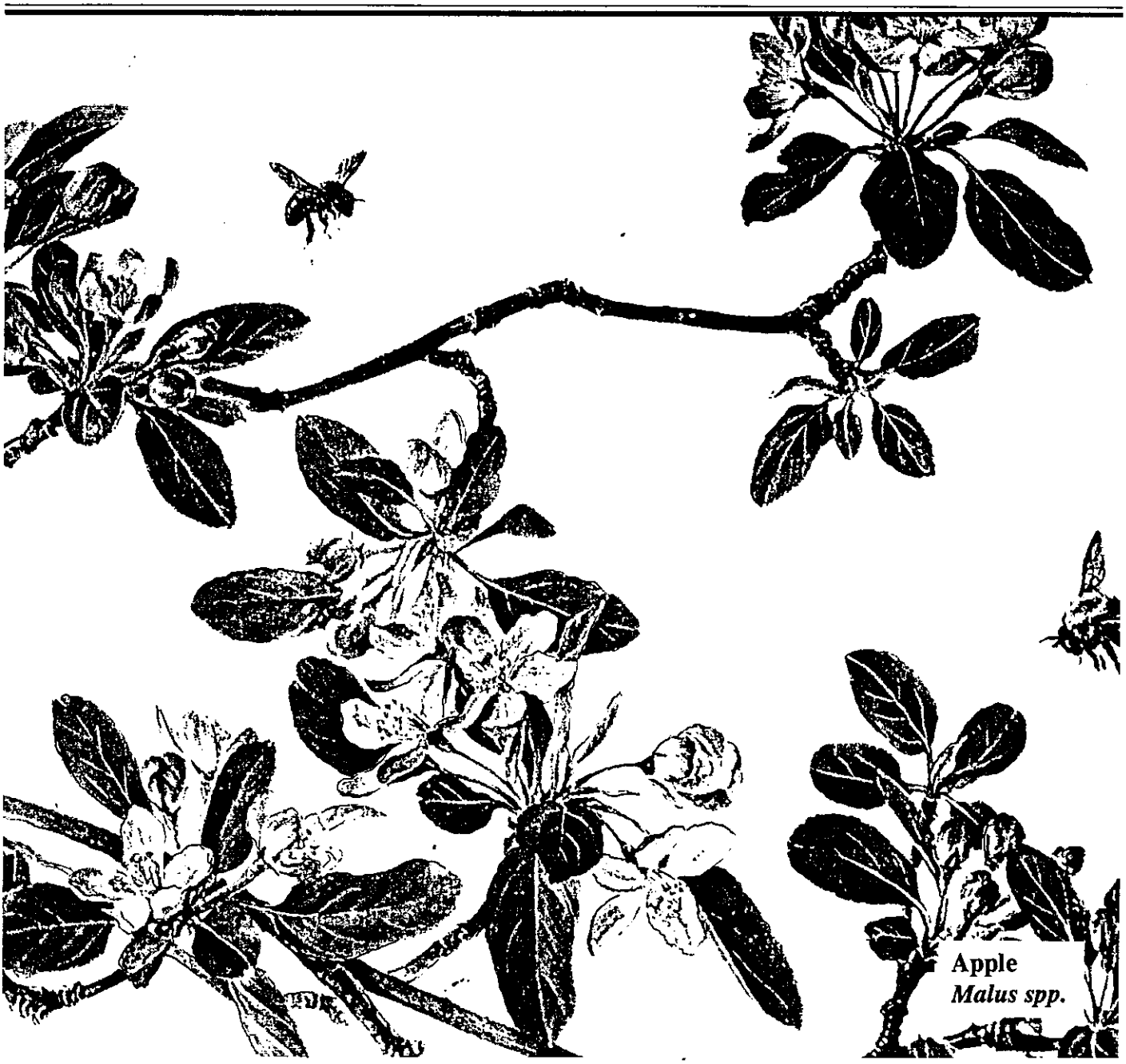
THE HALIFAX FIELD NATURALIST

No. 86
March 1997 to May 1997



Apple
Malus spp.

Return address: HFN, c/o NS Museum of Natural History, 1747 Summer Street, Halifax, NS, B3H 3A6

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 Are held, except for July and August, on the first Thursday of every month at 8:00 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.** Everyone, member or not, is welcome to take part in field trips.

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 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	$13.00 per year
Family	$19.00 per year
Supporting	$25.00 per year
FNSN (opt.)	$5.00 per year

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HFN NEWS AND ANNOUNCEMENTS

EDITORIAL

It's spring, but doesn't feel like it! Don't pull off the mulch yet, but fill the feeders, and plant a few hopeful seeds indoors!

The most pressing issue at present is the de-listing of Nova Sotia's special sites, Jim Campbells Barren. Perhaps we can have this decision reversed; please see the article on page 8.

To enjoy the summer, come with HFN on one of the surveys described below, and consult our Almanac on pp. 9 & 10. Plan especially come to the weekend of June 13 - 15, when HFN hosts the FNSN annual meeting. All HFN members are eligible to vote, by the way.

Step outside and see the sun, the moon, and the comet. (Last week's full moon is rumoured to have influenced the rush to sell Bre-X shares... !)

THE IN-BASKET

BUTTERFLY COUNT

Once again this year HFN will conduct a Canada Day butterfly count sponsored by the American Butterfly Association. This will be our second annual count. It won't necessarily occur on Canada Day, but it will be some time in July. We'll keep you posted!

UNIACKE BIOTA SURVEY

This spring we will conduct the first of four seasonal surveys along the trails of beautiful Uniacke Estate Museum Park on Saturday, April 5. See details about this trip on the programme included with this newsletter. Pierre Taschereau will be the main consultant for these identification walks; the summer one will take place some time in July. Watch for it in the next programme.

PLANT WATCH

It's time to 'watch plants' again! Put your finger on the pulse of nature by joining other Nova Scotians in recording when some of your favourite spring flowers bloom. As one of a network of watchers, you will be informed of the results of the survey every year. Contact Liette Vasseur, Dept. of Biology, St. Mary's U., Hfx, N.S., B3H 3C3; fax 420-5261; e-mail <lvasseur@shark.stmarys.ca>.

NATURAL HISTORY OF NOVA SCOTIA

Look out for the new edition of 'The Natural History of Nova Scotia', published by the Museum of Natural History, which should appear any time now.

FNSN AGM

We are proud to be the host for the eighth Annual General Meeting of the Federation of Nova Scotia Naturalists. Our programme theme this year, 'Green Spaces in Urban Places', will focus on the efforts of groups and private individuals to recognise, protect, and restore natural sites within the greater metropolitan area. We invite you to join us on the weekend of 13-15 June for field trips, illustrated lectures, and social events with your fellow naturalists from around the province. We will be meeting on the beautiful, verdant campus of Mount Saint Vincent University, overlooking Bedford Basin, and in our field trips we will visit many parks and natural sites in our neighbourhood. Full programme information and a registration form accompany this newsletter.

NATURE NS LIST SERVE

For those of you with e-mail and net capabilities, there has been set up a 'Nature Nova Scotia List Serve'. It is essentially for the sharing of information about the natural history of Nova Scotia and surrounding waters, its conservation, events, and associated activities.

To subscribe, send this following e-mail message to <majordomo@chebucto.ns.ca>

<subscribe naturens>

That's all. don't sign it or put anything else in the message. Search out Sherman Williams' sketches of Hale-Bopp that he took on March 30 (see page 8). "My observations of the general aspect of the comet are recorded in two sketches on the website, under the heading 'March 28th', at <http://scienceweb.dao.nrc.ca/astro/comet/halebopp/hbimg/chbimages.html>

If you download the file, decrease the brightness of your screen for a more realistic view. The beginning of the site's home page is <http://scienceweb.dao.nrc.ca/comet.html>."

