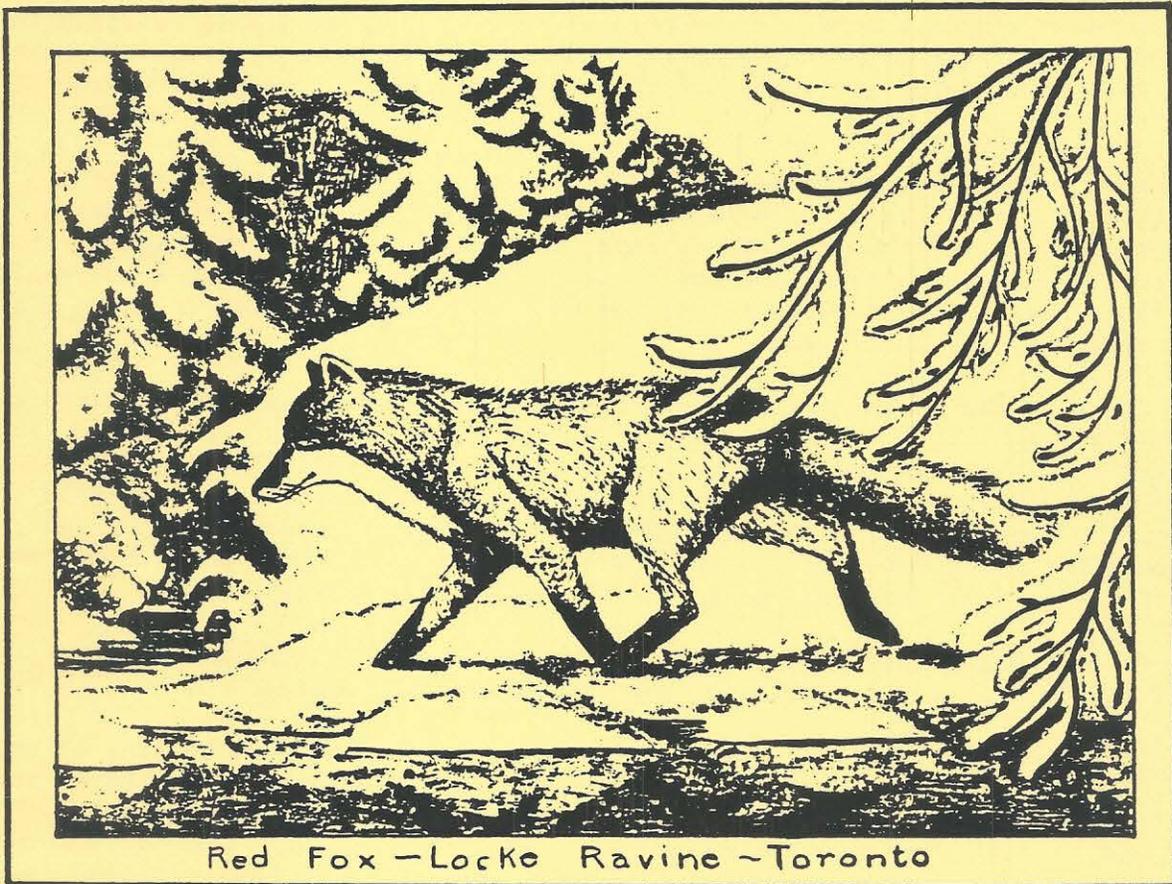


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# TORONTO FIELD NATURALIST

Number 369, February 1985



Red Fox - Locke Ravine - Toronto

See page 34. Also page 33.

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## President's Report

We are now into the New Year with its opportunities and challenges. We have the opportunity to participate in interesting and worthwhile programmes whether these be at the General Meeting or at the special interest groups. We have the opportunity to tell residents of the Metro area about ourselves and our activities and to encourage them to join us. We also have the opportunity to work for sound environmental and ecological policies through the various levels of Metropolitan government.

It is these opportunities that present the challenges. To maintain our membership we must continue having programmes which encourage people to remain with us and we must work to gain new members to replace those who are lost through what is a normal drop-out, for most organizations, of a certain percentage of members.

We need a more vital programme of public relations. We have a number of committed and reliable volunteers who are now doing their share - the Board members, helpers at the General Meetings, group leaders, outings leaders, those who come each year to the cabin and those who say "yes" when asked to do small additional tasks. We could not function without them and I wish to again thank them sincerely for their help.

Perhaps we should again have displays at the Sportsmen's Show and the Exhibition. We need a more active schedule for our "Gingerbread" display. (see page 4.) We need to distribute our membership forms more widely throughout Metro. There are also requests from organizations for presentations which we could respond to more effectively if we had help. I would challenge those of you who have not yet volunteered to ask yourself if you could give a few hours to the TFN. The more of us who work, the less each of us needs to do.

One of our ongoing challenges is attempting to persuade Metro governments to re-examine their priorities in land use and development.

