HALIFAX FIELD NATURALISTS' NEWSLETTER

March '91 to May '91

No. 62



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

Cecropia Moth Hyalophora cecropia

HALIFAX • FIELD • NATURALISTS

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	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 Chairman, Halifax Field Naturalists, c/o NS Museum. New memberships, starting from September 1, will be valid until the end of the following membership year. The regular membership year is from January 1 to December 31. Members receive the HFN Newsletter and notices of all meetings, field trips, and special programmes. The fees are as follows:											
	Individual\$10.00 per year Family\$15.00 per year Supporting\$20.00 per year											
Executive 1989	President											
Directors	Richard Ballard, David Bessonette, Doug Linzey, Bob McDonald, Bernice Moores, Clarence Stevens II, Colin Stewart, Shirley van Nostrand											
Mailing Address	Halifax Field Naturalists c/o Nova Scotia Museum 1747 Summer St., Halifax, Nova Scotia B3H 3A6											
Committees	Newsletter Editor Ursula Grigg Layout/Art Editor Stephanie Robertson 422-6366 Programme Trips Richard Ballard Agger Rittmaster 826-2346 Talks Richard Ballard Conservation Issues Colin Stewart Af66-7168 Ursula Grigg Clarence Stevens II 835-0098 Doug Linzey 445-4943 Bird Atlas Coord. HFN Clarence Stevens II 835-0098 Publicity/Membership Doug Linzey 445-4943 PSA's Shirley van Nostrand 445-2776 HFN is incorporated under the Nova Scotia Societies Act and is a member organization of the Canadian Nature Federation. It is registered for federal income tax purposes. Official receipts will be issued for individual and corporate gitts. The HFN Newsletter is printed with the assistance of the Nova Scotia Museum.											
Illustrations	This Issue (No. 62): Cover - Cecropia Moth - E. Wilkin from <i>Butterflies and Moths</i> , The Golden Library of Knowledge, Cec. Caterpillar - H. Springer from <i>A first Look at Caterpillars</i> , by M. Selsam & J. Hunt; pp. 3 - 5 from the collection of Past Editor Doris Butters, scene p. 5 - H. Derbyshire; p. 7 - N. Webster, <i>The Fresh & Saltwater Fishes of The World</i> ; p. 8 - coyote by B. Dodge, birds from the collection of Doris Butters; p. 9 - p. 12 from <i>Conservation, Vol 12, No. 2</i> , Dept. of Lands & Forests; p. 10 - cranberries - H. Derbyshire, plants from the collection of Doris Butters; p. 12 - collection of Doris Butters; p. 13 - Red-tailed Hawk from copyright-free illustrations of <i>Animals</i> , Dover Press; p. 14 - moth from ditto p. 13, caterpillar - W. Lubell from <i>Caterpillars</i> , by D. Sterling; p. 15 - Tide Table courtesy Dept. of Transport; p. 16, seals - H. Derbyshire, background - C. Marshall, Hallmark Cards.											

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HFN NEWS AND ANNOUNCEMENTS



EDITORIAL

This spring newsletter comes at the end of a surprisingly warm and easy winter. Fortunately the cold snaps were sufficient to hold back the premature development of spring flowering bulbs and tree buds. We've also had some very low spring tides which the gulls have expoloited by taking usually submerged mussels at Point Pleasant Park's rocky shores.

HFN members have enjoyed a number of excellent field trips. Six reports are published in this issue; thanks to the members who wrote them.

Director Bob McDonald has contributed an article on the Blue Mountain Conservation Society, which is concerned about degradation of the lakes and forests northwest of Halifax. The society is asking for information on our recreational use of this area.

The HFN Conservation Issues Committee is asking for input on the subject of incineration of municipal waste.

Doug Linzey's report on the Nova Scotia Trails Federation includes an announcement of a conference on 'Rails to Trails' to be held in June; they will need volunteers for this. Volunteers are also needed for this year's Piping Plover survey on our beaches. Looking for Piping Plovers is a very pleasant way to spend an early summer day.

There is a special article from Canadian Science News on a new Coelacanth find, that ancient and successful fish that has been around since before the dinosaurs; a wonderful fibreglass model of this interesting creature is on display in the corridor near the marine bird display in the Nova Scotia Museum.