LOCAL NAMES FOR NOVA SCOTIA PLANTS

Local names for plants can be very descriptive and are a part of the botanical and cultural heritage of Nova Scotia that could disappear if they are not collected. I am undertaking a study which will attempt to record these localised names. These names could be something your parents or grandparents used. The name could be similar to the common name or could be unique. If you have either plant names, or contact people, I would be grateful. Would you please include the common and Latin name for the plant if you can, and any history or story that may accompany it. If people are interested, I'll post some of the names I'm getting from time to time.

Two examples: —'Uplanders' (*Vaccinium-Vitis-Idaea*), from Pat Chalmers, and 'Cheese Fern' for Cinnamon Fern (*Osmunda cinnamomea*). Then there are 'Eptekewey', or 'Hot Root' for horseradish (*Armoracia rusticana*), from Laurie Lacey's book, "Micmac Medicines".

If you know any plant names or can pass on the name of a good source for them I would appreciate it. You may contact me at 466 6891; or, 61 B Hazelhurst St., Dartmouth, B2Y 3N1; or e-mail, <af436@ccn.cs.dal.ca>.

— Deannie Sullivan-Fraser

NEW AND RETURNING MEMBERS

John Cunningham
Barbara Frigault
Susan Guppy
Ingrid Plache
Michelle Zurbrigg

SPECIAL REPORTS

HFN TALKS

FROM ARISTOTLE TO CHUCK JONES: THE POPULAR HISTORY OF AMPHIBIANS
2 JANUARY, 1997

Chris Rose, Dalhousie University, presented a light-hearted account of ancient beliefs concerning frogs, toads and salamanders, and the gradual understanding of them and their life histories. Some of the old beliefs did not seem much weirder than the truth about these creatures.

We do know now that salamanders do not live in fire, nor can they withstand burning. We see mediaeval 'kitchen salamanders' in museums; they are red-hot pokers once held over baked goods to brown them. Last year, an electric 'salamander' was advertised for the same use with a microwave oven.

Chris told of the fabulous jewel in the head of each toad, and also of the poison gland that adorns each shoulder. It seems no more odd than the idea of keeping cane toads as pets; they are large enough to catch and eat small dogs. Some people produce a toxic hallucinogen from cane toad skin glands. This is illegal, but not because cane toads are endangered; they are pests in parts of Australia, where they were introduced as biological controls.

As for frogs! Chuck Jones was an animator who produced a cartoon about a frog in the days before Disney. His hero was entombed in a time capsule under an important building. When he was released, he became... well, Chris has a copy of this rare film, and no doubt he'll be showing it again.

THE LAND: CELEBRATING MORE THAN 1,000 MILLION YEARS IN N. S.
6 FEBRUARY, 1997

Howard Donahue, retired from the provincial mines department, told us the history of Nova Scotia from the time when it was a small part of a different continent in a different latitude. Once it was attached to another continent, and went through all the drifting, joining, and splitting up of the old land masses until it became part of continental North America, together with pieces from two other tectonic plates.

His story explained the structure of our present province, with its several distinct zones and almost complete representation of all geological periods. The land was also altered by volcanic intrusions, glaciation, and other events.

This history made the distribution of animals such as dinosaurs more understandable, for there were land bridges in unexpected places. It also explains the frequent visits by European geologists, looking for pieces of rock which their continent lost!

Howard Donahue contributed to the geological section of the "Natural History of Nova Scotia"; the latest edition will be published this spring, and much of this story will be in it.

— Ursula Grigg

THE COST AND BENEFITS OF CONSERVATION

Maine Coast Heritage Trust, finding that opposition to preserving land for parks and protected spaces largely depended on the loss of taxes which developed land would generate, made a study of property taxes in various parts of Maine, compared to their green spaces. They particularly looked at the Freeport area, where L.L. Bean has attracted a number of other stores, mostly factory and discount outlets, but also services for tourists and the local trade.

The researchers found that the cost of preserving green space in and around towns is less than expected. In fact development increases taxes because of the need for services to the developments. This is particularly true of Freeport, where businesses expect roads to be passable every day of the year. Freeport has the highest property taxes in the state — and most of it is the road budget, especially for snow clearance.

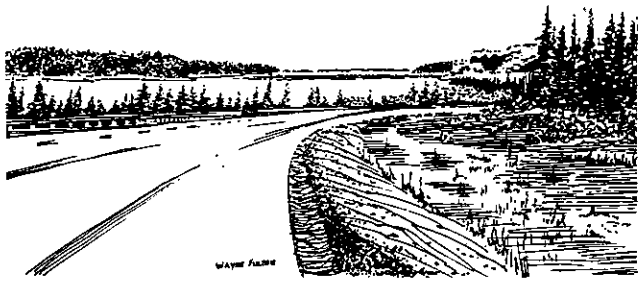
The farmers around Freeport, many of whom would normally keep some of their acreage fallow or wild, find their land in demand for housing, schools, and hospitals for the people who have come to work in the stores. So the taxable value of their land goes up, while their ability to earn a living from it goes up little if at all — bringing the temptation to sell out to developers. This leads to a cycle of further development, rising taxes, and decreasing available open space in the district.

On the other hand, the cost of supporting a State Park, plus heritage lands and parks within a certain town only raised the average property taxes by $49 a year. In fact, the towns with the most open space also had the lowest property taxes.

Taxes are only one factor in decisions on the conservation of land; community values and the quality of life must also be considered. Most people thought property taxes so little higher were a small price to pay for these amenities.

This research has produced better data for choices on land use and has flattened and improved debate in the State of Maine.

— Ursula Grigg, from notes taken from Maritime Noon, CBC, 3 February 1997



FIELD TRIPS

1997 ANNUAL SEWER STROLL

DATE: Sunday, January 26, 1997
PLACE: Various locations around Halifax Harbour; Sullivan's Pond in Dartmouth
WEATHER: Partly cloudy, temperatures falling from 0 to -6, windy
INTERPRETERS: Peter and Linda Payzant
PARTICIPANTS: 19

This trip was originally scheduled for the previous day, but a fierce wind and rain storm necessitated postponing it one day. Sunday was dry, at least, but the high winds and increasing cold made viewing birds somewhat uncomfortable, especially later in the day.

It was a great day for birding, nonetheless. We started with a male Ring-Necked Pheasant (*Phasianus colchicus*) at Hartlen Point. We heard him calling from the deep grass, and (fully aware of his duties) leader Peter played the part of a bird dog and eventually flushed the unfortunate bird. He (the pheasant) sprang into the air and flew over the heads of the observers, showing his rich brown colours and long trailing tail to advantage.

The water between Hartlen Point and Devil's Island yielded only a few gulls. A very high tide precluded shorebirds in the kelp, so we (with some relief) got back into the cars and headed towards the next waypoint, the second Tim Horton's on the right. One of the lead cars spotted something interesting among the gulls a little further on, and we all pulled over to have a look. It was a lone Thick-milled Murre (*Uria lomvia*), in quite close to shore. Our elation turned to sadness when we realized that it had been oiled, and that there were at least two other dead ones floating upside-down in the waves. We unhappily accepted the inevitable, and moved on to our next stop.

At a tanker pier in Woodside we had our first looks at Oldsquaw (*Clangula hyemalis*) — a spectacular male with a full tail. We saw others later in the day, but the first is always the best. Behind the old North Woodside School some participants saw what was probably a Sharp-shinned Hawk (*Accipiter striatus*), and the excitement rose when others reported a Dovekie (*Alle alle*) in flight, heading for Dartmouth Cove. Dovekies are the smallest auks, and are highly irregular in their movements. In some years they are fairly easily seen, but in other years they are apparently not present.

So, we were excited to regain contact with the little bird from our first Dartmouth Cove site at the foot of Old Ferry Road. We were blessed with good lighting (the sun behind the clouds most of the time) and we had good looks of the Dovekie through the telescopes. After a while, a second one appeared, much closer, and all were well satisfied.

