HALIFAX FIELD NATURALISTS' NEWSLETTER

June '91 to August '91

No. 63

Purple Loosestrife
Lythrum salicaria L.

Return address:
Halifax Field Naturalists
c/o Nova Scotia Museum
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 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
FNSN (opt.)	$5.00 per year

Executive 1991

President	Colin Stewart	466-7168
Treasurer	Shirley VanNostrand	445-2776
Secretary	Doug Linzey	445-4943
Past President	Michael Downing	823-2081

Directors Richard Ballard, Kent Hodges, Bob McDonald, Bernice Moores, Mary Primrose, Steven Saunders, Clarence Stevens II, Stephen Ward

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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 gifts. The HFN Newsletter is printed with the assistance of the Nova Scotia Museum.

Illustrations **This Issue (No. 63):** Cover - ***Plants From Sea to Sea***, by F. H. Montgomery, Ryerson Press, 1966; p. 3 — lepidoptera from ***Animals: 1419 Copyright-free Illustrations***, Dover Publishing Inc., New York,1979; p. 4 — Rock Vole ditto p. 3, Mayflower, H. Derbyshire; p. 5 — W. B. Schofield from ***Along The Dikes***, by J. Erskine; p. 6 — trees from Nature Conservancy pamphlet, cones from Peterson's ***A Field Guide to Edible Wild Plants of Eastern/Central North America***; 1977; p. 7 — collection of D. Butters; p. 8 & 9 — ***New concise Atlas of The Universe,*** AH, London, 1978; P. 10 — Crowberry from ***Edible Wild Plants...***, Labrador Tea, collection D. Butters; p. 11 — Bakeapple from ***Edible Wild Plants...***, maple leaves by M. Brown, from ***An Introduction to Trees***, by J. Keiran, Hanover House, New York, 1954; p. 12 — ditto p. 3; p. 13 — fish from ***Ready to Use Nautical Illustrations,*** Dover, N. Y., 1987; p. 14 — ditto maple leaves p. 11; p. 15 — tide table courtesy Dept. of Transport, seagulls ditto fish p. 13; back cover — ***Arizona Highways***, Nov., 1987.

HFN NEWS AND ANNOUNCEMENTS

CALL FOR NEW PROGRAMME COMMITTEE MEMBERS

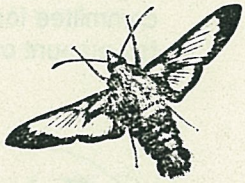
The programme committee needs a few more volunteers.

Contrary to characterisations of this committee as being composed of overworked burnouts, the actual workload is small. We generally meet twice every three months, for about an hour each time. With our large base of contacts and ideas, usually only one or two calls need be made for each trip or talk, a total of six trips and three talks each quarter. A programme committee member must be present on each trip to introduce the interpreter, get the waiver form signed, and find someone to write up the trip for the HFN Newsletter.

At the monthly meetings, members of the programme committee are responsible for checking and operating the slide projector, and/or film projector, and/or overhead projector (whatever the speaker requires), dimming the lights, and introducing and thanking the speaker. Lately, a new duty has been passed on to the programme committee — master of ceremonies at the podium! This is a lot of work for two people, but not for three or four.

If you decide to become a member of this very important committee, you would have the opportunity to schedule talks or trips in line with your own interests. The committee at present has only two members. I may move away at any time, and the other member, Steve Saunders, lives 40 miles from Halifax.

Please contact Rick Ballard (429-8850) if you are interested.



NEWSLETTER

There is a new item in this issue: "Almanac". It contains highlights of events of other naturalist groups plus other significant natural occurences of the season. We hope you find it helpful in planning your activities this summer.

With sad regrets, this Layout Editor has to announce that her family is being transferred to a foreign clime for three years. I will miss everyone involved in HFN activites — good people all — and hope that things continue to go well. I have enjoyed thoroughly this job of "laying out" HFN's Newsletter, despite the rush of deadlines, contributors' mostly not heeding them, broken-down printing presses, etc., etc.; and especially working with Ursula Grigg, Editor.

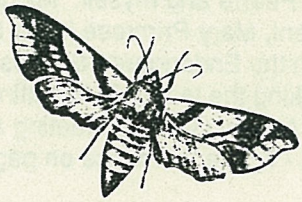
HFN needs someone who loves to create and "put things together" in order that newsletter production may continue smoothly and without a hitch. Do you fill the bill? Contact Ursula Grigg, 455-8160, or write HFN, c/o Nova Scotia Museum, 1747 Summer Street, Halifax, N. S., B3H 3A6.

NSM has now transferred its printing requirements to the Queen's Printer who cannot use our paper because of their very specialised newsletter production machine. In order to continue using our already-purchased, recycled, unbleached newsletter paper, this particular issue is printed courtesy the Minolta EP570Z copier residing in the offices of ARA Consulting Ltd., Scotia Square. Thank you, ARA.

—S. Robertson

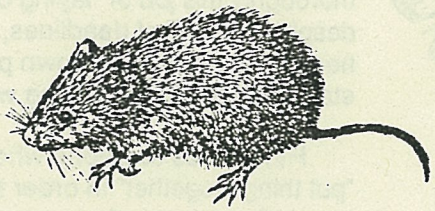
NEW AND RETURNING MEMBERS

Sylvia Amey
Elaine & Chelsea Charlong
Louis Coutinho
Jude DuChene
Ann Grantmyre
Dorothy Grantmyre
Mary Hunter
Susan McLean
Jessica Meijer
Blake Maybank
Terrence & Sandra Murphy
Jamie & Leslie Perry
Terry Quinlan
Mildred Rigby
Bud Rumsby
Jack & Linda Tompkins
Vidya Seenivasen
Benjamin Sinclair
Patrick Stewart & Family
Barbara Toppnowen



CONTENTS

SPECIAL REPORTS



PRESIDENT'S MESSAGE

Your membership HFN is more than just a newsletter subscription. It's also more than talks and walks. You become part of a voice for nature. We're usually quiet and behind the scenes, but we've been effective too. Let me give some examples.

In 1989 when the Point Pleasant Park Commission went to the city for funding to manage the park essentially as a woodlot, we were among those who objected. As a result a Technical Advisory Committee was set up, and Stephanie Robertson was asked to be our delegate. To investigate the allegation that the park's forest was dangerously infected with the infamous spruce-bark beetle (and was therefore in need of remedial cutting) a bark beetle survey was initiated. The results showed that there was none of this particular type of beetle present in the park. HFN was the major player in this study, mostly through Stephanie with the able and dependable help of Rick Ballard, Gareth Harding, and Mary Primrose. The latest in the continuing Point Pleasant Park saga is that the Technical Advisory Committee is being refdefined as a Planning Committee.

We've carried a lot about the Federation of Nova Scotia Naturalists in our newsletter. We should. We initiated it. The idea was taken to a meeting of interested parties by Michael Downing, Doug Linzey, Sifford Pearre and myself. Michael is now FNSN president, Mary Primrose is the HFN representative, and I'm the Endangered Spaces coordinator. HFN is also taking the lead role in setting up this year's FNSN Annual General Meeting at Mount St Vincent. (July 5 - 7, see the notice on page 9).

We also take part in the annual Science Fair for junior and senior high school students. We judge the natural history category, and give an award in both age groups. Doug Linzey spent a day or more judging exhibits and talking to exhibitors; John van der Meer had been our adjudicator for the previous six years.

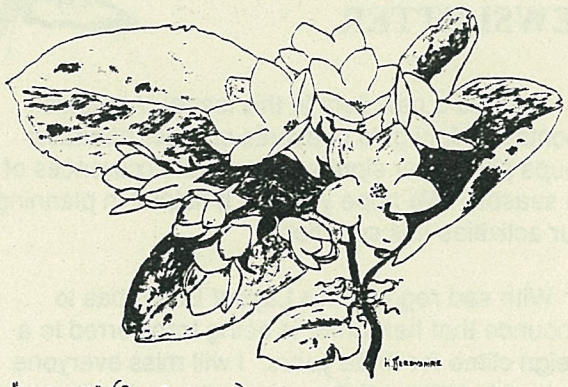
The examples could go on and on: environment week projects, the Trails for Tomorrow conference, a submission to the review of Provincial Parks legislation, participation in the Green Plan, the Environment and Economy conference, the Halifax 1991 conference, setting up the Nova Scotia Trails Federation, protection of Hemlock Ravine and Conrads Beach, signs in the Public Gardens, participation in "Parks are for People"', bird atlasing - and so on. The list of people who have made these efforts possible is even longer. I won't start naming them because I'd miss too many.

