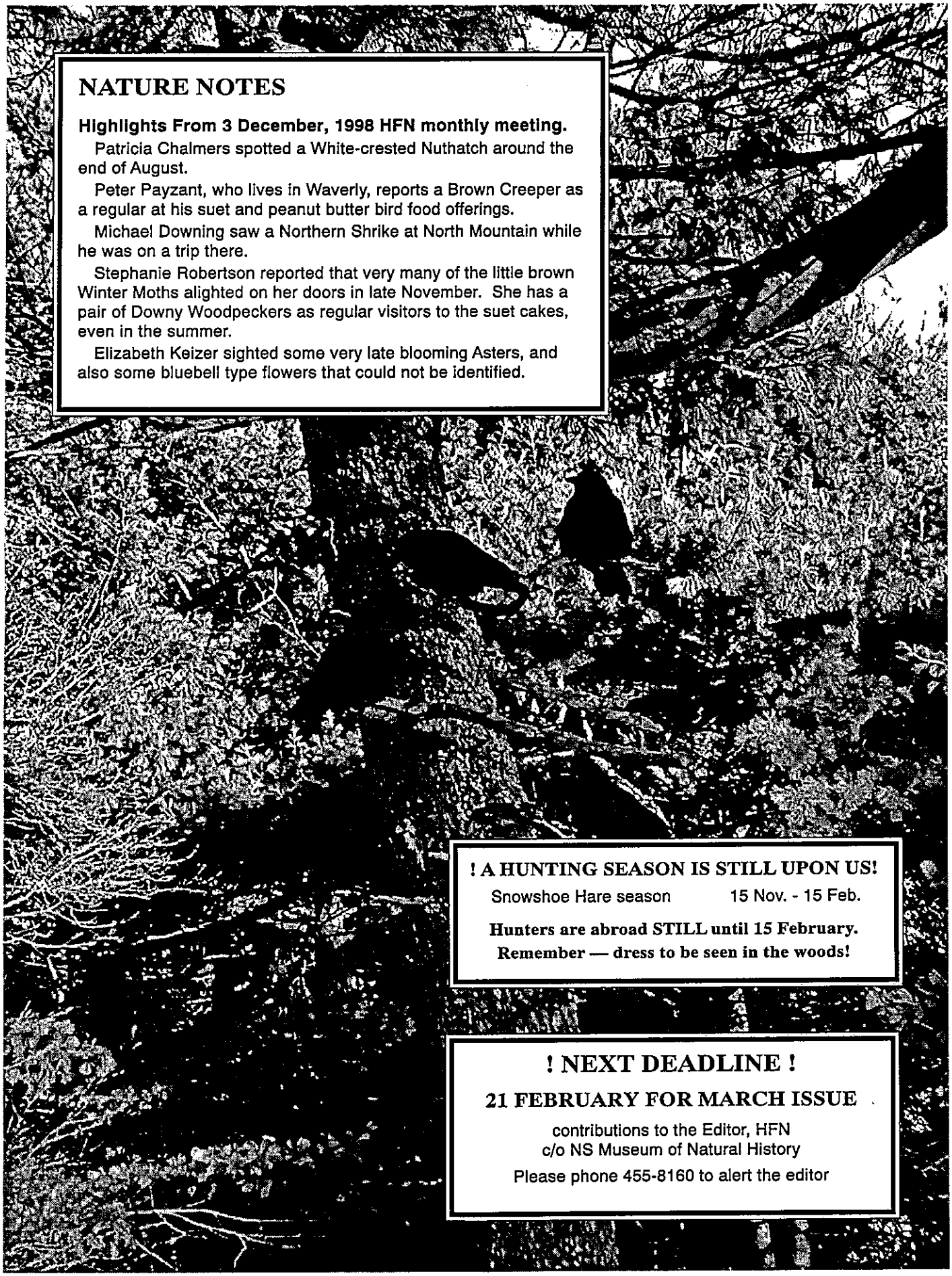
February-février

Day	Time	Feet	Metres	jour	heure	pieds	metres
1	0240	1.3	0.4	**16**	0205	1.3	0.4
	0820	6.6	2.0		0800	6.2	1.9
MO	1505	0.3	0.1	TU	1430	0.3	0.1
LU	2055	6.2	1.9	MA	2035	6.2	1.9
2	0325	1.3	0.4	**17**	0250	1.0	0.3
	0905	6.2	1.9		0845	6.2	1.9
TU	1550	0.7	0.2	WE	1515	0.3	0.1
MA	2140	6.2	1.9	ME	2115	6.2	1.9
3	0410	1.3	0.4	**18**	0335	1.0	0.3
	0950	6.2	1.9		0925	6.2	1.9
WE	1630	1.0	0.3	TH	1555	0.3	0.1
ME	2220	5.9	1.8	JE	2155	6.2	1.9
4	0450	1.6	0.5	**19**	0425	1.0	0.3
	1030	5.9	1.8		1010	6.2	1.9
TH	1710	1.0	0.3	FR	1645	0.7	0.2
JE	2300	5.9	1.8	VE	2235	6.2	1.9
5	0535	1.6	0.5	**20**	0515	1.0	0.3
	1110	5.6	1.7		1055	6.2	1.9
FR	1745	1.3	0.4	SA	1735	1.0	0.3
VE	2340	5.6	1.7	SA	2320	6.2	1.9
6	0620	2.0	0.6	**21**	0615	1.0	0.3
	1155	5.2	1.6		1145	5.9	1.8
SA	1830	1.6	0.5	SU	1835	1.3	0.4
SA				DI			
7	0020	5.6	1.7	**22**	0010	6.2	1.9
	0710	2.0	0.6		0720	1.3	0.4
SU	1240	4.9	1.5	MO	1235	5.6	1.7
