

# HALIFAX FIELD NATURALISTS' NEWSLETTER

June '89 to August '89

No. 55



Return address:  
Halifax Field Naturalists  
c/o Nova Scotia Museum  
1747 Summer Street  
Halifax, NS B3H 3A6



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# HALIFAX • FIELD • NATURALISTS

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**Objectives** 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** On the first Thursday of every month at 8:00 pm in the auditorium of the Nova Scotia Museum, 1747 Summer Street, Halifax.

**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.**

**Membership** Are 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 Chairman, Halifax Field Naturalists, c/o NS Museum. Please note that as and from January 1, 1989, fees will be increased as follows:

|            |                  |
|------------|------------------|
| Individual | \$10.00 per year |
| Family     | \$15.00 per year |
| Supporting | \$20.00 per year |

All memberships cover Halifax Field Naturalists fiscal year January 1 to December 31. Members receive the HFN Newsletter and notices of all meetings, field trips, and special programs.

**Executive 1989**

|                      |                       |          |
|----------------------|-----------------------|----------|
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| Past President ..... | John van der Meer     |          |

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Stephanie Robertson, Shirley van Nostrand

**Mailing Address** Halifax Field Naturalists  
c/o Nova Scotia Museum  
1747 Summer Street, Halifax, NS B3H 3A6

|            |                                 |                              |          |
|------------|---------------------------------|------------------------------|----------|
| Newsletter | Editor .....                    | Ursula Grigg                 |          |
|            | Layout Editor .....             | Stephanie Robertson .....    | 422-6366 |
|            | Editorial Staff .....           | Margaret Liston .....        | 423-1966 |
|            | .....                           | Nancy MacNearney .....       | 457-1532 |
|            | .....                           | John Strong .....            | 477-1351 |
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|            | Public Service Announcements..  | Doug Linzey .....            | 445-4943 |

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# HFN NEWS AND ANNOUNCEMENTS



## From the Editor-

With the formation of the Nova Scotia Trails Federation, an important piece of advocacy has entered its second phase due to the hard work of its steering committee, which included Michael Downing and Colin Stewart; we are proud of their success. There is a report of the first annual meeting of the N.S. Trails Federation on page 4.

Our intervention on behalf of a stronger N.S. Parks Act has had one astonishing result, in that the Canadian Nature Conservancy has withheld the piece of land at Conrad's Beach which was bought to incorporate into the proposed Provincial Park there. The Conservancy statement appears on page 6; it brought comment from both of Metro's daily papers, and one of them follows it.

On the other hand, our recent field trips have involved the enjoyment of nature as usual.

## New and Returning Members

Sylvia J. Amey  
Jan Bachman  
Mihaela Botea  
Janice & Anthony Chapman  
Arthur Collier  
B. Corner  
Helen & G.R. Filliter  
Merritt A. Gibson  
Lonsdale W. Holland  
Jill & James Kerr  
Denise Landry-MacLean  
Garth MacLean  
Amanda Napke  
Evan Penney  
P. Robertson-Corner  
Carol Smeraldo  
Marie Thompson  
M.B. Valentine Bachman



## CANADIAN PARKS AND WILDERNESS SOCIETY

CPAWS was founded in 1963 with a mission to "promote the protection of national, provincial and territorial parks and other places of natural significance so that Canadians, as well as visitors, develop a personal commitment to, and enjoy and benefit from, parks, wildlands and natural areas for all time." They have fulfilled their mission by engaging in some of the most bitter conservation battles of the past, including campaigns to save South Moresby, establish Grasslands and the Bruce Peninsula Parks, and secure amendments to the National Parks Act. Many of us must remember the Port Moresby Caravan. They were also involved in establishing marine parks, and are campaigning for more sensitive ways of exploiting resources.

Unfortunately, although CPAWS membership has risen with the publication of the first issue of 'Borealis,' an excellent environmental magazine, corporate financial support has dropped, so they find themselves in debt. The president, Ted Mosquin, has appealed to CAWS members for extra donations to carry them through this period, while the executive director is working to rebuild corporate support. His appeal ends:

"The forces working to exploit and destroy the natural world are powerful, persistent and well-financed. We simply must build a far stronger Society to do our work.

Wilderness, parks, natural areas and clean waters are vital to our planet's health and to our own happiness, freedom and survival. We cannot succeed without your contributions to the Society."

If anyone would like to join CPAWS, or make a donation to their funds, the address is: Canadian Parks and Wilderness Society, Suite 1150, 160 Bloor Street, Toronto, ONT, M4W 1B9. Membership costs \$23 single, \$28 household, \$17 for students and seniors; amounts above these would be appreciated, and are tax-deductible.

This is a good moment to join, as the second issue of Borealis is due.

