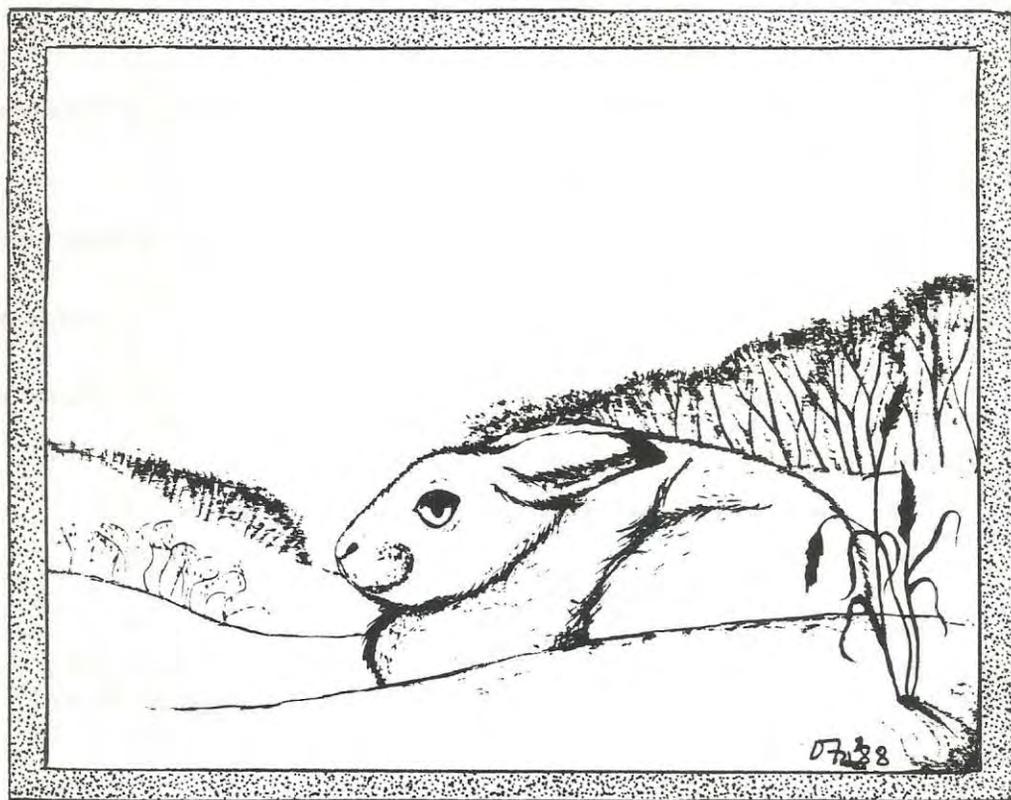


TORONTO FIELD NATURALIST

Number 401, February 1989



The Snowshoe Hare in winter pelage

by Owen Fisher

INSIDE

Birds 10,13,14,17,22,24,25,
26-27,28

Coming Events 36-37

Ethics 19-20

Geology 27

Help Wanted 14,25,34

Invertebrates 11-12,26

Issues: herbicides 11,12,26;
heritage appreciation 12;
pole trapping 26-27; ravine
management 11,30-33; recycling
6-7,33; sanctuary sold 29;
tree destruction 14,27;
wildlife injuries 25

Mammals 1,13,14,21-22,23-24
25,28

Nature Holidays 37

Plants 14,18,22,27,35

Sky Notes 34

TFN anniversary 5

history 15-16

meetings 2,36

nominations 14

outing 3-4,8

publicity 9-10

Weather 23-24,35

TFN MEETINGS

Visitors welcome

General Meetings

Board of Education Centre, 6th Floor Auditorium
155 College Street, at McCaul*

- Monday, February 6 at 8 pm - FUNGI AND HISTORY, an illustrated lecture by Dr. John Morgan Jones
- + at 7 pm, a display of Louise Herzberg's art
 - + an opportunity to purchase TFN publications, hasti-notes, prints of selected newsletter covers, pins, decals and crests
 - + free parking in the Board of Education garage on McCaul St., south of College St.
 - + easy TTC access (building is one block west of Queen's Park subway stn.)
- Monday, March 6 at 8 pm - Art Drysdale will be the speaker

Group Meetings

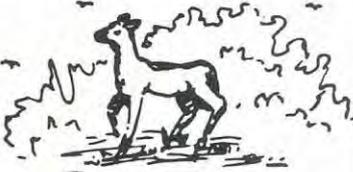
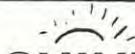
- Wednesday, February 15 at 7:30 pm - BIRD GROUP MEETING in Room 252, 155 College St. One of the following three videos will be shown: A Feathered Swarm, The Goony Bird of Midway Island, The Return of the Osprey.
- Monday, February 20 at 7 pm - ENVIRONMENTAL GROUP MEETING in Room 252, 155 College St. Sarah Miller of CELA and Pam Millar of Pollution Probe will tell us about Great Lakes' problems.
- Tuesday, February 21 at 7:30 pm - BOTANY GROUP MEETING in Room 252, 155 College St. Paul McGaw will show us his photographs of the wildflowers of the western mountains.

NEWSLETTER COMMITTEE

Helen Juhola (924-5806) 112-51 Alexander St., Toronto M4Y 1B3
Diana Banville (690-1963) 710 - 7 Crescent Place, Toronto M4C 5L7
Eva Davis (694-8928) 203 - 1080 Kingston Rd., Scarborough M1N 1N5
Eileen Mayo (445-4621) 405 - 44 Stubbs Dr., Willowdale M2L 2R3
Toshi Oikawa (425-3161) 1063 Pape Ave., Toronto M4K 3W4
Harold Taylor (225-2649) 264 Horsham Ave., Willowdale M2R 1G4

Please submit notices, reports, articles (up to 1500 words in length) and illustration at least six weeks before the month in which the event is to take place or the material is required to appear. Please include address and telephone number so submission can be acknowledged.

Send news clippings to Louise Herzberg, 59 Hillside Dr., Toronto, Ont. M4K 2M1.

 (NO DOGS)	Upcoming OUTINGS	TFN 
RAIN <small>16 12</small>	or  SHINE	Everybody Welcome!

FEBRUARY

- | | | |
|-------------------------------------|---|----------------------|
| Saturday
Jan. 28
9 am | WILKET CREEK - birds
Leader: Bruce Parker
Meet at the park entrance on the west side of Leslie Street opposite the Inn on the Park north of Eglinton Avenue East. Lunch optional. | West Don, North York |
| Sunday
Jan. 29
2 pm | RIVERDALE ANIMAL FARM - for families
Leader: Eileen Mayo
Meet at the farm entrance at the southeast corner of Sumach and Winchester (north of Gerrard St. East and east of Parliament Street). | Don, Toronto |
| ...
Wednesday
Feb. 1
10 am | CEDARVALE RAVINE - nature walk
Leader: Gloria Somerville
Meet at the Heath St. exit of the St. Clair West subway station (at Bathurst). | Don, Toronto |
| Saturday
Feb. 4
2 pm | NEWTONBROOK UNITED CHURCH - photography
Leader: Betty Greenacre
Meet at the church which is on Cummer Ave. just east of Yonge St. (between Finch and Steeles). A projector and screen will be provided. Bring your favourite slides. Call Betty Greenacre (759-9956) if you have questions. | East Don, North York |
| Wednesday
Feb. 8
10 am | PROSPECT CEMETERY - nature walk
Leader: Al Shaw
Meet at the south entrance to the cemetery (on the north side of St. Clair West at the north end of Lansdowne Ave.) | York/Toronto |
| Sunday
Feb. 12
10 am | JAMES GARDENS & LAMBTON WOODS - birds
Leader: Ilmar Talvila
Meet at the park entrance on Edenbridge Drive, east of Royal York Road and north of Dundas Street West. | Humber, Etobicoke |
| Wednesday
Feb. 15
1:30 pm | SHERWOOD PARK - nature walk
Leader: Mary Ruth Dakin
Meet at the park entrance at the east end of Sherwood Ave. (The park is north of Eglinton Ave. East and east of Mt. Pleasant Road.) | West Don, Toronto |



FEBRUARY OUTINGS (cont'd)

Saturday ROYAL ONTARIO MUSEUM - tour of vertebrate paleontology TORONTO
 Feb. 18 Leader: Kevin Seymour
 10 am Meet at the entrance on the south side of the ROM. Call
 Kevin (960-2398) if you plan to attend. Leave your telephone
 number with your message.

Sunday ROWNTREE MILLS PARK - winter weeds Humber, North York
 Feb. 19 Leader: Phil Joiner
 10:30 am Meet at the northwest corner of Finch West and Islington.
 Lunch optional.

Tuesday NORTH YORK CENTRAL LIBRARY - books on the arts North York
 Feb. 21 Leader: Joyce Cave
 10:30 am Meet at the south entrance to the library. The library can
 be reached from the North York City Centre subway station.
 It is located at 5120 Yonge Street which is north of Sheppard.

Wednesday HUMBER VALLEY - nature walk Humber, Etobicoke
 Feb. 22 Leader: Isabel Smith
 1 pm Meet at the Old Mill subway station exit.

Saturday MT. PLEASANT CEMETERY - birds Toronto
 Feb. 25 Leader: Ross Harris
 8 am Meet at the cemetery entrance on the east side of Yonge St.
 north of St. Clair Ave.

Sunday JAMES GARDENS & LAMBTON WOODS - for families Humber, Etobicoke
 Feb. 26 Leader: Diana Karrandjas
 2 pm Meet at the park entrance on Edenbridge Drive, east of Royal
 York Road and north of Dundas Street West.

...

Saturday KORTRIGHT CENTRE - maple syrup time Humber, Vaughan
 March 4 Leader: Phil Joiner
 9:30 am Call Eileen Mayo (445-4621) if you want to attend. Confirm
 to 4:45 pm by sending a cheque for \$20.00 payable to TORONTO FIELD
 BUS NATURALISTS KORTRIGHT OUTING to Eileen at 405 - 44 Stubbs Dr.,
 Willowdale M2L 2R3. Bus leaves from southeast corner of
 Yonge and Old York Mills Rd. (south exit of York Mills stn.)

or

8:30 am LONDON, Ont. ART GALLERY - art exhibit west of Metro
 to 7:50 pm Leader: Mary Cumming
 Those wanting to see an exhibit of the paintings of
 Kate Taylor Cumming (mother of Mary Cumming) may meet at the
 bus station (Bay & Dundas) to take the Gray Coach bus to
 London for the day. Bus leaves Bay street at 8:30 am,
 arrives in London at 10:50; leaves London at 5:30 pm and
 arrives in Toronto at 7:50 pm. (\$27.00 return fare.)



OUT OF
TOWN

OUT OF
TOWN

President's Report

The celebration of our 65th anniversary, held on November 7th, is now a memory. But a memory worth remembering as more than 300 members and their friends came to help us celebrate.

On emerging from the elevators, guests were greeted by Board members. Commemorative bookmarks with the logo and colours of the club were given to each guest. They were then directed to the refreshment table, where cakes with "Toronto Field Naturalists 65th anniversary" decorated on them and serviettes printed with the same message were available. Joan Patterson made these arrangements which greatly contributed to the successful evening.

Miss Lucille Panabaker contributed a Robert Bateman print, "Snowy Owl: Ready for the Hunt". This was raffled and we extend our sincere thanks to her for her generous contribution.

The event provided a great opportunity for members to display their art work. A number of guests commented that they had not realized the artistic talents of our members. Mary-Louise Stewart, Betty Paul and Mary Cumming arranged for these displays. Toshi Oikawa set up copies of covers of past newsletters to honour the occasion of the 50th anniversary of the publication.

Two plaques were received from the Premier of Ontario in recognition of the contribution of the TFN over the past number of years with its involvement with environmental issues and the valuable information distributed through the newsletter. These were on display and now hang in the TFN office.