We have done a lot of good work over the years. It has all been volunteer. Sometimes the people involved have had expertise, but mostly they have just had interest. The number of projects expands to use the volunteer base available. And that brings us to the point of this column. **WE NEED VOLUNTEERS!**

Oh, we're not desperate, or falling apart, but we're a little thin is spots. Some of our volunteers have moved away, or because of their jobs or families don't quite have the time they used to. Others are easing back. recharging their batteries. Some continue full speed ahead.

Both our newsletter and programme committees have fewer people than either would like. There's a plug for each elsewhere this issue. Incidentally, newsletter submissions and suggestions for walks and talks are most welcome from anyone. (Keep in mind that talks are arranged up to six months ahead.)

So where do we need volunteers (besides the above areas)? Well, we need someone to help with the tea at meetings starting in September. Then there is the representative for the new planning committee for Point Pleasant Park. We'll be doing a fair amount on Piping Plovers over the next two

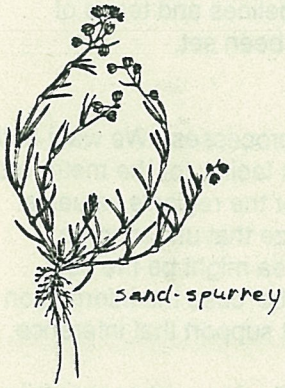


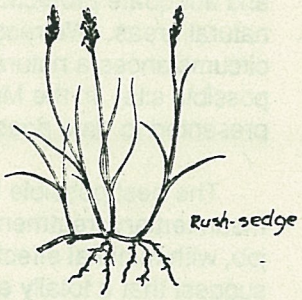
"MAYFLOWER" (Epigaea repens)

years, starting with surveys in June, and possibly including a pamphlet, and the design and placement of a sign. We may also take on some responsibilities with Pearl Island. Then there is our Environment Week project on Purple Loosestrife and an HFN display at the "Go Green" environmental fair (June 8 - 9). We are preparing a submission for the Kejimkujik management plan review. We are also involved in the Halifax harbour sewage plant issue, which can use all the help it can get (see article). As the major host of the FNSN Annual General Meeting we will undoubtedly need help during this event (July 5 - 7). There are also several issues that we haven't become involved in, or are holding back on, because of lack of volunteers. These include park or planning proposals on Albro Lake, Sullivan's Pond, the Blue Mountain area, and a general review of metro's natural areas.

Have you some time? Do any of the above interest you, or is there something else you would like to see pursued? Our volunteer coordinator is Doug Linzey (445-4943). Help us keep the successes rolling!

— Colin Stewart





"HALIFAX 1999"

From April 14 - 16, this conference was held in the World Trade and Convention Centre. Designed and organised by former Halifax Mayor Edmund Morris, it consisted of six panels set up to receive the presentations and concerns of Haligonians that would affect the appearance and the municipal administration of Halifax in 1999. There were six panels in all: "The Physical City, "The Regional City", "The Historic City", "The Human City", "The Economic City", and "The Cultural and Educational City".

As a naturalist, I was asked to be a panelist for "The Physical City". The other panelists were: Dexter Kaulbach (Chair), TUNS; Kate Graves, United Nations Environment and Development; Maurice

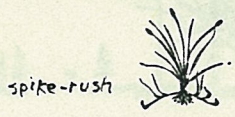
Lloyd, UMA Engineering Ltd.; Ed Harris, Q. C., Daley, Black, & Moreira; and Frank Palermo, TUNS.

Our goal was an accessible, vital city of human scale, pleasing to the eye, and devoid of pollution. It would have a continuous interface with our natural environment of sea, lakes, and woodlands as the appropriate setting for Halifax as the major business, cultural, government, and institutional centre of Atlantic Canada. It was based on the five following issues and challenges:

- How can the City develop, grow, and change its form without undermining its current attractiveness and historic character?
- What new physical facilities such as a theatre, an aquarium, roadway improvements, bike paths, etc, should be encouraged as important components of the physical city?
- How can we protect, preserve, and restore the natural environment components of the City, and sustain and develop a sensitivity for our environment through such elements as a system of parks and open green spaces??
- How can we improve the process of urban planning for the City so that it is clear, accessible, broadly based, and positive?
- What are the physical improvements necessary to enhance the image of the City as a provincial capital of regional, national, and international importance?

A major pre-conference activity of our panel was its involvement with Halifax West Grade 12 Geography students. These students undertook to circulate a questionnaire on various issues. They began our formal sessions with a major slide-presentation on the results of their findings. Tthe presentors to our panel, and indeed other panels as well, all placed emphasis on the importance of maintaining an environmentally-sound, viable green component within and around Halifax; in most of the presentations this was a major aim. It was good to see that the general public is becoming aware of the necessity for healthy natural components within their urban centres.

The presentations aret to be tallied and distributed, along with the reaction of municipal leaders. Perhaps we will have a report in the next newsletter.



— S. Robertson

CONSERVATION ISSUES

POINT PLEASANT PARK

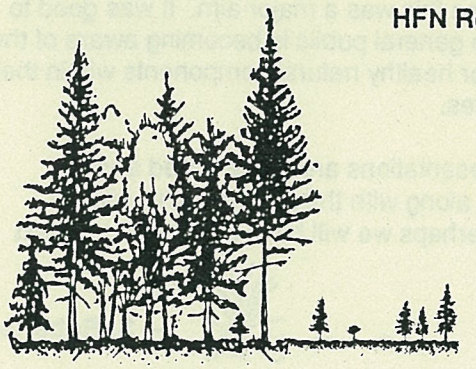
In 1866, Queen Victoria granted permission for the use of Point Pleasant as a Halifax public park. On May 7 of that year, an Act To Incorporate a Board of Directors was passed. It stated that (these lands) were "capable of being laid off and converted into a park, recommended equally by salubrity and beauty of its position, by its proximity to the city, and by the opportunities it would afford to all classes of the community for healthful relaxation and exercise;...". The rules said that "the directors shall make regulations relative to the maintenance of good order and decorum in the park, (and) the preservation thereof...".

An "Agreement Respecting Point Pleasant Park") was set out, passed, and signed on December 31, 1873. The main intent of this lease was the preservation of the area as a forest environment.

Throughout all the latest media misreporting about relations between the TAC and the PPPC, good things have been happening. The money for the biophysical survey recommended by the TAC, so necessary for good baseline data from which to generate a long-term management plan for the park, has been granted by City Council. This came about because of repeated insistent requests by members of the Point Pleasant Park Commission. Money for shoreline protection, which most probably would have been part of a long-term plan, has also been granted. The user survey, which will determine how people presently use the park, will be carried out somehow, most likely in better detail at some future date.

Terms of reference are being drafted by former TAC Chairman Robert Ogilvie in consultation with PPPC Vice Chairman Janet Kitz and member Stewart Hattie, for TAC and PPPC members' input and approval, for a new Park Planning Committee. Its main focus will differ from that of the former TAC, working specifically towards production of a long-term, environmentally and ecologically sound, management plan.

— S. Robertson
HFN Representative
former TAC



MCNABS AND THE HALIFAX SEWAGE SYSTEM

Halifax Harbour Cleanup Inc. has been charged with building the sewage treatment facility. They have commissioned a site report, held public meetings, and recommended Ives Cove, just off McNabs. They are now in the process (through consultants) of both designing a facility and doing the Environmental Impact Assessment.

The Halifax Field Naturalists, always interested in natural areas, parks, and regional environmental issues, has watched the Cleanup proceedings with concern because they will affect McNabs Island. Undeveloped land (including parks) is apt to be viewed as empty or under-used unless there is a very strong tradition of park use. We made a strong submission to the Fournier Task Force on the value of McNabs as a park in the making, emphasising both its recreational and natural values. This, along with its designation as a regional park, probably helped to keep the plant off McNabs land.

The current phase of development has two parts: the federal and provincial governments have set up a joint environmental impact assessment (EIA) process and named a panel headed by Dr. Shirley Conover. Through this panel the guidelines and terms of reference for the EIA have been set.

HFN is following both processes. We want both the best possible treatment facility for the metro area, and adequate protection for the region's valuable natural areas. We recognize that under some circumstances a natural area might be the best possible site. In the McNabs' case the information presented to date does not support that inference.

The best possible facility does not necessarily mean tertiary treatment. It does mean doing a proper job, with minimal effect on any neighbours. We suggest that a totally enclosed plant will probably be necessary.