# FIRST ANNUAL MEETING OF THE NOVA SCOTIA TRAILS FEDERATION



**DATE:** 6 May 1989

**PLACE:** The Fairbanks Center, Shubie Park,  
Dartmouth

**WEATHER:** Cold, misty, occasional rain

**PARTICIPANTS:** at least 80, coming and going  
all day

The Nova Scotia Trails Federation was founded by a number of organizations to protect, expand and improve the trails in this province, which they all use in the course of their activities. It was first proposed at the 'Trails for Tomorrow' conference in 1987; at the Trails Forum in June 1988, a steering committee was set up to deal with the formalities needed for registration, which took place in March 1989. The May 6th meeting was therefore the first annual meeting of the Federation. The organizing bodies were:

- Bicycle Nova Scotia*
- The Canadian Hostelling Association of Nova Scotia*
- The Canadian Motorcycle Association Atlantic Region*
- The Dartmouth Volksmarch Club*
- The Equestrian Federation of Nova Scotia*
- The Halifax Field Naturalists*
- Nordic Ski Nova Scotia*
- The Snowmobilers' Association of Nova Scotia*

The Fairbanks Center was opened for our meeting; Mrs Mildred Richardson, the curator, welcomed us. The building is spacious, with a ramp connecting the two levels. There are cabinets containing artifacts found during excavation of the site. There are also fascinating displays showing the local geography - the Shubenacadie Canal here runs between Lakes Micmac and Charles - and the engineering which made the canal navigable. There is a working model of a lock, complete with gates, sluices and a boat, in the middle of the ramp; children, and others, got wet and learned a lot.

Richard Morash, a Forest ecologist, led about 20 people, including children, on a nature walk through the woods of Shubie Park. The first

part was through mostly hardwood stands, with fascinating leaf-filled ponds in the hollows. The cold weather had delayed spring blooms, but the birds were easily seen among the bare branches. Most were wintering species such as red-breasted nuthatches, black capped chickadees and golden crowned kinglets; however, two hermit thrushes turned their backs pretending we were not there, and a black and white warbler perched on a twig in full view. A solitary vireo was harder to see, though it was recognised by its song. Richard showed us the top of Lake Micmac, and led us through a dry upland carpeted with lambkill to a coniferous forest, the banks of the canal, and the bottom of Lake Charles. At intervals we met the Volksmarchers striding vigorously in the opposite direction.



Back at the Fairbanks Center we observed a bicycle tethered to the railings and regretted that there were no horses.

We lunched warmly in the equipment shed below the Center. Michael Downing made pancakes two dozen at a time, standing between a sack of whole-wheat flour and a propane griddle. He wore a pancake-shaped chef's hat, had bags of mysterious ingredients beside him, and enjoyed himself very much. Shirley van Nostrand flipped the pancakes on to our plates.

About 45 people assembled in the auditorium for the meeting, chaired by Dan Lefort. Michael Downing gave a short history of the Nova Scotia Trails Act, only proclaimed on

January 1, 1989, and the history and nature of the Trails Federation; Colin Stewart presented the Federation's (healthy) financial statement. A brain-storming session followed, in which the goals of the federation were discussed and priorities set. The most urgent goals seemed to concern the identification of trails so that they could be used as soon as possible. The need to keep them groomed and protected from disappearing came next. The need to seek cooperation from land-owners was also stressed.

The meeting was told that the Board of Directors of the Shubencadie Canal wanted to add a hiking trail alongside the canal, and had some problems which might provide an interesting test case for resolution by the Trails Act.

The Trails Federation clearly has the goodwill of many organisations and people, has a hope of obtaining funding, and a good chance of fulfilling its mandate.

-Ursula Grigg

## THE CANADIAN NATURE FEDERATION'S REACTION TO THE NEW PARKS ACT



### Nova Scotia's New Parks Act a Disappointment

As of New Year's Day, a new Provincial Parks Act came into force in Nova Scotia. But contrary to what one might think, naturalists are not celebrating the event.

The Halifax Field Naturalists are leading the attack, and with good reason. They feel the Act has three fundamental weaknesses: it neglects to make a clear distinction between sites of natural, historical or aesthetic value and sites to be used merely for outdoor recreation; it fails to assign top priority to conservation; and it allows too much administrative discretion.



Blue-spotted Salamander



Yellow-spotted Salamander

More specifically, the Act does not offer provincial parks real protection. It favours recreational developments and permits mining, logging, hunting and other related activities within park boundaries. It even allows the minister of lands and forests to withdraw land from parks or eliminate parks completely without any public consultation.

The CNF has a definite interest in the concerns expressed by our Halifax affiliate. Several years ago, the federation acquired a piece of property at Conrad's Beach, east of Dartmouth, in an area designated to become a provincial park. The transfer of the property to the province to facilitate park establishment was being considered. However, the CNF is not willing to relinquish title to the land if its protection cannot be guaranteed.

The Halifax Field Naturalists are calling for the expansion of the parks system to include examples of all major Nova Scotian habitats. Further, they would like to see large areas designated as wilderness parks. Although they agree with the need to provide services adequate to support enjoyment of a site's intrinsic features, they deplore the concept of development for development's sake.

On the positive side, the Halifax Field Naturalists whole-heartedly support provisions for expanded volunteer involvement in park operations, as well as rigorous enforcement of park regulations designed to protect resources.

-From the Canadian Nature Federation's  
'Almanac'.



## Nature Group Delays Land Gift Because of Weak Law.

The Canadian Nature Federation is delaying plans to donate land near Conrad's Beach to the province because of weaknesses in the recently enacted parks legislation.

The beach land was to be included in a proposed Cole Harbour-Lawrencetown Coastal Heritage Park, but naturalists said yesterday they will not hand over the parcel of land unless the province can guarantee it will be protected.

Federation executive director Paul Griss said that while there is no sense of confrontation with the province over the land, the lack of protection could be a real obstacle in any negotiations over the establishment of a park in the area.