The other Dartmouth Cove location, at the foot of Canal Street, gave us good looks at several species of gulls, including lots of Black-headed (*Larus ridibundus*) and Ring-billed (*L. delawarensis*). Sullivan's Pond was loaded, as usual, far beyond capacity. And, as usual, there were well-meaning but unknowing people feeding the ducks, breaking a municipal by-law and contributing to the overcrowding of the pond at the same time.

Nevertheless, there was a good assortment of birds to be seen. The Wood Duck (*Aix sponsa*) rated oohs and aahs, and there were lots of American Wigeon (*Anas americana*). Alas, there were no Eurasian Wigeon (*A. penelope*) for comparison. There was also a lone Pied-billed Grebe (*Podilymbus podiceps*) and an American Coot (*Fulica americana*).

The trip carried on around the harbour, and other highlights included a female Ruddy Duck (*Oxyura jamaicensis*) at Tufts Cove, a Hooded Merganser (*Lophodytes cucullatus*) at the mouth of the Sackville River, and at the Mill Cove Sewage Treatment Plant, both Common Goldeneye (*Bucephala clangula*) and Barrow's Goldeneye (*B. islandica*), and a very convincing Glaucous Gull (*Larus hyperboreus*).

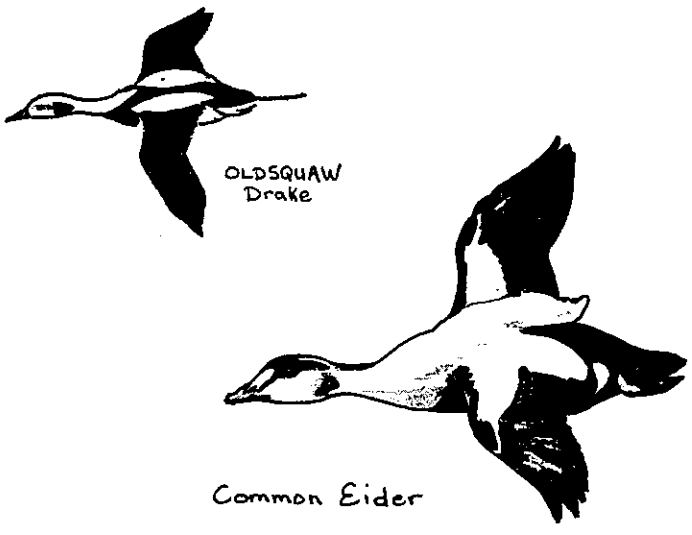
The weather was growing more difficult by the minute, and most of the original participants departed at this point. The few who remained pressed on to Fleming Park on the Northwest Arm, where we saw a couple of Black Guillemots (*Cepphus grylle*) but little else.

The Tribune Head sewer outfall was splendid, with hundreds of Common Eiders (*Somateria mollissima*), a few White-winged Scoters, (*Melanitta fusca*), and lots of gulls. The momentary shelter from the wind was most welcome.

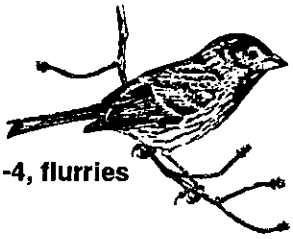
Our final stop was high over the mouth of Halifax Harbour at Chebucto Head. While it has a spectacular view, this day it held little else of interest, saving a couple of Black-legged Kittiwakes (*Rissa tridactyla*) which were unfortunately not well seen by all.

Lots of good birds for a cold day, and I think that all enjoyed themselves. The leaders, especially, enjoyed showing off the tremendous variety and numbers of harbour birds to those who were on their first Sewer Stroll.

— Peter Payzant



LATE FALL BIRDS



Date: 23 November 1996
Location: Halifax-Dartmouth
Weather: overcast, 0 dropping to -4, flurries
Interpreter: Fulton Lavender
Attendance: 12

Grey November can be an excellent time for a field trip. While there are few wildflowers or butterflies, and the foliage is withered and brown, it is still a good time for birdwatching. This is despite the fact that many of our colourful breeding birds have migrated. The cooler weather brings the year-round residents to forage in our gardens and feeders, misdirected migrants from the west and south linger until they get reoriented, and winter visitors from further north, such as some of the gulls, ducks, and finches, begin to appear. Last October and November brought us more sunshine and mild days than usual and many migratory birds were still lingering in late November, especially warblers.

While we were gathering at the Museum for a day of urban birding, our leader, Fulton Lavender, spotted a Brown Creeper (*Certhia familiaris*) and a Downy Woodpecker (*Picoides pubescens*) in the trees in front of the new hospital. This was a promising start to what turned out to be a very good day, despite cold winds that brought a few flurries. Our first stop was Birch Cove Park on the shores of Lake Banook in Dartmouth. This attractive woodland of mostly oaks and birches often hosts a variety of woodpeckers and uncommon vagrants. However, the park was quiet, so we explored the neighbourhood, walking from Lakeside Terrace up the steep incline of Hillside Avenue to Mount Pleasant Avenue. There was an interesting variety of garden shrubs which offer food to birds, as well as many feeders. Every time we heard Black-capped Chickadees (*Parus atricapillus*), we stopped to have a good look, for other birds like to travel in the company of these cheerful rovers. We walked along Mount Pleasant Avenue twice, and our patience was rewarded. We found a beautiful male and two female Purple Finches (*Carpodacus purpureus*), a Red-breasted Nuthatch (*Sitta canadensis*), and a female Baltimore Oriole (*Icterus galbula*) in the gardens.

Returning to the lakeshore, Richard Hatch heard a Black-and-white Warbler (*Mniotilta varia*) in the Park, and in a dense multiflora rose tangle at the bottom of Oakdale Court we saw two Common Yellowthroats (*Geothlypis trichas*). White-throated Sparrows (*Zonotrichia albicollis*) and Song Sparrows (*Melospiza melodia*) hopped about under feeders. We walked past the clubhouse and through the lane that comes out at the back of Sullivan's Pond. Among the various domestic ducks and tame Black Ducks (*Anas rubripes*) was a gorgeous male Wood Duck (*Aix sponsa*), looking quite exotic. A Hairy Woodpecker (*Picoides villosus*) was at work on a street tree, and some of us had tantalizing glimpses of an elusive Yellow-breasted Chat (*Icteria virens*), which lurked deep in the rose bushes. American Wigeon (*Anas americana*) waddled along the edge of the pond, eating the grass, and a solitary Double-crested Cormorant (*Phalacrocorax auritus*), who hadn't migrated with most of his tribe, sat on a rock in the pond.

Our next stop was back on the Halifax side, at Conrose Field at the end of Waegwoltic Avenue. Here, a lush garden with many well-stocked feeders, is a magnet for winter lingerers and wandering strays, as well as our normal winter residents. From the public path that leads from Coburg Road to Conrose Field we could watch abundant White-throated Sparrows and Song Sparrows, Dark-eyed Juncos (*Junco hyemalis*), a Golden-crowned Kinglet (*Regulus satrapa*) and Black-capped Chickadees moving through the luxuriant growth of shrubs and vines, and working under brush piles looking for weed seeds, fallen fruit, and insect eggs.

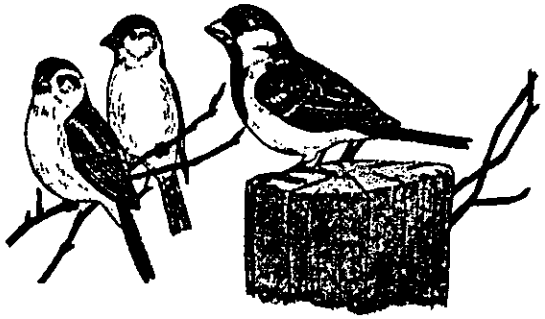
Next we walked through the neighbourhood at the foot of Coburg Road. This west-facing shore of the Northwest Arm is very attractive to birds; the densely planted gardens and the thickets along the railway cut offer shelter and food, the southwestern exposure traps some warmth, and there are many feeders. Along Thornvale Avenue we had a fleeting glimpse of an olive-brown bird Fulton was able to identify as a female Northern Cardinal (*Cardinalis cardinalis*). Despite the Hallmark Cards image, cardinals are inclined to be rather furtive outside the breeding season, and don't calmly sit still on an exposed branch to be admired by enthusiastic birdwatchers. We tried hard to find the bird again, but without success. Returning to Conrose Field, we saw some more birds who stayed behind when their fellows migrated: American Robins (*Turdus migratorius*), a Northern Flicker (*Colaptes auratus*), and a Yellow-rumped Warbler (*Dendroica coronata*).

