

# HALIFAX FIELD NATURALISTS NEWSLETTER



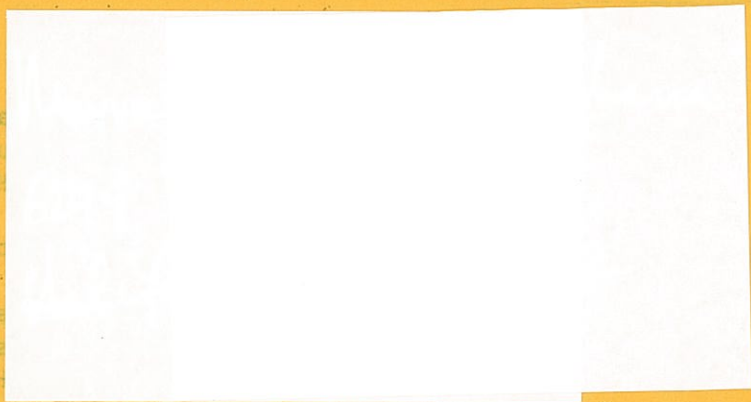
#17

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

MAY - AUGUST

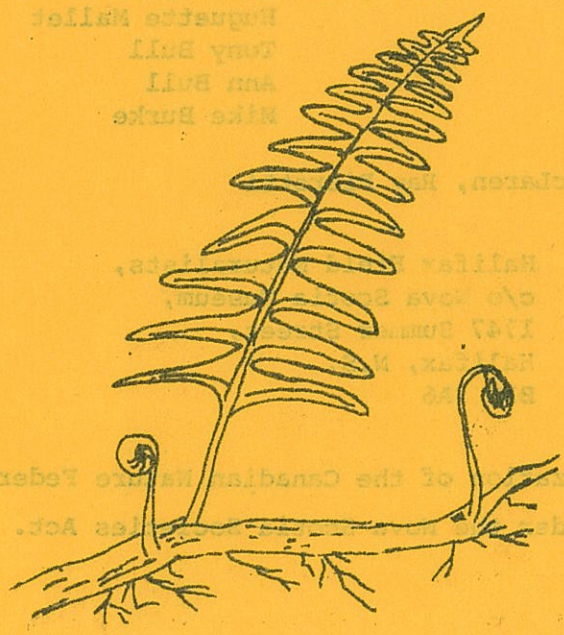
MAY - AUGUST 1978

1978



- (422-3773)
- (422-2977)
- (437-1282)
- (888-2947)
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- Joe Harvey
- Rene Linton
- Will Robertson
- Rose Harbour
- Kathy Aldous
- Jane Spavold
- Hughette Malhotra
- Tony Bull
- Ann Bull
- Mike Burke



HNW is a member organization of the Canadian Nature Federation.  
HNW is incorporated under the Act.

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MAY - AUGUST 1978

NUMBER 17

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 Street, 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 five dollars yearly; family membership is seven dollars. Members receive the newsletter and notice of all excursions and special programs.

#### Directors for 1978-1979

President.....	Joe Harvey	(422-3773)
Vice President.....	Anne Linton	(422-2977)
Membership-Secretary.....	Will Robertson	(435-1262)
Treasurer.....	Rose Barbour	(868-2947)
Past President.....	Kathy Aldous	(479-3032)
Directors.....	Jane Spavold Eugette Mallet Tony Bull Ann Bull Mike Burke	

Newsletter: Andrew McLaren, Ray Pierotti

#### Mailing Address

Halifax Field Naturalists,  
c/o Nova Scotia Museum,  
1747 Summer Street,  
Halifax, N.S.  
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HFN is a member organization of the Canadian Nature Federation.

HFN is incorporated under the Nova Scotia Societies Act.

# PRESIDENT'S REPORT

We must apologise to members for the lateness of this issue; our usual editor, Ray Pierotti, is away for the summer, and the rest of us were slow. As it is, we have condensed the summer issues into a single one so this number covers the four months from May to August. Please send in articles; we are in need of lots of little fillers as well as reports on field trips, useful field guides and even biological jokes ("What's the rush?" he said. "Scirpus acutus", she replied. Surely you can beat that one! ).

Readers should note that it is now our policy to send Flyers to a wide audience of present and former members but that the Newsletter is sent only to currently paid up members. So if you have not been getting a Newsletter maybe you forgot to pay. We soon hope to start a reminder system for non-payers in the flyer; so far we have relied on people to remember on their own but found that they are so accustomed to reminder notices from commercial organizations that we have lost members by default.

Field trips went well so far this summer. The weather has been kind to us ( the Cape Splitters got a bit wet) and our only mistake was to schedule the trip to Risser's Beach on a Saturday which resulted in such a low turn-out that we cancelled it. Either Risser's or Saturdays are unpopular, presumably the latter.

The workshop format in place of lectures for the summer months has gone very well and will be continued next year. In fact the fern workshop had an embarrassingly large turnout (35) and the table we had proved too small.

