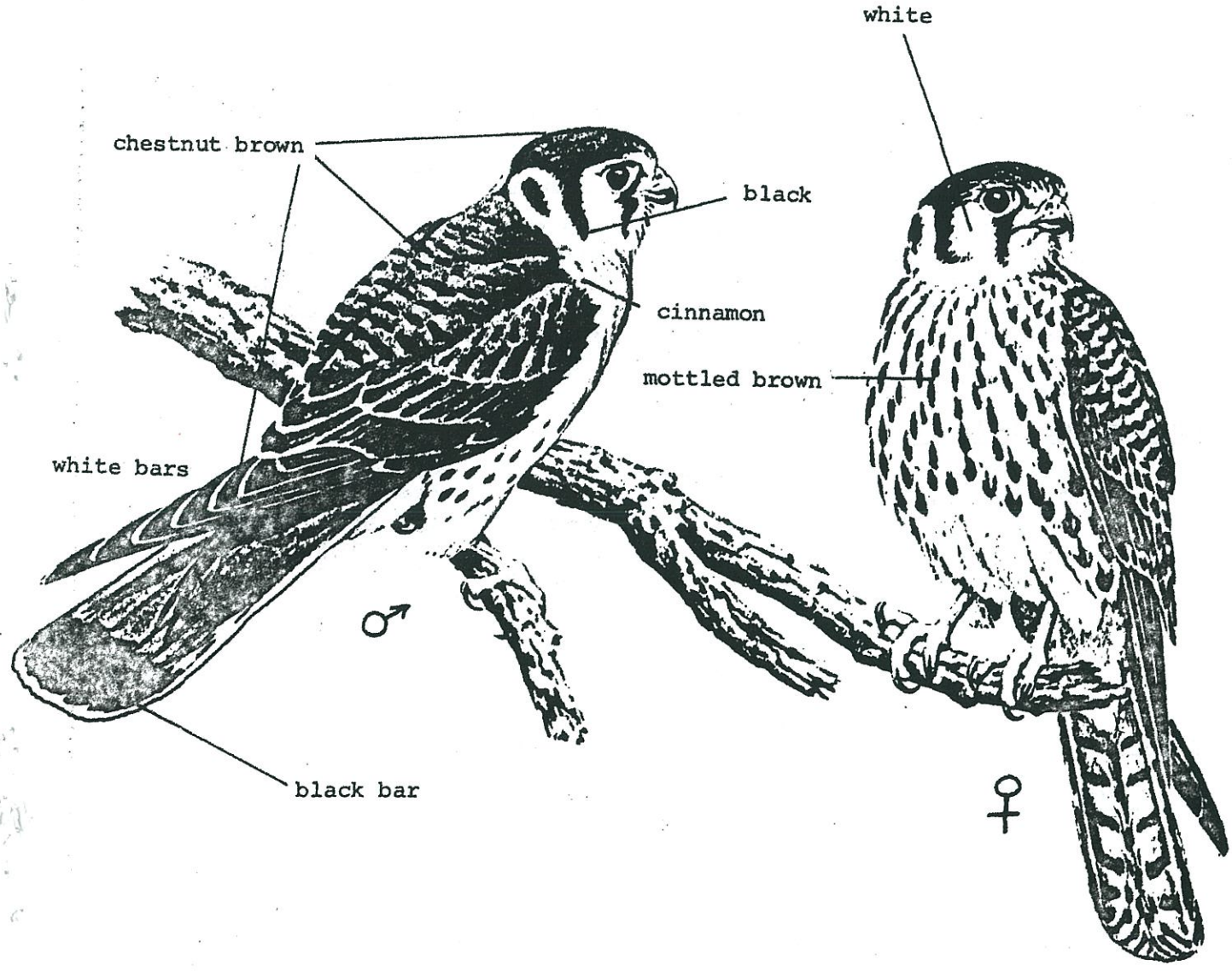
HALIFAX FIELD NATURALISTS NEWSLETTER

#13

c/o Nova Scotia Museum
1747 Summer Street
Halifax, N. S.

SEPTEMBER/OCTOBER 1977



Can you identify this migratory bird?

HALIFAX FIELD NATURALISTS NEWSLETTER

SEPTEMBER/OCTOBER 1977 NUMBER THIRTEEN

Meetings are held on the first Thursday of every month, at 8:00 p.m. in the Auditorium on the ground level of the Nova Scotia Museum, 1747 Summer St., Halifax.

Field Excursions are held at least once a month.

Membership is open to anyone interested in the natural history of Nova Scotia. Membership is available at any meeting or by writing to Membership, Halifax Field Naturalists, c/o the Nova Scotia Museum. Individual membership is three dollars yearly; family membership is five dollars. Members receive the newsletter and notice of all excursions and special programs.

Directors for 1977-78

President.....	Heather Harbord	463-9115 (evenings)
Secretary.....	Kathy Aldous	479-3032
..	Mary Primrose	423-5165 (evenings)
..	Nan Hennesey	422-3161
..	Estelle Laberge	479-2481
..	Jim Reid	455-5894
..	Paul Keddy	422-7238
..	Don MacDougall	424-2287

Newsletter: Jim Reid, Heather Abriel, Cathy Keddy

Mailing Address

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

HFN is a member organization of the Canadian Nature Federation.

HFN is incorporated under the Nova Scotia Societies Act.

president's report

Au revoir, it was good to know you! As those of you who were at the September meeting are aware, I am leaving in October to go to Coquitlam, B.C. so I shall be resigning as your President after the Oct. 6th meeting. Under Section 23 of the HFN Bylaws, "In the absence of the President, the Board of Directors shall appoint a director to act as President who shall exercise the authority of the President and fulfill his duties." At their August meeting, the Executive appointed Kathy Aldous, the Secretary-Treasurer to act as President to finish my term. In turn, she will relinquish her present duties and the Executive feel that these should be split into two and possibly three positions. The constitution allows for a separate Secretary and Treasurer and there may be some merit in having a membership secretary also.