The beach is important as a nesting site for the endangered piping plover, the only officially endangered species which breeds in the province. The federation's parcel includes a parking lot and small spit, effectively giving the group control over access to the beach and any potential park in the area.

Griss said the federation acquired the land from the Canadian Nature Conservancy several years ago in hopes of speeding up establishment of the park but now they are considerably less "eager" to do so.

He said the federation does not normally buy land and has only one other parcel in Alberta.

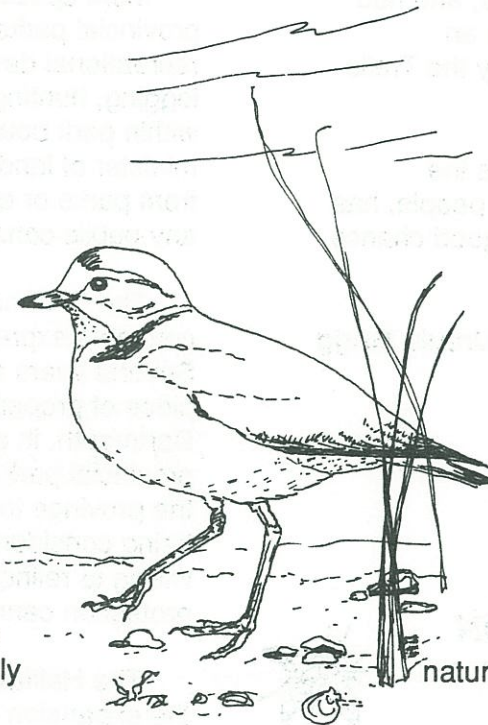
Another problem for local naturalists with the proposed park is a plan to break it up into zones, some of which would allow heavy recreation use.

The federation became concerned with the lack of protection for the park after being notified by its local affiliate, the 200 member Halifax Field Naturalists.

Society president Michael Downing said the new Parks Act, which took effect on Jan. 1, is simply insufficient to offer protection for areas such as Conrad's Beach.

Downing said the new legislation, which is based largely on past acts, 'shares the faults of its parents.'

Of particular worry to the naturalists is the provision in the new law which allows the government to increase or decrease the size of a provincial park without public consultations.

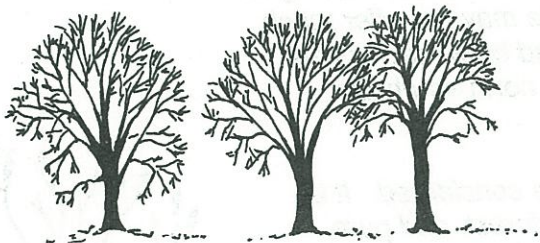
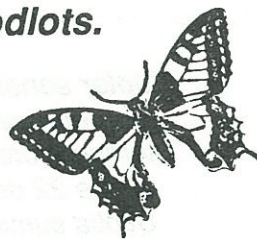


The act gives the government the power to terminate the status of any park.

**-Stephen Bornais,  
The Daily News, 21 April 1989**



## Wildlife, Waterways and Woodlots.



Lakes and streams throughout Nova Scotia offer opportunities to a wide variety of animals, from moose to salamanders. Forested lands bordering these areas provide some of the best habitat or living areas for our wildlife species.

This article takes a fresh look at forestry practices on lands near waterways. Buffer strips along waterways should be considered special management zones, where shelterwood, strip and patch cutting and other alternatives to large scale clearcutting can be employed. This approach maintains fish and wildlife habitat while still offering forestry benefits - a vital concern, since good timber is often found along watercourses.



Woodlot owners can easily find a good deal of material about woodlot management, but finding information on managing wildlife on woodlots is not so easy.

In order to plan a special management zone along a watercourse, the woodlot owner has to study the variety of wildlife using the area. Frequent walks through the woodlot will reveal tracks in the mud or snow, browsed plants, and droppings. Glimpses of the disappearing creatures can also help one to discover the animals that share the forest. Forest management plans can then be expanded to include provisions for wildlife.

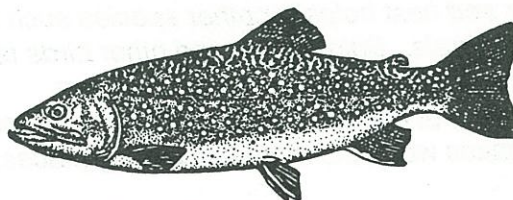
The width of special management zones can vary from 10 to 330 feet or more on each side of a water way; selection is based on the following factors:

### LAND SENSITIVITY

**Soil type:** Streams flow through areas with different soils, some of which erode more easily than others; disturbing such soils can result in stream siltation. Soil maps may be needed, or experiments to determine the sensitivity of the site.

**Water table:** It is important to know how near the surface the water levels are; they vary with the time of year. The woodlot owner who has been stuck with his machinery knows which patches to work around.

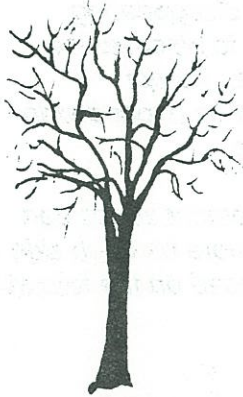
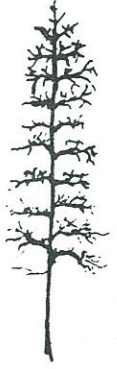
**Slope:** The slope of land near the water is important; steeper slopes require wider special management zones to prevent silt from crossing the buffer strip and spoiling good fish habitat.