## FAREWELL

This summer Paul and Kathy Keddy leave us to return to their native Ontario. They were instrumental in founding, about five years ago, the Dalhousie Field Naturalists in conjunction with a group of field-oriented Dal biology students. This attracted members from all sectors of the community and grew so rapidly that it moved to the N.S. Museum and became the H.F.N. which will shortly be celebrating its third birthday. Paul received a Ph.D. from Dalhousie for his thesis on the population ecology of sea rocket (Cakile edentula) and Cathy got an M.Sc. for her work on the annual variety of eelgrass (Zostera sp.) which grows at Petpeswick Inlet. Paul moves to an assistant professor-

M.J. Harvey

ship in the Department of Botany and Genetics at Guelph University.

Also leaving Halifax are Tony and Ann Bull. Tony has the job of director at Waterton Lakes National Park which is a plum job but we are sorry that it is so far from Halifax.

# Dedication of Hemlock Ravine

June 15 saw a large gathering of civic and community leaders at the Chateau Halifax to celebrate the official dedication of Hemlock Ravine. A splendid buffet and bar was laid on by Xerox Corporation of Canada. Thus ends ('ends' is the wrong word, we are only beginning) a long saga which began as a gleam in the eye of Paul B. Dean, a wildlife biologist (CWS) when he presented a report (Natural Environment Survey: Description of the Intrinsic Values of the Natural Environment Around Greater Halifax-Dartmouth, 1971) and pointed out the unusual survival of a small acreage of old growth hemlock inside what is now metropolitan Halifax. It should be remembered that the same report pointed out the incredible ineptitude and shallowness of approach in the development of Punch Bowl Lake in Spryfield. This latter could have been landscaped and developed to be a jewel, enhancing the value of the houses that could have been carefully arranged around its edge. As it is, it is possibly Canada's best example of 'how not to do it'. Everyone should go to look at the Punch Bowl and offer prayers of gratitude that the same horror did not occur at Hemlock Ravine. All too easily Mr. G.D. Hogan, the owner of Hemlock Ravine could have sent in a lumber crew and bulldozed the area level for highly lucrative building sites.

But it didn't happen that way and credit for this is due to a large number of people. First, G.D. Hogan for responding to the approaches made to him and compromising on the value to be placed on the property. Next, the Nature Conservancy of Canada for doing a great deal of coordinating in getting various donors to contribute towards the acquisition fund. It can not be emphasised too much that the Nature Conservancy is not a government department but a private organization dedicated 'to preserve land for scientific observation and research, education, pleasure and predominantly passive recreation'. It has pledged to raise \$100,000 toward the cost of the Ravine. Xerox Corporation of Canada has contributed \$50,000 in

its program of support to this and other similar projects across Canada. Other contributions have been made by various organizations and groups including the Canadian National Sportsmen's Show, Minas Basin Pulp and Power Company and the Province of Nova Scotia.

The ceremony was held to celebrate the official handing over of the project to the City of Halifax, Mayor Edmund Morris accepting a cheque towards the purchase. Some money is still needed and the Nature Conservancy would be pleased to hear from donors.

So concludes very satisfactorily the securing of the property but now begins a difficult planning phase. How much should be done to the Ravine to safeguard it without at the same time destroying it as a conservation area? The topography of the valley tends naturally to concentrate foot traffic along the stream and it seems obvious that asphalt paths will be needed to concentrate traffic and prevent erosion. Exactly where the footpaths should be and how many is a matter for detailed planning.

We need a forecast of the likely useage of the Ravine. The Shaunslieve Estate is currently being developed on the northern rim of the park and soon the pitter-patter of tiny feet will be heard as the local children look for play space. Of course with current birth rate trends there may be fewer children than there would have been a few years ago, but the little valley will have to be planned to cope with pre-teens, teenagers, college students and people who just want a pleasant stroll or to exercise the dog.

Halifax is well endowed with recreational acreage but it is unevenly spread in large chunks. The Commons, Point Pleasant, the Public Gardens and the Dingle add up to a large area but a large number of people do not live conveniently near one of these and we need a series of

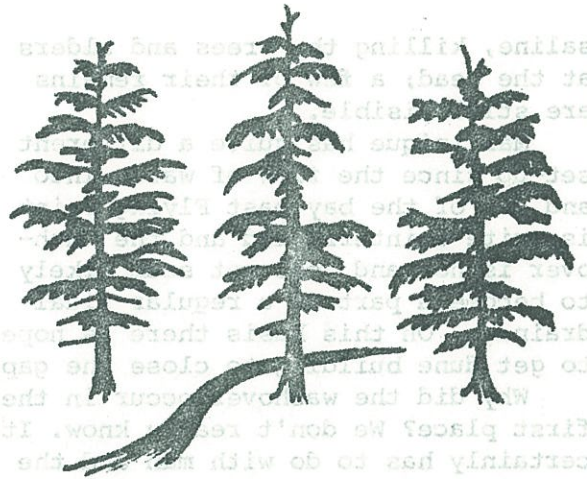
smaller neighbourhood parks. Obviously and quite rightly the residents of Princes Lodge will regard Hemlock Ravine as 'their park'. Thus multiple use will have to be the aim of the future park; the nature lovers, the dog exercisers and the kids with excess energy will all have to be considered; but please no flower beds. Until the new park is planned the public is asked not to make use of Hemlock Ravine. Possibly the HFN will hold a field trip there this autumn and the aim of that should be to consider the use and development of the park.