Two caramates were in operation outside the auditorium with slides illustrating pollution and other environmental concerns. Continuous slide shows were presented in the auditorium illustrating the plants, animals and landforms of Metropolitan Toronto. Photographs taken by our members were also displayed and complimentary comments on the excellence of the slides and photos were frequently heard.

The TFN 65th/50th celebration is over, but with no thought of retiring, we look forward to continuing to recognize issues of concern and to taking appropriate action to help conserve a healthy environment.

Eileen Mayo
Vice President

□



Purple-leaf sand-cherry, Crescent Town

ENVIRONMENTAL GROUP REPORT

for Monday, November 17, 1988

Remember the last time you bought some tea? The cashier put it into a plastic bag for you. At home, you threw out the bag. Then you unwrapped the cellophane, and threw that out. Then you removed the tea bag from its paper pouch, and threw that out. Made tea. Then threw out the tea bag...Whereas, if you'd just bought loose leaves...get the picture?

There has to be a revision in our consumptive habits if there is to be sustainable development. This is according to John Hanson, spokesperson for the Recycling Council of Ontario, the speaker at the TFN November Environmental Group meeting.

Though it was municipal election night, the turn-out was good and a lively discussion of recycling problems and possibilities ensued.

"Half of what we waste is packaging," Hanson says. And only 3-5% of Metro's solid waste lands in the blue boxes. The rest gets shuttled off to incinerators or landfill. Neither of the later two options satisfies Hanson.

Incinerators are very expensive and landfill sites all must reach a maximum capacity. Burning certain metals can create toxic fumes. Landfill can also be harmful to the environment because elements can leach out the soil and pollute groundwater. The Recycling Council is pushing for a generic landfill code which would check for health hazards.

Hanson believes recycling is the only sound route to take, since it conserves both resources (75,000 trees are felled each week to print the TORONTO STAR) and energy (recycling steel requires 70% of original energy; newspaper requires 50%).

The greatest stumbling block to more comprehensive recycling measures is lack of knowledge. The technology exists to recycle plastic (it can only be re-used once), glass, cardboard, motor oil, even rubber tires--to name only a few things. "Recycled oil is as good as virgin motor oil," says Hanson. And there is an Edmonton firm which can turn plastic into a lumber substitute.

Given the possibilities, it is still a problem to find markets for these "second-time" products. If a company is vertically-integrated, for example, a lumber company logs its own trees for its own wood and paper, it has not fit recycling into its business plan. Hanson says it would be helpful if governments had preferred purchasing policies which would favour recyclables. Then business might alter its approach.

Hanson cites Europe as an example of government policy giving recycling a boost. Europeans pay by the container for garbage pick-up, but it is cheaper to empty the continental version of the blue box. Metro municipalities pay a flat tax for sanitation. It is based on population, not tonnage brought to the dump. In the absence of incentives, it's no wonder North Americans generate three times as much rubbish as Europeans do.

▷

ENVIRONMENTAL REPORT (cont'd)

An example closer to home comes from Loblaws. To cut down litter and garbage, Loblaws will be switching their carrying bags to biodegradable "plastic". The material is supposed to break-up under normal weather conditions and be absorbed into the ground. However, Hanson thinks this might pose another problem of just having small bits of "plastic" invading our soil and water. For now he suggests, "Why not re-use the bag you got last time?"

There is much progress to be made, especially in the areas of commercial industrial waste and hazardous waste.

"Recycling requires creativity, public education and infrastructural changes", says Hanson.

Jennifer Low

□

THE BIODEGRADABLE MYTH!

...Biodegradable plastic is a mixture of starch and plastic blended together. The starch may be broken down by bacteria in the soil causing the plastic to fall apart. Unfortunately, small pieces of plastic are no better for the environment than "plastic sheet".

...no less an authority than Dr. David Wiles, director of the National Research Council of Canada's division of chemistry, asserts plastics never break down, no matter what form they come in.

[As well as removing the incentive for recycling]...plastic waste containing even a fraction of starch will not be accepted for recycling, because the starch interferes with the recycling process and damages the quality and consistency of the recycled product. Plastics are difficult enough to recycle without this added problem!

from "Opinion" by Colin Isaacs in PROBE POST, Vol. 11, No. 3, Fall 1988

ON MORROCAN RECYCLING...

...The housewives gather up the scraps of paper, and dust sweepings, the peelings that could not be fed even to animals. They drop these bits into the frayed straw basket borne by two afternoon garbage collectors, an old man with a white beard, a younger man with a grey beard. Even our garbage filled less than a gallon can each day - a small fraction of our Stateside quota. The two old men dumped the day's refuse into a larger basket carried by a donkey patiently waiting at the end of the street...ultimately this refuse would again be sorted and fed to cows - or to less discriminating goats.

from A STREET IN MARRAKECH
by Elizabeth Warnock Fernea, 1975

OUTINGS REPORT

Botany Outings (February, March and April 1988)

On February 20th, Dennis Clarke took 11 people on an exotic plant tour through the greenhouses in Etobicoke's Centennial Park. It was a balmy 20°C inside and outside a cold 0°C and sunny.

March 6th saw Phil and Gay Joiner leading 15 people on a winter weeds walk at Morningside Park in Scarborough. The weather was sunny and 4°C. Metro Toronto's earliest native spring "wildling" was seen in flower -- the skunk cabbage. Also observed were a red-tailed hawk, pileated woodpecker and spiders (of an undetermined species) running about in the grass.

On March 16th, 19 people were treated to a very informative walk through the greenhouses at Allan Gardens. The leader, Dr. Nick Badenhuizen, pointed out interesting characteristics of many of the exotic plants in the collection. A display of spring bulbs (tulips, hyacinths, and daffodils) was an added bonus.

An outing with Bill Morsink in Edwards Gardens took place on March 27th. Eighteen people braved snowflurries on a chilly 3°C overcast morning to admire and learn about trees. Observed were the unusual pagoda tree (*Sophora japonica*), golden-rain tree (*Keolreuteria paniculata*), dawn-redwood (*Metasequoia glyptostroboides*) and ginkgo tree (*Ginkgo biloba*). Many native trees were seen as well.

The Thursday evening botany walks started early this year (April 28th) with Dennis Clarke leading 5 others along the ravine slope and flood-plain of the Don River at Millwood Road in Leaside. It was cloudy and cool (10°C) but the rain fortunately held off till later. Spectacularly large clumps of cut-leaved toothwort, early meadow-rue, virginia spring-beauty, bloodroot and wild leek foliage were seen and marvelled at. Several trees and shrubs were showing their obscure flowers/catkins-- Manitoba maple, red maple, Siberian elm, black alder, American hop-hornbeam and beaked hazel. The non-botanical high light of the walk was seeing and hearing a great horned owl. Other birds seen were crows, house finches and a white-breasted nuthatch.

Dennis Clarke

□



*TFN Outings,
indulgence in self-care is
kindness to others.*

haiku by Vera Irving

Publicity Report

Volunteers for the TFN had another busy season from July to December 1988. Ten displays, talks, slide shows and outings were provided to various groups, resulting in a better understanding of the club's activities and objectives by those in attendance, and an increased membership.

Helen Juhola gave a talk and slide presentation on July 26 to a LOON (Lake Ontario Organizing Network) meeting. The slides illustrated erosion, pollution and dumping of waste products along the Lake Ontario shoreline. Fifty persons attended.

On August 29th Helen led a nature walk for the Save the Rouge Valley System. Thirty persons came for the strenuous two-hour outing in the uneven terrain of the Rouge.

A conference on causes and solutions of Forest Decline, sponsored by the Ministry of the Environment and Natural Resources, Environment Canada, the Federation of Ontario Naturalists and several private organizations was held Aug. 8 to 11. Six TFN members were invited to attend as volunteers for the first two days. They found the conference interesting but also very distressing with recognition of vast areas of forest decline throughout the world.

The Riverdale Farm held its annual Fall Festival on Sept. 10 to 11. It was a popular event with a number of young children with their families who came to view the exhibits and participate in the activities. The TFN display units were there and volunteers gave out pamphlets and handouts inviting attendance at the next family outing. This provided the opportunity for discussion with families and considerable interest was shown in TFN activities and family outings.

The second Childrens' Environmental Festival sponsored by Public Focus was held at Harbourfront from September 24 to 30. The theme was Make a Difference in your World. Children in grades 4 to 6 were given guided tours on weekdays from 10 am to 2 pm, adults and children visited over the weekend from 12 noon to 4 pm and evenings from 6:30 to 8:30 pm. Twenty-four TFN volunteers attended our three-panel display, two for each four-hour shift.

To celebrate the heritage of the Humber River, a canoe tour of the Humber Marshes on October 15th was led by Helen Smith, a TFN member and expert on bird identification, and Isabel Smith, another member and expert on plant identification, led a walking tour of the area and introduced many members and non-members to the plants of the marshes.

Helen Juhola presented slides and a discussion of Toronto the Green to Club 55 at Bloordale United Church on October 15. Thirty persons were present.

This presentation was also given to about 50 students and teachers at a Contact School on November 29th. This is a school for those who wish to upgrade their education in grades 9 to 12. Eighty slides were shown illustrating the waterways of Metro Toronto with wildflowers, birds and other animal life found there. Helen's comments described the importance of keeping Toronto green for the health of the human population and the maintenance of habitat for all living things.

PUBLICITY REPORT (cont'd)

Displays were on view in two North York libraries during the month of November. Thirty photographs, crests, plaques and publications were shown in a large glass case on the main level of the Don Mills library. These illustrated views of the Don River in North York and the effect of pollution from litter to the dumping of garbage. Photos of birds and wildflowers found in the area were also shown.

The other display was located on the 5th floor, Science and Technology Department in the new Central Library on Yonge Street north of Sheppard. One display unit was used with photographs illustrating environmental concerns particularly relating to that part of North York.

We look forward to further community promotion to help the public toward a better understanding of the TFN goals and objectives and its concerns for environmental issues.

Thanks, again, to the many volunteers who make possible our involvement with community projects. Thanks also to Joan Patterson who has been sending our press releases inviting the public to our monthly meetings and a very special thanks to Art Drysdale of CFRB who usually reads our notices on both his weekend programs.

Eileen Mayo

□

A CHEERFUL BLUE DAY

Today [October 15, 1987] while I was standing between two fields north of Richmond Hill, counting crows and waiting for hawks to start moving, I observed a small flock of birds attempting to land in a pine tree about three hundred yards from me. They veered off, as a kestrel was sitting in that tree, and landed one hundred feet from me in a bare tree. Up went my glasses and I got a wonderful surprise; there in front of me sat ten eastern bluebirds. They stayed and hawked insects, sometimes landing only ten feet from me. What a beautiful sight! At times I had four, five and six birds in my glasses; in the background was an eastern meadowlark and a pileated woodpecker and overhead passed a red-shouldered hawk and a goshawk.

It all ended after forty-five minutes; the bluebirds flew to some trees across the field and I relaxed with a smile on my face - the most bluebirds I have ever seen at one time. Now it was time to get back to hawk-watching.

Five minutes passed and I noticed that the bluebirds were coming back my way; they landed in the same tree and there was a surprise in store for me; there were now seventeen bluebirds in front of me. They gave me another fantastic twenty minutes of viewing. While they were hawking insects again, they were joined by two savannah, one field, three vesper, one tree, and several song sparrows. Robins were all around by this time. I don't think I will every again see that many eastern bluebirds at one time, but it will be a long time before I ever forget all that beautiful colour.

Norm Murr

Keeping in touch...

Dear Mrs. H. Juhola:

Nov. 8, 1988

For the past three years you have been of great assistance to my staff with identification of wildflowers and unique vegetation in Toronto's ravines. I would like to express my appreciation for the time and knowledge you have given to the City of Toronto.