Our last two stops were near Saint Mary's University. The grounds of The Oaks (the former Stanfield property), on the edge of the railway cut, offer another attractive, overgrown, south-facing shelter that is prime birdwatching territory. A feeder near the end of Robie Street hosted American Goldfinches (*Carduelis tristis*), a Hairy Woodpecker, and a Red-breasted Nuthatch. At the last stop, on Bridges Street off Tower Road, we found a group of House Finches (*Carpodacus mexicanus*), two beautiful rosy males and a female. These southwestern birds have been expanding their range and in the last ten to fifteen years have been seen with increasing frequency in Nova Scotia. There are several pairs now nesting in the south end. They are spreading rapidly in extent and numbers, and will probably become common here fairly soon. They are likely to flourish at the expense of House Sparrows (*Passer domesticus*).

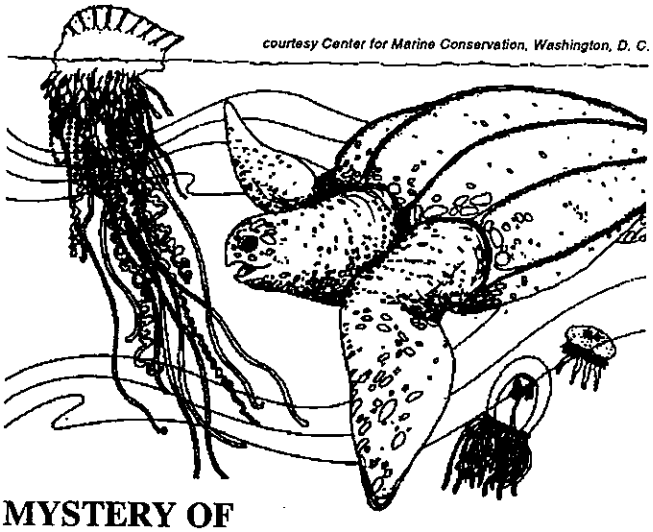
Thank you, Fulton, for showing us some of Metro's birding hot spots; we had excellent views of a variety of birds, some unfamiliar, and we all learned of good places to go birdwatching that are readily accessible.

— Pat Chalmers

House Sparrow



SPECIAL ARTICLES



courtesy Center for Marine Conservation, Washington, D. C.

MYSTERY OF THE DISAPPEARING TURTLES

By the time a child born today reaches her teens, the world's largest reptile may well be extinct... and scientists know so little about the life history of this enigmatic creature that they can do very little to help save it.

Scientists from Canada and the U.S.A. met in Halifax last November for the first North Atlantic Leatherback Sea Turtle workshop **(specific name).** Researchers, government agencies, the fishing community, and wildlife rehabilitators met to discuss problems and questions surrounding the biology of this giant among reptiles.

Consider this: on one spawning beach in Malaysia, there were about 3,000 females coming each year to lay eggs in the 1970s. They only lay every second or third year, so that would account for perhaps 7,500 females, and an unknown number of males. In recent years, after a decade of very efficient egg harvesting, there are only two turtles coming back to lay. The others, presumably, have died leaving no offspring to succeed them.

We say 'presumably', because scientists know next to nothing about what happens after the young leatherbacks head out to sea on their first journey. It seems no one has ever seen a juvenile. Except for a very few adults which are seen at sea, or get tangled in fishing gear or wash up dead on beaches, they simply disappear.

And yet, the little that is known of their lives and travels makes fascinating reading. For example, their diet. Incredibly, these huge animals, weighing up to 1,000 kg, eat only jellyfish. There is so little nutrition available from this diet (jellyfish are mostly water) that a leatherback (*Dermochelys coriacea*) must eat approximately its own weight every day just to stay alive. To find enough food, the turtles are thought to lurk around convergence zones where warm water and cold water meet. Here, all sorts of drifting material, including jellyfish, accumulates.

Leatherbacks also take advantage of deep-ocean jellyfish. Unlike most sea turtles which use shallow dives of relatively long duration, leatherbacks behave more like such mammals as elephant seals — they dive deeply, and don't stay down long. They routinely go down to 50 to 85 metres for four to fifteen minutes. The maximum depth recorded was 1,000 metres, and the maximum time was 37 minutes.

How do they manage to dive so deeply without suffering from the 'bends' — that crippling phenomenon so well-known to divers?

The answer is indicated by their tiny lungs. Rather than store air in the lungs and deal with the problem of nitrogen bubbling out of their blood as they ascend, leatherbacks store oxygen in their haemoglobin and myoglobin (in muscle tissue), drawing on this while searching for food. But they need a lot of oxygen: they use it at a rate comparable to that of a resting mammal, which may be the highest oxygen use by any reptile. The short duration of their dives is presumably due to this high metabolic rate. The small lung capacity also forces leatherbacks to remain on the surface between dives much longer than other turtles, to replenish their stores of oxygen.

Leatherback Sea Turtles are travellers; they hatch on tropical and sub-tropical beaches around the world, but have been found in oceans almost everywhere. In Canada, there is a sight record for the coast of northern Labrador, and evidence from the Inuit strongly suggests that they have made it as far north as Baffin Island.

How can they stand the intense cold of subarctic water? Leatherbacks, alone among the sea turtles, can keep their body temperature higher than that of the cold water around them. The mechanisms are still being discussed, but several possibilities are proposed, including the presence of brown fat, vigorous muscular activity (they are much more active than other turtles), insulating layers of fat, gigantothermy, and counter-current circulation in the flippers.

Gigantothermy, not surprisingly, has to do with the size of the animal. The rate at which an animal loses heat to the environment is dependent on its surface area, but the rate at which the heat is produced is dependent on its volume. For big animals, the area to volume ratio is small, while it is large for little animals. Thus, smaller animals have problems keeping warm in cool surroundings, while big ones have problems getting rid of their own heat. For the leatherback, this means that heat generated in the body is being retained.

In the same way that some birds are able to walk on ice or swim in frigid water all winter long, leatherbacks use a specialised system of veins and arteries in their huge flippers to keep the tissues provided with blood, while at the same time minimising heat loss through the flippers. The arteries and veins are grouped together in large bundles, so heat from the warm arterial blood is transferred to the cool venous blood and carried back into the body. This is the anatomical adaptation called counter-current circulation.

These unique creatures are threatened, mostly, by human activity. They become trapped in fishing nets,

where they drown, forming part of the euphemistically-named 'bycatch'. This is particularly true in fisheries for swordfish, tuna, and shark, which are most successful at convergences where the jellyfish on which the turtles feed also accumulate.

On land, of course, the eggs are vulnerable, not only to human poaching (although this is a very serious pressure), but also to erosion and predation. Raccoons, mongooses, cats, dogs, and seabirds all prey on them. Pedestrian traffic, interference with nesting females, and artificial lighting all take a toll. Judging by the injuries they exhibit, about 17% of nesting females have suffered collisions with boats.

By far the most insidious, and most preventable, hazard to leatherbacks is ingestion of marine debris, especially plastic. Leatherbacks seem to be unable to distinguish between real jellyfish and garbage which looks remotely like them. The internal structure of leatherbacks' throats makes it impossible for them to eject any items they eat, so once they seize a plastic bag, a balloon or a latex cushion, that piece of garbage is on its way into the animals' digestive tracts. About 40% of stranded (and necropsied) leatherbacks had some sort of debris inside.