## Martinique Beach - Canute Confirmed

On 23 July, 1978, a dozen of us went to Martinique Beach to inspect the progress of the attempt to stop further progress of the washover of water during storms. Last year you remember was the occasion of the Great Washover Plugging Expedition in which a number of HFN volunteers constructed a brushwood fence across the area of washover with the necessary masses of brushwood being very kindly provided by the staff of the Department of Lands and Forests. It was a great communal effort and the first of the kind by HFN.

Progress after the fence construction was rapid, the wind blew sand and deposited it around the brushwood apparently very satisfactorily and those who were watching its progress felt a little glow of satisfaction. However, over the winter a storm took out the whole accumulation, sand and fence, and enlarged the gap several-fold until as of 1978 it was about 100 meters wide.

Where do we go from there? Either forget about it, after all the sea produces tremendous forces and attempts to stop it have had a long history of not working ( eg.



Canute, 1025). Or we could attempt to repeat the fence-building exercise with the likely-hood of the same result. Or we could try some other tack.

The interesting parallel is with Conrad's Beach at Lawrencetown near Cole Harbour. I do not have the date of the wash-over there but it was about 20-30 years ago and was triggered off by massive removal of sand from the dunes for building purposes. It is still possible to see the remains of some of the loading ramps and screening machinery at Conrad's and at Lawrencetown Beach just across the rivermouth.

The Conrad washover rapidly deepened into a deep channel since the natural drainage from the marsh behind had been constricted by a causeway and a bridge for the sand trucks. The scouring by the thousands of tons of water flowing through the new channel with each tide has produced a deep cut in the dunes and changed the West Lawrencetown marsh from slightly brackish to fully

saline, killing the trees and alders at the head; a few of their remains are still visible.

Martinique has quite a different set-up since the flow of water into and out of the bay past Flying Point is quite uninterrupted and the washover is not and does not seem likely to become a part of a regular tidal drainage. On this basis there is hope to get dune building to close the gap.

Why did the washover occur in the first place? We don't really know. It certainly has to do with man and the use of the dunes. Until a few years ago car and truck owners were able to drive over the dunes and this resulted in severe rutting of the turf and the formation of blowouts. As one blowout produced a soft spot the drivers would make a parallel track, spreading the damage. Thus hunters and picnickers have contributed to the break-up of the consolidated dune surface. Fortunately Lands and Forests stepped in and blocked vehicle access to the dune a few years ago when they created a picnic park and swimming area at the start of the beach.

But the washover occurred after the stoppage of vehicles. Possibly it was an extra severe storm at a high tide - I don't know which particular storm caused the initial break in the grass, but the Great Groundhog Day Storm which coincided with a high tide in 1977 seems a good bet. Now that the ridge of marram grass has been removed much lesser storms can wash across as we found to our chagrin with the fence experiment.

One cause of weakening of the dune system which has been operative for many years and which has continued since the stoppage of vehicle access is the annual spring burning of the dunes. This is done for reasons that seem obvious and simple: the grass grows better and the plant ashes are washed into the soil thus fertilizing the ground. Burning the grass in the spring is an old Maritime tradition. This is actually a more southern and tropical practice originating in savannas and plains where fire is a

natural factor and the vegetation is adapted to it. Here in Nova Scotia maybe we should think again about the practice.

First the fertilizing effect of the plant ashes. Grass is burned in the spring and late winter before the shoots start growing. Potassium and phosphorus in the ash are dissolved and washed out of the soil column by our cold spring rains. Let's admit it, we have a cool, rainy climate and the retention of nutrients by sand is about zero.

But, you say, after burning the grass you can see the bright green shoots. Correct, but this is more an optical illusion than an improvement. Green becomes highly visible against a black background whereas the same amount of green in dry vegetation is less visible.

The main effects of burning are two-fold, the dead leaves of last year's grass are removed, and any trees or tree seedlings are killed. The former has the effect that less sand is trapped and sand becomes more mobile turning the entire width of the dune into the young mobile state and eliminating the stable back dune. Removal of trees means that any shelter from their branches and soil protection from their root systems is removed. Visible near the washover was a root system of a white spruce long since dead, killed by fire. Bushes such as bayberry were growing up strongly from the last burning which was this spring or last year. However even bayberry can get overwhelmed if the sand mobility becomes extreme, which is what is happening at Martinique.

Two things have been suggested: first, persuade Lands and Forests not to burn the dunes each year; second, from the observation that the marram grass at the edge of the washover was growing very strongly and starting to accumulate sand, to hold an HFN Marram Grass Planting Party at Martinique next April or May. Planting tufts of marram is easy and if we can get a couple of dozen people with

continued on page 8.

# Woodland Topiary- Form and Function

A young child, drawing a picture of a tree, often uses the lollypop representation; a stick-like trunk surmounted by a circular "canopy". Such a symbolic representation of "tree" gives little indication of the diversity in form which trees exhibit. There are as many form-varieties of tree as there are species- each form the result of genetic and environmental inputs.