A well-designed and functioning plant in Ives Cove cannot be hidden. It is certain to reduce the appeal of McNabs as a natural area to both residents and visitors. It will slow, perhaps even jeopardise, the development of the park. Conversely, cities like Quebec, Ottawa and Chicago have apparently added treatment facilities to built up areas without major consequences.

We hope to show that there are better sites where a properly designed and operated plant can be built without damaging the integrity of a natural area.

KEJIMKUJIK MANAGEMENT PLAN

One of the first things the Halifax Field Naturalists did when we were new was to join in the process leading to the 1978 Kejimkujik Management Plan. Management plans guide the park over 10 to 15 years, with reviews (public or not) every five years or so. It's time for a revision of the Keji plan, the first to include the seaside adjunct.

A newsletter identifying some of the issues has been circulated, and a series of open houses held. HFN is drafting its response to the issues that interest the club, including a few that weren't already mentioned. The park's planning team will use the comments it receives to develop a draft management plan. There will be public consultations on that document, followed by preparation of a final plan for ministerial approval.

Our attitude is that the park is fine as it is. Our comments deal with minor improvements, and new problems; the following is a synopsis of the major points. If you want to become involved as an individual phone or write the superintendent at Box 236, Maitland Bridge, Anna Co, N.S., B0T 1X0 (682-2772).

The park's forecountry extends from around the parking lot at Big Dam Lake along the main and campground roads and out past the old hatchery to the Eel Weir on the lower Mersey; it includes all of Keji Lake, because of motor access. In the spring and fall it effectively includes from the Eel Weir to Peskowesk Lake as that road is seasonally open. There is some pressure to open this road year round but we feel this would increase the pressure on the backcountry, which would become more accessible.

The dam on Grafton Lake is 50 years old and leaking; it also prevents fish reaching some of the least acidic waters in the park. The options are essentially to spend $30,000 on repairs and $70,000 on a fish ladder (and unknown amounts in regular maintenance), or to phase out the dam. We support a draw-down of the lake in stages, with monitoring of rare species (several aquatic plants and Blanding's turtle) and fish habitat. The process should include public interpretation of the process and the reason for it (removal of an artificial structure).

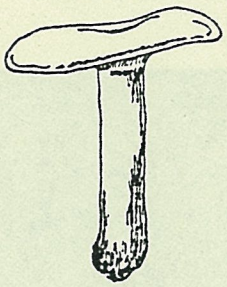
There is a proposal to develop tourist accommodation outside the park in the New Grafton area. The developer wants to close the public road to the site and establish a new road through the park to the main road near Jakes Landing. We oppose this. Even assuming that the proponent bore all construction and maintenance costs this would affect Roger's Brook, the stream with the highest pH in the park. It would also constitute an unfair advantage. This site and Whitman's Inn are both over 10 miles from Jakes Landing at present; if the proposal is accepted, the site would be only 1 mile from Jakes. Finally, this would be a very dangerous precedent; besides five or six other locations along the Keji border, what about all the operators that would like direct access to PEI National Park, among others?

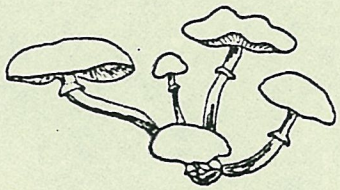
The seaside adjunct is not yet ready for visitors; there are no signs on Highway 103 and not much parking. A 35-minute trail leads to the coast on the St. Catherines River side; the Port Mouton side has a two-hour hike to it. As the park's boundary is over half way in, provision of a parking lot on federal land on the Port Mouton side would require a road to just inside the park. This would be expensive and would attract too many visitors before the park is ready for them. We would prefer parking near the road, or a delay of several years for further consideration. Primitive camping is permitted now (consult the park).

Backcountry sites are traditionally supplied with wood, creating problems ranging from supply to fire hazards. We support a stove-only policy; as people may cut or scrounge their own wood, a phased-in approach affecting the more remote areas first might be necessary. Perhaps the canoe concession could rent backpacking stoves.

Our submission on these and some minor points will be available at the next three monthly meetings.

— Colin Stewart





SPECIAL ARTICLES

THE CHANGEABLE POLE STAR

The pole star, Polaris, is changing, according to scientists at the University of British Columbia. In fact, its 'heartbeat' is slowing as it ages, lending new evidence to current theories about the formation of stars and and the age of the universe.

Polaris is the only star in the northern sky which does not seem to move; its position over the North Pole means that the rest of the sky appears to circle around it. That has not changed, but a regular pulsation of its brightness, which scientists have observed for over a century, is slowing to a stop.

This is perfectly natural, says Nadine Dinshaw, who with three colleagues at UBC's Department of Geophysics and Astronomy has been observing the changes in the star from which Shakespeare coined the simile "as constant as the Northern Star."

In fact, the Northern Star has not been constant within the last 40,000 years. Polaris is a Cepheid variable, one of a class of stars that pulsates. Dimshaw say the variations in its brightness are small, from five to ten per cent, so were not noticed until observed by modern astronomical methods.

As Cepheid stars mature, their pulsations die down and stop; this is now happening to Polaris. Although such slowing is common, it has rarely been watched, and never with absolute certainty. Dinshaw's group estimates Polaris has been pulsating for 40,000 years, but will take less than ten years to stop; by 1992 it may have ceased altogether.

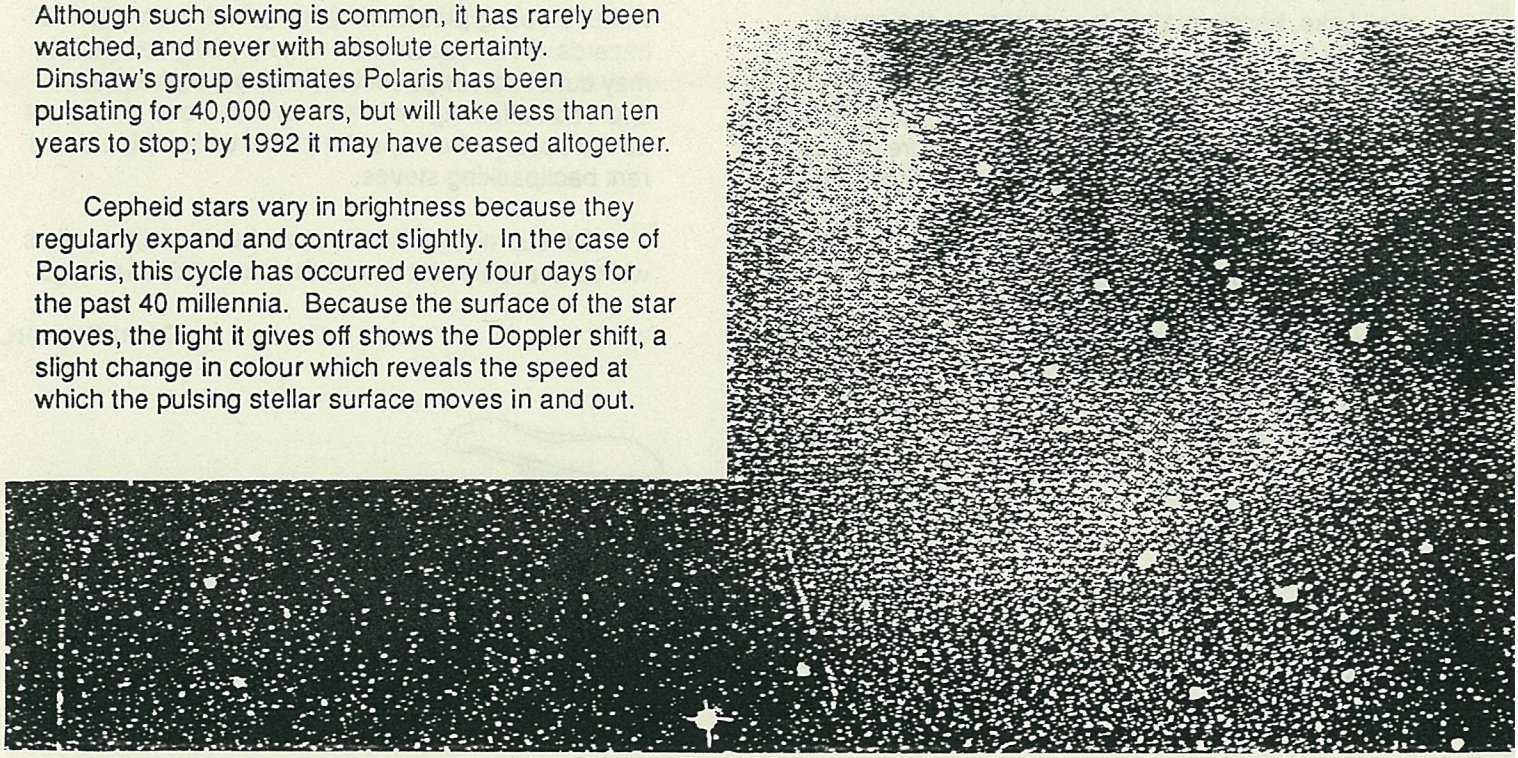
Cepheid stars vary in brightness because they regularly expand and contract slightly. In the case of Polaris, this cycle has occurred every four days for the past 40 millennia. Because the surface of the star moves, the light it gives off shows the Doppler shift, a slight change in colour which reveals the speed at which the pulsing stellar surface moves in and out.