The outlook is not good for leatherbacks. Scientists estimate that there might be around 20,000 to 30,000 remaining, but they have low confidence in these numbers. At current estimated rates of decline, though, some people think that leatherbacks will be extinct by about 2014, or in about 17 years.

On the positive side, there has been some progress towards protection. The USA is a signatory to an international convention on ocean dumping of plastics, and other countries may be persuaded to join. Some former poachers in Costa Rica have been trained as tourist guides, and they make more money this way than by raiding turtles' nests.

In Canada, the Department of Fisheries and Oceans is responsible for sea reptiles. The entire foreign fishing fleet within Canadian waters is monitored by fisheries observers, who are encouraged to report catches of both marine mammals and reptiles, along with making very basic measurements.

There are penalties for disturbance, but the crime is very difficult to prove. The new Endangered Species legislation will give leatherbacks legal protection out to the 200-mile limit (at present, protection only extends to 12 miles). The leatherback is currently classified by The Committee on the Status of Endangered Wildlife in Canada (COSEWIC) as 'threatened', and the new legislation requires that a recovery plan be in place within two years. Public involvement is encouraged and required for this process.

The Atlantic Leatherback Turtle is in big trouble, but with a lot of luck and good management, we might just be able to halt the decline in time.

— Peter Payzant

CONSERVATION

JIM CAMPBELLS BARREN

In December 1996, the Government of Nova Scotia removed Jim Campbells Barren from the list of 31 sites to be protected under the Systems Plan for Parks and Protected Areas. As the selection of these sites had been made with great care, discussion, and public input, this action was extremely disappointing. It has also cast doubt on the future of any site under this plan.

The Barren is a high spot in the Cape Breton Highlands, near the boundary of Cape Breton Highlands National Park, for which it helps to provide an undeveloped buffer zone. It is hard to reach, but rewarding, as it supports an assemblage of plants which is unique in the Province. It has already been explored for subsurface minerals, and though nothing much was found, the site is ostensibly being released for further prospecting.

We have all seen the losses of pristine environment which result from mining; damage to subsurface structures is permanent, and mine waste leaves very long after-effects on landscape and everything downstream of it.

The number of local jobs from this speculative venture is unlikely to be great, while the established and sustainable employment of people in the sport fishery, tourist industry and a small commercial fishery is threatened. Part of the headwaters of the Margaree and Cheticamp Rivers run off the Barren, and the Margaree is known world-wide for its fly fishing.

While Nova Scotia was praised far and wide for its initiative in protecting 31 sites, it is now being widely criticised for the loss of one of them. It seems likely that only Premier Savage could have Jim Campbells Barren protected again, and the province's reputation for conservation restored; HFN will ask him to make a personal goal of it, and hopes that many members will also write. The address is: Premier John Savage, P.O. Box 725, Halifax, NS B3J 2T3.

You could also copy your letter to: Honorable Eleanor Norrie, Minister of Natural Resources, P.O. Box 698, Halifax, NS, B3J 2T9, and to your MLA.

— Ursula Grigg

ALMANAC

This almanac is for the dates of events which are not found in our programme: for field trips or lectures which members might like to attend, or natural happenings to watch for, such as eclipses, comets, average migration dates, expected blooming seasons, etc. Please suggest other suitable items.

> The Hepatica is the first flower of the Canadian spring; it gladdens us with its tints of azure, pink, and white, early in April, soon after the snows have melted from the earth. The Canadians call it snow-flower, from its coming so soon after the snow disappears. We see its gay tufts of flowers in the open clearings, and the deep recesses of the forests; its leaves are also an enduring ornament through the open months of the year; you see them in every grassy mound and mossy root; the shades of blue are very various and delicate, the white anthers forming a lovely contrast with the blue petals.
>
> **— Catharine Parr Traill, The Backwoods of Canada (1836)**

NATURAL EVENTS

20 March	Spring Equinox: Spring begins 9:55 a.m.
21 March	Grackles return to Halifax — one of our first returning land birds
23 March	Daily average temperature at Shearwater is above zero
23 March	Full moon — this is the 'Worm Moon'
23/24 March	Partial eclipse of the moon — visible in Eastern Canada; starts 10:57 p.m.
last week March	First tentative peeps of awakening Northern Spring Peepers heard in Halifax County
26 March - 9 April	Comet Hale-Bopp can be seen at its best in the northwest sky at twilight
5 April	Piping Plover and Osprey return
6 April	Daylight Savings Time begins: turn clocks ahead one hour
6 April	Mercury will be at its best evening apparition of the year
mid-April	Eastern Dwarf Mistletoe blooms
16 April	Daily minimum temperature at Shearwater is above zero
mid-late April	Yellow-spotted salamanders return to ponds to mate and lay eggs
22 April	Earth Day
22 April	Full moon — this is the 'Pine Moon'
1 May/mid-June	Gaspereau (alewives) ascend rivers to spawn in their headwaters
first week of May	The Mayfly hatch in southwestern Nova Scotia — food for returning birds
7-14 May	The first chorus (full mating call) of Northern Spring Peepers heard
mid/late May	Many spring ephemeral wildflowers in bloom; Spring Beauties, Dutchman's Breeches, Red Trillium
22 May	Full Moon — this is the 'Flower Moon'
28 May	Last spring frost in Halifax (that is, Environment Canada says that there is only a 1 in 10 chance that the last spring frost will occur after this date); look forward to 155 frost-free days
29 May - 2 June	Apple Blossom Festival, Annapolis Valley
1-9 June	Environment Week
8 June	World Oceans Day
13-15 June	Federation of Nova Scotia Naturalists — Annual General Meeting in Halifax
14 June	Rhododendron Sunday at the Kentville Agricultural Research Station
20 June	Full Moon — this is the 'Strawberry Moon'
21 June	Summer Solstice: Summer begins 5:21 a.m.

Sources — Allen, C.R.K., A Naturalist's Notebook: Yarmouth County (1987); Atmospheric Environment Service, Climatic Normals 1951-80 Halifax (Shearwater A) N.S.; Roy Bishop's columns for the Blomidon Naturalists Society; Sue Browne, "Frogwatch"; Colombo's Canadian Global Almanac, 1997; Erskine's Atlas of Breeding Birds of the Maritime Provinces, 1992; Tufts' Birds of Nova Scotia, 1986; the personal observations of the compiler.

SUNRISE AND SUNSET ON LATE WINTER AND SPRING SATURDAYS

1 Mar.	6:52	18:02	**5 April**	5:48	18:47
8 Mar.	6:39	18:12	**12 April**	6:35	19:56
15 Mar.	6:27	18:21	**19 April**	6:23	20:04
22 Mar.	6:14	18:29	**26 April**	6:12	20:13
29 Mar.	6:01	18:38			
3 May	6:01	20:22	**7 June**	5:30	20:57
10 May	5:52	20:30	**14 June**	5:28	21:01
17 May	5:44	20:38	**21 June**	5:29	21:03
24 May	5:37	20:45	**28 June**	5:31	21:00
31 May	5:33	20:52			

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

ORGANISATIONAL EVENTS

Blomidon Naturalists Society — Meets the third Mon. of the month at 7:30 p.m., in Room 241 of the Beveridge Arts Centre, Acadia University, Wolfville.

4 April "The Spring Sky and Comet Hale-Bopp". Meet at Stile Park, Wolfville, 8:30 p.m.
21 April "Are Horseflies Really That Bad?", by Phil Taylor.
3 May "Spring Birds — Ducks and Early Migrants". Meet at the Robie Tufts Nature Centre, Wolfville, at 8 a.m.
19 May "Archaeological Sites in Kings County", by George Hiseler.