At their September 23rd meeting, the Executive appointed the following to act as a nominating committee for 1978: Kathy Aldous, Paul Keddy. Under Section 31 of the Bylaws, "this committee is to submit nominations for the positions of President, Secretary, Treasurer and all but two of the directors at large to the Annual meeting. Any two members of the Society who wish to have someone nominated by the Nominating Committee may do so by submitting the name in writing to the Committee at least two weeks before the Annual meeting (in January)." I would suggest that field trips are a good time to get to know people as usually the group is smaller and there are more opportunities to talk than at meetings. Please make sure that lots of nominations go in. Fresh ideas are always welcome.

Regarding the mushroom walk, we were disappointed that Scott did not stick to his original plan of announcing a date for the walk at the September meeting as he had lead us to believe he would. Finally the walk was held on Oct.1 and it was announced on the radio.

Ray Pierotti, in addition to being the December speaker, is going to help Jim Reid solicit articles for the newsletter. This is difficult for Jim to do now that his job as a Fisheries Inspector takes him to sea for several weeks each month.

The Conservation Corps people should make a special note on their calendars of the November meeting as Tim Randall is going to show his slide set of the dune building project at Martinique as part of that evening's program.

Following the August meeting on salt marshes in general and the field trip to Cole Harbour in particular, I wrote to the Hon. Glen Bagnall, Minister of Municipal Affairs, expressing our concern at the reduction in park land in the Porter Plan compared to the original MAPC plan and suggestin that he revert to the latter.

The Regional Resource Awareness Group, which was jointly sponsored by ourselves and Heritage Trust, have completed their program and gone back to their studies. Thanks to the four of them for a job well done and a lot of good publicity. We hope to sponsor a similar program during the winter involving the schools and have applied for a Canada Works grant to do so.

WHAT'S UNIQUE IN NOVA SCOTIA ?

A LOT OF THINGS ... WE THINK.

For example, the only place in the world that the Ipswich Sparrow breeds is on Sable Island. One species of Gerardia (Gerardia neoscotica) grows only in Nova Scotia. A variety of Panic Grass (Panicum longifolium var. tusketense) is found only in the Tusket River Valley in Yarmouth County! We are sure that there must be many more endemics -- be they insects, birds, mushrooms, mosses,snails, seaweeds or fish.

Dr. E.C. Pielou has suggested that HFN compile a list of these Nova Scotia endemics. We think it sounds like a great idea.

So whatever your specialty or interest, dig around and see how many Nova Scotia endemics you can come up with. Write down your suggestions, and either pass them along, or mail them to Dr. E.C. Pielou, Biology Dept., Dalhousie U., Halifax B3H 4J1.

The list will be published in a future newsletter, so get your suggestions in as soon as possilbe.

City buys land for park

The City of Halifax has purchased 140 acres of the Hemlock Ravine lands in Rockingham for park use.

Mayor Edmund Morris signed an agreement with J. Donald Hogan of Rockingham, yesterday morning for turnover of the land.

Mr. Hogan donated land worth $125,000 while the city purchased more land for $150,000. The agreement ends a year of negotiations.

It has been a concern of ward 10 residents that the area be retained in its natural state because of the historical significance of the area and the impressive stand of hemlocks there.

The Hemlock Ravine park will be slightly smaller than the city's Point Pleasant Park, which is about 180 acres.

In a month or so, the fern season will be coming to an end. But, this time of year is the best time for identification of ferns! So get out there and fill in some lists the next few weekends.

The response to the fern project has been excellent. So far I have received 108 completed checklists.

Please remember to mail in your completed checklists. I am anxious to start tabulating the data.

Cathy Keddy

PANEL DISCUSSION ON

ECOLOGICAL RESERVES

A.C.E.R. VISITS NOVA SCOTIA

You are invited to attend a panel discussion with the National Research Council's Associate Committee on Ecological Reserves.

A.C.E.R. is a national body set up to promote Ecological Reserves and share information on provincial programmes already in existence. The committee consists of a representative from each province in Canada. Their annual meeting will be held this October in Halifax.

If you're interested in Ecological Reserves, and you want to find out what's happening in the rest of Canada, don't miss this opportunity.

Monday, Oct. 24 8:00 PM

8 th Floor Lounge, Biology Dept., Dalhousie U., Halifax
(enter Life Sciences Bldg. via 3rd floor entrance, opposite the Arts and Administration Building)