Landscape gardeners have long classified trees according to their shapes since this characteristic has implications for function as well as aesthetic appeal. A weeping variety such as the weeping willow ( Salix babylonica ) may be used to create private spaces on an open lawn, while a row of columnar Lombardy poplars ( Populus nigra italica ) may be ideal for lining a roadway. Round headed trees like Norway maple ( Acer platanoides ) which is often seen lining Halifax boulevards, are excellent shade trees. Conifers, popular trees for their year-round retention of leaves, are generally pyramidal in shape. In general three parameters are necessary to describe a tree shape mathematically- size, convexity and a ratio of height to width.

The form which a tree exhibits ( part of its phenotype or external appearance ) depends primarily upon its inherited growth pattern ( its genotype or genetic make-up ) and the way in which the environment modifies the original pattern by placing constraints on growth. Therefore, PHENOTYPE = GENOTYPE + ENVIRONMENT ; this formula applies to animals as well as plants.

Much of a tree's ultimate shape depends upon the relationship between terminal growth and lateral branch growth. Columnar forms like the Lombardy poplar result from a predominantly terminal growth, accompanied by almost vertical development of the lateral branch system. Extensive development of drooping laterals results in the weeping habit of the willow, Salix babylonica. The American

(continued on page 7)



the lollypop forest !