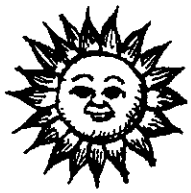
Dartmouth Volksmarch Club — Meets for organised walks, usually at least 10km, every Sunday at 10:00 a.m. Pick up their schedule at the Trail Shop on Quinpool Road, or phone 435-5252 for information.

Friends of McNabs Island — for more information call Dusan Soudek, 422-1045, or Mike Tilley, 465-4563.
24 April "The Forts of McNabs" by R.H. McDonald; Findlay Community Centre at 7:30 p.m.
1 or 8 June Spring Beach Sweep

Halifax Outdoor Club (formerly the **Halifax Hiking Club**) — Most outings meet at Bagel Works, Quinpool Rd., for carpooling.
23 March Oakfield Park. Meet at Bagel Works at 9 a.m. Phone John, 454-4681.
6 April Prospect Coast. Meet at Bagel Works at 9 a.m. Phone Terrie, 826-7403.
20 April Martinique Beach. Meet at Bagel Works at 9 a.m. Phone Maria, 455-3461.

Maritime Museum of the Atlantic — Programmes usually on Tues. nights at 7:30 p.m. More information? Phone 424-7490.

Nova Scotia Bird Society — Indoor meetings take place the fourth Thurs. of the month, Sept. to April, at the NSMNH, 8 p.m. For more information phone 852-2428 or <http://ccn.cs.dal.ca/Recreation/NS-BirdSoc/nsbsmain.html>.
27 March "Life and Death of Seabirds" by Tony Lock.
12 April Eastern Shore, Martinique Beach. Phone Ian McLaren, 429-7024.
24 April "How to Photograph Birds" by Fred Greene.
4 May Amherst Point Bird Sanctuary. Phone Alan Smith, (506) 536-0164.
10 May Lunenburg County. Phone Bill Caudle, 766-4465.
10 May Sixth Annual North American Migration Count. Phone Judy Tufts, 542-7800.
16-19 May Bon Portage Island. Phone Fulton Lavender, 455-4966.
18 May Hopewell, Pictou County. Phone Harry Brennan, 923-2780.
24 May Hants County Day. Phone Margaret Clark, 443-3993.
25 May Shubenacadie Area. Phone Roslyn McPhee, 758-3265.



Nova Scotia Museum of Natural History — Programmes usually on Wed. nights at 7:30 p.m. Ph. 424-6099 or 424-7353.
9 April "The Secret Lives of Foxes, Coyotes, and Wolves", with Keith Jensen.
late April "Salamander Meander". Phone 424-3563 on or after 20 March to register.
late April "Creatures of the Night at Uniacke Estate Museum Park". Phone 424-3563 after 4 April to register.

Nova Scotia Wild Flora Society — Meets fourth Mon. of the month, Sept. to April, at the NSMNH, at 7:30 p.m. For more information phone Heather Drope, 423-7032 (daytime only), or <http://fox.nstn.ns.ca:80/~csensen/>.
28 April AGM, followed by Bob Guscott who will speak on his work as a biologist.
3 May Oakfield Park. Phone Bob Guscott, 861-2786. Rain date 4 May.
24 May Hayes Cave Floodplains. Phone Carl Munden, 829-3633. Rain date 25 May.
26 May Meet at Fleming Park at 6:00 p.m. for a mystery walk. Phone Heather Drope, 423-7032 (daytime only).
21 June Hemlock Ravine with Pierre Taschereau. Meet at the MNH staff parking lot at 10:00 a.m.

Orchid Society of Nova Scotia — Meets second Sun. of the month, Sept. to June, at the NSMNH, 7:30 p.m. Orchids are usually on display before the meeting. For more information phone Jean Hartley, 443-3080, or <ip-osns@cfn.cs.dal.ca>.

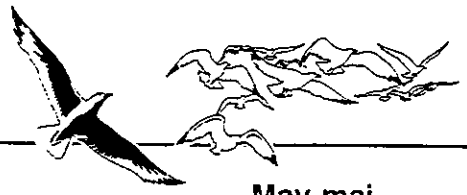
Photographic Guild of Nova Scotia — Meets second Mon. of the month, as well as the first and third Sundays of the month, at the MNH, 7:30 p.m. Special seminars and shows are held at St. Mary's University, Theatre A, Burke Education Centre. For more information phone Gilbert van Ryckevorsel, 463-2695.
26 April Spring Show. Burke Education Centre, 8:00 p.m.

Royal Astronomical Society of Canada (Halifax Chapter) — Meets third Fri. of each month (except Jul. and Aug.) at the NSMNH, 8:00 p.m. For more information, <http://apwww.stmarys.ca/rasc/>. Public shows are presented at 7 p.m. on the second and fourth Thurs. at the Planetarium in the Sir James Dunn Building, Dalhousie University. There will be no shows after 26 June until 11 Sept. Public shows at Burke-Gaffney Observatory at Saint Mary's are held on the first and third Sat. of every month. Phone 496-8257.
25 March Comet Hale-Bopp observing session, McNally Bldg. St. Mary's University, 7 p.m.
1 April Comet Hale-Bopp observing session, McNally Bldg. St. Mary's University, 7 p.m.
18 April "Observing with CCD Cameras", with Doug George.

Spring Garden Road Library
18 April Author Harold Horwood will read from his latest work celebrating nature, The Magic Ground, at 7:30 p.m.

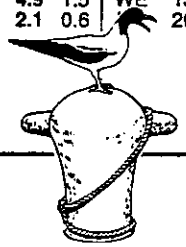
— compiled by Patricia L. Chalmers

TIDE TABLE



April-avril

Day	Time	Ht./ft.	Ht./m	Jour	Heure	H./pi	H./m
1	0115	5.3	1.6	16	0250	4.7	1.4
	0835	1.3	0.4		0940	1.5	0.5
TU	1410	4.9	1.5	WE	1540	4.9	1.5
MA	2105	2.0	0.6	ME	2220	2.0	0.6
2	0225	5.2	1.6	17	0400	4.7	1.4
	0940	1.1	0.3		1030	1.6	0.5
WE	1530	5.1	1.6	TH	1640	5.1	1.6
ME	2210	1.8	0.5	JE	2310	1.8	0.5
3	0345	5.3	1.6	18	0500	4.9	1.5
	1040	0.9	0.3		1115	1.6	0.5
TH	1645	5.5	1.7	FR	1730	5.3	1.6
JE	2315	1.5	0.5	VE	2355	1.6	0.5
4	0500	5.6	1.7	19	0550	5.1	1.6
	1140	0.6	0.2		1200	1.5	0.5
FR	1745	5.9	1.8	SA	1810	5.6	1.7
VE				SA			
5	0015	1.1	0.3	20	0035	1.3	0.4
	0600	6.0	1.8		0635	5.2	1.6
SA	1235	0.4	0.1	SU	1240	1.4	0.4
SA	1835	6.4	2.0	DI	1845	5.8	1.8
6	0110	0.6	0.2	21	0110	1.1	0.3
	0655	6.3	1.9		0715	5.4	1.6
SU	1330	0.2	0.1	MO	1315	1.3	0.4
DI	1925	6.7	2.0	LU	1920	5.9	1.8
7	0200	0.3	0.1	22	0150	0.8	0.2
	0745	6.4	2.0		0750	5.4	1.6
MO	1420	0.1	0.0	TU	1355	1.2	0.4
LU	2010	6.8	2.1	MA	1955	6.0	1.8
8	0250	0.1	0.0	23	0225	0.7	0.2
	0835	6.5	2.0		0825	5.5	1.7
TU	1510	0.3	0.1	WE	1430	1.2	0.4
MA	2055	6.8	2.1	ME	2030	6.0	1.8
9	0340	0.1	0.0	24	0300	0.6	0.2
	0920	6.4	2.0		0905	5.5	1.7
WE	1555	0.5	0.2	TH	1505	1.2	0.4
ME	2140	6.6	2.0	JE	2110	5.9	1.8
10	0425	0.2	0.1	25	0340	0.6	0.2
	1010	6.1	1.9		0940	5.5	1.7
TH	1645	0.9	0.3	FR	1550	1.4	0.4
JE	2225	6.2	1.9	VE	2150	5.9	1.8
11	0520	0.5	0.2	26	0425	0.7	0.2
	1055	5.9	1.8		1025	5.4	1.6
FR	1740	1.2	0.4	SA	1635	1.6	0.5
VE	2310	5.8	1.8	SA	2230	5.8	1.8
12	0610	0.7	0.2	27	0515	0.8	0.2
	1145	5.5	1.7		1105	5.4	1.6
SA	1840	1.6	0.5	SU	1730	1.8	0.5
SA	2355	5.4	1.6	DI	2315	5.6	1.7
13	0705	1.0	0.3	28	0615	1.0	0.3
	1235	5.2	1.6		1155	5.3	1.6
SU	1940	1.9	0.6	MO	1840	1.9	0.6
DI				LU			
14	0045	5.1	1.6	29	0000	5.5	1.7
	0800	1.3	0.4		0715	1.0	0.3
MO	1330	5.0	1.5	TU	1250	5.2	1.6
LU	2035	2.0	0.6	MA	1950	2.0	0.6
15	0140	4.8	1.5	30	0100	5.3	1.6
	0850	1.4	0.4		0820	1.0	0.3
TU	1435	4.9	1.5	WE	1355	5.2	1.6
MA	2130	2.1	0.6		2055	1.9	0.6