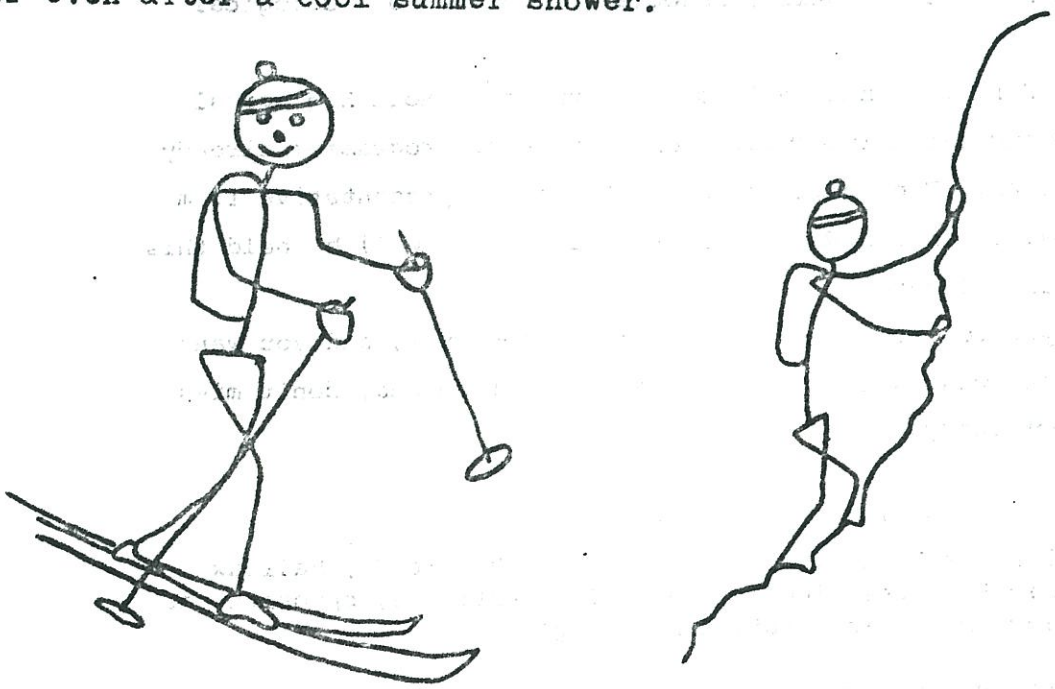
--------hosted by the Halifax Field Naturalists----------

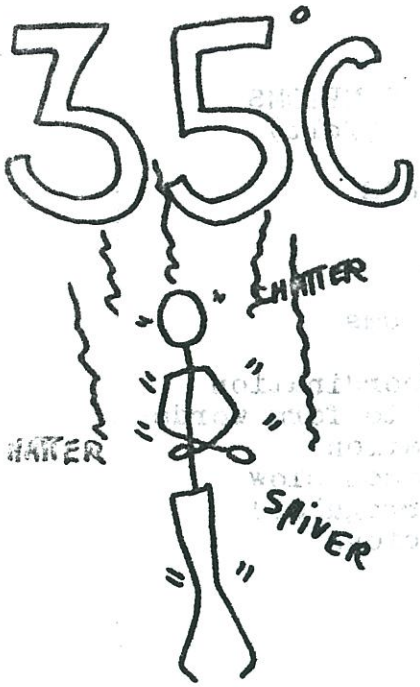
HYPOTHERMIA

by David and Heather Abriel

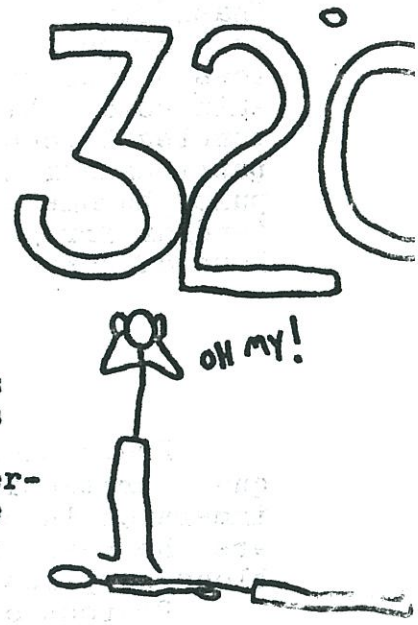
Hypothermia is a lowering of the internal (core) body temperature (heart, brain & internal organs). This is also known as exposure. People die of exposure.

Anyone traversing the outdoors should be aware of the dangers and symptoms of hypothermia and ensure adequate protection. Suprisingly, most instances do not occur in freezing, blinding, blizzards. During these periods most of us are well wrapped and adequately dressed. The real danger exists to the casual, inexperienced and uninformed hiker, skier or afternoon walker even on a relatively nice day in the colder months or even after a cool summer shower.

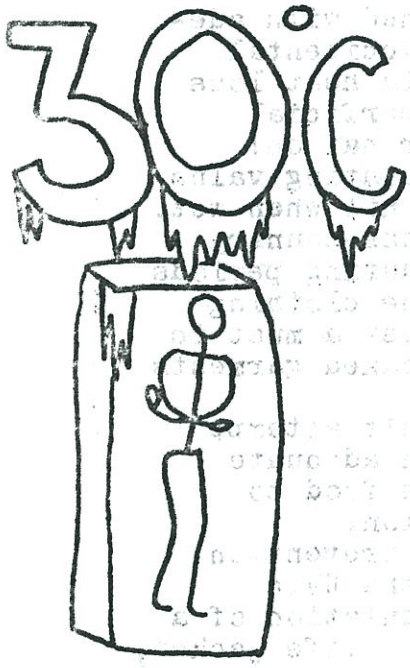




Hypothermia most often occurs when people actively participate in an outdoor recreational activity, get overheated and remove outer warm clothing. This in itself is not harmful, but once the activity (such as cross-country skiing) is stopped, the participant may sit down to rest, get chilled because he is improperly clad, begin to shiver and lose vital body heat. Inadequate protection against a sudden downpour and cooling winds even on a summer evening's walk, when temperatures fall below 17°C (60°F) can leave the unsuspecting victim open to hypothermia. It only takes a few minutes for the internal body temperature to drop to a critical point.



As the body temperature drops intense shivering occurs. This is the body's attempt to generate heat production in order to counteract the great heat loss. When the internal temperature falls from the normal 37.5°C (99.5°F) to approximately 32°C (89.6°F) unconsciousness can occur. If the internal body temperature continues to drop and the body is cooled below 30°C (86°F) heart failure usually occurs, resulting in death.



In order to protect against and/or treat hypothermia it's necessary to recognize the symptoms in oneself and the signs in others. One of the great dangers of exposure is that victims become confused, are unable to reason properly and do not recognize the danger. The following are progressive signs and symptoms of hypothermia.