At this time, I feel it is appropriate to inform yourself and the Toronto Field Naturalists of the progress that has been made in Ravine Management by the Department of Parks and Recreation. We are just beginning a long process of preservation and improvements in the ravines.

I have enclosed a short report on the status of the Ravine Management Strategy in progress at the City of Toronto. [See pages 31-33.]

If you have any comments regarding the Ravine Management Strategy, please contact Carol Walker Gayle at 392-7251.

Herb Pirk, Commissioner
City of Toronto
Department of Parks and Recreation

Dear Mr. Powell:

Nov. 9, 1988

Thank you for your recent letter acknowledging Ontario Hydro's initiative to decrease herbicide use along Hydro corridors. I appreciate your encouragement and support.

The initiative is only one among many Ontario Hydro has taken in the last few years. We recognize that generating and distributing electricity cannot yet be carried out without environmental effect, but we are committed to managing those effects without compromising the well-being of this province. Some of our other efforts are discussed in our 1987 Annual Report, which I've enclosed for your information.

Thank you again for your kind letter.

Robert C. Franklin,
Chairman and President
Ontario Hydro

Dear Helen:

Dec. 5, 1988

Thought some of your readers might enjoy an update on recent developments concerning the Monarch Butterfly. As is my usual September ritual, I was again invited to participate in the "Birds and Butterflies Weekend" at Presqu'ile Provincial Park. Although able to alar tag 1600 individuals, it was apparent that the summer drought as well as a virus that I found evidence of have further reduced the population [of moncharchs]. Even at Point Pelee National Park the absence of thousands of migrating Monarch Butterflies that usually stop and roost there was mourned. To date, my only recapture has been a male found in the small town of Marcellus, New York, about 10 miles west of Syracuse.

▷

KEEPING IN TOUCH (cont'd)

Since Dr. Fred Urquhart's discovery of some of the overwintering loci of the eastern North American population of the Monarch Butterfly in 1975, the discovery of which was the cover story of the August 1976 issue of the NATIONAL GEOGRAPHIC, interest has mushroomed in this phenomenon.

Recent articles include one in the July-August, 1988, issue of ANIMAL KINGDOM and in the fall, 1988, issue of LANDMARKS magazine (which also carried an article on my work at Presqu'ile). There have been some excellent science shows on PBS including the "World of Survival" episode entitled "Search for the Vanishing Monarchs" and an episode of "Nova" entitled "Mystery of the Animal Pathfinders". (Yes, that tagged Monarch Butterfly in the film that had just been found on the forest floor in Mexico had been tagged by myself the previous September at Presqu'ile!) Even Nature Travel Service of Kingston is offering a tour of these overwintering sites.

Besides the efforts of the Mexicans to protect these sites and provide local inhabitants with an alternative income to their traditional logging, through tourism, the World Wildlife Fund has launched their "Guardian of the Rainforest Program". Perhaps Prince Philip's visit last February to the overwintering sites in the mountains of Mexico, about 75 miles northwest of Mexico City, contributed to this rainforest being targeted in their 1988/89 program.

Maybe we can do our part by being more considerate of our environment and reduce the use of herbicides.

Donald A. Davis

Dear Helen,

Nov. 24, 1988

The Humber Twinning Committee would like to express its appreciation to you and the Toronto Field Naturalists for your help in making the Humber Celebration Day on October 15 such a success in the area of the south Humber. Particular thanks to the two fine leaders, Helen and Isabel Smith, who helped us explore the Humber Marshes. We also appreciated the publicity in your newsletter to members.

As you know, there were events planned the length of the Humber River, topped by the grande finale of bonfires in local parks. There was excellent newspaper and television publicity and coverage both at the local level and in the Toronto papers and on CBC. We had a beautiful day for outdoor activities and had a good turnout of the public.

The many Humber River events organized by our Committee for this special day were aimed at increasing public awareness of the river's rich heritage. In the New Year our intention is to pursue the designation and twinning goals. Immediate future plans also include a major community clean-up of the river this spring.

Thank you once again for your support of our efforts in this environmental and heritage project.

Joan Barrett, Secretary
Humber Twinning Committee

▷

KEEPING IN TOUCH (cont'd)

Dear Ms. Banville,

Oct. 1988

On October 5, 1988, at around 2:15 pm, I saw a kettle of approximately 35-40 "hawks" from my kitchen window (I did not have my binoculars handy but I think that they were probably turkey vultures, not hawks). It was a sunny and fairly windy day (with some overcast periods). I live just north of Oakwood and St. Clair...

Joan Harper

Ed. Note: Oakwood and St. Clair is close to the ancient Lake Iroquois shoreline providing updrafts for hawks and other soaring birds during migration. The birds in question were identified by size, wing-shape, and small head in relationship to body.

Dear Helen,

Dec. 11, 1988

I thought it would be appropriate to respond to a news clipping that appeared in the October 1988 TFN newsletter (Tales About Whales, page 23) since I was the one who identified the whale bone dug up at Harbourfront this April. This bone was brought to me by a TTC employee and while he was still in my office at the ROM the press started knocking at the door. There really was no time to examine the bone carefully. Consequently, I hedged when quizzed about the significance of this bone, well aware that it was an anomalous find and could represent a recent or what we call sub-recent bone. Nevertheless, the press wanted the find to be very exciting and significant and it was on the 6 o'clock news that night that the bone probably represented an Ice Age whale and would necessitate the re-writing of Toronto's glacial history.

This was not the first time such a bone had been found. The TTC has brought us bones from their excavations before, some being those of domestic animals, while others (such as the "subway deer" excavated near Islington station) were very unusual and significant finds. When Allan Ironside (the Orillia historian) phoned to inform us about the Piper Museum ("Pipers Zoo") and the whale that they had had on display, the possibility that this bone was a remnant from this whale made more sense to me. However, further work needed to be done, such as carbon dating, examining the sediments from which the bone came etc. Instead of repeating the whole story, I'm enclosing the official ROM statement on the "Queen's Quay" whale bone that the publicist and I drafted for release* to the press. Further work needs to be done, but at the present time neither story publicized by the newspapers (that the bone represented an Ice Age Whale or that it came from "Pipers Zoo") seems likely.

I think it should be noted that the TTC paid half the cost of the carbon dating while the other half was supplied by a private donation. As well, just recently the TTC has agreed to donate the bone to the ROM so that it can be conserved properly. A cast will be on display in the lobby of the Admiral Hotel.

Kevin Seymour

* See page 28.

▷

KEEPING IN TOUCH (cont'd)

To Diana Banville,

December 9, 1988

Our next door neighbour told me she was up feeding the baby at 5:30 am one morning last spring. Usually she's half asleep, but that morning she looked out in the backyard and saw a deer! From her description I knew it was a doe. A steep path comes up from the valley into her yard. Weeks later, another neighbour reported seeing a doe across the road between the hedge and the road. That must be what ate my zucchini - the whole plant. I mentioned this during a banquet in June and a woman said her friend saw a deer in the valley, and phoned the Humane Society. They told her there was a small herd between Claireville and Avenue Road. On August 5 the same neighbour came to the door and reported seeing a doe and two fawns in her yard at 10:00 am. I missed them. Later in August, another neighbour reported that a fawn had been killed by a truck on Islington Avenue south of Finch. The driver felt very badly.

Joan O'Donnell
Sims Crescent, Thistletown,
Etobicoke.

Dear Helen, December 11, 1988

...Our Eglinton Park is still under threat of a new centre despite many organizations' protests. We must dance to whatever plan the planners have decreed. The uprooting and chopping of quite a number of little fruit trees like the one sketched mean less emergency food for birds... There are several such trees in the same area scheduled for a driveway and underground parking and they would not be considered important enough for transplanting by Metro Parks.

Jean McGill



One of the old fruit trees that will be destroyed if the plan for a new centre in Eglinton Park proceeds.

NOMINATIONS INVITED--TFN BOARD OF DIRECTORS

TFN is looking for people interested in volunteering time, energy and initiative to serve as members of the Board. Please send your suggestions to the Chairman of the Nominating Committee: Phil Joiner (741-9947), 186 Thistledown Blvd., Etobicoke M9V 1K1. (The report of the Nominating Committee will be published in the May newsletter.)

Beginnings

This month Bob Johnson brings us a fresh point of view on the subject of beginnings. He also asks important questions. Bob has previously written in the Newsletter about saving wetlands, urban habitat, and snapping turtles. Currently he coordinates the yearly TFN Amphibian and Reptile Summary. With Helen Juhola he authored the Inventory and Guide to Amphibians and Reptiles in Metropolitan Toronto. Fortunate are the club members who join Bob on his trip each spring to an area rich in reptiles and amphibians. Bob is the curator of Reptiles at the Metropolitan Toronto Zoo.

H.T.

Beginnings. I am intrigued by the title. To cast your mind back to beginnings is to renew fond memories. But which of these is the beginning, and more importantly, which of these led to an interest in nature? When do we become aware of that of which we are a part? Is the beginning something we are born with, or do we acquire an interest in nature? I suppose, put another way, I am asking if the beginning is intuitive or acquired. For me, it is both, and my beginning has three stories.

There was no single beginning. Instead, a collage of childhood experiences fixed themselves on the landscape of my mind. I still smell the marsh muck which oozed into the hole left by my boots; I hear the raucous red-wing blackbird that took exception to my meanderings through its cattail-covered territory; I feel the sun burning my back as I sit watching thousands of tiny toad tadpoles swarming through the meltwater pond. The crayfish chimneys lining the shore are as much a part of my landscape as are the cattail heads towering above them.

I still recognize that early landscape as a series of isolated, but always inter-related, experiences which exuded life itself. Indeed, I can recall that landscape in an instant or, more pleasantly, it occasionally floods forth unintentionally. A "deja vu" sound or smell will connect me to that childhood past--to all childhood pasts. My experience was that, is that, of all man/nature interactions. We all share landscapes. I share, not an individual nature, but the process of experiencing, with everyone.

That was my first story. One of experience and feeling. Sensitivity and curiosity were cultured but remained a bud and not yet in flower. I was of nature and an innocent.

My second story hurts to this day. In this story there is a loss of innocence and a death never to be forgotten. It, too, occasionally floods into consciousness as though the death I speak of had a life of its own. This story has a date and a place, but that is unimportant. I was almost a teenager shooting at cans with my new BB gun and marvelling at the newfound power I had in my hands. Then, for a reason I know not to this day, I turned and shot at a starling perched above me. I was surprised and stunned that I had actually hit the bird. It was an act taken without regard to the consequences. The bird was one more object in my world and, I suppose, in my world I had not yet made a distinction between the animate and the inanimate.

Shooting a bird is not a simple thing. One BB does not dispatch a living thing. After hitting the bird I immediately felt nauseated and I was

▷

BEGINNINGS (cont'd)

aghast at what I had done. Tided to some internal system of obligation, I felt it inhumane to leave the bird injured. The bird finally died and so did a part of me. The gun I smashed against the nearest tree. My bird, my innocence, was gone. I was now aware of man apart from nature.

I have since rescued, fed and released many birds but I always remember this experience. In the following years there were episodes with bear cubs while fishing with my father, toadlets, baby rabbits, Tony the swallow-tail caterpillar, and crayfish in the family fishtank. But my third story brings us to, or more correctly my absence from, the University of Toronto. I had quit what I considered to be the irrelevance of my three years in the Social and Philosophical Studies program. I travelled and was awed by the landscapes I encountered: deserts, tree-lines and tidal pools teeming with life. However, I missed the landscape I had left behind and so returned to Canada.

On my return, I chanced to sit in on a first-year biology class at the University of Toronto. I can still recall the amazement I felt, and still feel, when discovering that there is a reason there are tree-lines, why deserts form in the lee of mountains, that slime moulds have sex lives, and that sharks have different kidneys than true fishes. The other students were bored by all this, but I finally had answers for what I had observed but not understood in my travels. That I went on to complete my degree in biological sciences has little relevance to my beginnings.