VOLUNTEERS NEEDED IN ATLANTIC CANADA

The Piping Plover is listed as an endangered species in Canada, and endangered or threatened in the United States. Efforts are being made to conserve the species. To help measure the success of these efforts, an accurate count of the number of Piping Plovers is required now and in the future. The first simultaneous census throughout North America is scheduled for 1991. This is an enormous task. Hence, your assistance is urgently needed. If you can visit one or more sandy beaches in Atlantic Canada during the first two weeks of June 1991, then send us your name, address, and telephone number, and indicate which beach you would like to census. We will forward the census instructions and forms.

Thanks for the help!

Bruce Johnson and Stephen Flemming Canadian Wildlife Service PO Box 1590, Sackville New Brunswick E0A 3C0



NEW AND RETURNING MEMBERS

Susan A. McLeanMaPaul FranklinCarCarolyn WhitewaySeaSteve CookGaSusan MacRaeDelM. Patterson & K. HodgesSylJames & Bernice TaylorJillPat, Peter, and Brendan Loucks

Marie Lagimodiere Carman Keddy Sean Kelly Gary & Ann Smith Deborah A. Kaetz Sylvia J. Amey Jill Comolli cks



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SPECIAL REPORTS

HFN SUBMISSION TO THE N.S. ROUND TABLE OF ENVIRONMENT AND ECONOMY

In 1987, the National Task Force on Environment and Economy called for the establishment of provincial Round Tables on Environment and Economy. Nova Scotia, through the Round Table Approach, is developing a sustainable development strategy that will attempt to integrate economic and environmental concerns.

To this end the Nova Scotia Round Table has made available issue papers on such topics as forest, water, mineral, and soil resources, and shellfish and waste management. Each issue paper presents a very general provincial overview and some general questions presumably to generate public response. Also included is a questionnaire in which the public is urged to define the issues.

A committee, composed of Chairman Jim Ross, Doug Linzey, and Ursula Grigg, was charged with formulating a submission on behalf of HFN. The committee chose not to reply to the questionnaire because of its broad-spectrum approach. It opted instead to address the issues directly. The result was a ten-page response, "A Submission to the Nova Scotia Round Table of Environment and Economy Concerning a Sustainable Development Strategy for Nova Scotia", Jan. 30, 1991. The report is available for interested persons to read by contacting any one of the committee members. A copy will also be available for perusal 'on the table' at the upcoming HFN meetings.

One of our main concerns was that documents provided by the Round Table did not define 'sustainable development', a value-laden term with different meanings for politician, developer, and naturalist. We believe that HFN's definition would involve the concept of an intact environment maintained for the long-term in such a way that later generations would have no less enjoyment from it than we do.

Several themes emerged from our discussions, not the least of which was that of 'integration'. We emphasised to the N. S. Round Table that an integrated approach to the problems of sustainable development was essential. Without this type of ecological thinking, the result is an illusion of sustainability. The HFN Round Table Committee encouraged the Province of Nova Scotia to take a responsible global perspective and do whatever is necessary, as an absolute priority, to preserve an increasingly distressed environment.

As a committee charged with the task of forming a response we felt that the questionnaire format could not adequately address the concerns of all our members. therefore, we encourage each Halifax Field Naturalist to respond to the questionnaire individually.



THE BLUE MOUNTAIN CONSERVATION SOCIETY — A CALL FOR INPUT

The Blue Mountain Conservation Society (BMCS) is an organisation formed about one year ago whose mandate is to promote conservation of the crown land within the area bounded by Bicentennial Drive, Kearney Lake/Hammonds Plains Road (Highway 213), and Highway 103 (see the 1:50,000 topographical map for Halifax 11D/12). If any further developments are to be carried out on adjoining land, we also wish to ensure that any development of adjoining land be done in a manner that will not endanger our area.

Every outdoor-oriented group within the metro area was approached to send a representative to BMCS meetings. Cross-country skiers, walkers, birders, and other naturalists were there. I am the Halifax Field Naturalists' representative.