HYPOTHERMIA

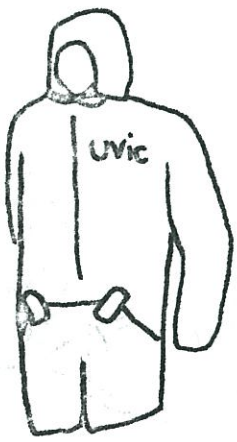
SIGNS (seen)	SYMPTOMS (felt)
slowing down	feeling cold
complains of cold	hunger
shivering	shivering
exhaustion	fatigue
inability to form words	muscle spasms
lack of judgement	confusion
loss of memory	lack of coordination
skin colour bluish	inability to form words
muscles become rigid	disorientation
pupil dilation	pulse becomes slow (and/or irregular)
pulse become slow (and/or irregular)	semi-conscious
loss of consciousness	

Prevention of hypothermia is best accomplished with adequate protection from the rain, wind, cold, and accidental immersion in cold waters. The areas of most rapid heat loss are the head, underarms, groin and areas with superficial blood supplies like wrists and ankles. Keep your hat on!

Protection against rain is a must. The insulating value of almost all fabrics except wool is practically nil when wet. Participants in active outdoor sports such as cross-country skiing, after removing outer layers of clothing during periods of intense activity should ensure they replace the clothing when they stop. Light windproof jackets are almost a must to prevent the wind from penetrating perspiration-soaked garments and causing excess heat loss.

Always carry extra protective clothing. Don't attempt vigorous activities or even long walks without an adequate energy source - don't skip meals - the body needs food to produce energy and heat. Carry an emergency ration.

An excellent new development in the area of prevention of hypothermia from immersion in cold waters is the UVic Thermofloat jacket. This device combines the insulation of a diver's wet suit with the flotation qualities of a life jacket,



and increases life expectancy in cold water over 300% from about 3 hours to 9 hours.

Another great danger is in immersion in cold water. It appears most people die from hypothermia rather than from inhaling water. Life expectancy in 10°C (50°F) water without a life jacket is up to 2 hours. "Drownproofing" is the fastest way to lose vital body heat. Swimming, besides being very efficient in losing heat is not practical because as hypothermia sets in, the ability to control body movements and to swim becomes progressively more difficult. Don't swim if at all possible. Wear a life jacket, or cling to debris and ensure that the head is out of the water.

First aid for hypothermia is basically a process of re-warming. As in all accident situations the most important considerations are to ensure the victim is breathing and his heart is beating. If the victim is not breathing, begin mouth to mouth resuscitation and continue until the victim is breathing or until medical aid is available. If the heart has stopped and you're knowledgable in cardio pulmonary re-susitation (closed chest heart massage and mouth to mouth resuscitation begin immediately and continue as above. New medical findings indicate that even if the situation appears hopeless and the victim is beyond help, continued mouth to mouth resuscitation has kept the victim alive. Therefore if you apply artificial respiration, don't give up! Continue until the victim arrives at hospital. If the victim is exhibiting lack of judgement, loss of memory or other serious symptoms, hot baths should be given, with the arm and legs outside, so as to heat the trunk first. Give hot drinks and food if victim is conscious. If in the field, body heat from another person may be the best source of heat. Remove all wet clothing. If the victim has stopped shivering, do not cover with a blanket unless there is another source of heat present as this will only tend to keep him cold.

In lesser extremes it should suffice to remove the victim to a warm shelter, give high energy foods, and supply with warm and dry clothing.

Tundra

by Farley Mowat

The personal account of the expeditions of several early northern explorers is presented by Mowat in this book in a way that vividly portrays what it was like to travel and live (survive) in the north between 1769 - 1929. The nomadic (hunter/gatherer) lifestyle of the indians and eskimoes, is described as well as the important role these people played in the exploration of the north. The explorative observations of wildlife abundance that were made during these times and the importance of these animals to the livelihood of the northern peoples (and to the explorers themselves while travelling) are combined by Mowat to powerfully illustrate the disasterous long term effects of fur trading and of firearms on wildlife and subsequently on a lifestyle. A way of seeing the north and its people as it was, as it was regarded, and as it was irreversibly changed.

COMMON MOLLUSCS OF THE MARITIMES

MYA ARENARIA: Soft-shell clam, Long-necked clam

In the last issue I mentioned the general characteristics and feeding habits of the soft-shell clam. I would like to conclude with its growth, reproductive habits and its importance to the economy.

Growth. The growth rate of bivalves depends on the interaction of many factors such as temperature, beach level, substrate type, clam density, and it is difficult to make generalizations as to what constitutes the best environment for growth. Growth is seasonal and is most rapid in summer, decreases in fall, and virtually ceases in winter. At this time the combination of low temperature and poor food supply make the clam adapt by lowering its metabolic rate so as to survive for months without feeding-it is in a state of torpor until the onset of warmer temperatures and increased food supply enable it to grow once more.

Clams are aged by interpreting the growth rings on the shell. It takes a great deal of practice to differentiate growth rings from "disturbance" rings, which are caused by sudden environmental changes. As the clam gets older and growth slows the growth rings appear closer and closer together and beyond an age of 5 years are virtually impossible to pick out. Softshell clams under favorable conditions can live for more than 10 years.