Since the first measurements were made in the 1890's, the surface of Polaris has been moving in and out at a velocity of 9,000 kilometres an hour. Scientists have recognised oddities in the pulsation rate for many years, but they remained unexamined until Dinshaw's group began their intensive study with the most sensitive modern equipment. The group also re-examined old spectral data, using computers.

Their results show that Polaris's pulsation takes about three seconds longer per pulse every year. As of February 1990 the surface movement in and out had slowed to a velocity of 2,700 kph; the pulsation has weakened to the lowest limit the team's telescope can record, showing that Polaris is outgrowing its Cepheid phase.

This discovery has important consequences. It supports current theories of stellar formation and aging, and, since Cepheid stars are commonly used to measure the distance of remote galaxies from earth and each other, the finding gives additional support to current models of the size and age of the universe.

— Karl Schroeder
Canadian Science News
Vol 9 No. 35



EVENTS

ALMANAC

June (full moon the 26th)

8 — NS Wildflower Society (NSWS), "The Plants of Hemlock Ravine" walk; NSM Carpark at 9 am or Hemlock Ravine Carpark 9:30 am.

15 — Planetary Line-up. Don't miss the brief meeting of three of our solar planets with the crescent moon just after dusk in the west! Venus is the evening star, Jupiter the highest and next brightest; Mars, faintly orange and far away, is in between. These four planets won't be as close together again for another ten years.

24 — NSWS, talk on "Making a Wetland"; NSM Auditorium at 7:30 pm.

July (full moon the 26th)

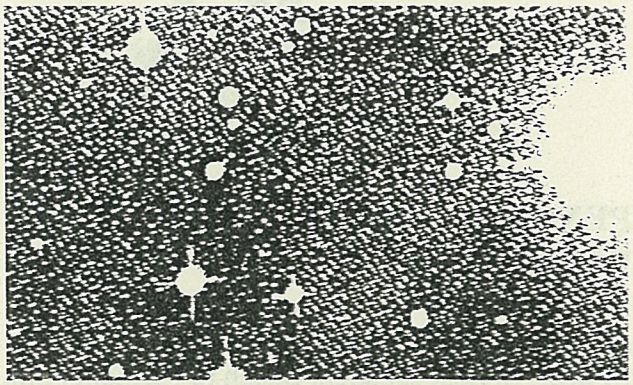
6 — NSWS, a walk in a "Handmade Wetland"; NSM Carpark at 9 am.

5-7 — FNSN Annual General Meeting and Convention; Mt. St. Vincent University.

21 — "Parks Day" at Dollar Lake.

August (full moon the 25th)

10 - 13 — Perseid Showers in the northeastern sky. Nature's meteoric fireworks!



FNSN

The Federation of Nova Scotia Naturalists' second Annual General Meeting and Convention will be held at Mount Saint Vincent University, Halifax, on the weekend of July 5 - 7th.

In addition to the AGM, there will be a mixed programme of field outings and talks, in a proportion slightly favouring the former. Some meals and social gatherings will also be arranged; there will be no after-dinner speakers!

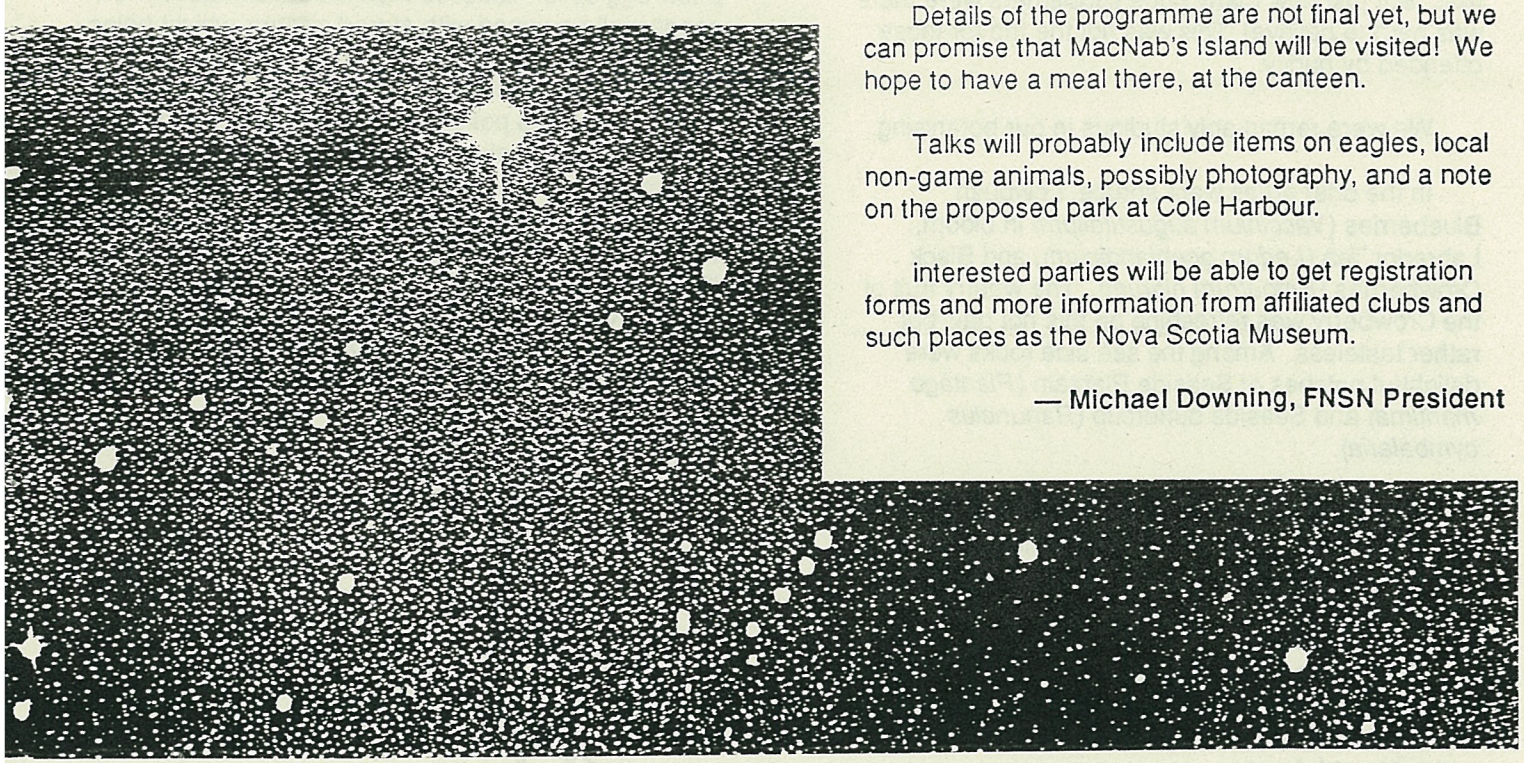
There will be a registration fee, which we will keep as small as possible, and accommodations and meals will be provided as options at cost.

Details of the programme are not final yet, but we can promise that MacNab's Island will be visited! We hope to have a meal there, at the canteen.

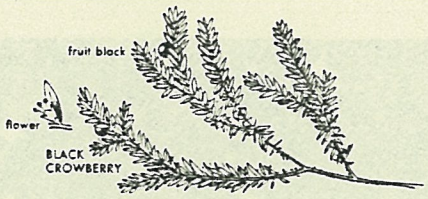
Talks will probably include items on eagles, local non-game animals, possibly photography, and a note on the proposed park at Cole Harbour.

interested parties will be able to get registration forms and more information from affiliated clubs and such places as the Nova Scotia Museum.