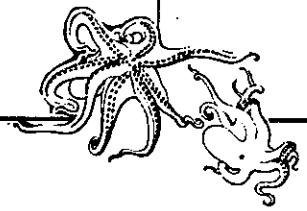


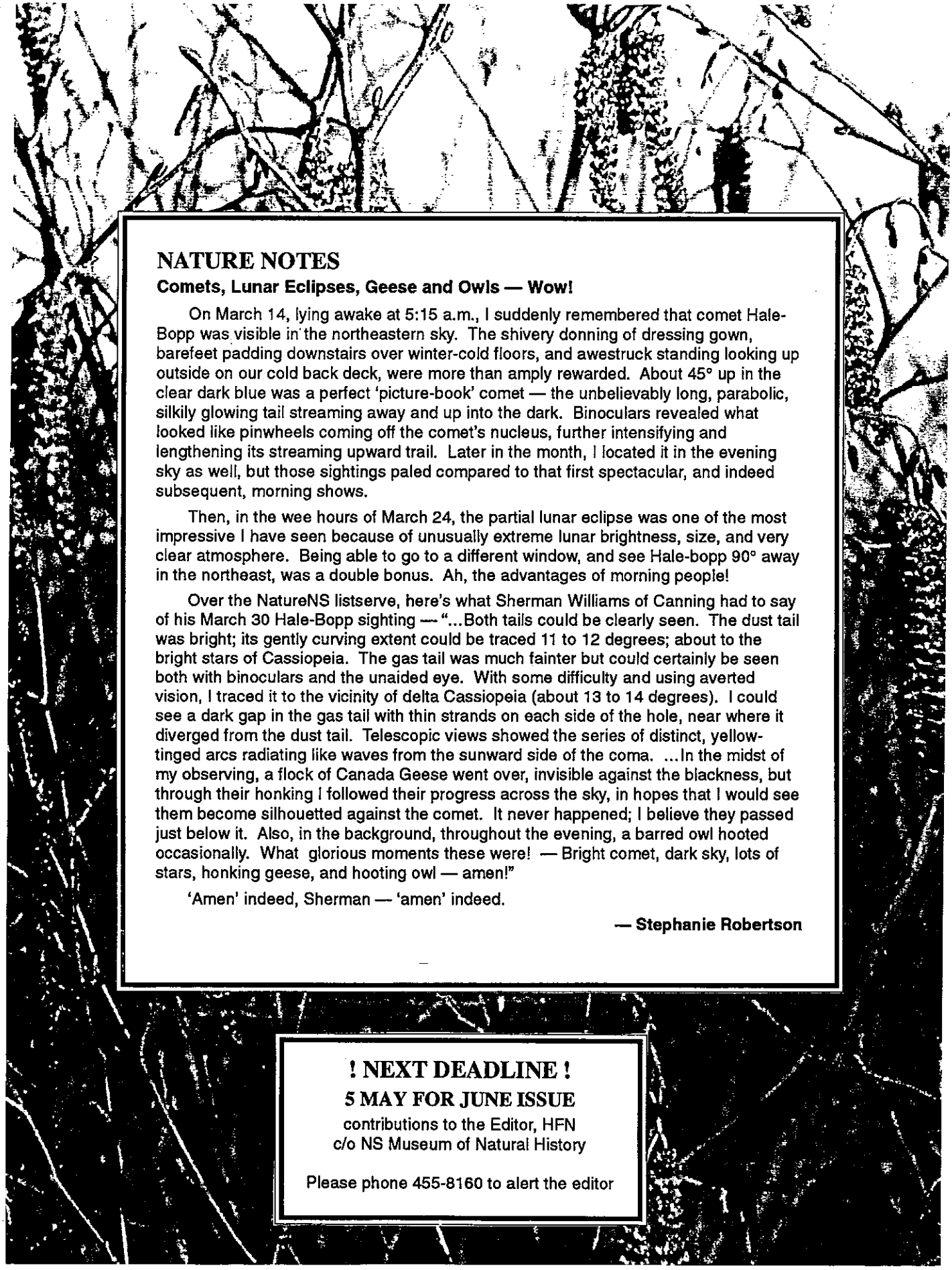
May-mai

Day	Time	Ht./ft.	Ht./m	Jour	Heure	H./pi	H./m
1	0210	5.2	1.6	16	0310	4.6	1.4
	0920	1.0	0.3		0930	1.7	0.5
TH	1510	5.3	1.6	FR	1545	5.1	1.6
JE	2200	1.6	0.5	VE	2220	1.8	0.5
2	0325	5.2	1.6	17	0415	4.6	1.4
	1015	0.9	0.3		1015	1.7	0.5
FR	1620	5.7	1.7	SA	1640	5.3	1.6
VE	2300	1.3	0.4	SA	2305	1.5	0.5
3	0440	5.4	1.6	18	0510	4.8	1.5
	1115	0.7	0.2		1105	1.7	0.5
SA	1720	6.0	1.8	SU	1725	5.5	1.7
SA				DI	2355	1.3	0.4
4	0000	0.9	0.3	19	0555	4.9	1.5
	0545	5.7	1.7		1155	1.6	0.5
SU	1215	0.6	0.2	MO	1805	5.7	1.7
DI	1810	6.3	1.9	LU			
5	0055	0.5	0.2	20	0040	1.0	0.3
	0635	5.9	1.8		0640	5.1	1.6
MO	1310	0.5	0.2	TU	1240	1.4	0.4
LU	1900	6.5	2.0	MA	1845	5.8	1.8
6	0145	0.2	0.1	21	0120	0.7	0.2
	0730	6.1	1.9		0720	5.2	1.6
TU	1400	0.5	0.2	WE	1325	1.3	0.4
MA	1945	6.6	2.0	ME	1925	5.9	1.8
7	0235	0.0	0.0	22	0200	0.5	0.2
	0815	6.1	1.9		0800	5.4	1.6
WE	1450	0.6	0.2	TH	1405	1.2	0.4
ME	2030	6.5	2.0	JE	2005	6.0	1.8
8	0320	0.0	0.0	23	0240	0.4	0.1
	0905	6.0	1.8		0840	5.5	1.7
TH	1535	0.8	0.2	FR	1450	1.2	0.4
JE	2115	6.3	1.9	VE	2045	6.0	1.8
9	0405	0.1	0.0	24	0325	0.4	0.1
	0950	5.9	1.8		0925	5.5	1.7
FR	1620	1.1	0.3	SA	1535	1.3	0.4
VE	2200	6.0	1.8	SA	2130	6.0	1.8
10	0450	0.4	0.1	25	0410	0.4	0.1
	1035	5.7	1.7		1010	5.6	1.7
SA	1715	1.4	0.4	SU	1625	1.4	0.4
SA	2245	5.7	1.7	DI	2215	5.9	1.8
11	0535	0.7	0.2	26	0505	0.5	0.2
	1120	5.5	1.7		1055	5.6	1.7
SU	1810	1.7	0.5	MO	1725	1.6	0.5
DI	2330	5.4	1.6	LU	2300	5.8	1.8
12	0625	1.0	0.3	27	0605	0.6	0.2
	1205	5.3	1.6		1145	5.6	1.7
MO	1905	1.9	0.6	TU	1835	1.7	0.5
LU				MA	2355	5.6	1.7
13	0015	5.1	1.6	28	0705	0.7	0.2
	0715	1.2	0.4		1240	5.5	1.7
TU	1255	5.1	1.6	WE	1940	1.7	0.5
MA	1955	2.0	0.6	ME			
14	0105	4.8	1.5	29	0050	5.4	1.6
	0800	1.4	0.4		0800	0.8	0.2
WE	1350	5.0	1.5	TH	1340	5.5	1.7
ME	2045	2.0	0.6	JE	2045	1.6	0.5
15	0205	4.6	1.4	30	0155	5.2	1.6
	0845	1.6	0.5		0900	0.8	0.2
TH	1450	5.0	1.5	FR	1450	5.6	1.7
JE	2130	1.9	0.6	VE	2145	1.4	0.4
				31	0310	5.1	1.6
					0955	0.9	0.3
				SA	1555	5.7	1.7
				SA	2245	1.1	0.3