round headed



pyramidal



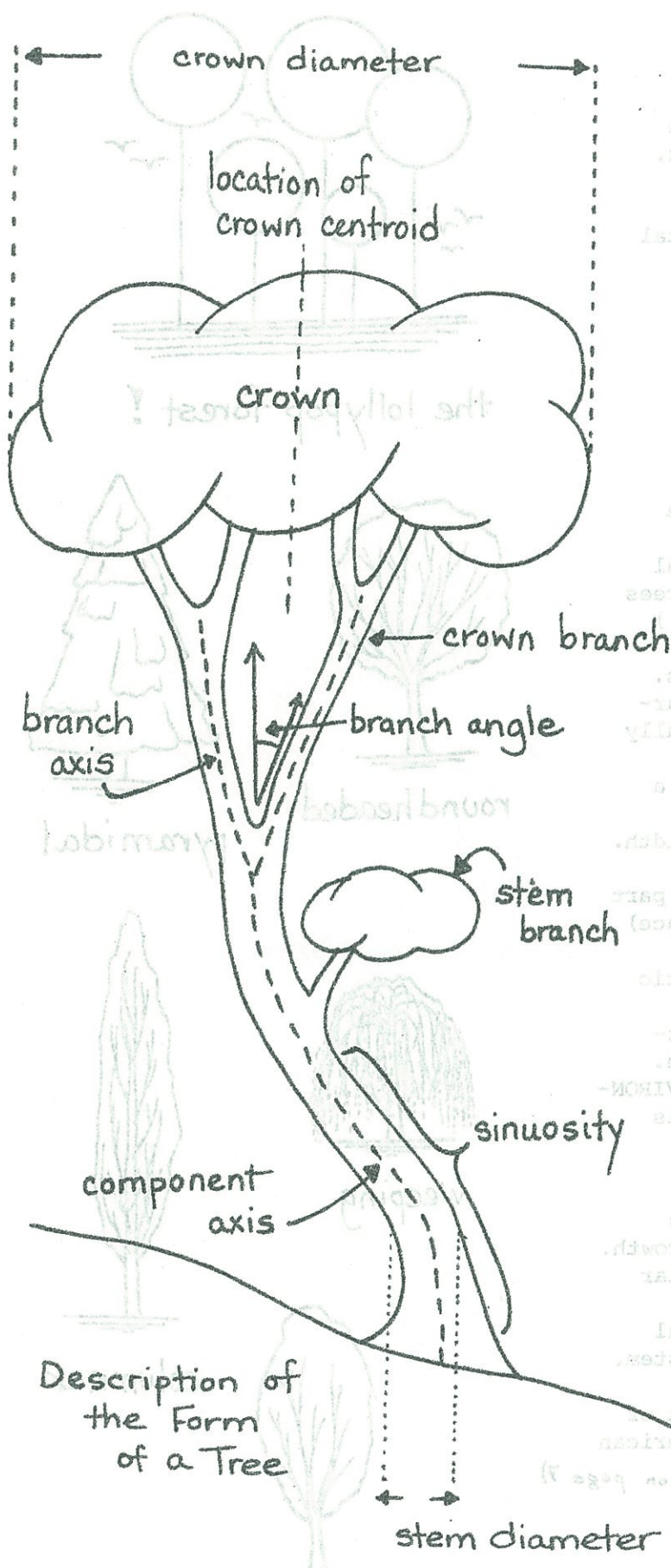
weeping



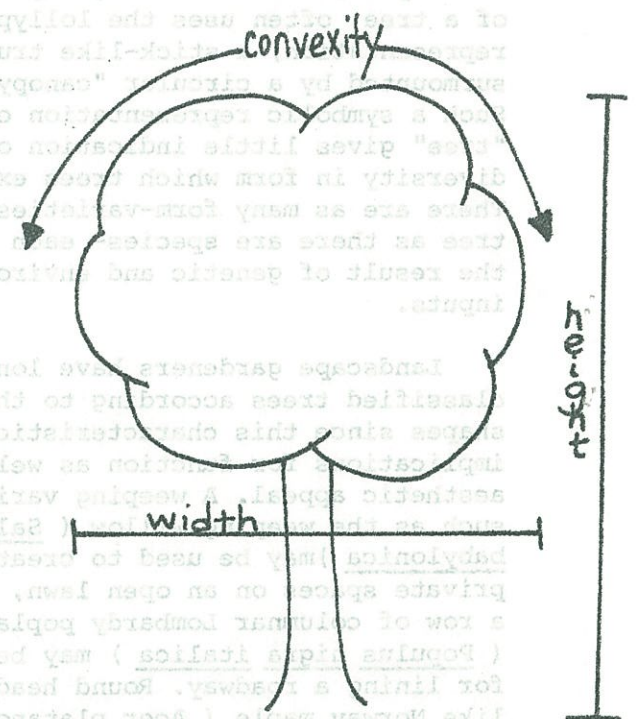
columnar



oval



Description of the Form of a Tree



Three parameters used in mathematically describing tree form.

Several excellent books are available on the subject of tree form. Those below will appeal to naturalists, biologists and artists alike:

Carpenter, P.L., T.D. Walker and F.O. Lanphear. 1975. Plants in the Landscape. W.H. Freeman and Co., San Francisco.

Horn, H.S. 1971. The Adaptive Geometry of Trees. Princeton University Press, New Jersey.

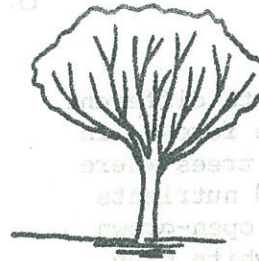
Smith, A.V. 1969. Trees in a Winter Landscape. Holt, Rinehart and Winston. New York.



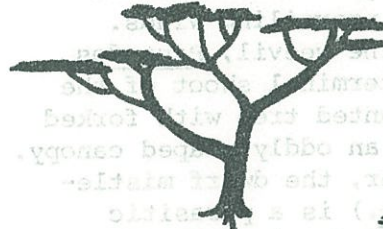
elm, Ulmus americana, is an excellent example of a case where prominent development of several lateral shoots form the bulk of a V-shaped canopy.

A tree's strategy for survival is often directly connected to the adaptive significance of its growth habit. The pyramidal shape of a young red spruce (Picea rubens) prevents snow from accumulating to damaging proportions on its branches. One of the most interesting examples of adaptive significance of tree shape is described by Henry Horn in his book *The Adaptive Geometry of Trees*. He distinguishes between monolayered trees, those which arrange their leaves in a dense outer "shell" at the periphery of the canopy, and multi-layered trees, those in which leaves are loosely scattered in many layers throughout the canopy. In the first case (for example, the Acacia, a tree often seen in pictures of African savannah) leaves growing inside the outermost layer must grow in the spaces between the outer leaves or be light starved. In the multilayer however, the leaves are randomly and loosely arranged to take advantage of the fact that direct sunlight is completely blocked for only a distance of 50-70 times the minimum leaf diameter and diffuse light is only blocked for a distance of about one leaf diameter. Thus a leaf directly below another far above can still be photosynthetically efficient. The phenomenon of multi-layeredness is aided by the occurrence in many such trees of irregularly shaped leaves like those of the red oak, Quercus rubra, which have deep lobes which make the shadow below the leaf smaller without loss of photosynthetic area.

These kinds of connections between the form of a tree and its adaptiveness to its surroundings are accompanied by other reactions to the environment. Spruce trees grown in an open oldfield,



V-shape



monolayer



multilayer



Adaptive geometry of an oak leaf: the large circle has the same area as the leaf and the small circle gives an idea of the size of the shadow cast below.

for example, may look quite different from those growing in the forest, in close contact with other trees where competition for light and nutrients drastically modifies the open-grown shape. The shape of the white pine, Pinus Strobus, is modified by two main agents. The wind kills windward branches by drying, giving the trees a lopsided windswept appearance which in many locations can give a good indication of the direction of the prevailing winds. As well, the white pine weevil, Pissodes strobi, attacks the terminal shoot of the pine, producing a stunted tree with forked or crooked trunk and an oddly shaped canopy. Another forest invader, the dwarf mistletoe (Arceuthobium sp.) is a parasitic plant which causes the development of densely massed branches or "witch's brooms" on several species of conifer.

Those landscape gardeners who practice topiary on their shrubs and trees strive for diversity of form, aesthetic appeal and a blending of surroundings. As in most things, what man strives to accomplish, nature has already achieved on her own. A walk through a Nova Scotian woodland will rival any garden for beauty, harmony and particularly for variety of form.

Jane Spavold



spruce in oldfield



spruce in woods

continued from page 4.

spades we could cover the area in an afternoon spacing plants about one meter apart.

Let's think about it over the winter and maybe come up with some better alternatives. Suggestions and comments please!

M.J. Harvey



Next Issue!