My feelings and my rational approach to the natural world were no longer at odds. This was the beginning of my cognizance of wholeness and inter-relatedness in nature. I once read that biologists could always find familiar plants and animals wherever they travelled because of the similarities in plant and animals families. I find this to be true, not in the rational ordering of the world, but in how all living things are inter-related in a holistic way. Wholes are more than the sum of their parts.

My beginning has not yet stopped, and always beginning, has no end. Having no end, I am always beginning anew.

Bob Johnson

□

FROM THE PAST

The Victorian reader who took up a work in popular natural history on a particular area, or a periodical published by a natural history society, expected to find descriptions of animals, birds, and fish, as well as geological structures; a record of natural events during the seasons of the year; some evocation of the scenery; and even discussions of back-woodsmen and settlement and accounts of the societies and legends of the native peoples.

from SCIENCE, GOD, AND NATURE IN VICTORIAN CANADA by Carl Berger,
University of Toronto Press, Toronto, 1983



FOR READING:

BIRDWATCH: A YOUNG PERSON'S INTRODUCTION TO BIRDING by Mary MacPherson,
Summerhill Press, Toronto, 1988, 136 pp

If you're looking for a way to get your kids out from in front of the TV set, this book could be the answer. Informative and easy to read, it is a good introduction to the world of birdwatching for the nine to twelve-year-old. Equipment, identification, ancestry, classification, song, migration, courtship, banding and nesting are all covered. Tips on where to find birds and how to attract them will be much appreciated. The young reader is also encouraged to become more involved through an annotated list of various nature clubs, conservation societies and government agencies. There is even a trivia chapter. Which is the fastest bird? The smallest? What bird has the longest feathers? The largest nest? Delightful illustrations by Virginia Douglas grace the book throughout and complement the text nicely. A bibliography and index tie everything up in a tidy package.

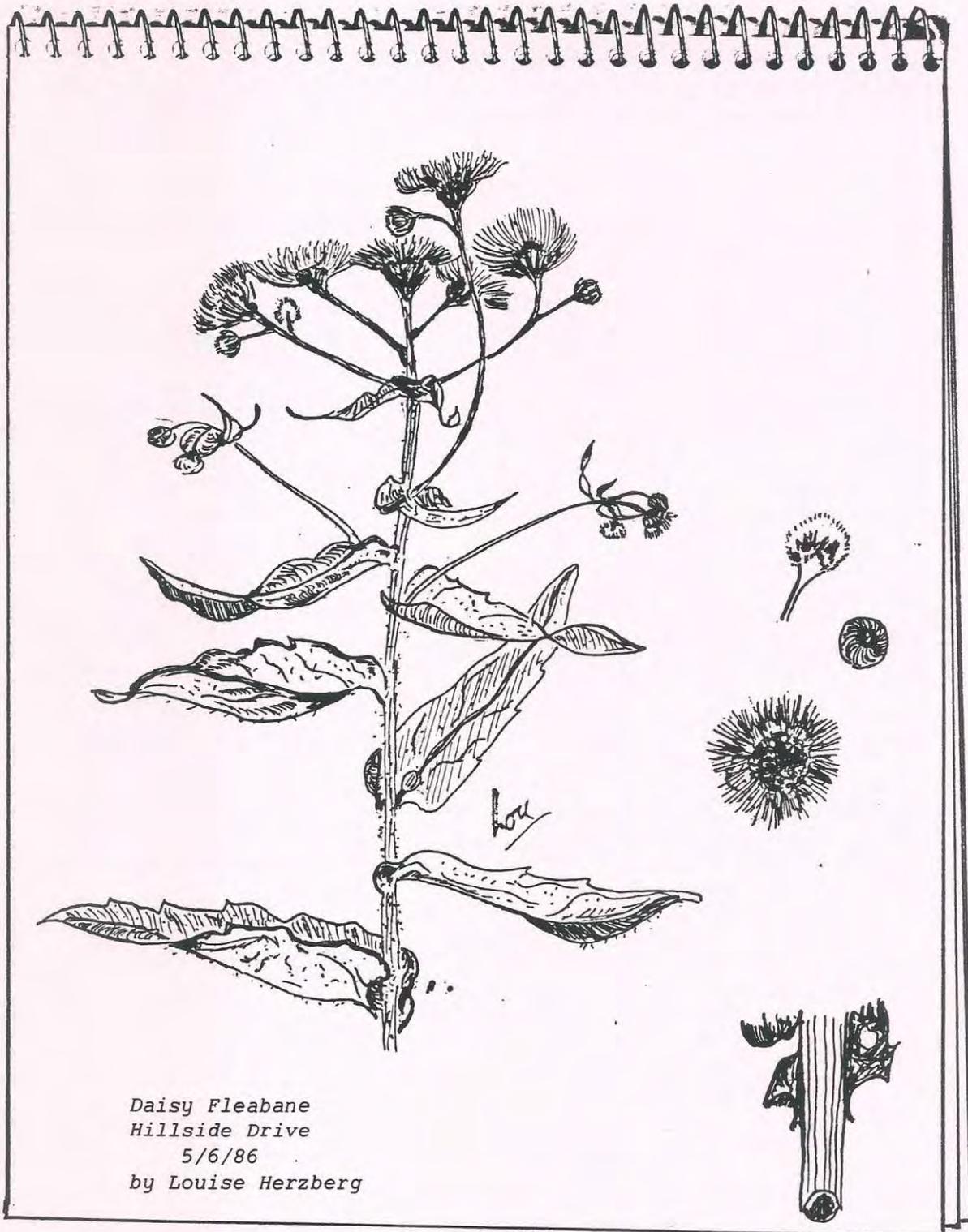
I would, however, be tempted to add a few things to the revised edition: expanded treatment of behaviour watching as a logical extension to identification, a listing of the birders' code of ethics and its importance, mention of Norm Chesterfield (a Canadian) in the trivia section under "Bird Count" dealing with the number of birds observed by a single individual, and finally the TFN's new address. These are minor points and do not detract from what is genuinely a good children's book.

P.S. Don't be surprised if you enjoy reading it yourself.
I did.

Phil Joiner

*Winter rain falling.
White cat just lies there blinking
in brown cattail stand.*

haiku by Aarne Juhola



Daisy Fleabane
Hillside Drive
5/6/86
by Louise Herzberg

A Naturalist's Code of Ethics

WHAT CAN I DO?

We are all at different levels of awareness and sensitivity to the environment, but whatever stage we're at, we must educate ourselves and get involved. Many things can be done. Following is a very personal list of suggestions.

- Inform yourself. There are many helpful organizations, magazines and books on a wide range of environmental issues. To get started, I'd recommend two old but classic books, Rachel Carson's SILENT SPRING and E.F. Schumacher's SMALL IS BEAUTIFUL.
- Convince yourself of the reality of environmental degradation. Talk to old people about what the forests, fish, air, birds and mammals were like when they were young. They are living records of how much the world has changed.
- Re-examine some of your most deeply held beliefs. Is steady, continued growth necessary for our well-being? What is the "quality of life"? What is our relationship as a species with the rest of the natural world? What is the ultimate purpose of our government and society?
- What is progress? Where do spiritual values fit in our lives? The way we answer these questions will determine how we address and act on environmental issues.
- Be a conservationist in your daily behaviour. Find out where there are depots for glass, paper, chemicals and metals and start recycling. Use cloth diapers. Store chemical leftovers from the garage, kitchen cupboard or medicine cabinet for proper disposal instead of pouring them into the sink. Compost your kitchen leftovers. You'll be amazed at the reduction in garbage.
- Use your power as a consumer. You can exert pressure by what you do and do not buy. Praise environmentally responsible companies and criticise ones that aren't.
- Ask supermarkets to replace foam containers and packaging, demand that fast-food outlets abandon the incredibly wasteful packaging that adds nothing to the quality of the food.
- Don't buy leaded gas, which pollutes the air. Point out the energy waste of doorless refrigerators and freezers in food stores. Ask for deposits on all glassware and metal containers.
- Share your thoughts and ideas with others, and exert your influence as a citizen and voter. Urge all municipal governments to start recycling, and set a goal of 60 to 70 per cent.
- No city or town should be allowed to release raw sewage into rivers, lakes or oceans. Boats should not be allowed to dump sewage into salt water or fresh water. We have to begin major initiatives to recycle processed human sewage on to agricultural fields. Farmland should not be used for development or landfill.
- Press for more legislation that has the power to stop industrial pollution, tighten regulations and reduce waste. Industry's crocodile

A NATURALIST'S CODE OF ETHICS (cont'd)

tears over excessive costs of pollution control and threatened shut-downs should no longer be allowed to delay implementation.

- We need to impose massive fines and jail sentences for executives responsible for polluting by their corporations and for individuals who pollute. There should be a special police force to track down and apprehend polluters.
- Vehicular exhaust should be rigidly screened. We need massive, crash research and development programs on alternative energy, pollution detection and control and environmental rehabilitation.
- Governments have to approach environmental matters holistically rather than partitioning them into ministries or departments. Politicians act when they feel the heat of public pressure--letters, phone calls and telegrams do have an impact. Praise politicians who have good environmental records.
- Take an active part in elections. Attend all-candidates meetings and ensure that those running have thought about questions of nuclear energy versus alternative energy, atmospheric degradation, pollution, pesticides, and the relationship between profit and growth and environmental degradation. It should be as essential for any candidate to have a serious environmental platform as to be able to read or add.
- Support environmental groups. There are many effective groups working at different levels. Contact the Canadian Environmental Network through the federal Ministry of the Environment for the list of organizations across Canada and then choose according to your priorities.
- Environmental groups need money, support and volunteer help.
- Think about our children. For the first time in human history, we know that our children will inherit a world that is radically impoverished in biodiversity and afflicted with major problems of degraded air, water and soil. Children should learn that pollution and waste are obscene because it is an assault against them. Surely, the ability of youngsters to anticipate a rich and full life in balance with the complex community of life on this planet--not profit and growth--is the reason for society and governments.

This list is far from complete. It is a personal collection of possible action. None of them will save the world from the impending catastrophe. But involvement changes us, provides us with new insights, leads us into different strategies. It's the process that matters. It's the struggle that gives us hope.

adapted from "In a sea full of pollution, one can still make waves" by David Suzuki in the GLOBE AND MAIL, Oct. 22, 1988

□

A NEW RALLYING CRY FOR THE ENVIRONMENTAL MOVEMENT!!!

The old acronym N I M B Y for "not in my backyard"
has now become N I M B I for "NOW I MUST BECOME INVOLVED"!

from SAVE THE WAVES, newsletter of Lake Ontario Organizing Network (LOON), c/o The Pollution Probe Foundation, 12 Madison Ave., Toronto, Ont. M5R 2S1 (tel. 926-1907)

BATS AND PEOPLE - MYTHS AND REALITY

Many people in different parts of the world have long been fascinated by bats. The interest is evident when one contemplates the bat-faced gods prevalent among artefacts of some Central American Indian civilizations, or the bat motif adorning many Chinese utensils and items of clothing. In some cases, the fascination reflects a great respect for bats, but often bats are perceived as threatening and they become targets for persecution. People tend to react in a negative way to creatures that they do not understand, particularly when there appears to be good reason for fearing the unknown. Because "everyone knows" that bats "carry" rabies, they are easy to fear. The TRUTH is that bats DO NOT CARRY rabies, but let us consider the origin of the myth.

Rabies is a disease that is caused by a virus. Other viruses are implicated in human ailments ranging from influenza to acquired immune deficiency. Rabies virus acts on the nervous systems of mammals, and it appears to affect all mammals in the same way. In Ontario, the mammals most often testing positive for rabies are cows and red foxes, while in British Columbia bats are the animals most frequently testing positive for rabies. Animals afflicted with rabies may go berserk, attacking anything in their path, or they may grow sicker, become increasingly paralyzed, and die. The first set of symptoms is associated with "furious" rabies, the second with "dumb" rabies. In either case, the throat muscles are often paralyzed so that the animal cannot swallow the saliva it produces, causing it to froth at the mouth. As a poster about rabies says, "it is no way for a friend to die" - or an enemy.