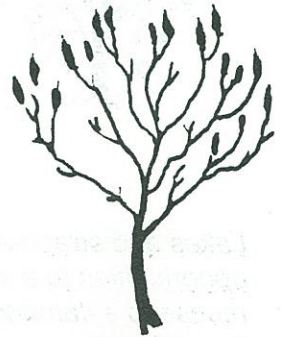
BROOK TROUT  
(*Salvelinus fontinalis*)



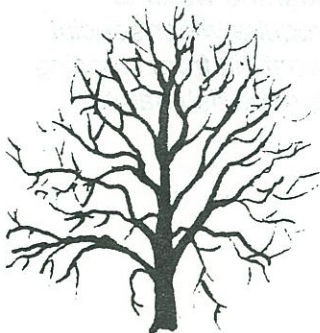
**Solar sensitivity:** Trout and salmon thrive in water temperatures between 14-16 degrees Celsius. As water temperatures rise, the oxygen available for fish decreases; at above 22 degrees Celsius, the fish begin to die. In Nova Scotia summer water temperatures above 30 degrees are common in rivers and open streams. Unless a stream is supplied by cold spring water, forest shade is essential for trout and salmon to survive. Leaving trees along a stream will keep the water cool enough; the shade provided by individual trees varies with size, shape and species, and by position in relation to the summer sun. For example, the south side provides most of the shade for a brook flowing in an east-west direction. The north side may not offer much summer shade but is the side favoured by wintering deer since it faces south. Brooks oriented north-south are sheltered by trees on both sides.



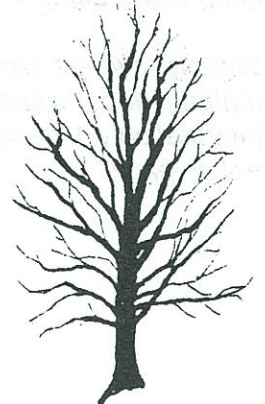
Wind and storm damage must also be considered. It is common for overmature mixed-wood forest, and pure softwoods exposed by clearcutting, to blow down. The same is true of younger, closely spaced stands with small, competing root systems; softwoods are shallow-rooted. Well-intentioned one-tree wide buffer strips keep machinery out of the brook but fall down in autumn storms; these small brooks are important habitat for young trout - even when the water partially dries up in summer.



Younger stands of trees can be cleaned or spaced to strengthen their roots. Where overmature wood borders a stream or lake the buffer strip may have to be widened to minimize blow-down. A few trees falling into a brook may make good fish habitat by creating pools, but if they all uproot and fall at once, the channel may widen, water become shallow, and protection from predators can be lost. If a zone of overmature trees is left, the softwood could be harvested gradually, while young trees would establish in the spaces left.



Up to one quarter of our wildlife use dead, dying or very old trees, which can be left standing along waterways. The use continues even after the trees have fallen to the ground, and their nutrients are eventually recycled and become new forest. Old trees in the special management zone attract woodpeckers, which chip out nests that later become important shelter and nest holes for other species such as owls and flying squirrels. Bald eagles and other birds favour tall old hardwoods and white pines for nest building. Careful management of edges of waterways benefits more than wildlife; it makes woodlots more fascinating places.



**-Adapted from an article for woodlot owners by Bob Bancroft; Conservation, Fall, 1988.**



# HFN FIELD TRIPS

## BALD EAGLES IN THE CANARD, CANNING, AND SHEFFIELD MILLS AREA

**DATE:** Sunday, February 5, 1989

**PLACE:** Port Williams, Canning, Sheffield Mills Area

**WEATHER:** Very cold and windy with sunny intervals

**PARTICIPANTS:** 43

**BALD EAGLES:** 88

**NATURE INTERPRETER:** Dr. Merritt Gibson, Chairman of the Biology Department, Acadia University



It was a frosty morning when 21 Halifax Field Naturalists departed at 8:30 on February 5<sup>th</sup> for Acadia Gym parking lot where we were joined by 17 Blomidon Naturalists, 5 Annapolis Naturalists and our very distinguished mentor, Dr. Merritt Gibson.

After a short explanation of the day's itinerary and a brief photo session for the local paper, we boarded the chartered bus and were off for a spectacular and exciting day of sighting and counting Bald Eagles (*Haliaeetus leucocephalus*). Little did we know what a rare treat was in store for us in spite of the  $-18^{\circ}$  temperature.