Those familiar with this area will recognise that included in it are the Birch Cove Lakes (including Susie's Lake), Ragged, Kearney, Long, and Cox's Lakes; with Blue Mountain Hill (elev. 500') in the middle. Some may also be aware that the area has experienced increasing pressure from industrial development. The Bayer's Lake Industrial Park devastated a large area, the quarry off the Bi-hi at Susie Lake is expanding, and a new quarry near Kearney/Ragged/Lewis Lakes has been proposed (and considerable site preparation done). Another group of concerned citizens, the Black Duck Committee, has expressed opposition to this latter project and has asked for support from the BMCS. We have supported their opposition both as a group and individually but our focus is broader — to preserve as much of this still very wild (although not wilderness) area in its present form.

A small delegation from BMCS (including the writer) met in June with M. Barry Diamond, Director, Parks and Recreation Branch of the N.S. Department of Lands and Forests to express our concerns about development in this area and to ask how the BMCS could most effectively fulfill its mandate. We stressed the importance of these lands as an existing recreational resource because of its proximity to a large urban population. Mr. Diamond suggested that we should attempt to document the recreational use of this area by surveying our constituent societies. Which brings me to the reason for this background information.

This is a call for input as to how the HFN and its members have used this area in the past, in particular the old logging road off the Kearney Lake Road about 1 - 2 km past Kearney Lake. We do know that this area is used extensively by cross-country skiers in the winter and by hikers and bird watchers during the spring and summer but what I need is documentation of its use by our members.

So, if you have used this trail or any others within this area for any purpose, please send me a short note with the following information:

- a) your name, address, contact phone number
- b) number of times trail(s) used
- c) time(s) of year
- d) length of hike(s)
- e) purpose of visit
- f) what you saw

Of particular interest would be a list, even partial, of flora and fauna species seen. Such information collected and summarised would be most useful at public hearings relating to further development and would form the base data of a more thorough-going biological survey of the area.

Please mail your input to, or contact:

Bob McDonald, Director, HFN, 102 Glenforest Drive, Halifax, N.S., B3M 1H8

or phone 443-5051 (h) for further information. Deadline date — March 31, 1991.

- Bob McDonald



TO BURN OR NOT TO BURN...

The HFN Conservation Issues Committee has been following the deliberations of the Metropolitan Authority in the quest for a new solid waste management plan. In July 1990 the Solid Waste Management Advisory Committee presented its Phase 1 report, in which it detailed five management strategies and 40 recommendations. The Committee recommended the adoption of a strategy which would produce a usable compost. Subsequently, the Authority stated its intent to adopt a strategy of which a major component is incineration; a formal decision would be made at its February 12th meeting.

At a single public information meeting a few days before the Authority's scheduled vote, the public made it abundantly clear that a decision in favour of incineration at this stage would be premature. The Authority then announced that it would defer a decision beyond February 12.

We have written to the Metropolitan Authority encouraging them to follow a course more in line with the recommendations of their Advisory Committee. We have emphasised the importance of establishing priorities (as many other jurisdictions have done) for the components of solid waste management. They are, in order: 1. Reduction at source (through education, regulation etc.); 2. Re-use of materials; 3. Recovery of useful constituents (including recycling and composting); and finally, 4. Landfill of remaining waste, which may or may not be subject to incineration first.

We strongly recommend that the Metropolitan Authority resolve not to consider incineration until other components are working effectively, at which time incineration can be publicly analysed and debated in full detail and in its proper perspective. This should not affect the current search for a new landfill site. Anyone who is interested in this subject (it does affect us all) or who would like to comment may contact me at 445-4943.

NOVA SCOTIA TRAILS FEDERATION NEWS



A major move is afoot across North America - the preservation of abandoned rail lines as recreation corridors. Commonly known as Rails to Trails, this phenomenon is taking hold here in Nova Scotia and in other parts of Atlantic Canada,

NSTF recognises that there is a lot of interest but not much experience at this end of the country. Therefore we are organising a conference to be held in the Halifax-Dartmouth Metro area from June 21-23.

SPECIAL ARTICLES

The theme is "Get Your Tract Together." The conference will focus on:

- how to preserve the corridor;
- how to work with landowners and government;
- how to plan for multi-use;
- how you fit in the Big Picture.