In medical terms, a "carrier" of a disease usually identifies an individual who harbours the active disease-causing agent but exhibits no symptoms. In this context a "carrier" refers to an "asymptomatic carrier". In today's world, we hear a great deal about individuals who are carriers of AIDS and many medical text-books identify bats as "carriers of rabies". It is worthwhile to consider the basis for including this "fact" in a medical text-book.

In the early 1960's some experiments were done with vampire bats and Rio Bravo virus. The results indicated that the vampire bats could harbour active Rio Bravo virus while showing no clinical symptoms. From these experiments, which did not use rabies virus, springs the myth that bats are carriers of rabies. Unfortunately, it is easy to entrench a "scientific fact" in the literature, and difficult to remove it. Anyone confronted with this "evidence" that bats carry rabies would acknowledge that it is irrelevant to bats and rabies, but often facts are presented without the supporting data. This means that many otherwise informed people accept the notion that bats carry rabies, which influences the way our society views these animals.

To be sure, bats are susceptible to rabies just as are dogs, cats, cows, foxes, pigs, and people - in other words, mammals are susceptible to rabies. What is the incidence of rabies in the bat population? Whether we are speaking of Toronto, Vancouver, Dallas, or Caracas, we do not know. In Ontario, about 10% of the big brown bats submitted for rabies testing are positive. This, however, does not mean that the incidence of rabies in Ontario's big brown bats is 10% for the bats submitted are not a representative sample - they are bats that have, for some reason, come into contact with people.

EVERYONE should be very concerned about ANY unsolicited bite from a bat, rat, cat, fox, dog, or person. Telling people that their chances of being bitten by a rabid bat are slightly lower than their chances of winning a lottery

BATS AND PEOPLE - MYTH AND REALITY - continued

will provide no consolation to the individual who has been bitten by a bat that has tested positive for rabies. In some parts of the world, bats also are associated with histoplasmosis, another disease that can affect humans. This fungus affliction of the lungs is usually acquired via the droppings of birds and bats. In Canada, in spite of recent suggestions to the contrary in HARROWSMITH and in NATURE CANADA, histoplasmosis has been reported from the droppings of pigeons and chickens - NOT from the droppings of bats.

The source of infection may not have any influence on the symptoms of a disease. Most people who are exposed to the spores of histoplasmosis show no symptoms, but some become quite ill. The available evidence shows that in Canada histoplasmosis is an occupational hazard of chicken farmers and pigeon fanciers, but that people who occasionally come into contact with the droppings of these birds may be infected. On a world-wide front, histoplasmosis is an occupational hazard for bat biologists; my exposure to this disease occurred in a cave in Puerto Rico. After four years of prowling around in bat colonies in Canada, I continued to test negative for "histo"; however, ten days in the Puerto Rican cave left me well exposed to the disease - but with no ill effects.

For bats in Canada, the publicity surrounding the suggestion that their droppings were contaminated by histoplasmosis spores produced another flurry of anti-bat hysteria. The available data suggest that in Canada fear of bats fueled by concern about histoplasmosis is as groundless as one based on the myth that bats are carriers of rabies.

Not everyone likes bats and some people will go to great lengths to evict bats from their homes. For anyone who has unwanted bats in residence, the only practical way of evicting them is by finding out how they get into the building and sealing them out. This procedure is simple - because bats do not chew their way into buildings - and it may be easy. The ease depends upon the age and state of repair of the house. The important point is that bat-proofing is the only effective solution and neither chemicals nor electronic repellents will work.

Bats are part of our natural heritage but because they are neither large and spectacular nor considered economically important, they have few champions. Yet insectivorous bats may consume up to 50% of their body mass in insects every night in the summer, making them potentially important in the biological control of some pests. It is obvious that not everyone will appreciate the value of bats, but if more people realized that bats posed them no threat, peaceful coexistence would be easier.

M. Brock Fenton
Department of Biology
York University

□

SAP'S RUNNING!!!

1988 - Humber Marsh

February 12 - Squirrel chewed openings in maple tree just down the hill, and all the squirrels enjoyed.

February 19 - Two cardinals sipping sap.

February 25 - Eight black-capped chickadees at the sap, also an American goldfinch!

Helen Smith

MARMOT METEOROLOGY OR GROUNDHOG GUESSWORK?

Every year at this time, there is a renewed interest in that beloved marmot: the groundhog. It is believed that each February 2, Candlemas Day, our furry friend leaves its burrow in search of the sun. If it is a cloudy day then the groundhog knows that spring is just around the corner. However, if it sees its shadow in the early February sun, then the groundhog returns to its burrow because six more weeks of winter are still ahead.

The light-hearted reverence for our friend the groundhog stems from two ancient traditions. The first was the belief that the weather on religious feast days governed conditions on subsequent days. Second, animals have long been viewed as weather soothsayers. The thickness of "fur" on caterpillars' legs and the washing habits of cats are among the animal signs that have been put forward as indicators of future weather.

Candlemas Day, February 2, falls forty days after Christmas. It commemorates the presentation of Jesus of Nazareth in the temple in Jerusalem and Simeon's reference to Jesus as "the Light of the world". It is fitting that many of the observances connected to this day pertain to light and candles. Candlemas has been a significant Christian feast day since the fourth century.

In the middle ages, it became a common belief that the weather on certain Christian feast days set the tone for the conditions of the days and months that followed. A traditional English rhyme about this day goes like this:

If Candlemas be fair and bright
 Winter'll have another flight
 But if Candlemas be clouds and rain
 Winter is gone and will not come again.

The first use of an animal weather prophet in connection with Candlemas occurred in Germany over 300 years ago. The German country-folk modified the feast day's tradition by using the badger or the hedgehog to watch for the Candlemas sun.

The prowess of the hedgehog and badger in foretelling weather has been preserved in ditties from across Europe. This tradition was likely first brought to North America by German or English settlers in the late eighteenth century. German settlers in Pennsylvania encountered few badgers and no hedgehogs so the mystical powers of prognostication were transferred to the groundhog.

Many people swear by the forecasting ability of these marmots. The most ardent groundhog groupies hail from Punxsutawney, Pennsylvania, where the annual vigil began in 1887. The festivities include an early morning trek to "the" burrow and a Groundhog Day banquet. The most famous seer in Southern Ontario is the Bruce Peninsula's own Warton Willie.

So how good are the groundhog's forecasts anyway I hear you ask. First of all, we must remember that this, and many other weather sayings that we use, originated in Europe where the climate is considerably different from our own. After all, when was the last winter you remember that ended in early February? So, for practical reasons, we must modify the



GROUNDHOG DAY (cont'd)

groundhog legend so that a cloudy February 2 indicates an earlier than normal spring.

I examined weather records for the City of Toronto for the past ten years to see how the groundhog has been doing. For six of these years February 2 was cloudy. Of these, two had early springs while four did not. Further, of the four Candlemas days with appreciable sunshine, two were followed by long winters, but in the other two, spring weather came early. Thus the local groundhog scored 4 out of 10 -- pretty well the same results you expect from a game of chance. Our misguided marmot may need a refresher course.

David Broadhurst

P.S. February Climate Normals for the City of Toronto:

Average Maximum: -0.3°C ; Average Minimum: -7.0°C ; Average Monthly Snowfall: 34 cm

□



On shadowed building
bright window reflections show
sunshine reversed.

haiku by Aarne Juhola

ANALYSIS OF WILDLIFE ADMISSIONS INTO A VETERINARY HOSPITAL

...Cat attacks accounted for almost $\frac{1}{2}$ of all wildlife admissions. Educating the cats' owners can help decrease this. Cats which are known for hunting can have double bells hung from their collars (a single bell is less effective to warn birds). If there is a nest box or a nest in a tree, metal or plastic cones below it will prevent cats (and raccoons) from climbing up to the nest.

... Flying into windows is another frequent cause of injury. Prevention can be achieved with the use of a hawk or falcon silhouette in windows that are a problem, and by keeping bird feeders, especially hummingbird feeders, away from windows.

...Dog attacks on wildlife are less frequent than cat attacks, dogs being less adept at solitary hunting. Mammals such as raccoons and rabbits are more commonly injured than are birds.

Screech owls, starlings and pigeons are the species that fall down chimneys most commonly.

Gulls, crows and raptors are most likely to be brought in with electrical burns from power lines.

...With man's encroachment on nature, a clash with wildlife is inevitable. Intentional human-induced injury is a frequent occurrence. Pellet gun injuries often involve songbirds, crows and gulls. Many injuries involve severe tissue damage, and are of a considerable duration before presentation. Euthanasia is common. Proper supervision and education of children ...is essential.

Raptors seem to be common targets for shootings because they are large impressive targets.

...Poisoning is often seen from intentional control of crows and pigeons, or secondarily, such as lead shot poisoning in waterfowl.

...With the majority of wildlife admissions being directly or indirectly caused by man, veterinarians and wildlife rehabilitators are constantly trying to correct injustices against wildlife. Public education, law enforcement, and identifying problem areas help to decrease the numbers of cases presented.

extracted from an article [title above] by Ken Langelier as reprinted in The Victoria Naturalist, Vol. 45.3, Nov./Dec. 1988 and originally published in the British Columbia Medical Association Wildlife Veterinary Report, Vol. 1, No. 1, Spring 1988

□

Help Wanted!

The Ontario Humane Society have been operating temporary facilities in Newmarket for injured or orphaned wildlife and are hoping to have new facilities by the spring of 1989. Those who feel they can play a role in caring for wildlife temporarily should contact Christine Mason, phone 364-3420 or Newmarket 898-7122.

IN THE NEWS

CO-OP TENANTS HOLD "WEED-IN" AS ALTERNATIVE TO HERBICIDES

Tenants of a housing co-operative joined forces recently in what they called a "weed-in" to avert a plan to spray herbicides on their communal lawn. About 30 people spent the afternoon on their knees pulling out weeds and clover plants as an alternative to the spraying the Greater Vancouver Housing Corp. had planned. If the corporation is satisfied with the results, there will be no spraying. Corporation spokesman Mike Walker had said dangerous chemicals would not be used in the spraying, which the city says protects people from bees attracted to the clover. But many of the residents were leery. The fact people are warned to stay off the lawn for 48 hours after spraying is an admission of potential danger, they said.

from the TORONTO STAR, Aug. 12, 1988

U.S. SCIENTISTS LEFT BUG-EYED BY QUEBEC FIND

A little bug-eyed fossil found in Quebec has been identified as the oldest known insect and provides strong evidence that the transition of animal life from sea to land probably occurred earlier than had been thought, scientists said yesterday. The well-preserved specimen, which lived more than 390 million years ago, was discovered in a chunk of mudstone on the north shore of Baie de Gaspé. It was described as a bristletail, a member of the most primitive order of insects and a distant relative of the silverfish. Because of its similarity with some modern bugs, the scientists said, the discovery--reported in yesterday's issue of the journal SCIENCE--suggested that insects already had undergone considerable evolution over millions of years before this creature lived. If so, it would mean that the emergence of tiny insects and related animals on land occurred in an earlier geologic age and at almost the same time as the appearance of the first land plants.

from the GLOBE AND MAIL, Nov. 12, 1988

NO CHARGES TO BE LAID IN PARK'S USE OF TRAPS

The Ontario Ministry of Natural Resources has decided not to lay charges in connection with the use of illegal pole traps in the Kortright Waterfowl Park near Guelph. But the ministry will proceed with an earlier charge of trapping without a licence while it continues to monitor the trapping of birds of prey at the waterfowl sanctuary...No charges of pole trapping have ever been laid in Ontario, even though a regulation was enacted in 1982 outlawing the practice....The Federation of Ontario Naturalists has been trying since the spring to get the traps removed from the Kortright Waterfowl Park. The park says it must use the traps to protect its large collection of waterfowl from predators, primarily great horned owls... Pole traps, used to trap birds of prey such as owls, hawks and eagles, are steel leg-hold traps set on top of pole three to four metres tall. They are illegal if set, as they were last week, so that birds are suspended in the air after being caught. The traps at the Kortright Waterfowl Park have since been modified to slide down the pole after a bird is caught in the jaws.