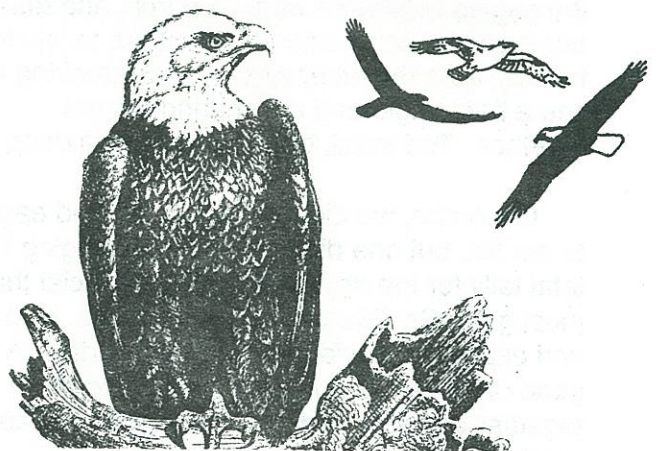
We drove to Port Williams where the first eagle was sighted in a tree. Then two more at another farm, one adult and one immature. To improve our "eagle eye" we scratched the frost off the inside of the bus windows with credit cards. At Upper Canard we saw three in an elm tree, and more and more as we drove on until we stopped, got out and, peering through binoculars and scopes, counted 22 eagles and two red-tailed hawks, while huge ravens, crows and gulls hovered around the "feeding station". It was

interesting to watch the activity. One eagle had a large piece of carcass and in spite of his efforts to take it back to a tree, it dropped from his talons beside the fence.

The poultry farmers in this region put out carrion, and the bald eagles come in great numbers from Cape Breton (Bras d'Or Lake, Lake Ainslie areas) with some from Newfoundland and Labrador to feed during the winter. In late February and March they return to get ready for the nesting season. Dr. Gibson said there are only two pairs known to nest in mainland Nova Scotia.

We had more stops and more eagle counts - 50 at this point. Near Baines Road we saw three colourful pheasant cocks scurrying into the low bushes.

At Canning the driver stopped and made a phone call to check on the eagle population at White Rock. He got a promising report so we drove on, spotting more eagles which brought the count to 74. At White Rock we stopped to watch the fabulous activity as 13 eagles soared, swooped, fed and rested. We could see the plumage of first year and older birds. It takes four or five years for eagles to reach full adulthood with distinctive white head and tail feathers.



The huge black ravens were well worth watching too. After the feeding frenzy subsided, we boarded the bus and went up the road just far enough to turn. When we passed by about five minutes later, there were only five eagles to be seen and all was quiet. So we had definitely

been in the right place at the right time. Eagle count - 87.

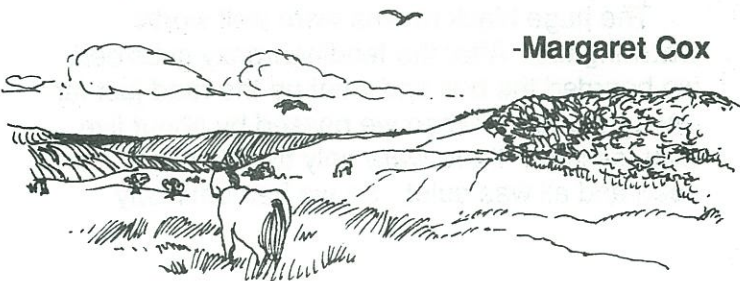
We then drove back to Acadia University and walked up three flights of stairs to the Robie Tufts Biology Lab. There, spread out on long tables, were 26 eagle skins of different ages. This included all changes in colour and plumage which occurred each year up to maturity. We saw the Robie Tufts Library and the very special Downes Collection of bird specimens. Dr. Gibson explained the significance of many things around us. The taxidermist left samples to show us the different stages in preparing bird skins for mounting. First, the "body" with no feathers, then at a later stage, with feathers held down with hair clips, and finally the mounted life-like form. Some of the bird and animal specimens were not native to Nova Scotia.

In the company of these fine feathered creatures we had our lunch. When we had finished our meal and our informative tour of the lab, we returned to our cars. A few of us drove to the farm of Cyril Coldwell in the Gaspereaux Valley where he looks after injured animals. Hopefully, most can be restored to health and released again into the wild. That afternoon there were six bald eagles, a red-tailed hawk and a snowy owl.

While we watched the eagles in their large enclosure, a small cat slipped in and started to eat the meat from a carcass. Suddenly one of the eagles flew down from its perch, and much to our surprise, not to attack the cat but to join in feeding from the other side. It was amazing to see a bald eagle and cat sharing a meal together. The meal, by the way, was a dead calf.

Of course, we did not add the injured eagles to our list, but one did fly overhead bringing the total tally for the day to 88. Very special thanks must go to Dr. Gibson whose guidance, kindness and expertise provided a memorable day. A good driver and a bus where we could all be together certainly added to the enjoyment and safety for all.

-Margaret Cox



## WINTER WILDLIFE SIGNS IN THE HARRIETSFIELD AREA

**DATE:** February 11, 1989

**PLACE:** Harrietsfield area

**WEATHER:** Cold and overcast

**LEADER:** Ed Claridge, Nova Scotia Museum

**PARTICIPANTS:** 18, including three children

Approximately 18 people (including three children) headed off into the wilds of Harrietsfield on Saturday February 11, to look for winter signs of wildlife with Ed Claridge. He is a biologist with the Nova Scotia Museum who has many years of experience in the outdoors. He kept the early arrivals entertained, in the museum parking lot, with stories of coy-dogs and the unfortunate relationship among moose, parasites and deer.



Though the trees looked lovely with their snow cover, there was not really enough of the white stuff to require skis or snowshoes. We weren't long onto the trail before we started identifying animal runs, learning the difference between rabbits and hares, and seeing or hearing red breasted nut hatches, and boreal and black capped chickadees.

A squirrel midden was particularly interesting, and led to a discussion about flying squirrels, which are apparently quite common in Nova Scotia, but difficult to find because of their nocturnal habits. (A small depression in the snow with tracks leading away from it, may identify a spot where a flying squirrel landed the night before!) Another stop on the hike led to a discussion on black spruce, white spruce and larch.