DI	1915	2.0	0.6	LU	1935	1.3	0.4
8	0105	5.2	1.6	**23**	0100	5.9	1.8
	0805	2.0	0.6		0825	1.3	0.4
MO	1330	4.6	1.4	TU	1335	5.2	1.6
LU	2005	2.3	0.7	MA	2040	1.6	0.5
9	0155	4.9	1.5	**24**	0205	5.6	1.7
	0855	2.0	0.6		0925	1.3	0.4
TU	1430	4.6	1.4	WE	1450	4.9	1.5
MA	2100	2.3	0.7	ME	2150	1.6	0.5
10	0255	4.9	1.5	**25**	0315	5.6	1.7
	0950	2.0	0.6		1030	1.0	0.3
WE	1545	4.6	1.4	TH	1615	4.9	1.5
ME	2200	2.3	0.7	JE	2255	1.6	0.5
11	0400	4.9	1.5	**26**	0430	5.6	1.7
	1045	1.6	0.5		1130	1.0	0.3
TH	1655	4.6	1.4	FR	1725	5.2	1.6
JE	2255	2.3	0.7	VE	2355	1.6	0.5
12	0500	5.2	1.6	**27**	0535	5.9	1.8
	1140	1.6	0.5		1225	0.7	0.2
FR	1745	4.9	1.5	SA	1820	5.6	1.7
VE	2350	2.0	0.6	SA			
13	0550	5.6	1.7	**28**	0050	1.3	0.4
	1225	1.3	0.4		0630	5.9	1.8
SA	1835	5.2	1.6	SU	1320	0.7	0.2
SA				DI	1910	5.9	1.8
14	0035	2.0	0.6				
	0635	5.9	1.8				
SU	1310	1.0	0.3				
DI	1915	5.6	1.7				
15	0120	1.6	0.5				
	0720	5.9	1.8				
MO	1350	0.7	0.2				
LU	1955	5.9	1.8				