— Michael Downing, FNSN President



FIELD TRIPS



PENNANT POINT HIKE AND BOG ECOLOGY TRIP

DATE: Sunday, July 29, 1990
PLACE: Crystal Crescent Beach to Pennant Point
TRIP LEADER: Dr. Nick Hill, Mt. St. Vincent's University
WEATHER: Initially very hot and sunny, but in the end very cool and foggy
PARTICIPANTS: 13 members

One of the most interesting Halifax Field Naturalists' field trips that we went on last summer was the hike in the bogs of the Pennant Point area. I cannot pretend to recall all of Nick Hill's gems of botanical knowledge, especially since I am trying to remember the details from the photographs almost a year later.

During this outing I couldn't help but ponder the other meaning sometimes attached to the label "naturalist". Crystal Crescent Beach is the local Mecca for sunbathers in the Halifax area. We knew that. But just how many nude sunbathers were there was hard to believe! This was not the trip for those offended by nudity.

We were remarkably studious in our botanising.

In the drier areas were spruce, Lowbush Blueberries (*Vaccinium augustifolium)* in bloom, Labrador Tea (*Ledum goenlandicum*), and Black Crowberries (*Empetrum nigrum*). The watery fruit of the Crowberry was refreshing on this hot day, but rather tasteless. Among the sea side rocks were delightful patches of Seaside Plantain (*Plantago maritima*) and Seaside buttercup (*Ranunclus cymbalaria*).

We spent some time examining the lichens on the sea-shore rocks. Nick explained that tombstones are often used in studies of lichen growth, since an exact date of the earliest germinating lichen can be established from the tombstone date. One lichen that is unlikely to be seen on tombstones must be the orangey-red lichen found on some rocks. Apparently this lichen flourishes in the nutrient-rich surfaces upon which birds defecate.

There were plenty of bog orchids in bloom. The Grass Pink (*Calapogon tuberosus*), was blooming everywhere in the wet meadows and in sphagnum moss. Nick explained that this beautiful pink orchid was "up-side-down" compared to most orchids, because its lip pointed "up" rather than "down". This lip is hinged and displays a yellow beard that deceives flying insects into thinking nectar and pollen might be present. When the insect alights on the hinged lip looking for this food, the lip falls down and the back of the insect bumps into the flower's reproductive organs thereby attaching one or two of the pollinia to the insect's back. Later on, these "back-attached" pollinia may be transferred to the stigmatic surface of a different Grass Pink flower by a similar deceptive act.

In drier areas the beautiful Ragged Fringed Orchid (*Platanthera lacera*) proudly stood in full bloom. Other *Platanthera* species were present but less common. The flowers of the orchid *Arethusa bulbosa* had only just withered in the same habitat as the Grass Pink. The seed pods of the *Arethusa* were swollen with thousands of minute seeds.

Nick Hill explained that the orchids have a reproductive strategy that's just the opposite of their monocot cousins, the grasses. Grasses produce millions of pollen grains so that, by chance, a few may be blown to receptive grass stigmas and fertilise a few egg cells. Grasses then produce relatively few seeds well equipped with stored energy, whicht helps in germination and early growth of the seedling. In contrast, orchids produce only a few sticky clumps of pollen grains in a pollen mass called a pollinium. The few pollinia, through a specific insect pollinator-flower relationship, are carried by these insects to the stigmatic surface of another orchid plant. The orchids then produce thousands of seeds equipped with very little stored energy, some of which, by chance, may come into the right environment. This "right" environment must contain a specific fungus which provides nutrients essential for the new orchid's growth.

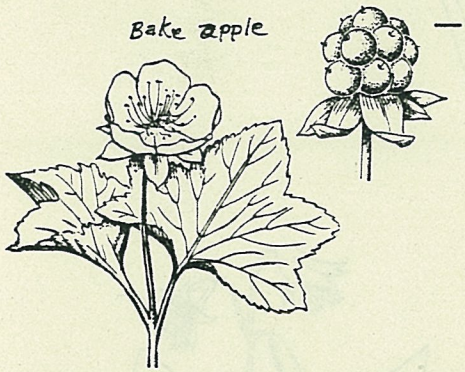
In the wet bog the Pitcher Plants (*Sarracenia purpurea*) were in full bloom. Their triffid-like flowers were everywhere, towering over the dainty little Grass Pinks. Bogs, Dr. Hill explained, are poor in the minerals required for plant growth. Pitcher plants are one of the many bog plants that capture and digest insects in the accumulated rainwater of their open "pitchers", thus obtaining necessary nutrients. In wetter areas, two kinds of another insectivorous plant, Sundew, were found. And in the pools of water the Bladderwort plants, which capture aquatic insects and crustaceae, were in flower.

In some of the drier spots of the bog the Bake Apple (*Rubus chamaemorus*), a sort of blackberry, was found in fruit with the Crowberry. The more ripe and fermented the Bake Apple, the tastier! We could have eaten bowls of this bog delicacy, but we chose to leave it for the wildlife.

Nearby in wet muddy areas, a wild Seaside Iris (*Iris hookeri*), was in full bloom showing various shades of blue.

At the end of the trip, we found ourselves sprawled on the damp bog meadow searching for the tiny Curly Hair Fern. To the unacquainted, the Curly Hair Fern looks very much like grass. But to the botanist, this little fern is a treasure. I can't help but wonder if its not the diminutive size of this fern that makes it seem so rare. You must look hard and persistently to find it. And we did!

— Steve Saunders



MAPLE SUGARBUSH TRIP

DATE: Saturday, March 23, 1991
PLACE: Kirmac Maple Products, Earltown and The Falls Community Hall
WEATHER: Very fine, sunny afternoon; the day before a big storm
PARTICIPANTS: approximately 30

The drive to the operation, several kilometres up a dirt road, was made interesting by the actions of a spring road grading crew, who were plowing a foot-high pile of dirt down the middle of the road.

Because we had about twice as many participants as were allowed in at one time, groups of us were sent at different times to the sugarbush.

The maple sugar operation was not hard to spot, a Quonset hut with huge clouds of steam billowing above it; I could smell the fabulous scent well before I got there. It was a high tech operation, with several thousand taps connected by plastic hose to a central processing centre. The main hose terminated at a vacuum pump, which fed a large holding tank. This in turn topped up the large evaporator, from which the thickened syrup was forced through a series of filters, and then to a final holding tank of refined syrup. The days of buckets hanging from trees are just about over.

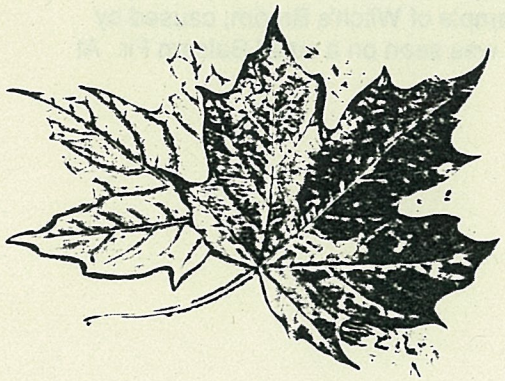
Everyone got to taste some syrup poured into a small cup, right from the spout.

The sap starts to run when there are freezing nights followed by above-freezing days. Sap may start flowing in trees on the south side of the mountain as much as two weeks before trees on the north side, because they do not get as much morning sun. The early sap produces the lightest syrup; later saps are darker in colour and when the tree buds start to appear, the sap suddenly turns bitter and production must cease. This makes for a production run of four to six weeks.

It takes about 35 litres of sap to make one litre of syrup. I could not get an estimate of the amount of sap produced by a single tree, but 35 litres is a lot of sap, probably more than a tree produces in a day.

After buying bottles of syrup and tubs of maple butter, we proceeded to a maple supper at The Falls Community Hall. For a very reasonable admission charge, you could stuff yourself with pancakes and sausages, all liberally smothered in maple syrup from bottomless pitchers. Then, after you assured the servers that you couldn't eat any more, you were asked to select from a number of homemade pies, all washed down with tea or coffee! I found the trip an educational and gustatorial experience and I hope we can repeat it next year.