Birds identified on the walk included the golden crowned kinglet, the white winged crossbill and crows. Animal tracks found belonged to a feral cat, white-footed mice, meadow voles, hare and deer. Ed also pointed out places where deer had scraped their antlers the year before, signs of porcupine, and signs of browsing by hare, deer and moose.

Lunch was a particularly memorable event, as Ed built a fire and invited everyone to toast their sandwiches in the forked stick he had cut. Sitting around a campfire built on the snow is a hard to forget experience.

As our tired group finished the walk I noticed that Ed still seemed to be bubbling with energy. I wondered if our four hour trek had merely been a warm up for him, and if perhaps, he was now heading off for a serious hike in the woods.

-John Maly



## DALHOUSIE BIOLOGY LAB TOUR

**DATE:** Saturday afternoon, March 4, 1989

**PLACE:** Biology Laboratory of Dalhousie University

**PARTICIPANTS:** 23

**LEADER:** Dr. Chris Corkett, Instructor Biology Department

Chris kindly met the group at the main door of the Biology Department in the Life Sciences Centre. As we walked along the corridor he pointed out pictures depicting the construction of the building, into which the Biology Department had moved in 1971. Pictures of faculty and staff, past and present, looked down upon us from the walls.

In the biology laboratory we all took seats on the lab stools while Chris showed us slides of the Aquatron Sea Water System which is used in this building. A pumphouse on the Northwest Arm shore supplies sea water to the building 24 hours a day. All three departments in this building (Biology, Oceanography, and Psychology) use the large seawater tanks for various experiments.

On the slides we saw experiments on the life cycle of the cod worm. This experiment was being carried out on contract with National Sea Products Ltd. In another tank squid had laid eggs for the first time in captivity. The very deep tower tank had an experiment in progress to determine the effects of water pressure on animals - in this case salmon were being used to discover the effects of pressure on their air bladders.

The Thomas McCulloch Museum, which has just celebrated its 150th anniversary, is next door to the Biology Lab. Its walls are lined with large glass display cases showing every species of loon, grebe, cormorant, many varieties of duck and also many shore birds. Land birds included owls, hawks, bald eagles, grouse and falcons. All these preserved and mounted birds were part of the natural science collection of Thomas McCulloch, the first principal of Dalhousie College.

The Museum also houses the prized Lorenzen Ceramic Mushroom Collection. This is one of the few entire collections in existence - each specimen is detailed in every respect and all the species are found in N.S. This collection was donated to Dalhousie University in 1976 by Dr. Constance McFarlane - who herself was a graduate of the Biology Department at Dalhousie. Displays of seashells, butterflies, 3 fish tanks etc. make up permanent displays.

In one glass case there were two hand painted plastic replicas of the now extinct Labrador duck (*Camptorhynchus labradorius*). In 1871 the last living specimen in Canada had been shot at Grand Manan, although previously these ducks were reasonably common in Pictou and Halifax harbours. Until 1971 Dalhousie Biology lab had had one of the few remaining preserved specimens, but it was decided the National Museum of Science in Ottawa could provide a safer location for it. The plastic ones

# NEW NOVA SCOTIAN GEOLOGICAL HISTORY AND GEOLOGICAL COLLECTION

**DATE:** April 2nd, 1989

**PLACE:** Nova Scotia Museum, Geology section

**LEADER:** Bob Grantham



Au

On April 2nd, 1989 a group of field naturalists was given a tour of the geology section of the Nova Scotia Museum. This part of the museum has recently been renovated and expanded into a fascinating display.

Our tour guide was Bob Grantham (St. Mary's University, 1970), the geology curator of the museum since 1974, and he treated us to a look at the seldom-seen laboratory section before giving us a personal tour of the displays.

The geology section is part of the natural history department of the museum, and its behind-the-scenes activities take place in the large bright laboratory on the top floor. It looked a bit unimpressive at first because, aside from the benches with books and the odd microscope or two, there didn't seem to be much except large steel cabinets. These cabinets, however, hold some of the museum's most valuable and beautiful specimens, and the tour group had a wonderful time looking at these treasures.

We started with a look at those minerals with the simplest chemical formulae. These included the native elements such as gold (Au), silver (Ag), copper (Cu), and the many and varied samples of quartz ( $\text{SiO}_2$ ). We had such an absorbing time with these beautiful samples that we never did get to the more complex minerals. To give you an idea of just how complex a mineral's chemical formula can be, the formula for tourmaline (a mineral common in Nova Scotia granites) is:

$\text{Na}(\text{Mg}, \text{Fe}, \text{Li}, \text{Al})_3 \text{Al}_6 (\text{Si}_6 \text{O}_{18}) (\text{BO}_3)_3 (\text{OH}, \text{F})_4$ . Small wonder that geologists call it the 'garbage' mineral - it has everything in it!

We learned that the early Indian inhabitants of Nova Scotia pounded native copper into shapes both ornamental and useful, and that you should keep your opals in oil to stop them from dehydrating and spoiling. We also learned that some of the best of the museum's samples were discovered under rather mundane circumstances. For example, some really beautiful quartz crystals were found when the Bayers Lake Industrial Park was under construction.