As with any conference, we can certainly use volunteers. If you're interested, please call Catherine Bradshaw, Conference Chairperson, at 479-3085, or Marcel Maessen, Executive Director, NSTF, at 425-5450.



FAKE EGGS TO SAVE ENDANGERED BIRDS

The Piping Plover, a small, endangered shorebird, will soon be given a chance to boost its dwindling population, with the help of a fake plover egg developed by biologists at the Quebec regional office of the Canadian Wildlife Service.

Piping Plovers lay their eggs in small depressions on sandy beaches, just above the high-water mark. Although both nest and eggs are well camouflaged, their location offers little protection from Atlantic storms, which often wash the eggs away. The summer of 1990 brought several such storms, and prompted CWS biologist Pierre LaPorte to begin thinking about how the eggs might be saved.

With the help of a friend who works in ceramics, LaPorte produced a fake egg so realistic that even a mother plover thought it was one of her eggs. Besides matching the appearance of a real egg, the fake egg had to have the same heat conductivity as the real one, and be heavier, so that it would not be carried off by the waves.

"Heat conductivity was particularly important," LaPorte explains. " more conductive material could drain heat from the mother's body, and threaten her health." Since the birds are an endangered species, it was very important that the experiment not pose any threat to the health of the adults.

The scientists tested just one fake egg in the summer of 1990 and found that it deceives the birds. However, storm season was already over. In summer 1991, when storms are predicted, the biologists will remove eggs from nests dangerously close to the water line, replace them with fakes, and place the real ones in an incubator. When the threat is over, the real eggs will be returned.

CWS biologists also plan to redistribute young plovers among nesting pairs, so that if a pair loses its young or fail to produce a full clutch, it will adopt a chick from a pair which has a full clutch (which usually contains four eggs.) In summer 1990, they tested the ability of an adult to adopt another chick by placing a chick that they had incubated near another recently hatched chick on the beach, and watched from a distance.

"After about two minutes, one of the adults began to groom it," says LaPorte; this was evidence that the adult had accepted the adopted chick.

Humans pose another threat to Piping Plovers, since they frequent beaches - the birds' nesting areas. This fact was proven in 1990; LaPorte's fake egg was stolen about ten days after the female began incubating it. Footprints around the site were evidence that someone took the egg, no doubt thinking it was real.

With the threat of storms and human predators, why do the birds choose such risky nesting sites? LaPorte explains that their strategy is to nest in open areas where they can see danger approaching. Like Killdeer Plovers, adults will put on a display to draw predators away from the nest.

> — Lorraine Brown, Canadian Science News, Vol. 9, No. 17.



"MAYFLOWER" (EDWARA PEPENS)

BARK BEETLE SURVEY REVIEW IN POINT PLEASANT PARK

DATE: January 13, 1991 PLACE: Point Pleasant Park WEATHER: Cold; heavy snow-cover after a storm LEADER: Stephanie Robertson PARTICIPANTS: 6

Undoubtedly the heavy snow kept many HFN members away on this first field trip of the year. It took me some time to dig out of our driveway!

A well-written summary of the Bark Beetle Survey of Point Pleasant Park was printed in the last issue of the HFN Newsletter, December 1990 — February 1991, # 61. Despite the objective, scientific and established approach of the survey, and its conclusions that the beetles are not a threat to the trees, there is still debate as to whether the treecutting at Point Pleasant has stopped.

Several participants brought snowshoesand/or skis. It took awhile to get these properly adjusted as we started out, but finally the bugs were ironed out and everybody seemed to be travelling smoothly. Two HFN members who were involved in the Bark Beetle Survey, Stephanie Robertson and Rick Ballard, contributed valuable insight into the study and the issues.

The first stop was trapping site #10 — a wet gully area of mature Red Spruce and White Pine. This area is subjected to annual flooding, and the water stays there for about seven months of the year. A 140 - 170 year-old Red Spruce had been girdled to stress it and therefore attract bark beetles. Stephanie explained that this log had had the heaviest infestation of bark beetles out of all the girdled-tree traps — 101 out of 112 entrance holes were counted here. A stovepipe trap had also been set up, as at all the other sites. Also as part of the study, another Red Spruce log had been brought in from the Log storage site as a different type of trap for the park's beetles to make three types of trap at each of 30 sites for a total of 90 traps. We stopped at Site #15 at which only a very small tree had been girdled. No beetle holes were evident in this tree at the time of the girdled-tree holecounting.