▷

IN THE NEWS (cont'd)

adapted from an article by Craig McInnes in the GLOBE AND MAIL, Dec. 16/88

Comment: Members outraged by this news are encouraged to make their views known to the Honourable David Peterson, Premier, Province of Ontario, Queen's Park, Toronto M7A 1C2 and the Honourable Vincent Kerrio, Minister of Natural Resources, Room 6323, Whitney Building, Toronto M7A 1W3.

SCIENTIFIC THEORIES RATTLED BY QUAKE IN QUEBEC'S "SEISMICALLY DEAD" ZONE

The earthquake in Quebec's Chicoutimi region on Friday is causing intellectual aftershocks among scientists who study such events. The Quebec quake, which registered 6.2 on the Richter scale, improbably occurred in what [has been called] a "seismically dead zone". While there had been a number of large earthquakes reported as early as the 1600s by European settlers in the area of the St. Lawrence River basin, 150 kilometres away, the Chicoutimi quake at first appeared unconnected with them...Some scientists suggest that the quake, whose centre was 35 kilometres south of Chicoutimi, may be connected to what is known as the "post-glacial rebound".

adapted from an article by Stephen Strauss in the GLOBE AND MAIL, Nov. 29/88

WHY TREMOR TRAVELLED SO FAR

The large earthquake near Chicoutimi, Quebec, last week illustrated how east and west do not meet where ground tremors are concerned. The quake, which was felt from Sault St. Marie to Nova Scotia and as far south as Washington, D.C., produced about 100 kilotonnes of energy--about five times the amount released when an atomic bomb was dropped on Nagasaki during the Second World War. An equivalent quake would have been felt over a much smaller distance if it had taken place on the West Coast. There are two reasons. First, Earth's crust in Eastern North America is relatively homogeneous and easily transmits the various waves produced by the violent shaking. West Coast geology is a patchwork. It includes not just numerous mountain chains but also various bits of continent that have drifted either across the Pacific or up the coast. This jumbled geography tends to break up the waves. Secondly, the upper mantle of Earth is hotter on the West Coast than on the East Coast, and this too gives it a tendency to absorb the quake's waves rather than passing them on.

adapted from the GLOBE AND MAIL, Dec. 3, 1988

GROUP DRIVES STEEL SPIKES IN TREES IN MOVE TO STOP LOGGING OPERATION

A group called Earth First, Ontario, has driven spikes 10 to 15 centimetres long into trees in the Thornton Bales Conservation Area in King Township, hoping to make it too dangerous to cut them down...In a move opposed by naturalist groups, the Lake Simcoe Region Conservation Authority has hired a contractor to cut trees this fall and winter to improve the health of the forest. The Federation of Ontario Naturalists opposes the logging, but a spokesman said that the group neither condoned nor had any involvement with the spiking of the trees.

adapted from an article by Craig McInnes in the GLOBE AND MAIL, Dec. 7/88

IN THE NEWS (cont'd)

WHALE BONE FOUND AT TTC CONSTRUCTION SITE IS LESS THAN 600 YEARS OLD

According to the University of Toronto Isotrace Laboratory's radiocarbon analysis, the whale vertebra found April 18, 1988 near Queen's Quay and Bay Streets by a back hoe operator working on a TTC construction site is definitely less than 600 years old.

Because of variable factors which affect the carbon dating process, tests never result in one specific date. Carbon levels in the atmosphere and in bodies of water vary from year to year and from region to region. Therefore, the date received from the analysis needs to be adjusted, both to reflect the variable amount of carbon in the atmosphere that the animal breathed, and to reflect this same variable in the aquatic environment in which the animal lived.

Since it is not known what species of whale this vertebra belonged to, ROM scientists have no way of telling which ocean the animal came from. Since levels of carbon differ from ocean to ocean, the lab has offered two possibilities. If the whale lived in the Arctic Ocean, the bone would date from 1828 AD (plus or minus 125 years). If the animal lived in the Atlantic, the bone would date from 1531 AD (plus or minus 120 years).

Sediment samples from the layer in which the bone was supposedly found show a low level of ragweed pollen. Ragweed is an excellent indicator of settlement in an area, since its levels greatly increase once the natural environment of an area is disrupted by man. In the Toronto area, sediment samples show us that the increase in ragweed pollen occurred about 1850. The lack of ragweed in the sediment samples from the Queen's Quay site suggests that the layer containing the bone was older than 1850. This discovery is consistent with the results of the carbon dating.

The whale bone, then, was most likely introduced to the sediment before 1850. This would suggest that it did not come from Piper's Zoo, which was located on the present site of the Royal York Hotel in the early 1880s. The bone could have come from a whale caught by whalers either in the Canadian Arctic or Atlantic, and was most likely brought to the Toronto area as a single bone rather than as part of an entire whale.

For more information contact: Jocelyn Wiley, Assistant Publicist, ROM, at 586-5565. [ROM press release]

GALLERY OF BIRDS

The Canadian National Sportsmen's Show is donating \$1-million to the Royal Ontario Museum for a gallery on birds. The gallery will display more than 600 specimens. A first stage is scheduled to open next year and a second stage in 1990. The donation, payable over 10 years, is the fifth \$1-million gift pledged during the museum's campaign for new galleries.

from the GLOBE AND MAIL, April 16, 1988

COMMON LOON RECOMMENDED AS PROVINCIAL BIRD

The common loon was the overwhelming choice of children who entered a contest to recommend a provincial bird for Ontario. More than 1000 entries out of a total of 5,195 suggested the loon. The next most popular choices were the American robin, the Canada goose, the mallard, the ruby-throated hummingbird, and the great blue heron.

from the CITY DWELLER, Sept. 1988, Vol 21, No. 9

□

MOON WORLD

In late October I took a short camping/canoeing trip on Lake Temagami. We unfortunately picked a week when the temperature plummeted.

On one of the nights I was driven, against all determination and for a reason I shall not enlarge upon, to leave the tent. We had chosen from the thousands of islands dotting the lake a small, age-smoothed mound of conifered rock, one of the countless articulations of Earth's lovely bones emerging from her mantle of water. When, upon turning in, we had regretfully viewed the last of our campfire, the sky had been the colour of smoky pearl, the land deep in shadow, the lake impenetrable.

As I clambered forth in the early hours, however, it was to a translucent moonscape of grey mist, with only the black silhouettes of the trees limning our island's contours. Without them it was easy to imagine this ghost world stretching to infinity, and a sleep walker might easily have drifted off the edge of our little kingdom straight into the depths lurking beneath those endless piles of doves' feathers. The fall of dew was almost audible. The moon travelled in a silvered arc of her own glory. In the distance loons called, not in their Mad Hatter role, but with that sad, lonely keening which is the true voice of the North.

I stood for long minutes bone chilled, damp underfoot, and utterly transfixed by a vision I had not even imagined. Grateful as I was to be able to burrow back into the cocoon of my sleeping bag, I remained more than grateful for this unexpected benediction. Recall of the rain and cold of the journey will fade, but memory of that numinous world will remain moon-bright.

Eva Davis

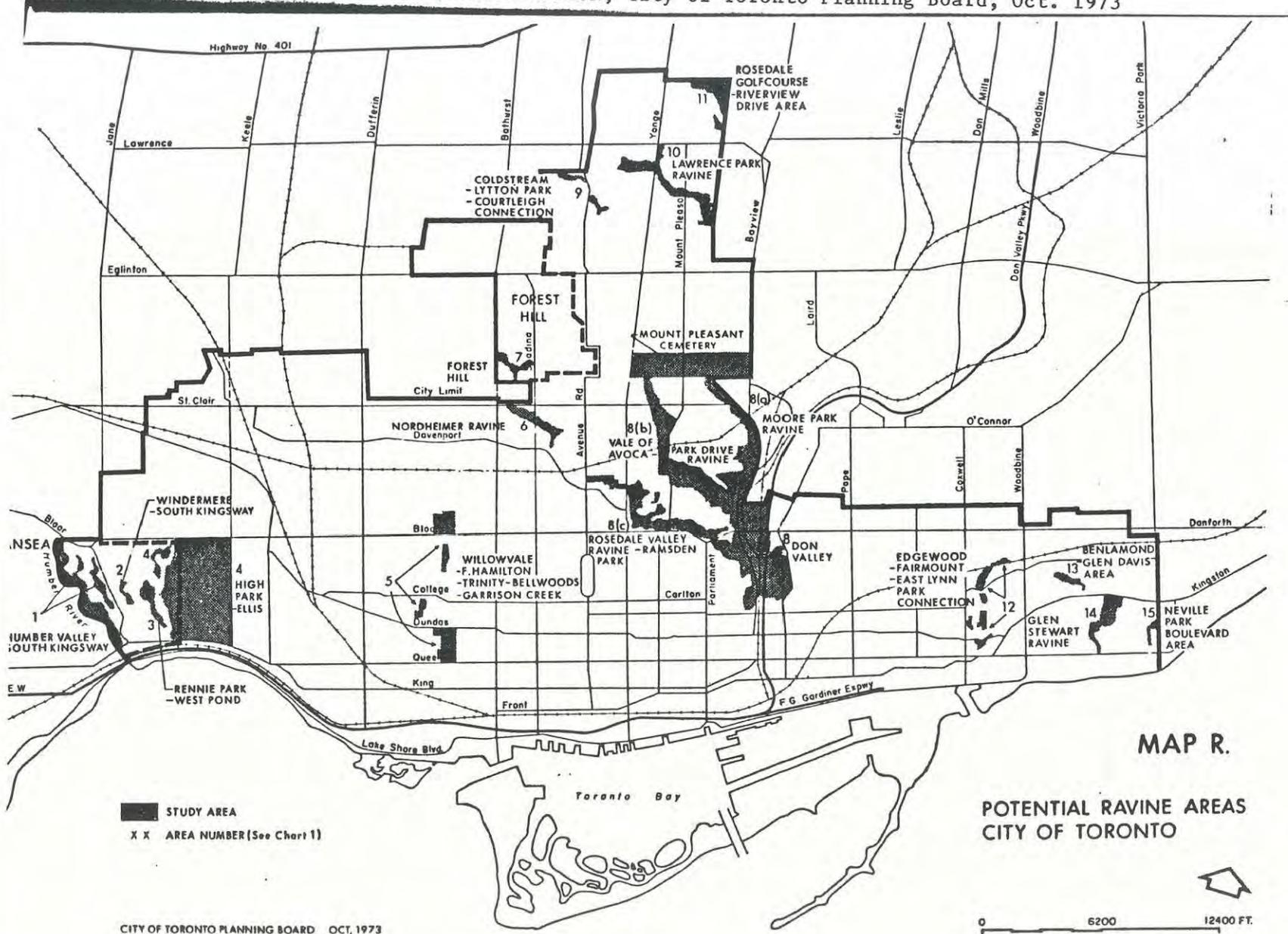
□

HUNTERS' ORGANIZATION SELLS NATURE SANCTUARY

The National Wildlife Federation has sold 300 acres of the 357-acre Claude Moore Conservation Education Center which was given to them by Claude Moore, now 97, with a promise to keep it as a sanctuary. It is comprised of ponds, cattail marsh, meadows and woods, in Virginia. The sale, which is still being contested by Claude Moore, was made to developers for houses and apartments. The Municipality where it is located is also trying to block it - they want to buy it to save it. The Canadian counterpart of this organization of hunters and anglers is the Canadian Wildlife Federation who have distributed and advertised their wildlife stamps and popular natural history magazines. (The latter should not be confused with Canadian Wildlife Services a division of Environment Canada, nor with The Canadian Nature Federation, who publish the popular magazine NATURE CANADA.)