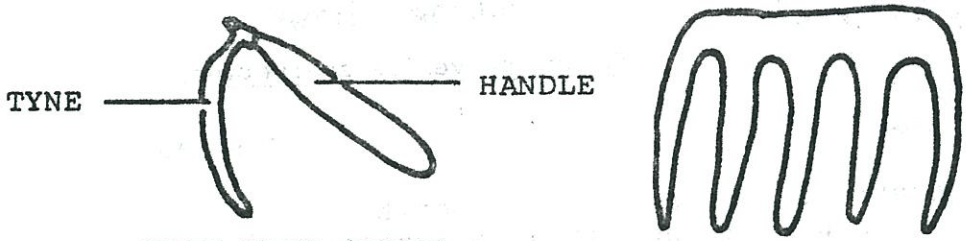
Reproduction. As with many clam species, sexual maturity is a function of size, not age, and occurs in Mya at a length of roughly 50 cm. The reproductive season is usually late spring and summer. Sexes are separate and as in most clams eggs and sperm are released through a siphon into the water where fertilization takes place. After fertilization the egg immediately undergoes a series of divisions and develops into a larva that will swim and feed in the plankton for 1-3 weeks before settling onto the substrate as a tiny clam, or spat. The young spat moves along using its foot for a while after which it stops moving, burrows into the bottom, and takes up a sedentary existence.

External fertilization is of advantage to the clam. Since the adult cannot move it must rely on water currents to spread the larvae over a wide area to enable the population to spread. To overcome the hazards of larval transport into unfavorable areas and the feeding of predators on the developing larvae, each female can release millions of eggs, and even though roughly 1% survive to reproductive size, the species is assured of continued existence.

Economic Importance. The popularity of the softshell clam both in shell (steamed) and in chowders cannot be overstressed. Clams are so abundant in some areas of the Bay of Fundy and Gulf of St. Lawrence that local industries, consisting of diggers selling clams directly to tourists or to shucking and canning plants for public distribution, provide seasonal employment for a number of people.

Clams are dug by a variety of methods. The shovel is the most primitive and most destructive method. The clam hack, a 4 to 8 pronged short handled rake, is used by most diggers and although less destructive

than the shovel, is still quite tedious. Mechanical hydraulic machines which rely on water pressure to wash clams out of the soil where they can be gathered are not generally used on beaches because of laws regulating their use.



CLAM HACK (SIDE)

(FRONT)

With more and more productive clam flats being closed as a result of pollution, more economical methods of clam production must be sought. It is currently expensive to transport spat from one area to another and artificial breeding and growth programs are not economically feasible at this time. It has been found experimentally that clams taken from a polluted area and placed in clean* running sea water will pump themselves clean of grit and pollutants within about 48 hours. Extensive use of depuration (clam-cleansing) facilities may be one way to enhance shellfish production.

*sterile

Michael V. Burke
September 1977.

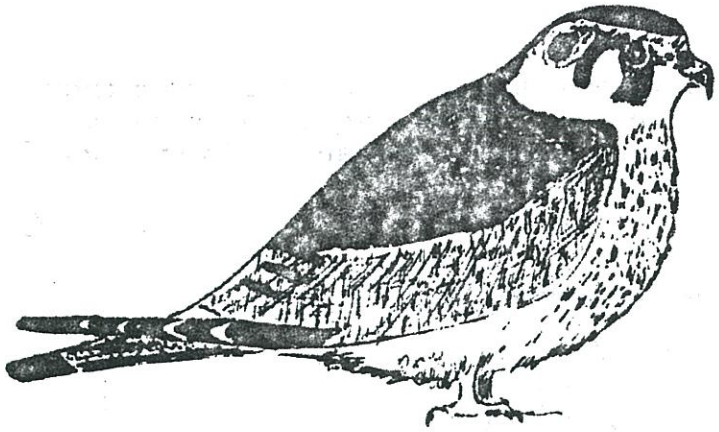
THE GLOBE AND MAIL
Sept. 30, 1977

Who says there's no good news? Here's more. The peregrine falcon, which was brought to the brink of extinction by man's use of DDT, is again flying wild in Ontario. Natural Resources Minister Frank Miller said this month that four young falcons had been received from the Canadian Wildlife Service's captive breeding facilities in Alberta and had been released in Algonquin Park. They seem to be adjusting.

DDT poisoning almost wiped out the species east of the Rockies and south of the treeline. Only after DDT use was restricted in 1969 could something be done to bring them back here.

Four birds do not a breeding population make, of course. More will have to be brought in. There is also the problem of romantic attraction. "Peregrines, like humans, can be very selective when choosing a mate," Mr. Miller says.

Still, it's a start. Now all the birds have to do is escape their enemies, the weather, the winter flight south and all the neat new chemicals man has developed since DDT was restricted. Keep your fingers crossed.