## SQUID: THE JET-SET

R E V I E W : The Rare Vascular Plants of Nova Scotia

by Robert Maher, David White, George Argus and Paul Keddy

Prolegomena for the winter

This publication, produced under the Man and the Biosphere Program, has as its aim the listing of the rare vascular plants of Nova Scotia with, for each species, a short list of references, the Nova Scotian distribution by county, the world range, any map references, its habitat and its status elsewhere. The information is highly condensed and abbreviated.

Despite the brevity, the list makes fascinating reading; it brings out that despite the fact that Nova Scotia has a fairly small flora (less than 1400 species) we still have a large number (122, 11.5%) of the species in the rare or endangered categories. This comes about because of several factors: the province is the northern and southern limit of a number of species, our climate and especially the foggy coastal belts provide unusual climatic conditions ( this applies especially to the SW, Coastal Plain Flora), and the intensity of farming in the past and forest exploitation at present have combined to eliminate many of our unusual habitats. It is obvious too that we are not entering a period where the danger to plants is lessening. The horsepower available to farmers and foresters is making habitat modification proceed at a much more rapid rate today than it ever did when one-horse plows and cross-cut saws were the order of the day.

Owners of Roland and Smith's Flora of Nova Scotia can add two species discovered since its publication in 1969. These are Clethra alnifolia an attractive shrub often grown as a garden plant and Drosera filiformis, by far the largest of our native sundews and a magnificent sight growing in bog hollows with the sun glistening on its sticky glands. Both represent the first records for Canada; both are coastal plain plants. Clethra was previously recorded

from Maine and the Drosera only as far as Massachusetts. Naturally both are in the rare category.

Rare Vascular Plants of Nova Scotia is one of a series dealing with each province of Canada and the third in the series to be published, after Ontario and Alberta. One of the factors which made its early publication possible is the existence of Roland and Smith's Flora with its invaluable maps and comments. The corresponding publications for New Brunswick and Newfoundland will probably be slow to come out and less complete since we still have no flora for either province. This is a disgrace for an 'advanced' country and evidence of the under-financing of botany over the long term.

The National Museum of Natural Sciences has undertaken the publication in its Syllogeus series and copies may be obtained free from Ottawa or, more conveniently for Nova Scotians, from Alex Wilson at the Nova Scotia Museum. The authors are to be congratulated on a fine piece of work.

Also published recently: A Provisional Checklist of Species for Flora North America, S.G. Shelter and L.E. Skoog, Missouri Botanical Garden, 1978. This is a listing of all the species of vascular plants, native or growing without assistance, north of Mexico. Besides containing a computer printout of the species there is also abbreviated information on life cycle, crude geographic distribution, life

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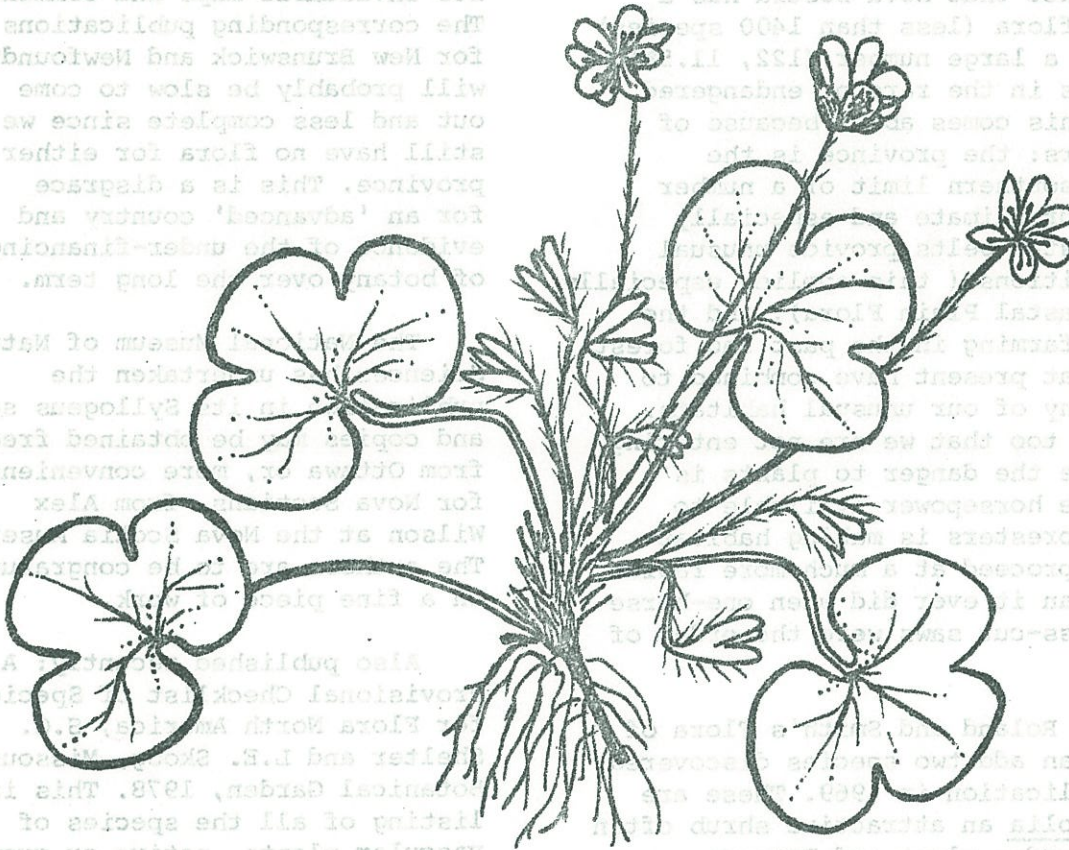
form and habitat. Interest for Nova Scotia comes about because it fore-shadows the scientific name changes which are taking place and which will have to be included in the next edition of the Flora of Nova Scotia. The region has 16,274 species listed so that Nova Scotia, with under 1,400 species has only 8.5% of the region's flora. It would be interesting to compare this with the bird species- any figures birders?