The group then moved on to the fossil collection. The museum is fortunate in having a few unique samples, most notably the fin spine of *Gyrocampus magnificus*. This fossil is a holotype or specimen type, the specimen to which all other specimens are compared for fossil identification. The museum also has fossil bones of the Moa, a flightless bird which went extinct about 2000 years ago, shark's teeth four inches long and 25 million years old, and a 10-15 million year old turtle.

The collection also contains numerous samples from the Parrsboro area. These mammal-like reptiles are 200 million years old, very rare, and very important to both geologists and evolutionary biologists. They represent a

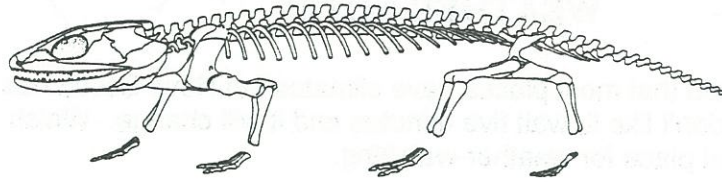


$\text{SiO}_2$



Cu

Reconstruction of the  
Dendropeton  
acadianum dis-  
covered at Joggins in  
1987



unique clue to the evolutionary development of mammals from their reptilian ancestors.

The tour then proceeded to the display areas open to the public. A great deal of thought and care has produced exhibits that introduce the viewer to the geologist's world, beginning with minerals and rocks in hand samples, together with the tools and techniques of geology. Other exhibits give a global perspective on geology by means of a hands-on geological time scale, and a globe demonstrating how plate tectonics has shaped the surface of our planet.

Nova Scotia has a rich geological past that is depicted in several interesting dioramas. The southern part of the province was once part of North Africa, and has since been intruded by huge amounts of magma that have cooled into extensive granites; some of these give us the spectacular scenery of Peggy's Cove and hold our numerous swamps. The large tropical forests of the Carboniferous era produced the coal deposits that have played such an important part in Nova Scotia's economy. And the present landscape is a direct result of the movement of glaciers during the ice ages. The area of the Bras d'Or Lakes was once the home of mastodons. Even more fascinating evidence points to human presence 30,000 years ago; a mastodon's thigh bone with butcher marks on it. The museum also contains such interesting items as fossil worm trails that are 500-600 million years old, amphibian and reptile footprints from the Carboniferous era, and footprints made by a four meter high dinosaur named Ammosaurus.

Altogether it was a thoroughly enjoyable afternoon. Many thanks to Bob Grantham for sharing his time and expertise with us.

-Roberta Hicks

#### **Bob Grantham's Recipe for Gold**

- a quantity of gold-bearing quartz vein, broken into pieces\*
- mercury
- camp stove
- potato, cut in half

After crushing the quartz, wash the particles with mercury. The gold will stick to the mercury and the result will be a ball of mixed gold and mercury. Place a potato half over the mouth of the container holding the mercury and gold. Heat the container over the camp stove. When the cooking is finished, the mercury will be in the potato and the gold will be left in the container.

\*This may be the most difficult item to obtain. If any readers do have access to a supply, they may inform the author of its location. She promises to pass the information on to the museum — in her will!

## WEATHER NOTES

It's often said that most places have climates but Nova Scotia has weather; if you don't like it, wait five minutes and it will change. Which makes it an ideal place for weather-watching.

Tide-watchers and other naturalists need to know a bit about weather too, because bad weather can spoil a trip, or at least derail it into another sort of nature walk. For example, seed shrimps simply vanish after heavy rain, reappearing a day or two later when the bottom has stabilised.

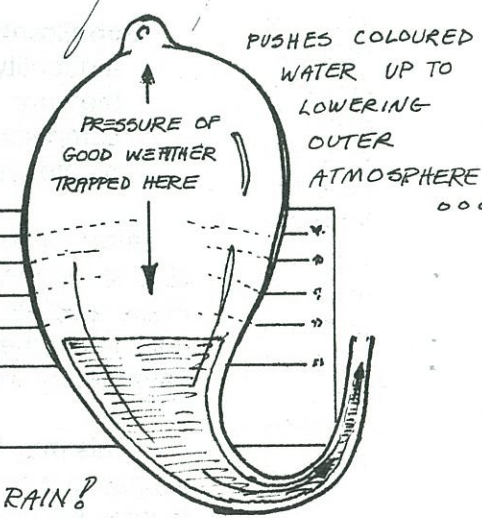
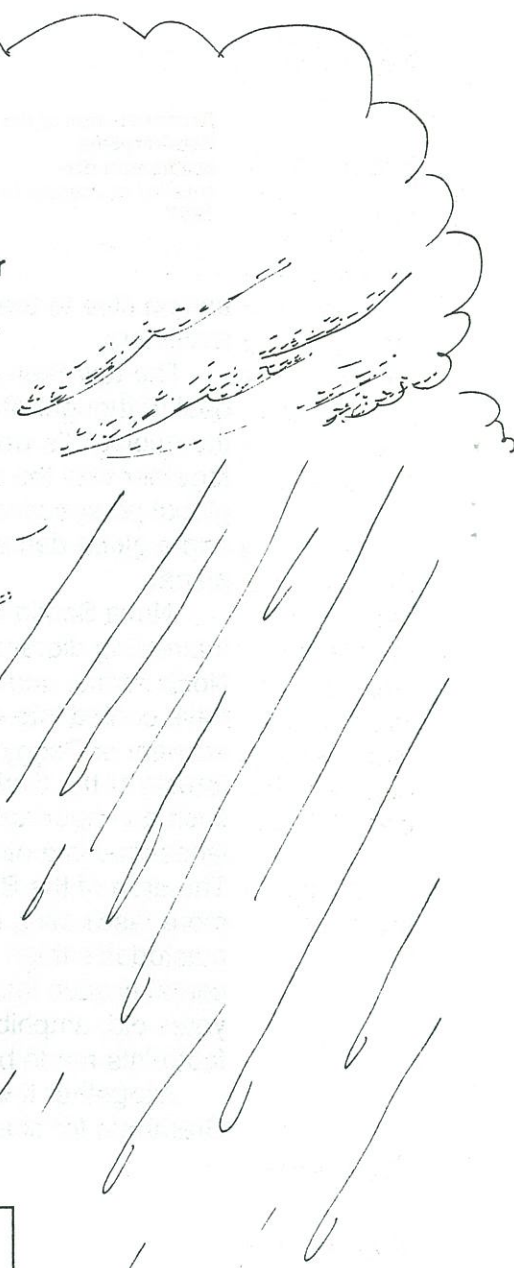
The tools of weather-watching are: the telephone numbers for the Department of Environment's public forecasts, both the general one and that for Halifax Harbour; a cheap barometer, which can be of the Cape Cod variety; a compass, or at least the knowledge of how your home sits; and a small notebook for a diary. An outdoor thermometer is useful, but the forecast gives a local temperature.