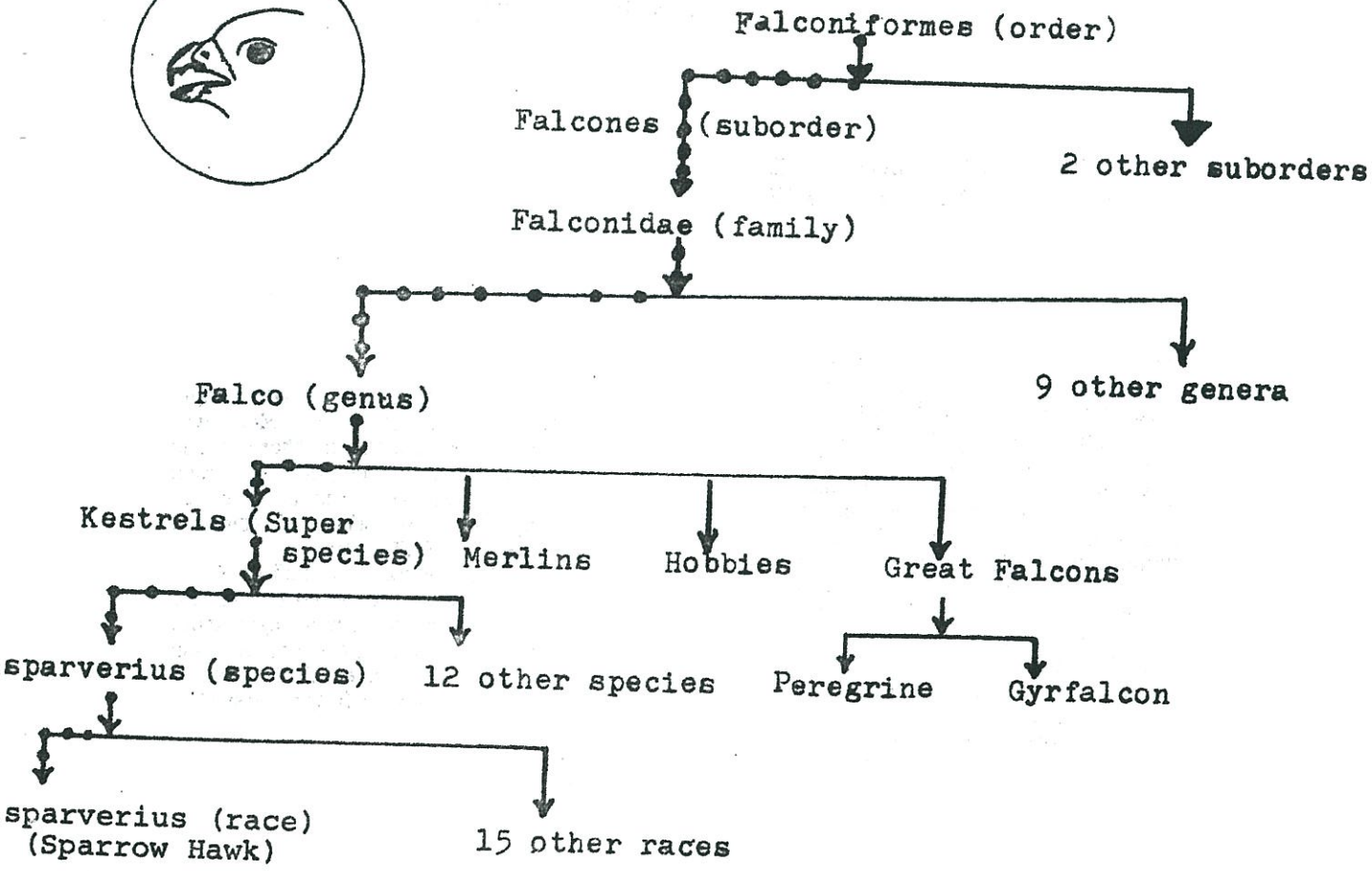
The American Kestrel
or
Sparrow Hawk

(Falco sparverius sparverius)

Jim Reid

The American Kestrel, the smallest of North American hawks, is a member of the Falcones (sub-order) and belongs to the super species of Kestrels within the genus Falco. The falcons in the genus Falco are of medium size and generally are characterized by: larger females than males; sexual color dimorphism (in the Kestrels, see cover sketch); long pointed wings; short powerful bill with a distinct tooth on each side and legs that are usually short with very powerful feet.

Diagram I



The American Kestrel's range extends from the tree line in North America south to South Carolina, Guerrero and North Baja California in Mexico. In Nova Scotia the American Kestrel is a summer resident arriving in April and migrating southwards to the U.S.A. in mid October. Migrating hawks follow mountain ranges to take advantage of updrafts that make flying easier. The North mountain range that follows the Annapolis Valley west to Brier Island is a migration flight path followed by hawks en route to the U.S. via the Gulf of Maine.