DB

ref.: The ANIMAL WELFARE INSTITUTE QUARTERLY V.37:1&2 '88



TORONTO'S RAVINE PLANS

The City of Toronto Department of Parks and Recreation is on the leading edge of ravine management. We have made a major initiative toward vegetation, water quality and wildlife habitat management in our ravine systems. This has major positive implications and benefits for the citizens of Toronto.

A comprehensive ravine inventory format was established in our initial steps towards ravine management. The ravine inventory has now been completed in all City of Toronto publicly-owned ravines as well as mixed publicly/privately-owned ravines. The ravine management strategy's components were adopted as follows: 1) the ravine inventory, 2) ravine working plans and 3) a ravine management plan (city-wide procedures and policies).

The second step in the ravine strategy, the Ravine Working Plans, is now in progress.

The ravine working plans are operational plans with recommendations for all ravine land. Recommendations are based on 1) tabulated results of ravine inventories, 2) past operational experiences within ravines, 3) input and ideas from managers, coordinators and supervisors, 4) economically and physically feasible solutions and 5) new technology that is available for plant regeneration and erosion control. All working plans are being produced one after the other to initially deal with the most immediate problems that exist. Working plans are written with consideration given to the amount of manpower available in each area and also stay within the Ravine Erosion Control Budget. All the plans city-wide are scheduled for written completion in 1989.

A technical Appendix has been produced to accompany the working plans. All required technical information for implementation of working plans has been included.

The Technical Appendix and seven working plans are completed to date. These working plans are for the following ravines: High Park, Vale of Avoca, Glen Stewart, Rosedale Valley, Park Drive, Kimbark-Coldstream and Chatsworth Ravine. In addition, a Regeneration Report was completed for Gainsborough Ravine.

All plans have been developed with valuable input from Directors, Managers, Coordinators and Supervisors in Parks, Forestry, and Design Development and Maintenance Sections of the Department. Ravine Working Plans and the Technical Appendix are now to be discussed and approved by the appropriate managers and coordinators in Parks and Forestry Sections. All design implications have been approved by the Design Section.

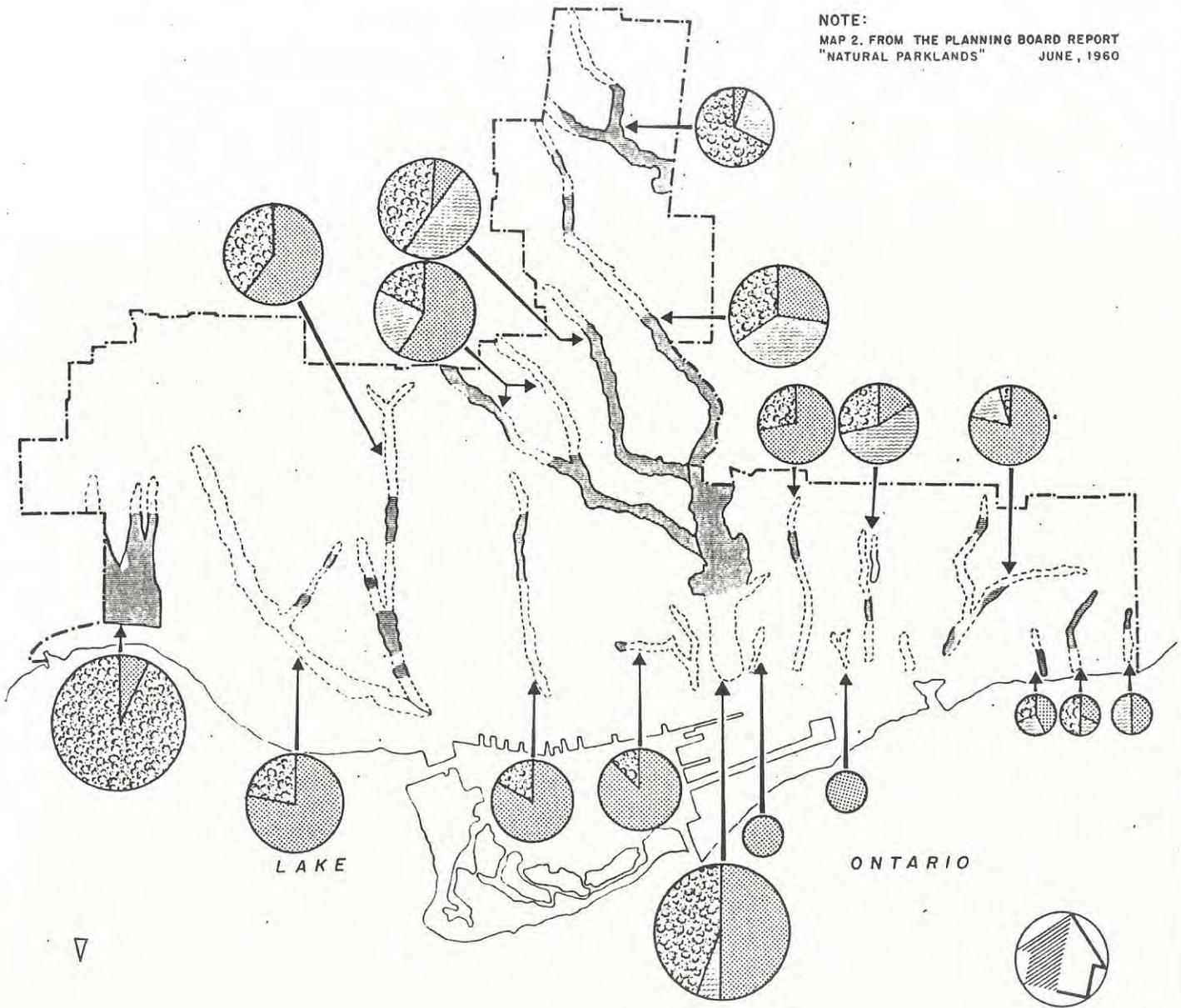
All working plans give a general description of the ravine, outline proposed forest management, summarize the proposed operations including an estimated cost analysis, contain computer reports, maps and appendix pertinent to specific management directives in the report. Working plans for ravines where only passive recreation is appropriate also include a section directed towards increasing public awareness of this benefit. These working plans have been forwarded to the Recreation Division for comment and approval.

The City of Toronto Department of Parks and Recreation is committed to



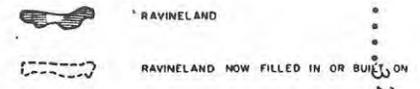
from REPORT ON RAVINES/CONSOLIDATION, City of Toronto Planning Board, Oct. 1973

NOTE:
 MAP 2. FROM THE PLANNING BOARD REPORT
 "NATURAL PARKLANDS" JUNE, 1960

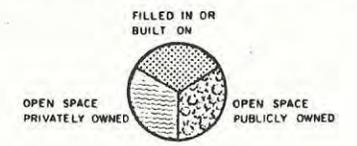


RAVINE LANDS IN THE CITY

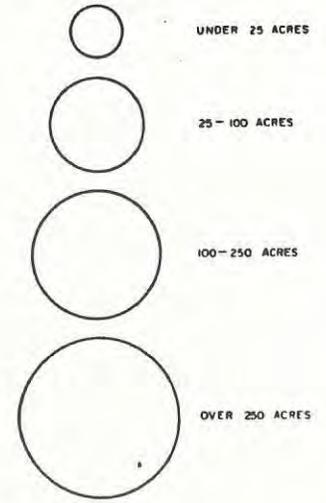
ORIGINAL AND EXISTING.



PROPORTION OF EACH RAVINE THAT IS



SIZE OF CIRCLE SHOWS NUMBER OF ACRES IN EACH RAVINE.



APPENDIX-A

CITY OF TORONTO PLANNING BOARD.

TPN 401.....32

TORONTO'S RAVINE PLANS (cont'd)

preserving and improving ravines through this ravine management strategy. Implementation of Ravine Working Plans will continue to direct improvements to the most immediate problems first and then follow with the preservation of valued vegetation and habitats.

Carol Walker Gayle (392-7251)
Dept. of Parks and Recreation, City of Toronto

□

● RAVINE SLIDE-SHOW ●

The City of Toronto has prepared an audio-visual presentation for public showing describing the ravines of Toronto and the City's efforts to preserve them in their natural state. The nine-minute presentation consists of 100 slides and is accompanied by a commentary outlining the history of the ravines of Toronto and their significance to the Toronto scene. The slide show is available free of charge to any organization or individual interested in the preservation of ravine areas. The presentation can be obtained from the Planning and Development Department, 20th floor, East Tower, City Hall, or by phoning me.

Mr. Sade Sané (392-7187)
Planning & Development Dept., City of Toronto

□

HERE'S TO RECYCLING

Amid the environmental posters,
leaflets,
recycling bins,
we stand,
drinking of the fruit of the vine.

No clink is heard.
What's this?
In terms, a contradiction,
there must be another word
for plastic "glasses"!

And so we say,
"Cheers! This stuff has got to go!"
"I'll drink to that -
and I don't mean the wine!"

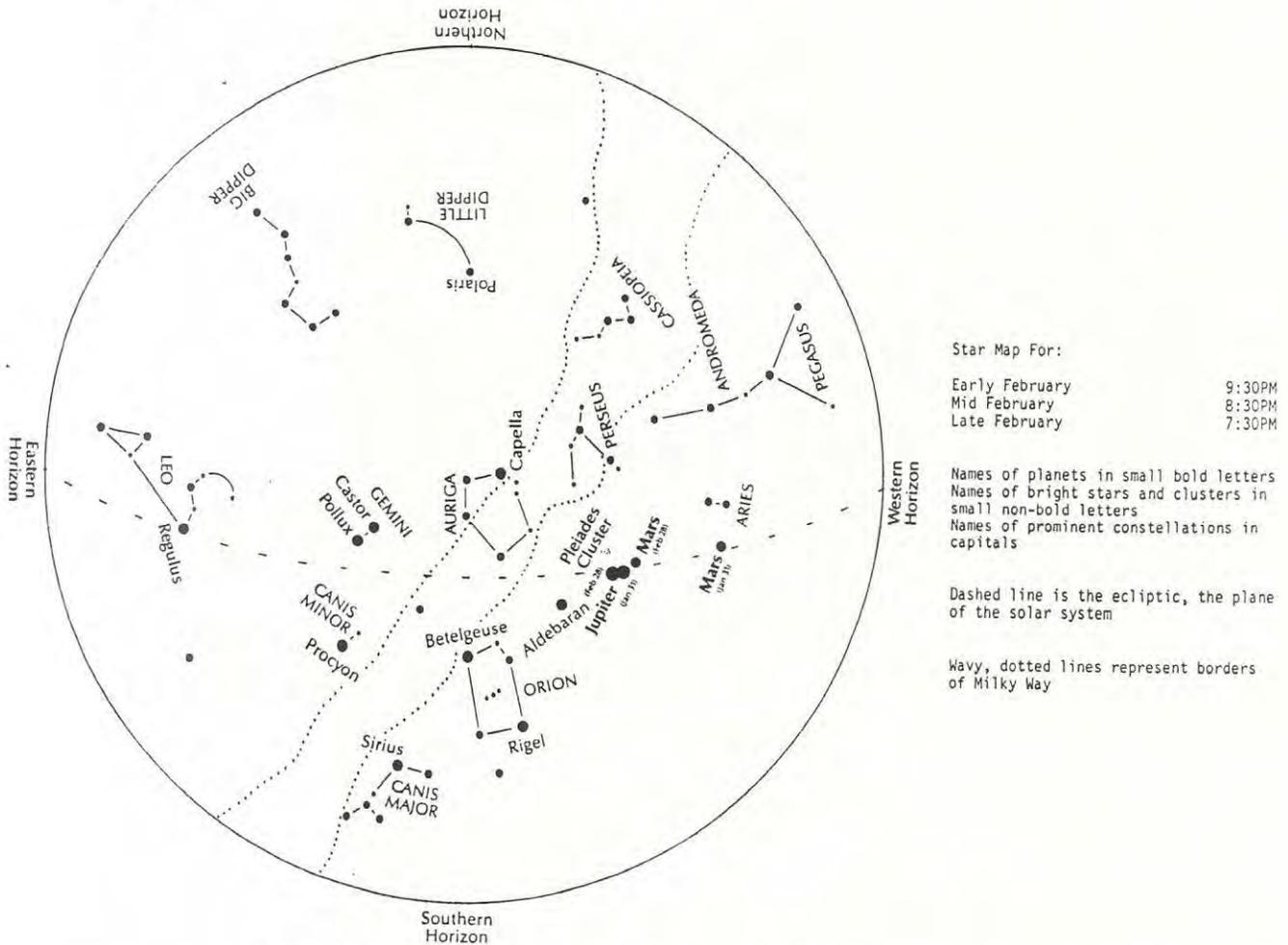
Diana Banville
Mayor's Levee, East York
January 1, 1989

Epilogue

Next year,
glass glasses please!