— Rick Ballard



BLOMIDON SPRING WILDFLOWER TRIP

DATE: Saturday May 25, 1991
PLACE: Blomidon Provincial Park
INTERPRETER: Dr. Pierre Taschereau
WEATHER: Sunny, 27 C°, windy
PARTICIPANTS: 15 total, 8 non-members

Blooming Wildflowers: Red Elderberry, Red Trillium, Yellow Violet, Blue Violet, White Violet, Strawberry, Baneberry, Toothwort, Rose Twisted Stalk, Spring Beauty, Dutchman's Breeches, *Clintonia*, Smooth Leaved Crowfoot, Bunchberry, Indian Pear, American Fly Honeysuckle

Wildflowers Not Yet Blooming: False Solomon's Seal, Hairy Solomon's Seal, Wild Leek, Wild Sarsaparilla, Wild Lily-of-the-valley

Ferns & Allies: Long Beech Fern, Ostrich fern, Sensitive Fern, Braun's Holly Fern, Christmas Fern (crosiers), various Woodferns, Shining Clubmoss (*Lycopodium lucidulum*), Tree Clubmoss (*Lycopodium obscurum*)

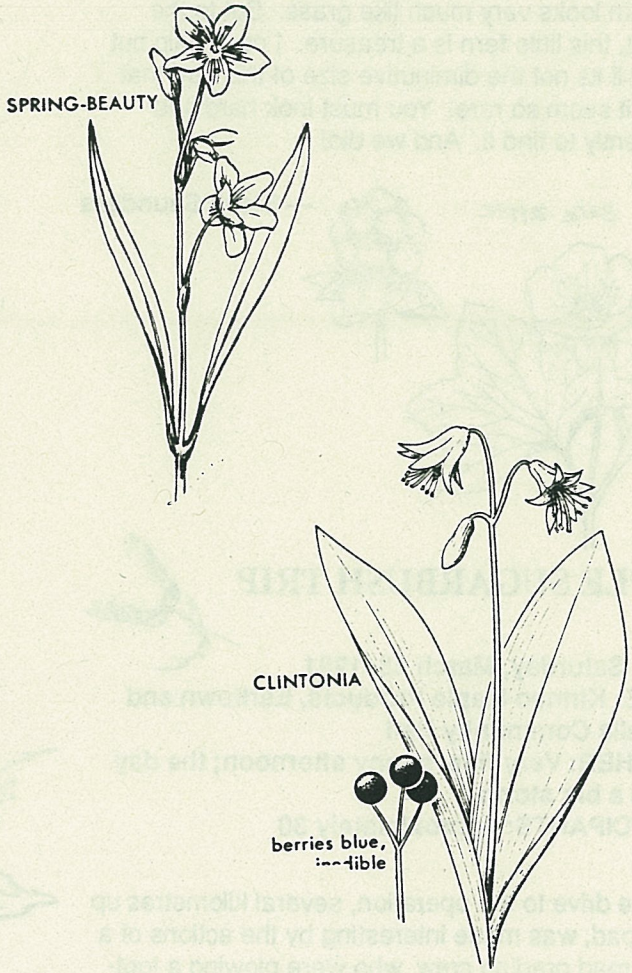
Animal Life: Slug, Fairy Shrimp, Mosquito pupae and larvae, American Toad, Blackflies, Mosquitoes, Woodchuck

Scheduling the Blomidon wildflower trip two weeks later this year resulted in a huge increase in the number of species seen, while at the same time not missing any that would have been seen earlier. A two-hour travel allowance between Halifax and Blomidon proved to be just about right. The weather, although forecast to be showers and thundershowers, turned out to be sunny and warm, the warmest of the year with temperatures around 27C°. The hike around the five to six km loop took about four hours of easy walking, due to the amount of exploring done.

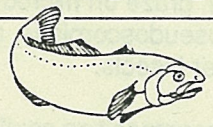
A few brave souls accepted the challenge to smell the Red Trillium, which is pollinated by carrion flies attracted by its scent of rotting meat. Wild Leeks, known from only a few locations in the province, are widespread near the start of the trail. An interesting example of Witch's Broom, caused by a fungal parasite, was seen on a small Balsam Fir. At our poolside lunch stop, a small number of the rare Fairy Shrimp, known in Nova Scotia only from this single intermittent vernal pool, were captured with a dipnet and put in a bottle, along with some mosquito larvae and pupae. All were returned to the pool unharmed after examination. Some leaves of Toothwort, a member of the Mustard family, were tasted and discovered to have a flavour not unlike horseradish. Dutchman's Breeches, at first only found adjacent to the bases of trees, later were seen scattered in between trees. Only a single *Clintonia* was in bloom among the large number present. Interestingly, only two species of clubmoss were found; large numbers of Shining Clubmoss carpeting the forest floor, and a single group of Tree Clubmoss. A foot-tall specimen of Wild Sarsaparilla was examined, and its age determined to be 16 years from the number of leaf scars.

The cooling breeze, although welcome, did somewhat hamper the efforts of photographers. Blackflies, very few at the start of the trail, were more prevalent on the way back. Also in evidence were occasional mosquitoes. Thanks to Dr. Taschereau for an interesting and informative trip.

— Rick Ballard



NATURAL HISTORY



FISH SURVIVAL

Fish caught by anglers and then released are not likely to suffer lasting damage, according to a study by Alison Babin, a master's student in biology at Trent University in Peterborough, Ontario.

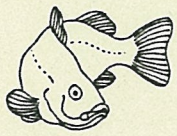
Alison Babin attended fishing tournaments on Rice, Pigeon, Buckhorn, Stony, Chemong, and Sturgeon Lakes in Ontario, and tagged more than 6,000 Largemouth Bass and Walleye to determine how the fish were affected by being caught and released. She also implanted radio transmitters in 23 Largemouth Bass and followed their movements from July until mid-November. All 23 Bass swam away normally and none of them died.

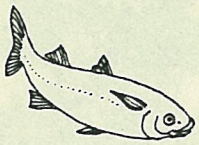
Nearly 600 of the tagged fish were caught again in the following two years and the tags returned to Alison Babin at Trent. Anglers were asked to provide the date and location of capture, the condition of the fish and the tag number. About ten fish had developed fungus infections around the tag, but all were otherwise normal.

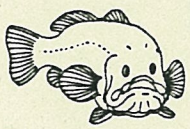
In tournaments, fish must be returned to the water, whereas in fishing derbies anglers can keep the fish they catch. Fishermen must have a 'live well' in their boats - a water-filled pit in which fish are kept alive until they are weighed. Many live wells are built so that lake water circulates through them, keeping the fish at a constant temperature.

Some fishermen add a compound called "Catch and Release" to the water in the well. It replaces slime lost from the bodies of the fish, reducing the risk of infection and calming the fish down. 90 per cent of the anglers in the tournaments Alison Babin studied were using "Catch and Release".

Alison Babin also describes another study, from the University of Waterloo, in which released fish were held in a pen submerged in the lake after a tournament. In this study too about 96 per cent of the fish lived.







There is, however, one deleterious effect of tournaments on fish populations; after they are weighed, all the fish are usually released in the same area, so that that part of the lake is temporarily overpopulated.

— Lorraine Brown,
Canadian Science Vol. 9, No. 30

PURPLE LOOSESTRIFE ALERT

Many introduced plants escape from gardens without upsetting the balance of nature. Purple Loosestrife is an exception. Brought to North America from Europe in the 1800's, it is invading wetlands, displacing cattails, sedges, and other native plants. Birds and mammals do not eat it or its seeds. Muskrats do not even use the stalks for housebuilding

Small pockets of Purple Loosestrife are developing in many areas of Nova Scotia, and, once established, it is almost impossible to remove. Small numbers can be eliminated, however. The plants should be dug up, roots and all, and dried out before being discarded. A single plant can produce 300,000 seeds. Cutting off the flower heads will provide more time to remove entire plants later.

Do our native wildlife a favour — control the spread of Purple Loosestrife.

Habit — much-branched, 0.6 m to 2.0 m (24 to 78 in.); herbaceous plant with terminal spikes of bright purple-magenta flowers.

Leaves — downy, opposite or three's, with no stems.

Flowers — purple-magenta flowers with five petals. Blooming from July to September.

Habitat — wet swales, roadside ditches, and marshes.

— Bob Bancroft
Conservation, Vol. 12
Number 2, Summer 1988

NECESSITY FOR A HEALTHY FOREST — DEAD TREES!

For years, foresters and forest workers have been dismissing dead and dying trees within a forest as "decadent", "culls", or "snags". They were viewed as dangerous nuisances that had to be cleared away in order to make room for a new, vigorous and productive forest. Forest companies which rely on a steady supply of old-growth timber still talk that way. But in recent years forest ecologists and holistic foresters have come to recognise that large dead trees, both standing and fallen, are one of the most important components of a forest ecosytem.