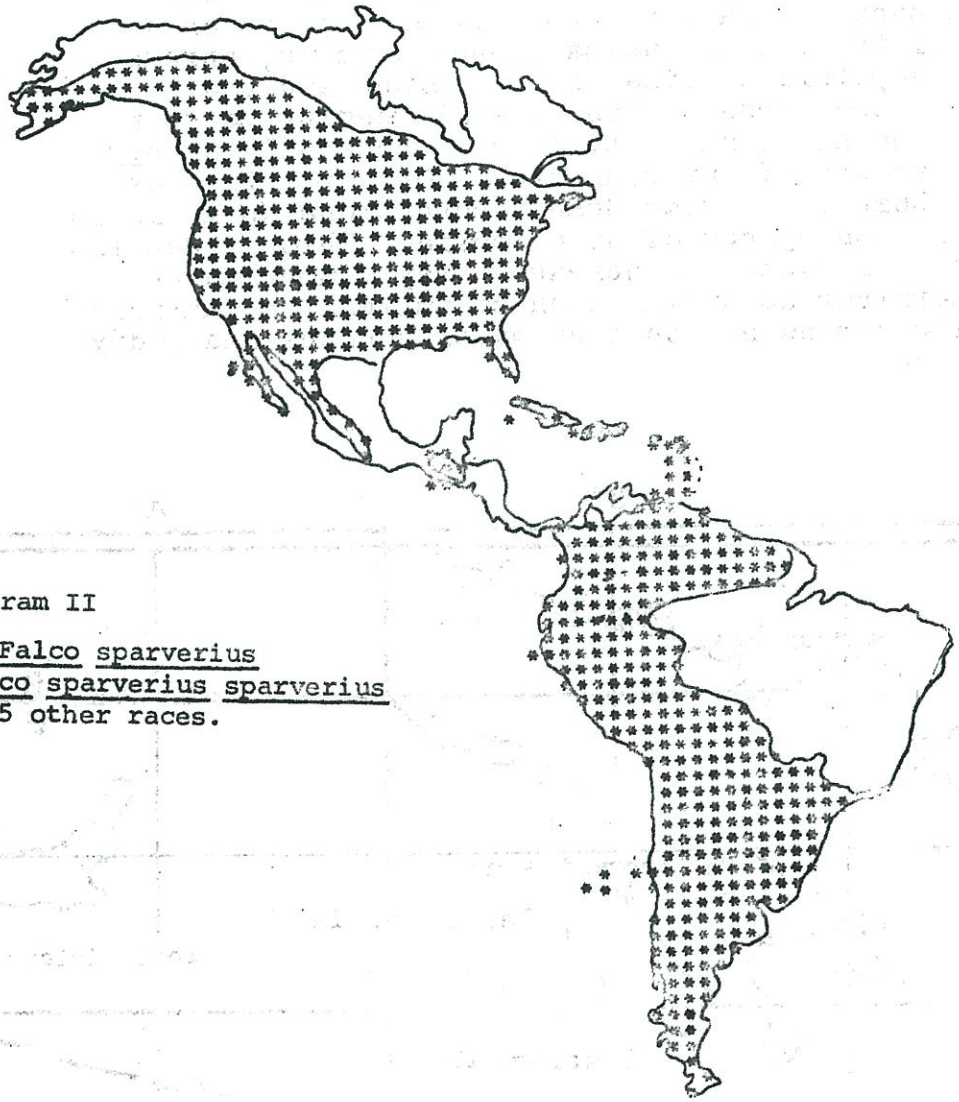
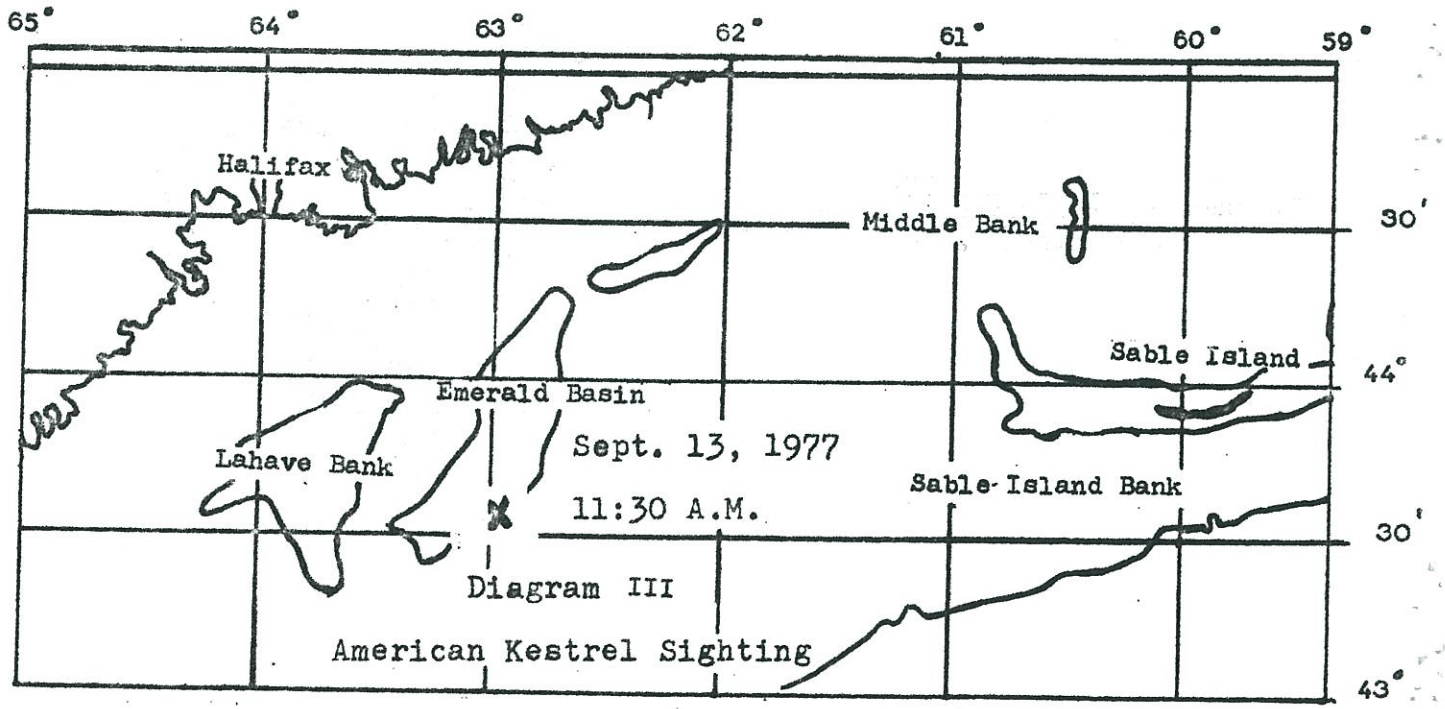


Diagram II

Range of Falco sparverius
Includes Falco sparverius sparverius
and 15 other races.

The American Kestrel is a medium to long distance migrator. Birds from the northern part of the range will winter in southern Canada or farther south in the U.S.A., while birds from the southern part of the range in the U.S. and Mexico may winter farther south.

The primary portion of the American Kestrel's (Sparrow Hawk's) diet is not sparrows but large insects such as grasshoppers. It also preys on a wide variety of other animals such as mice, shrews, snakes, amphibians, lizards, scorpions and small sparrow-sized birds. This general feeding pattern enables the American Kestrel to successfully occupy a wide variety of environments. In fact, it is as much at home in extreme desert conditions as it is in the semi open spaces of Nova Scotia. This is due to its high tolerance to increased body temperatures, and a carnivorous diet, which minimizes the American Kestrel's depend nce on open water sources under dry conditions.