Sky Notes

The Evening Sky - February, 1989



Watch Jupiter, Mars and the moon, the three members of the solar system visible to the naked eye this month. Some highlights:

- Jupiter continues to outshine every star-like object in the sky.
- Mars is much dimmer, about as bright (and about the same orange color) as Aldebaran, the sixth brightest star shown on the map.
- Jupiter moves about 2° , Mars about 17° eastward along the ecliptic; thus (see map) Mars closes in on Jupiter.
- The lunar phases, ie. new, 1st quarter, full and last quarter, occur, respectively, on the 6th, 12th, 20th and 28th; a near record-thin young moon occurs on the 6th.
- The moon appears near Jupiter on the 12th.

Jeff Nadir

Help Wanted!

Seasonal positions in visitor services at Algonquin Provincial Park are open. A Park Naturalist and a Museum Technician are needed. Direct your interest to Park Naturalist, Ministry of Natural Resources, Box 219, Whitney, Ont. K0J 2M0 (1-705-633-5592).

Long Point Bird Observatory needs an operation/migration project manager. Write to LPBO, Box 160, Port Rowan, Ont. N0E 1M0 or call 1-519-586-2090.

The weather this time last year

February, 1988, Toronto

Winter arrived at last. Monthly temperatures averaged just slightly below normal, but were the lowest for the month since 1982 and snowfalls were the highest in several years at least. Toronto City had the most snowfall for February since 1962; most of it fell from Feb. 3 to 11 when some snow fell every day during a cold snap. On Feb. 12 to 13, we received 21 cm of snow accompanied by strong easterly winds. This was our first real snowfall for the year and caused school closings in rural areas.

The latter part of February was drier and changeable with a temperature range from near -20°C to near 10°C (on Feb. 21 to 22).

Gavin Miller

□

Several forms of European "Dutch" and "little-leaf" lindens are planted in Toronto. They are often called "lime-trees", and the flowers of this one had a definite "lemon-y" fragrance.

Our native tree of this family naturally growing in Toronto is the basswood, with typically large leaves, asymmetrical at the base.

Note the inflorescence hanging on a leaf-like bract.

Ref.: Fernald -

GRAY'S MANUAL OF
BOTANY - 8th Edition



LINDEN TREE
KENNEDY RD
ST CLAIR
MARY CUMMINS
JULY 8 1988

COMING EVENTS

COMING EVENTS

- Sunday, January 15 at 3 pm - Royal Canadian Institute Lecture (RCI)
Funny Fluids: The Peculiar Flow Behaviour of Complex Liquids at the
Medical Sciences Auditorium (northwest of College and University).
Call 928-2096 for details.
- Sunday, January 22 at 3 pm - The Search for our Biological Heritage.
(an RCI lecture, see above)
- Tuesday, Jan. 24, 5 to 10 pm - Scarborough Recreation and Parks Dept.
Open House to show plans for Centennial Park (Swamp) at Tallpines
Neighbourhood Centre, 65 Rylander Blvd. Call 396-7389.
- Saturday, January 28 at 12 noon to 4:30 pm - Wildflower garden design
workshop at the Civic Garden Centre sponsored by the Wildflower
Society. \$5.00 fee.
- Sunday, January 29 at 1:30 pm - Toronto Ornithological Club Bird Walk
(winter gulls, etc.). Meet in the parking lot at the foot of
Windemere Ave. Alvara Jaramillo will lead walk from Sunnyside to
Humber Bay.
- Sunday, January 29 at 3 pm - RCI lecture: Echo-location in Moths and Bats
(see Jan. 15 notice)
- Tuesday, January 31 at 7:30 pm - Save the Rouge Valley System Annual
General Meeting at the Scarborough Civic Centre to discuss their
Natural Heritage Park Proposal.
- Sunday, February 5 at 3 pm - RCI lecture: Fusion energy (see Jan. 15.)
- Sunday, February 5, 12, 26 at 1:30 pm - Owl Prowl at Humber Arboretum.
Call 675-5009 for details.
- Sunday, February 12 at 3 pm - RCI lecture: The Silver Dart (see Jan. 15).
- Saturday, February 18 at 9 am - TOC bird walk (winter birding). Meet
at Pickering Go station to form a car pool to drive from Ajax to
Whitby with Brian Henshaw as leader. Bring lunch.
- ▷ Sunday, February 19 at 3 pm - RCI lecture (joint meeting with TFN)
Plant Defences Against Disease. See Jan. 15.
- Sunday, February 19 at 1:30 pm - A Better Place to Live (all about
birdhouses) at the Humber Arboretum. Call 675-5009.
- Monday, February 20 at 8 pm: Toronto Mycological Society meeting at
the Civic Garden Centre (topic will be Algonquin Park: Plants,
Mushrooms and Habitats). Call HI FUNGI.
- ▷

COMING EVENTS (cont'd)

Monday, February 20 at 7 pm to 10 pm - Mineral Exploration Classes in the Ontario Room of the Macdonald Block, 900 Bay Street. Lectures are free and take place each evening from Feb. 20 to Feb. 24. Call 965-0190 for details.

Saturday, February 25 at 1 pm at the McLaughlin Planetarium - Toronto Entomologists' Association meeting.

Sunday, February 26 at 1:30 pm - a nature walk in the Rouge River Valley led by Glen De Boeremaeker for the SRVS. Call 288-8730 or 1-432-1346 for details.

Sunday, February 26 at 3 pm - RCI lecture: Science, literacy and the media. (See Jan. 15 notice.)

□

Nature Holidays

A good way to spend your holiday and learn some natural history is to take a nature tour or attend a nature conference. To help plan your holiday, you might like to send for brochures from the following:

Rosemary Gaymer, Field Naturalist, P.O. Box 152, Oakville, Ont. L6J 4Z5
(416)844-8332.

Clive and Joy Goodwin Enterprises, Ltd., 45 LaRose Ave., Apt. 103,
Weston, Ont. M9P 1A8 or call 249-9503.

Nature Travel Service operated by Gus Yaki, 127A Princess St.,
Kingston, Ont. K7L 1A8 (call 613-546-3065).

Federation of Ontario Naturalists Membership Trip Program, P.O. Box 1647,
Port Elgin, Ont. N0H 2C0 or call 519-832-5928.

Canadian Nature Tours, c/o FON, 355 Lesmill Rd., Don Mills, Ont. M3B 2W8
or call 444-8419.

Federation of Ontario Naturalists Annual General Meeting and Conference to be held in Kingston, Ont. from May 26 to May 28. Contact FON, 355 Lesmill Rd., Don Mills, Ont. M3B 2W8 or call 444-8419.

Canadian Nature Federation Annual General Meeting and Conference to be held on Prince Edward Island, June 11-14.
Contact the CNF, 453 Sussex Dr., Ottawa, Ont. K1N 9Z9 or call 1-800-267-4088.

Sierra Club's Third International Assembly on Conservation and the Environment - Action for Global Environment, July 6 to 9 at Ann Arbor, Michigan. For details, write to 19827 West Twelve Mile Rd., Suite 344, Southfield, Mich., 48076, U.S.A. or call 313-645-5131 or 313-646-5317.

□



SINCE 1923

TORONTO FIELD NATURALISTS

20 College St., Suite 4
Toronto, Ontario M5G 1K2

SECOND CLASS MAIL
Registration Number
6669

Mr. and Mrs. A. O. Juhola
51 Alexander Street Apt. 112
Toronto, Ontario
M4Y 1B3

TORONTO FIELD NATURALIST

published eight times a year by the Toronto Field Naturalists, a charitable, non-profit organization, the aims of which are to stimulate public interest in natural history and to encourage the preservation of our natural heritage

OTHER PUBLICATIONS

<p>TORONTO FIELD NATURALISTS' CLUB: ITS HISTORY AND CONSTITUTION, 1965\$.50</p> <p>CHECKLIST OF PLANTS IN FOUR TORONTO PARKS: WILKET CREEK, HIGH PARK, HUMBER VALLEY, LAMBTON WOODS, 197250</p> <p>TORONTO THE GREEN, 1976 Metropolitan Toronto's important natural areas are described and recommendations given for their conservation and management; includes maps, bibliography and index 2.50</p> <p>FIELD CHECKLIST OF PLANTS OF SOUTHERN ONTARIO, 1977 5/\$1.00 or25ea.</p> <p>TORONTO FIELD NATURALISTS' RAVINE SURVEYS 2.00ea. Survey #1 - Chatsworth Ravine, 1973 Survey #2 - Brookbanks Ravine, 1974 Survey #3 - Chapman Valley Ravine, 1975 Survey #4 - Wigmore Ravine, 1975 Survey #5 - Park Drive Ravine, 1976 Survey #6 - Burke Ravine, 1976 Survey #7 - Taylor Creek-Woodbine Bridge Ravines, 1977 Survey #8 - West Don Valley, 1978</p> <p>INDEX OF TFN NEWSLETTERS (1938-1978) 10.00</p>	<p>ANNUAL TFN INDEX25ea.</p> <p>AMPHIBIANS AND REPTILES OF METRO TORONTO, 1983 2.00</p> <p>TORONTO REGION BIRD CHART, 1983 2.00</p> <p>A GRAPHIC GUIDE TO ONTARIO MOSSES, 1985 .. 2.00</p> <p>TORONTO REGION VERTEBRATE LIST (fishes, amphibians, reptiles, mammals), 1985 .. .5/\$1.00 or25ea.</p> <p>TORONTO REGION BIRD LIST, 1985 .. .5/\$1.00 or25ea.</p> <p>GUIDE TO THE TORONTO FIELD NATURALISTS' NATURE RESERVE, LEASKDALE, ONT., 1986 2.00</p> <p>TORONTO ISLANDS: PLANT COMMUNITIES AND NOTEWORTHY SPECIES, 1987 2.00</p> <p>TODMORDEN MILLS, 1987 2.00</p> <p>All publications are available at the monthly general meetings or may be ordered from Toronto Field Naturalists, 20 College St., Suite 4, Toronto, Ontario M5G 1K2. (Add \$1.00 per item for postage and handling.)</p>
--	---

MEMBERSHIP FEES

\$20 FAMILY (2 adults - same address, children included)

\$15 SINGLE; SENIOR FAMILY

\$10 STUDENT; SINGLE SENIOR

Tax receipts issued for donations

Membership fees and address changes should be sent to:-

20 College St., Suite 4, Toronto, Ontario M5G 1K2