Woody debris in a forest is important for a variety of essential ecological functions. It provides animal habitat, plant substrate (support and nutrition for new undergrowth and new trees), and is the source of most of the nutrients, energy and organic matter; it is also a site for nitrogen fixation.

Fallen trees are also extremely important to the aquatic system of a forest; they hold water like giant sponges, keeping the air and soil protectively wet during dry summer spells.

Charles Elton, in his ***The Pattern of Animal Communities***, says that dead and dying wood provides one of the greatest resources for animal species in a natural forest. If fallen timber and dead and decaying wood are constantly removed, the whole system is deprived of perhaps as much as a fifth of its flora and fauna; the soil slowly loses organic matter and nutrients.

The behaviour of organisms that assault dying trees can be likened to that of looters in a besieged city. Over several decades, their work will begin to transform dead wood into a soft mound of humus on the forest floor. Wood-destroying fungi gain entrance to trees through wounds caused by falling timber, broken branches, or bark-beetles. The highest concentration of proteins is found in the inner bark and cambium and it is here that the first opportunistic hordes of decomposers take up residence. They then invade the sapwood, heartwood, and lastly the bark of the tree. A fungus's relentless penetration works in tandem with other organisms. Nitrogen-fixing bacteria soften the wood and make nitrogen available to the fungus. Boring and chewing beetles carry the spores of fungi into their galleries which serve as moist, warm fungus incubators.

Up to 300 species of arthropods are associated with deteriorating conifers. Wood-chewers include beetles, ants, termites, and wood-tunnelling mites. Others, including collembolans, ambrosia beetles, and mites, graze on microorganisms. Predator mites, spiders, pseudoscorpians, and centipedes prey on the smaller insects.

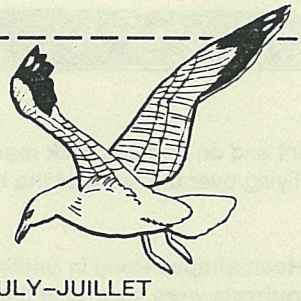
As decomposition continues, another whole army of detritus-eaters — earthworms, mites, millipedes, isopods, and earwigs — takes up residence as well. Eventually the softened tree, if not already felled, will fall and become home to sowbugs, snails, slugs, salamanders, and the enigmatic slime moulds which penetrate over and into soggy wood, sopping up bacteria as they go.

The enormous concentration of insects in a decomposing tree attracts insectivorous birds, particularly woodpeckers. Hairy and Downy Woodpeckers love the carpenter ants and various beetles found there. The big Pileated Woodpeckers go for the ants, termites, and beetle larvae. Sapsuckers and Flickers also chip their way into insect galleries. Some dead trees are so rich in insect pickings they're called "candy trees" for birds!

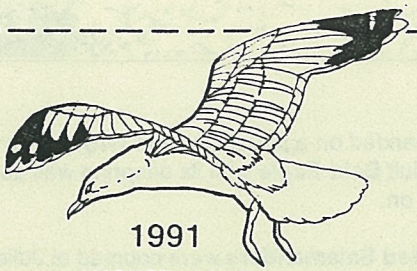
Conveniently, woodpeckers are also cavity nesters, and the holes they excavate provide nesting opportunities for such animals as bats, raccoons, and squirrels. Decomposers continue their work in these holes and begin to attack the heartwood. The accumulated animal excrement provides more opportunities for decomposition.

It takes 10,000 years of recycling to produce one foot of rich topsoil. Big old logs which have lain for a long time on the forest floor are nothing more than soft, moss-covered pillows of soggy, nutritious powder held together by plants and the stringy roots of new trees feeding from the old. They are working hard to rebuild the soil cover in Nova Scotia, soil which was all pushed into the Atlantic Ocean by the last Ice Age glaciers 10 - 12,000 years ago.

— based on *Death of a Giant,*
Nature Canada Magazine, Spring, 1991



HALIFAX



1991

JULY–JUILLET

Day	Time	Ht./ft.	Ht./m	Jour	Heure	H./pi	H./m
1	0430	1.9	.3	16	0550	1.3	.1
	1045	5.4	1.6		1135	6.1	1.9
MO	1650	1.7	.5	TU	1830	1.0	.3
LU	2250	5.2	1.6	MA	2350	5.6	1.7
2	0510	1.1	.3	17	0640	1.6	.2
	1120	5.4	1.6		1220	5.9	1.8
TU	1740	1.8	.5	WE	1925	1.0	.3
MA	2330	5.0	1.5	ME			
3	0550	1.2	.4	18	0040	5.2	1.6
	1155	5.4	1.6		0735	1.0	.3
WE	1835	1.7	.5	TH	1305	5.6	1.7
ME				JE	2020	1.1	.3
4	0010	4.9	1.5	19	0135	4.9	1.5
	0635	1.3	.4		0825	1.4	.4
TH	1235	5.4	1.6	FR	1355	5.3	1.6
JE	1930	1.7	.5	VE	2110	1.1	.3
5	0055	4.7	1.4	20	0235	4.6	1.4
	0725	1.5	.5		0920	1.7	.5
FR	1325	5.4	1.6	SA	1450	5.1	1.6
VE	2025	1.6	.5	SA	2205	1.1	.3
6	0150	4.6	1.4	21	0345	4.5	1.4
	0820	1.6	.5		1015	1.9	.6
SA	1420	5.4	1.6	SU	1550	5.0	1.5
SA	2125	1.4	.4	DI	2300	4.1	.3
7	0300	4.5	1.4	22	0450	4.5	1.4
	0925	1.7	.5		1110	2.0	.6
SU	1525	5.5	1.7	MO	1650	5.0	1.5
DI	2230	1.1	.3	LU	2350	4.0	.3
8	0415	4.7	1.4	23	0545	4.7	1.4
	1035	1.6	.5		1200	1.9	.6
MO	1630	5.6	1.7	TU	1745	5.2	1.6
LU	2335	.7	.2	MA			
9	0520	4.9	1.5	24	0035	.9	.3
	1145	1.5	.5		0635	4.8	1.5
TU	1735	5.9	1.8	WE	1245	1.8	.5
MA				ME	1830	5.3	1.6
10	0035	.3	.1	25	0115	.8	.2
	0625	5.2	1.6		0715	5.0	1.5
WE	1245	1.2	.4	TH	1320	1.6	.5
ME	1830	6.1	1.9	JE	1915	5.5	1.7
11	0130	.0	.0	26	0150	.7	.2
	0725	5.6	1.7		0755	5.2	1.6
TH	1340	1.0	.3	FR	1355	1.5	.5
JE	1930	6.3	1.9	VE	2000	5.5	1.7
12	0220	-0.3	-0.1	27	0220	.7	.2
	0820	5.9	1.8		0835	5.3	1.6
FR	1435	1.9	.3	SA	1430	1.4	.4
VE	2025	6.4	2.0	SA	2035	5.5	1.7
13	0310	-0.4	-0.1	28	0250	.7	.2
	0910	6.1	1.9		0910	5.5	1.7
SA	1530	1.9	.3	SU	1505	1.4	.4
SA	2120	6.4	2.0	DI	2115	5.5	1.7
14	0400	-0.3	-0.1	29	0325	.8	.2
	1000	6.3	1.9		0940	5.6	1.7
SU	1630	1.9	.3	MO	1540	1.4	.4
DI	2210	6.2	1.9	LU	2150	5.4	1.6
15	0455	0.1	.0	30	0400	.9	.3
	1045	6.2	1.9		1015	5.6	1.7
MO	1730	1.0	.3	TU	1620	1.4	.4
LU	2300	5.9	1.8	MA	2225	5.3	1.6
				31	0435	1.0	.3
					1050	5.6	1.7
				WE	1710	1.5	.5
				ME	2300	5.1	1.6