Then you call the forecast numbers every day, noting down the details, and add your own observations on the direction and force of the wind, and the behaviour of the barometer. Keep an eye on the accuracy of the forecasts, and you will soon learn how your own area, and your favourite outdoor spots, differ; this is usually due to protective hills or woods, or the lack of them. Also, the forecasts are made for whole provinces, not our small habitats.

You will also notice that the weather repeats itself in cycles of three or four days, going from rain to sun, to a hazy day and a cloudy one, and back to rain. After this comes cloud-watching, and the thrilling hunt for all the phenomena in the meteorology books; The "Little Golden Guide to Meteorology" is a good introduction to these.

Here is a table for interpreting wind and barometer observations.

| WIND          | PRESSURE          | WEATHER                  |
|---------------|-------------------|--------------------------|
| E to N        | Low, falling fast | Severe gale, rain        |
| E to N        | Low but rising    | Cold wave                |
| S to E        | Falling           | Storm, clearing in a day |
| S to SW       | Rising            | Clearing, fair ahead     |
| SE to NE      | Falling           | Rain for 1 or 2 days     |
| E to NE       | falling           | Rain within 24 hours     |
| S to SE       | Falling           | Wind, rain in 18 hours   |
| SW to NW      | Steady            | Fair for 2 days          |
| SW to NW      | Rising fast       | Fair, rain in 2 days     |
| Going to West | Rising            | Clearing, colder         |



A Cape Cod Barometer





## The Sea

*A man has so much water in his hide  
He ought to surge with each incoming tide.  
And all his cells, like creatures of the deep,  
Should glow with phosphorescence in his sleep.  
And he should bellow like leviathan.  
Though cast ashore on some wave's creamy span  
And left to welter age and age ago,  
Great tidal forces in him still can flow:  
Sea-water in his veins, and tears of salt.  
His ears like conches roar within a vault,  
His heart revisits chasms drowned and dim.  
The old sea-mother still remembers him.*

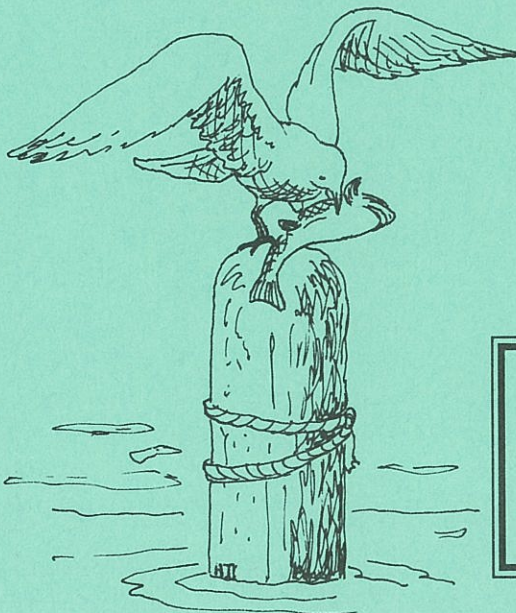
Anonymous.

### Aileen Meagher Hasti-Notes

Our Aileen Meagher hasti-notes have been reprinted, and this second batch has sold more than half already (\$4.00 for a packet of 12). If you, too, would like some of these attractive hasti-notes, they will be available "on the table" at our June 1989 HFN meeting; or contact Bernice Moores at 422-5292, or Stephanie Robertson at 422-6366.

### HFN Logo Pins

There are only 16 HFN logo enamelled lapel pins left! We are not sure whether we will be ordering a second batch of these. Don't forget to pick yours up at the next meeting, or contact Bernice or Stephanie at the above telephone numbers. Cost — \$5.00.



**! NEXT DEADLINE !**  
**15 July, for August Issue**  
Contributions to the Editor, HFN  
c/o NS Museum or: phone 455-8126