We discussed the problems of finding an objective forester. Forestry education in the past has been concerned with forest productivity, in terms of yield of high-grade lumber. By this lumber industry standard are judged to be 'good' if they are straight and suitable for lumber production. While it is not the objective of public parks to produce lumber, experts called in to evaluate the park's trees still tend to look upon trees in these terms. In contrast, an ecologist sees a crooked tree as one with character and history.

We also discussed the problem of continual removal of biomass from an area in the form of lumber, firewood, and burnt slash. When this happens, the area's soil becomes becomes progressively depleted of minerals — micronutrients needed for plant and tree life. This is critical in Point Pleasant Park as the soil is naturally poor in these micronutrients.

Two clearings were observed where logs and firewood for the public barbecues were stored.

The Bark Beetle Survey found no traditionally destructive (to the lumber industry) species of bark beetles. The degree of infestation by Point Pleasant Park's particular beetles was much less than found in a comparative survey of a healthy mixed forest near Chalk River, Ontario, after which this survey was partially modelled.

- Steve Saunders



NATURAL HISTORY

THE CECROPIA MOTH

In the summer of 1985, I had the great pleasure of setting up the public programme for the Nova Scotia Museum's Project Room. Some of the main attractions were live animal displays including two wood mice, garter snakes, an egg-laden green snake, the giant slug Limax maximus, two bullfrogs, fresh and salt water aquaria and various residents, yellow spotted salamanders, bullfrog tadpoles, baby snapping turtles, wood and painted turtles, and most rewarding of all, about 75 Cecropia Moth Caterpillars. In June, entomologist Barry wright had put the small, black, young caterpillars in a 6-foot, glass museum display case. In the early stages, fresh branches of Amelanchier were needed only once a week to keep them well-fed. Tthe tiny young caterpillars measured 1/4 to 1/2 inches in length and went about their business of eating and growing almost invisibly.

What, you may well ask, (and I will allow you), can possible be rewarding in a Cecropia Caterpillar display? All kinds of things. First, there was no aquarium to clean, and their food was easily-gathered - branches of Amelanchier, set up in a large jar with water, from along the railway cut in the south end of the city. Second, they grew into very interesting, voracious, giant hairless caterpillars. By the last weeks of August, they had turned into to four-inch monsters and had taken on the green hue of their chlorophyll-laden food. Whether people liked or were repelled by them, their attraction was magnetic! Visiting children enjoyed holding them very much. they could feel the sticky little feet crawling along their fingers. There was no danger of them escaping suddenly to hide somewhere in the room waiting to be found and/or stepped on; they were dry, not wet and/or slimy, and therefore not difficult to hold. Because of their large size and slow movement, all their body parts could be seen very easily. Cecropia Caterpillars have three pairs of true legs up front; they prepare the cocoon and later turn into the legs of the moth. Five pairs of 'velcro-tipped' prolegs support the rest of the body and do most of the travelling for the caterpillar. They disappear with metamorphosis.

Visitors were fascinated daily by the loud sounds of 75 four-inch caterpillars denuding branches and branches of Amelanchier leaves. Just before they were ready to spin their cocoons, I had to make extra weekend trips to satisfy their voracious appetites! Watched by an enthralled audience, they spun their large, puffy brown pouches along the sides of the Amelanchier twigs, and also on the sides of the museum case. Barry then whisked them away to the depths of the Natural History Lab to be brought out the following March, when they emerged as moths, mated, and layed eggs in the NSM Project Room for their ardent fans. Like most Lepidoptera, the Cecropia Moth lives only for three or four days, long enough to mate and lay its eggs which soon hatch and begin to devour their leafy homes. As the growing caterpillar eats, it molts several times to accommodate its increasing body size.