AUGUST–AOUT

Day	Time	Ht./ft.	Ht./m	Jour	Heure	H./pi	H./m
1	0515	1.2	.4	16	0010	5.2	1.6
	1125	5.6	1.7		0700	1.4	.4
TH	1800	1.5	.5	FR	1225	5.5	1.7
JE	2340	5.0	1.5	VE	1940	1.1	.3
2	0600	1.4	.4	17	0100	4.8	1.5
	1205	5.5	1.7		0750	1.8	.5
FR	1900	1.5	.5	SA	1310	5.2	1.6
VE				SA	2035	1.2	.4
3	0025	4.8	1.5	18	0155	4.5	1.4
	0655	1.6	.5		0845	2.0	.6
SA	1250	5.4	1.6	SU	1405	4.9	1.5
SA	2000	1.4	.4	DI	2125	1.3	.4
4	0120	4.6	1.4	19	0305	4.4	1.3
	0800	1.8	.5		0940	2.1	.6
SU	1345	5.4	1.6	MO	1510	4.8	1.5
DI	2105	1.3	.4	LU	2220	1.3	.4
5	0230	4.5	1.4	20	0415	4.4	1.3
	0910	1.8	.5		1035	2.1	.6
MO	1455	5.3	1.6	TU	1620	4.9	1.5
LU	2215	1.0	.3	MA	2310	1.2	.4
6	0355	4.6	1.4	21	0520	4.6	1.4
	1025	1.8	.5		1125	2.0	.6
TU	1610	5.5	1.7	WE	1720	5.1	1.6
MA	2320	.7	.2	ME			
7	0515	4.9	1.5	22	0000	1.1	.3
	1135	1.6	.5		0610	4.8	1.5
WE	1720	5.8	1.8	TH	1210	1.8	.5
ME				JE	1810	5.3	1.6
8	0015	.3	.1	23	0040	1.0	.3
	0620	5.3	1.6		0650	5.1	1.6
TH	1235	1.3	.4	FR	1250	1.6	.5
JE	1820	5.1	1.9	VE	1855	5.4	1.6
9	0110	0.1	.0	24	0115	.9	.3
	0715	5.8	1.8		0725	5.3	1.6
FR	1330	1.0	.3	SA	1325	1.5	.5
VE	1915	6.3	1.9	SA	1930	5.5	1.7
10	0200	0.3	-0.1	25	0150	.8	.2
	0805	6.1	1.9		0800	5.6	1.7
SA	1425	.8	.2	SU	1400	1.3	.4
SA	2010	6.4	2.0	DI	2010	5.6	1.7
11	0250	0.3	-0.1	26	0220	.8	.2
	0850	6.4	2.0		0835	5.7	1.7
SU	1515	.7	.2	MO	1440	1.2	.4
DI	2100	6.3	1.9	LU	2045	5.5	1.7
12	0340	0.2	-0.1	27	0255	.8	.2
	0935	6.3	2.0		0910	5.8	1.8
MO	1610	.7	.2	TU	1515	1.2	.4
LU	2150	6.2	1.9	MA	2120	5.5	1.7
13	0425	0.1	.0	28	0330	.9	.3
	1020	6.4	2.0		0940	5.9	1.8
TU	1705	.7	.2	WE	1600	1.2	.4
MA	2235	5.9	1.8	ME	2155	5.4	1.6
14	0515	.5	.2	29	0405	1.0	.3
	1100	6.2	1.9		1015	5.8	1.8
WE	1755	.9	.3	TH	1645	1.2	.4
ME	2320	5.5	1.7	JE	2235	5.2	1.6
15	0605	1.0	.3	30	0445	1.3	.4
	1140	5.8	1.8		1055	5.8	1.8
TH	1850	1.0	.3	FR	1740	1.3	.4
JE				VE	2320	5.0	1.5
				31	0535	1.5	.5
					1135	5.6	1.7
				SA	1840	1.3	.4
				SA			

SEPTEMBER–SEPTEMBRE

Day	Time	Ht./ft.	Ht./m	Jour	Heure	H./pi	H./m
1	0005	4.8	1.5	16	0120	4.6	1.4
	0645	1.8	.5		0810	2.2	.7
SU	1225	5.5	1.7	MO	1330	4.8	1.5
DI	1950	1.3	.4	LU	2045	1.5	.5
2	0105	4.6	1.4	17	0225	4.4	1.3
	0800	2.0	.6		0905	2.3	.7
MO	1325	5.3	1.6	TU	1435	4.7	1.4
LU	2055	1.2	.4	MA	2135	1.5	.5
3	0220	4.5	1.4	18	0340	4.4	1.3
	0910	2.0	.6		0955	2.3	.7
TU	1435	5.3	1.6	WE	1545	4.8	1.5
MA	2200	.9	.3	ME	2225	1.5	.5
4	0350	4.7	1.4	19	0445	4.6	1.4
	1020	1.9	.6		1045	2.1	.6
WE	1600	5.4	1.6	TH	1650	5.0	1.5
ME	2305	.6	.2	JE	2310	1.4	.4
5	0510	5.1	1.6	20	0535	5.0	1.5
	1125	1.6	.5		1130	1.9	.6
TH	1710	5.7	1.7	FR	1740	5.2	1.6
JE				VE	2355	1.3	.4
6	0000	.3	.1	21	0615	5.3	1.6
	0610	5.6	1.7		1215	1.6	.5
FR	1225	1.3	.4	SA	1825	5.1	1.6
VE	1810	6.0	1.8	SA			
7	0050	0.1	.0	22	0035	1.2	.4
	0655	6.0	1.8		0650	5.6	1.7
SA	1320	1.9	.3	SU	1255	1.4	.4
SA	1905	6.2	1.9	DI	1900	5.5	1.7
8	0140	.0	.0	23	0110	1.0	.3
	0740	6.4	2.0		0725	5.8	1.8
SU	1410	1.7	.2	MO	1335	1.1	.3
DI	1950	6.3	1.9	LU	1940	5.6	1.7
9	0230	.0	.0	24	0145	1.0	.3
	0825	6.6	2.0		0755	6.0	1.8
MO	1455	.5	.2	TU	1415	1.0	.3
LU	2040	6.2	1.9	MA	2015	5.6	1.7
10	0315	.2	.1	25	0225	1.0	.3
	0905	6.5	2.0		0830	6.1	1.9
TU	1545	1.5	.2	WE	1455	.9	.3
MA	2125	6.1	1.9	ME	2055	5.6	1.7
11	0355	0.5	.2	26	0305	1.0	.3
	0945	6.4	2.0		0910	6.1	1.9
WE	1630	.6	.2	TH	1540	.9	.3
ME	2210	5.8	1.8	JE	2135	5.5	1.7
12	0440	.9	.3	27	0345	1.2	.4
	1025	6.1	1.9		0950	6.0	1.8
TH	1715	.8	.2	FR	1625	.9	.3
JE	2255	5.5	1.7	VE	2220	5.4	1.6
13	0525	1.4	.4	28	0430	1.5	.5
	1105	5.7	1.7		1030	5.9	1.8
FR	1805	1.0	.3	SA	1725	1.1	.3
VE	2335	5.2	1.6	SA	2305	5.2	1.6
14	0615	1.8	.5	29	0530	1.8	.5
	1150	5.4	1.6		1120	5.7	1.7
SA	1900	1.3	.4	SU	1830	1.2	.4
SA				DI			
15	0025	4.8	1.5	30	0000	5.0	1.5
	0710	2.1	.6		0645	2.0	.6
SU	1235	5.1	1.6	MO	1210	5.5	1.7
DI	1950	1.4	.4	LU	1940	1.1	.3

NATURE NOTES

In March **12 hen Pheasants** landed on a private lawn at Whynacht's Point and on April 5 a cock made its appearance. Also on April 5 an adult **Bald Eagle** with its offspring was seen flying over the water of the bay there, screeching and generally carrying on.

On April 22, **142 Yellow-spotted Salamanders** were counted at Julie's Heart-shaped Pond in Bedford on the HFN Amphibian field trip. In April also, some of those "Ontario" large **Grey Squirrels** were spotted in the Jollimore area.

For avid birders — Ben Sinclair, of Connolly St., Halifax, winner of the 1991 HFN Science Fair Award, has recorded on video the presence of a male **Scarlet Tanager**, in their garden for two days.

On May 23 NSM Botanist Alex Wilson and HFN Director Rick Ballard visited Conrad's Beach. Across the rushing water from Lawrencetown beach, there is 50-foot wide swathe the whole length of the grassy dunes which contains myriads of the **Moonwort Fern** (*Botrychium lunaria* (L.) Sw.) Also in May, an Indigo Bunting was spotted in Wolfville.

May 26 — a **Northern Mockingbird** was spotted in Georgeville feeding on insects in the grass near Gareth Harding's cottage. Gareth Harding and Belinda Wilkinson are providing a home on Smith St., Halifax, to a nesting **Bluejay and her brood of six** — in the large cut Christmas tree (still festooned with lights) on their back porch! The female seems to be reassured by their presence (three feet from their sliding glass doors), especially since Belinda has taken it upon herself to be a living scarecrow for the crows.

! NEXT DEADLINE !
August 15 for September Issue

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