June-juin

Day	Time	Ht./ft.	Ht./m	Jour	Heure	H./pi	H./m
1	0420	5.2	1.6	16	0420	4.5	1.4
	1055	0.9	0.3		1015	1.7	0.5
SU	1655	5.9	1.8	MO	1635	5.3	1.6
DI	2345	0.8	0.2	LU	2310	1.2	0.4
2	0525	5.4	1.6	17	0515	4.7	1.4
	1155	0.9	0.3		1110	1.7	0.5
MO	1750	6.1	1.9	TU	1725	5.5	1.7
LU				MA			
3	0040	0.4	0.1	18	0005	1.0	0.3
	0620	5.5	1.7		0605	4.9	1.5
TU	1255	0.8	0.2	WE	1205	1.5	0.5
MA	1835	6.2	1.9	ME	1810	5.7	1.7
4	0130	0.2	0.1	19	0050	0.7	0.2
	0710	5.7	1.7		0650	5.1	1.6
WE	1345	0.8	0.2	TH	1255	1.3	0.4
ME	1920	6.2	1.9	JE	1855	5.9	1.8
5	0215	0.1	0.0	20	0135	0.4	0.1
	0800	5.8	1.8		0735	5.3	1.6
TH	1430	0.9	0.3	FR	1345	1.2	0.4
JE	2010	6.2	1.9	VE	1940	6.0	1.8
6	0300	0.1	0.0	21	0220	0.2	0.1
	0845	5.8	1.8		0820	5.5	1.7
FR	1515	1.0	0.3	SA	1430	1.1	0.3
VE	2055	6.0	1.8	SA	2025	6.1	1.9
7	0340	0.2	0.1	22	0310	0.1	0.0
	0930	5.7	1.7		0905	5.7	1.7
SA	1555	1.3	0.4	SU	1520	1.1	0.3
SA	2135	5.8	1.8	DI	2115	6.2	1.9
8	0420	0.5	0.2	23	0355	0.1	0.0
	1015	5.6	1.7		0955	5.8	1.8
SU	1640	1.5	0.5	MO	1615	1.2	0.4
DI	2220	5.6	1.7	LU	2200	6.1	1.9
9	0500	0.7	0.2	24	0450	0.2	0.1
	1055	5.5	1.7		1045	5.9	1.8
MO	1730	1.7	0.5	TU	1720	1.3	0.4
LU	2305	5.4	1.6	MA	2250	6.0	1.8
10	0545	1.0	0.3	25	0550	0.3	0.1
	1140	5.4	1.6		1135	5.9	1.8
TU	1820	1.8	0.5	WE	1825	1.3	0.4
MA	2345	5.2	1.6	ME	2345	5.7	1.7
11	0630	1.2	0.4	26	0645	0.5	0.2
	1220	5.3	1.6		1225	5.8	1.8
WE	1905	1.9	0.6	TH	1930	1.3	0.4
ME				JE			
12	0035	4.9	1.5	27	0040	5.5	1.7
	0710	1.4	0.4		0745	0.6	0.2
TH	1305	5.2	1.6	FR	1320	5.7	1.7
JE	1955	1.9	0.6	VE	2030	1.2	0.4
13	0125	4.7	1.4	28	0140	5.2	1.6
	0755	1.6	0.5		0840	0.8	0.2
FR	1355	5.1	1.6	SA	1420	5.6	1.7
VE	2040	1.8	0.5	SA	2125	1.1	0.3
14	0220	4.5	1.4	29	0250	5.0	1.5
	0840	1.7	0.5		0940	1.0	0.3
SA	1450	5.1	1.6	SU	1525	5.6	1.7
SA	2125	1.6	0.5	DI	2225	0.9	0.3
15	0320	4.5	1.4	30	0400	5.0	1.5
	0925	1.7	0.5		1040	1.1	0.3
SU	1545	5.2	1.6	MO	1630	5.7	1.7
DI	2220	1.5	0.5	LU	2325	0.7	0.2





NATURE NOTES

Comets, Lunar Eclipses, Geese and Owls — Wow!

On March 14, lying awake at 5:15 a.m., I suddenly remembered that comet Hale-Bopp was visible in the northeastern sky. The shivery donning of dressing gown, barefeet padding downstairs over winter-cold floors, and awestruck standing looking up outside on our cold back deck, were more than amply rewarded. About 45° up in the clear dark blue was a perfect 'picture-book' comet — the unbelievably long, parabolic, silkily glowing tail streaming away and up into the dark. Binoculars revealed what looked like pinwheels coming off the comet's nucleus, further intensifying and lengthening its streaming upward trail. Later in the month, I located it in the evening sky as well, but those sightings paled compared to that first spectacular, and indeed subsequent, morning shows.

Then, in the wee hours of March 24, the partial lunar eclipse was one of the most impressive I have seen because of unusually extreme lunar brightness, size, and very clear atmosphere. Being able to go to a different window, and see Hale-bopp 90° away in the northeast, was a double bonus. Ah, the advantages of morning people!

Over the NatureNS listserve, here's what Sherman Williams of Canning had to say of his March 30 Hale-Bopp sighting — "...Both tails could be clearly seen. The dust tail was bright; its gently curving extent could be traced 11 to 12 degrees; about to the bright stars of Cassiopeia. The gas tail was much fainter but could certainly be seen both with binoculars and the unaided eye. With some difficulty and using averted vision, I traced it to the vicinity of delta Cassiopeia (about 13 to 14 degrees). I could see a dark gap in the gas tail with thin strands on each side of the hole, near where it diverged from the dust tail. Telescopic views showed the series of distinct, yellow-tinged arcs radiating like waves from the sunward side of the coma. ...In the midst of my observing, a flock of Canada Geese went over, invisible against the blackness, but through their honking I followed their progress across the sky, in hopes that I would see them become silhouetted against the comet. It never happened; I believe they passed just below it. Also, in the background, throughout the evening, a barred owl hooted occasionally. What glorious moments these were! — Bright comet, dark sky, lots of stars, honking geese, and hooting owl — amen!"

'Amen' indeed, Sherman — 'amen' indeed.

— Stephanie Robertson

! NEXT DEADLINE !

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

Please phone 455-8160 to alert the editor