Cecropia Caterpillars will eat and cocoon on Choke Cherry, Pin Cherry, Amelanchier, Hawthorne, Spiraea, Viburnum, Birch, Alder, Poplar, Plum, Elderberry, Apple, Willow, and Red Maple. The cocoon doesn't hang, but is attached lengthwise to a twig of the plant on which the larva has fed, and remains there all winter. During this time, hormones cause the caterpillar to metamorphose into a beautiful, feathery looking, winged adult, which will emerge and mate in the spring. As soon as emergence takes place, the heart pumps blood into the veins of the curled-up wings, causing them to open out and stiffen into colourful glory, ready for flight. This beautiful, feathery, large moth (four to six inches across), Hyalophora cecropia, is a Saturniid -the Giant Silkworm Moth family. After a Cecropia cocoon is empty, you can soak it in boiling water, just as is done for a real silkworm cocoon, and then with tweezers unravel and separate its strands of silk. You won't be able to sew with them, however, as the threads aren't as long or as strong as those produced by the Asian caterpillar. It has been reported on MacNab's Island, in Lower Sackville, Halifax County, Mount Uniacke, Stellarton, Annapolis, and Digby. It is predominantly brown and orange, with white, black, and yellow touches. It is not as common near Halifax as it used to be, though plentiful in recent years in Digby and Annapolis counties. The Cecropia is single-brooded, and lays 200 to 300 chalky-white oval eggs in early summer, a few at a time, on the undersides of the leaves of its choice.

Try to find and raise some of these animals this summer — you won't be disappointed!

TABLE DES MARÉES

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WE	1 1 2	035 705 310	1.6 5.1 1.8	1.5 1.6 .5	TH JE	0520 1150 1750	5.9	1.6 .3 1.8	10 FR VE	043 103 165 232	10 15 15	1.7 1.5 5.5	1.4 .5 1.7 .4	25 SA SA	0005 0550 1210 1755	1.4 1.4	.3 1.6 .4 1.8	10 MO	0545 1200 1755	5.0 1.4 5.0	1.5 .4 1.8	25 TU	0105 0655 1315	7 5.0 1.7	.2 1.5 .5
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SU DI	01	730 340 945	5.6 1.0 5.3 1	.2 .7 .3 I	29 NO LU	0235 0820 1440 2025	5.6 1.3 6.0	.1 1.7 .4 1.8	14 TU MA	0200 0750 1410 2000	576	13	.1 1.7 .3 2.0	29 WE ME	0240 0840 1450 2040	5.6	.2 1.6 .5 1.7	14 FR VE	0325 0925 1545 2130	0.2 5.9 1.1 6.3	-0.1 1.8 .3 1.9	29 SA SA	0320 0935 1525 2140	5.4 1	.2
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NATURE NOTES

Around Christmastime, Gareth Harding found a dead Flying Squirrel in Point Pleasant Park. Does anyone else have any other sightings of flying squirrels in Halifax or the Park? Does anyone have any idea of how it got there? In February, Gareth saw the tracks of a Raccoon.

Harbour seals were sighted by a fellow dog-walker off Point Pleasant before Christmas. Regina Maass reports having seen one on a rock in December at the Dingle. Pat Sarratt came across a baby Grey Seal February 15, 1991, on the rocks near the anchor monument in Point Pleasant Park. Paul Brodie of Dal Oceanography says the pupping season this year on Sable Island has been very successful, so we may see more young ones off our coasts.

There is a tame Tufted Duck and a tame Canvasback at Sullivan's Pond in Dartmouth. Clarence Stevens II reports that four Canvasbacks were seen at the head of Bedford Basin on New Year's Day — also one in Tuft's cove, and one at the head of St. Margaret's Bay.

Otters are being seen at Conrad's Beach everyday. Muskrats have been reported at Rocky Run there also.

Ardent HFN birders report that the numbers of White-breasted Nuthatches and Creepers are up this year. A Ruby-crowned Kinglet was seen at a feeder in Dartmouth. Tim Randall and Clarence Stevens II report that some of the gulls in the Public Gardens are Ringbills.

- S. Robertson

! NEXT DEADLINE ! May 15 for June Issue

Contributions to the Editor, HFN c/o NS Museum or phone 455-8126