Although prey is usually caught on the ground, the American Kestrel is very capable of catching small birds on the wing when necessary. I observed a female Sparrow Hawk on Emerald Basin easily overtake a small bird on the wing after diving and missing on the first attack.

The American Kestrel in Nova Scotia prefers semi open areas and elevated perches. While perching, the characteristic up and down wagging of the tail is easily observed. Nesting may occur in the holes of trees, the cut banks of streams or in buildings where a clutch of 4 or 5 eggs, white, cream or pale pink in color are laid in May to mid-June, approximately 6 weeks after mating. Incubation requires 29 or 30 days and 50% of the offspring usually survive the nesting period to leave the nest when they are 30 days old.

NOTE

Under Provincial Statute all hawks are protected, and it is necessary to obtain a permit from the Department of Lands and Forests to keep a hawk that is injured or in poor health.

References

Birds of Nova Scotia (Robie W. Tufts)

Eagles, Hawkes and Falcons of the World Vol. II (L. Brown and D. Amadon)

Autumn Hawk Flights (The Migrations in Eastern North America) (Heintzelman)

Hawks, Owls and Wildlife (John J. Craighead and Frank C. Craighead Jr.)

Sibir - My Discovery of Siberia

by Farley Mowat

This book is an account of Farley Mowat's two journeys (29,000 miles) in the late 1960's. Mowat's personal style brings out both the hopes and fears, the positive as well as the negative sides of development in Siberia. He describes the Russian concept of northern cities and decentralized satellite towns, and the accompanying successes and failures that have characterized the movement to populate Siberia since the 1950's. The struggles between government planners and environmentalists during this period seem vaguely familiar but the people of Siberia are there to stay, not fill their pockets and leave. The book is a painful comparison of the Canadian north and Siberia not only in terms of development (political, social, economic) but also in terms of the role played by the respective indigenous peoples in this development. . . well worth reading.

HALIFAX CITY COUNCIL ACCEPTS PROPOSED CHANGES TO TREE SPRAY PROGRAMME

The last newsletter carried a story on tree spraying in Halifax. Citizens' groups (The Halifax Field Naturalists, Ecology Action Centre, N.S. Bird Society and N.S. Resources Council) had charged that the programme was biologically, economically and medically unjustifiable. You will recall our brief submitted to City Council documented these concerns, and provided recommendations for an alternative programme. Instead of indiscriminate spraying of all city trees, the brief recommended initiating control only on those trees (if any) experiencing severe defoliation.

Events have since moved rapidly to a conclusion:

In August, a counter brief was prepared by Parks and Grounds staff, attempting to justify their programme.

Our rapidly prepared response charged that the staff report was inadequately researched and scientifically inaccurate. We expressed special concern over the fact that much pertinent published medical information had been ignored.

Both Parks and Grounds Staff and our groups followed up their briefs with presentations to the next meeting of Halifax Committee of the Whole. Paul Keddy, past-president of HFN, stated that the spray programme was biologically unnecessary and unjustifiable. Dr. R.S. Cunningham testified that there were serious human health implications to the use of both Carbaryl and Malathion. These concerns were related to the long term effects of small dosages, rather than acute toxicity.

There was sharp criticism and cross-examination of material presented by these witnesses, and it appeared to some observers that Council might ignore the evidence and proceed with the programme.

Halifax City Council later announced their decision to maintain the City Manager's original ban on the widespread spray programme. By and large, the programme adopted was that outlined in our original brief. It appears that the decision was based largely upon the medical evidence that the chemicals involved presented a significant risk to human health.

COMING EVENTS

Oct. 6 — MONTHLY MEETING: Greenland Sandwort- Nova Scotia's Mystery Plant
SPEAKER: Dr. M.J. Harvey
The interest in Greenland Sandwort lies in its obvious interaction with the Ice Ages. The talk will go into some modern developments on ideas about the Ice Ages; how the climate changed and the resulting migrations of organisms. The results are more extreme than hitherto suspected.

Oct. 9 — CRANBERRY PICKING/BOG EXPLORATION: a trip to a coastal bog
Meet 9:00a.m. at the N.S. Museum.

Oct. 16 — KIDSTONE LAKE WALK: see the Rocking Stone and learn about the mystery plant of Nova Scotia- Greenland Sandwort.
Meet 2:30p.m. at the N.S. Museum.

Oct 24 — ECOLOGICAL RESERVES PANEL DISCUSSION: see page 3 of this newsletter. Discussion will be at 8:00p.m., Dalhousie University Biology Dept., in the 8th floor lounge.

Nov. 3 — MONTHLY MEETING: Impressions of Sable Island
SPEAKER: Howard Ross

Dec. 1 — MONTHLY MEETING: The Role of Predators
SPEAKER: Ray Pierotti
Predators, be they wolves, hawks or wildcats, are an unfairly maligned group of animals. Many "predator control" programs stem from misconceptions. Come and learn more about the fact and fiction of predators.

Membership in the Halifax Field Naturalists is open to anyone interested in the natural history of Nova Scotia. Membership fee is three dollars annually, family membership five dollars. Come to a meeting or write care of the Nova Scotia Museum, 1747 Summer Street, Halifax.

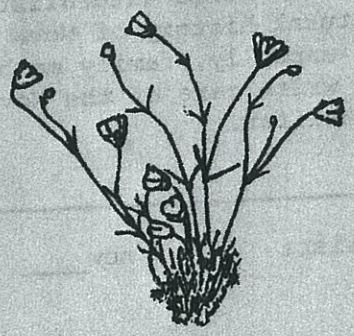
Halifax Field Naturalists new____ or renewal____

name _____

address _____

occupation or interests _____

Mary Primrose
6411 South St. Apt 22
Hfx.



Greenland Sandwort