M.J. Harvey

NEEDED:

Projectionist for the winter season coming. Training and assistance available. No previous experience is required.

Flyer distributors. We need volunteers who will take extra flyers and pin them up in their local supermarket, corner store, etc.



Hepatica americana, traced from a specimen collected by H.P. Bell, 30 April, 1949. Called Hepatica from Latin hepaticus liver, because of a fanciful resemblance of the lobed leaves to a liver. Our species is closely related to the European, H. nobilis.

# Hepatica - the problem of rare species

Earlier this summer, at the instigation of Wolfgang Maass, we went to search a part of Hants County for the elusive Hepatica americana. This is a small blue-flowered herb belonging to the early-flowering element of our deciduous woodland flora. It is found in the deciduous forests of southern Quebec and Ontario and is moderately common in parts of New England and further south. Nova Scotia forms its northeastern limit of distribution.

We searched some of the previously reported localities and found plants in two of them. Hopefully it exists elsewhere but its continued survival in Nova Scotia is obviously in the balance. While this report concentrates on the dilemma of what to do about Hepatica, the questions raised are general ones affecting any rare plant or animal in the province. We have to start finding answers to some of the questions.

The first locality was very small, a narrow strip of bank near a river, maybe 5m long with possibly as many as 25 plants in it. Such minimal populations have to be regarded as verging on extinction. A few years ago Dr. Maass talked to the farmer owning the nearby fields who told him that Hepatica used to be common in one corner of a field but that a professor with a group of students from Dalhousie University had been to see them and he hadn't seen any since! Reference to the Dalhousie Herbarium did reveal a few specimens collected in 1949 and 1952 by Dr. Hugh P. Bell and his students Martin, Bailly and Burchill. They may indeed have been responsible for its extermination in the field, although I doubt it, but certainly professionals, students and 'plant lovers' are among the most severe threats that endangered species face today, although passage of wild flower protection laws in some European countries and a few U.S. states (to protect cacti) is gradually cultivating a more moral approach. Close inspection of the former site in the field revealed that heavy trampling by cows had so churned up the ground and compressed the plants and

soil that it would have been impossible for Hepatica to survive.

The other locality, a few kilometers away is in a similar situation to the first, a bank of rich soil near a river. Although still fairly small as populations go, there are 100 to 200 good clumps of the plant over some 30 meters of bank. For a rare species this is a very satisfactory site, the only trouble is that the owner of the property took a bulldozer last year and levelled a gravel pad presumably as a house or trailer site. The edge of the bulldozed area is 2m from the nearest Hepatica and any landscaping would exterminate them.

This is the situation that stands; a few comments are possible. As things are going Hepatica will be extinct in Nova Scotia within ten to twenty years. The species requires a rich soil on south-facing banks in deciduous woodlands. It formerly grew at Windsor and Wolfville, settlements sited on rich soil. In other words Hepatica is competing with man for the richest soils in the province and is losing the battle. Current agricultural policy is to give subsidies to farmers to convert woodland to ploughland or pasture, and the sites most likely to be chosen are the few remaining Hepatica sites, even assuming one or two more sites exist than the two examined. The analogy here is with the North American bison whose herds roamed the Great Plains at the coming of the European settlers. There were possibly as many as 60 million of the great beasts and yet they had to be exterminated. That they were shot with incredible waste and callousness should not hide the fact that settlers and bison are completely incompatible and the agricultural wealth of North America could not have been created with them present. It was sentiment,

guilt and dilettantism that saved the few hundred remaining animals and created the present-day herds confined to a few parks in the USA and Canada. In a very mini-sense Hepatica has an analogous position in Nova Scotia. It needs rich soil; so do farmers; the farmers win.

So should we say good-bye to Hepatica in Nova Scotia? After all you can easily drive down to Vermont to see it. (It is also endangered in Ontario and Quebec.) It isn't really a very important plant and we can't pretend it is. The trouble is that it is only one of many endangered species, and their habitats in the Maritimes are being wiped out with surprising rapidity.

Should we therefore get the sites made into nature reserves? Well the International Biological Programme, Terrestrial Conservation, faced that question many years ago and the general answer was that ecological reserves should not be created for individual species with a few deserving exceptions, that reserves should represent excellent areas of particular habitats and hopefully would have many representative and some rare species in them. This still seems to be a good working policy.