March-mars

Day	Time	Feet	Metres	jour	heure	pieds	metres
1	0140	1.3	0.4	**16**	0055	1.3	0.4
	0720	6.2	1.9		0650	5.9	1.8
MO	1405	0.7	0.2	TU	1320	0.7	0.2
LU	1955	5.9	1.8	MA	1925	5.9	1.8
2	0225	1.3	0.4	**17**	0145	1.0	0.3
	0805	6.2	1.9		0735	6.2	1.9
TU	1445	0.7	0.2	WE	1405	0.3	0.1
MA	2035	5.9	1.8	ME	2005	6.2	1.9
3	0305	1.3	0.4	**18**	0230	0.7	0.2
	0845	6.2	1.9		0820	6.2	1.9
WE	1520	0.7	0.2	TH	1450	0.3	0.1
ME	2110	5.9	1.8	JE	2045	6.6	2.0
4	0340	1.3	0.4	**19**	0315	0.3	0.1
	0925	5.9	1.8		0905	6.6	2.0
TH	1555	1.0	0.3	FR	1535	0.3	0.1
JE	2150	5.9	1.8	VE	2130	6.6	2.0
5	0415	1.3	0.4	**20**	0405	0.3	0.1
	1005	5.9	1.8		0955	6.2	1.9
FR	1625	1.3	0.4	SA	1625	0.7	0.2
VE	2225	5.9	1.8	SA	2215	6.6	2.0
6	0450	1.3	0.4	**21**	0500	0.3	0.1
	1045	5.6	1.7		1040	6.2	1.9
SA	1655	1.6	0.5	SU	1720	1.0	0.3
SA	2300	5.6	1.7	DI	2300	6.6	2.0
7	0525	1.6	0.5	**22**	0600	0.7	0.2
	1125	5.2	1.6		1130	5.9	1.8
SU	1735	2.0	0.6	MO	1820	1.3	0.4
DI	2340	5.6	1.7	LU	2350	6.2	1.9
8	0615	1.6	0.5	**23**	0705	0.7	0.2
	1205	4.9	1.5		1225	5.6	1.7
MO	1820	2.0	0.6	TU	1925	1.6	0.5
LU				MA			
9	0020	5.2	1.6	**24**	0040	5.9	1.8
	0705	2.0	0.6		0805	1.0	0.3
TU	1250	4.9	1.5	WE	1325	5.2	1.6
MA	1915	2.3	0.7	ME	2035	1.6	0.5
10	0105	4.9	1.5	**25**	0140	5.2	1.6
	0805	2.0	0.6		0910	1.0	0.3
WE	1345	4.6	1.4	TH	1440	4.9	1.5
ME	2015	2.3	0.7	JE	2140	1.6	0.5
11	0200	4.9	1.5	**26**	0255	5.2	1.6
	0900	2.0	0.6		1010	1.0	0.3
TH	1455	4.6	1.4	FR	1605	4.9	1.5
JE	2120	2.3	0.7	VE	2245	1.6	0.5
12	0305	4.9	1.5	**27**	0415	5.2	1.6
	1000	1.6	0.5		1110	1.0	0.3
FR	1610	4.6	1.4	SA	1715	5.2	1.6
VE	2220	2.3	0.7	SA	2340	1.6	0.5
13	0415	4.9	1.5	**28**	0525	5.2	1.6
	1055	1.6	0.5		1205	1.0	0.3
SA	1710	4.9	1.5	SU	1805	5.6	1.7
SA	2315	2.0	0.6	DI			
14	0515	5.2	1.6	**29**	0035	1.3	0.4
	1150	1.3	0.4		0620	5.6	1.7
SU	1800	5.2	1.6	MO	1255	1.0	0.3
DI				LU	1850	5.6	1.7
15	0010	1.6	0.5	**30**	0120	1.3	0.4
	0605	5.6	1.7		0705	5.6	1.7
MO	1235	1.0	0.3	TU	1340	1.0	0.3
LU	1840	5.6	1.7	MA	1930	5.9	1.8
				31	0205	1.0	0.3
					0745	5.9	1.8
				WE	1420	1.0	0.3
				ME	2005	5.9	1.8



NATURE NOTES

Highlights From 3 December, 1998 HFN monthly meeting.

Patricia Chalmers spotted a White-crested Nuthatch around the end of August.

Peter Payzant, who lives in Waverly, reports a Brown Creeper as a regular at his suet and peanut butter bird food offerings.

Michael Downing saw a Northern Shrike at North Mountain while he was on a trip there.

Stephanie Robertson reported that very many of the little brown Winter Moths alighted on her doors in late November. She has a pair of Downy Woodpeckers as regular visitors to the suet cakes, even in the summer.

Elizabeth Keizer sighted some very late blooming Asters, and also some bluebell type flowers that could not be identified.

! A HUNTING SEASON IS STILL UPON US!

Snowshoe Hare season 15 Nov. - 15 Feb.

Hunters are abroad STILL until 15 February.
Remember — dress to be seen in the woods!

! NEXT DEADLINE !

21 FEBRUARY FOR MARCH ISSUE

contributions to the Editor, HFN
c/o NS Museum of Natural History

Please phone 455-8160 to alert the editor