Probably the compromise policy between kissing a rare species good-bye and making a reserve is to move some specimens into safe habitats, the 'bison solution'. The trouble here is two-fold; one, we don't know enough about its habitat requirement to be sure of establishing it elsewhere and second, we do not have a system of reserves in Nova Scotia where we could safeguard the plants. However Alex Wilson of the N.S. Museum has suggested a possible site that the Museum is investigating in Hants County as a park or reserve and it or similar sites may be possible transplant areas for Hepatica.

The one thing that does seem certain is that long term preservation of wild species is not possible in botanical gardens. We know so little about the requirements

of most species that they often prove difficult to grow in garden conditions and in any case we do not possess institutions devoted to studying and preserving species on a long-term basis.

What I have done thus far is to dig up a few plants from the more populous site, divide them into pieces and grow them in my garden. (I felt a little guilty doing so - another Dalhousie professor digging up our heritage!) Then in a year or so the plants, if they have grown strongly, will be transplanted to some other, safer (?) sites. Of course, finding sites is going to be difficult in view of our ignorance of the requirements of the species; we need research into our rare species but the current policy of funding economically useful research means this will not be carried out. This leaves us with a hit and miss approach ameliorated a little by some soil analyses done by the Provincial Department of Agriculture at Truro. By finding sites with similar slope, aspect and soil analyses to the original ones it may be possible to establish new populations and ensure the continuity of one of Nova Scotia's native plants.

M.J. Harvey

## HELP WANTED

Natural history is rapidly gaining recognition as a subject worthy of study. City-bound individuals and groups are turning in large numbers to the local parks for recreation and while there, are taking note of the plants and animals. Many of these people are genuinely interested in learning something about their natural surroundings but are unable to do so without some initial direction. HFN is often called upon to provide resource people or materials. The demands of individuals can be adequately met by our monthly meetings and field trips, but the demands of groups are often specific, and in the past have not been fulfilled. Girl Guide and Boy Scout groups, in particular, look to HFN for volunteers to lead field trips or to speak at meetings. They generally are interested in learning just a specific amount of material in order to pass a badge. We feel that these are worthwhile causes and that HFN has a certain obligation to fill the role of educator in promoting natural history.

For this reason, I am asking for volunteers to donate one afternoon or evening a month to help a Guide or Scout group with a natural history badge. Training sessions would be held with the volunteers to discuss the information needed to fill badge requirements, and each volunteer would be asked to deal only with their field of interest ( eg. geology, ornithology, ecology, etc.) I would coordinate the program and handle the flow of requests which I am sure would result once the service is made available.

With the coming of September, the HFN executive can expect once again to be swamped by requests for volunteers from guide and scout leaders. It would be a tremendous public service to supply these much needed resource people. Anyone who is interested in volunteering for this program should contact Kathy Aldous at 429-4610 (weekdays). I hope to hear from you soon!

FERN PROJECT  
REPORT

Last spring, HFN began a project to map the distributions of fern species in Nova Scotia, using volunteer naturalists throughout the province. Before reporting the results of the first year of this ongoing project, I will briefly outline it for those who may be unfamiliar with the project.

Nova Scotia is divided into 10 by 10 km squares by the Military Grid network; there are about 750 squares in total. Project participants were asked to carry fern checklists along on their travels. For each square visited, the species observed were ticked off on a checklist. These checklists were then mailed to the fern project and are on file at the N.S. Museum. With this information distribution maps will be made.

The results of the first year of the project were most encouraging: More than 50 naturalists wrote to the project for fern guides and checklists. 17 sent in checklists. More than 200 checklists were returned. More than 100 squares were covered. Through participation in the fern project the wardens in Cape Breton Highlands National Park found three new species for the park.

Would you like to participate in the fern project? Here is an opportunity to get to know a small group of easily recognizable plants and to contribute valuable information on species distributions. Become a participant in our fern project this summer.

Cathy Keddy

## H. F. N. September-October Program

- 7 September PLANT DISPERSAL WORKSHOP- Monthly Meeting- by land, water and air- innovative methods of seed transport that were invented long before helicopters and hydrofoils. Talk and demonstration by Jane Spavold. Nova Scotia Museum, 8:00 pm.
- 10 September Bird migration trip to Conrad's beach. Meet at the N.S. Museum parking lot at 10:00 A.M. Bring a lunch.
- 24 September Hemlock Ravine- a trip to study the human ecology problems associated with planning a nature reserve in a built-up area. Leader M.J. Harvey. Meet at the N.S. Museum 2:00 pm.
- 5 October OF MICE AND MEN- Fred Scott, Nova Scotia Museum, will talk about his research with some of N.S.'s small mammals. (8:00 pm. at the N.S. Museum.
- 7-9 October Thanksgiving Weekend camping trip to Kejimikujik National Park. Watch for details in the next Flyer or phone Kathy Aldous 429-4610 (weekdays).

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Membership in the Halifax Field Naturalists is open to anyone interested in the natural history of Nova Scotia. Former members are encouraged to renew their memberships and new members are always welcome. Membership fee is five dollars annually, family membership is seven dollars.

Halifax Field Naturalists,  
c/o Nova Scotia Museum,  
1747 Summer St., Halifax.

Halifax Field Naturalists

new renewal

Name \_\_\_\_\_

Address \_\_\_\_\_

Occupation or interests \_\_\_\_\_