Now, something nice! We have been specially invited to a joint meeting of the Royal Canadian Institute and the TFN, with our Executive joining theirs at the front of the auditorium. Plan to come. Look in the box below for details.

By a vote of the members, the General Monthly meetings will begin at 8:00 o'clock. Come for coffee at 7:15. Details on page 37. See you there.

Jean Macdonald (425-6596)

A Special Invitation to a Joint Meeting of the  
ROYAL CANADIAN INSTITUTE and TORONTO FIELD NATURALISTS

Speaker: Charles Sauriol, Special Advisor and Former Executive Director,  
Nature Conservancy of Canada

Topic: Trail of a Naturalist-Conservationist. (With coloured slides)

Sunday, February 10, 1985, 3:00 p.m.  
Medical Sciences Auditorium, University of Toronto



For those of us not spending a few weeks down south the best that can be hoped for is a mid-winter thaw -- a little taste of spring at an otherwise cold and bleak time of year.

Thaw or not, it's a good time to get out and do some botanizing. With a little effort one can learn to identify deciduous trees as easily in winter as in summer. If you examine the twigs of deciduous trees you will notice scars left by the fallen leaves. A tiny bud will be visible just above each leaf scar. These buds, which contain leaves and flowers in miniature, are protected from the cold by scales. The leaf scars, bud shapes and colours are unique for each tree. Also helpful in identification is the tree's bark. American beech, black cherry, birch, hornbeam, hop-hornbeam and shagbark hickory have bark that is quite unmistakable.

One cannot do much walking in the winter-time without being aware of winter weeds. These are plants that remain standing throughout winter, their main function being that of seed dispersal. Many, except for the seeds at the tips of their stalks, are dead. Some, such as dock and cattail, have strong roots which are still alive; others such as spirea have living deciduous stalks. Identification is not difficult with the seeds, seed pods, flower heads and type of branching all supplying useful diagnostic hints. Field guides dealing with winter trees and weeds are available if you need some help. (See page 4)

With few exceptions, birdwatching in February is similar to that in January. Owls start to move near the end of the month, early March and late February being the best time to search for the rare boreal owl. You can also expect to see horned larks and crow flocks moving in. Remember to check the main winter birding habitats -- along the lakeshore, open country and coniferous woods. If you find yourself a little intimidated by the winter weather, find a cozy spot indoors and with your favourite field guide start reviewing the spring migrants -- they'll be here before you know it.

Phil Joiner

FOR TFN MEETINGS AND OTHER OUTINGS AND EVENTS OF INTEREST, SEE PAGES 35 to 37.

- Saturday JUNIOR CLUB OUTINGS  
 Feb. 2 Meeting always followed by outings. Everyone welcome.  
 10 am See page 37.
- Sunday BELTLINE RAILWAY - nature walk Toronto  
 Feb. 3 Leader: Joan Patterson  
 2 pm Meet at the southwest corner of Yonge and Davisville to walk north-west toward Eglinton Avenue West.
- Wednesday YORK CEMETERY GREENHOUSES - exotic plants North York  
 Feb. 6 Leader: Eileen Chopping  
 10:30 am Meet at the south-east corner of Yonge and Greenfield (just north of Sheppard).

For information about the skies at night in our area, call 978-5399.

○ FULL MOON (Feb. 5)

☾ DARK OF THE MOON (Feb. 19)

## UPCOMING OUTINGS (cont'd)

- Saturday ART GALLERY OF ONTARIO - Line Technique Study Toronto  
 Feb. 10 Leader: Mary Cumming  
 11 am Meet at the entrance to the art gallery on the south side of Dundas Street West (between McCaul and Beverley). Bring your own sketches. Lunch optional (at the Grange). Everyone welcome. \$3.50; \$1.50 seniors.
- Saturday IROQUOIS SHORELINE - heritage walk Toronto  
 Feb. 16 Leaders: Mary Smith and Helen Juhola  
 1:30 pm Meet in the Loblaw's parking lot on the north side of St. Clair Ave. West just east of Bathurst St.
- Sunday MORNINGSIDE PARK - nature walk Highland Creek, Scarborough  
 Feb. 17 Leaders: Phil and Gay Joiner  
 1:30 pm Meet at the park entrance on the west side of Morningside Avenue, about half way between Lawrence Ave. East and Ellesmere Rd.
- Wednesday ART GALLERY OF ONTARIO - Viewing Toronto  
 Feb. 20 Leader: Betty Romano  
 11 am Meet at the entrance to the art gallery on the south side of Dundas St. West (between McCaul and Beverley). Weather permitting we may study the trees in the neighbourhood of the gallery. \$3.50; \$1.50 seniors.
- Saturday HUMBER ARBORETUM - nature walk West Humber, Etobicoke  
 Feb. 23 Leaders: Phil Joiner and Art Coles  
 1 pm Meet at large bus shelter on street at entrance to Humber College (west of Highway 27 on Humber College Blvd.).

Recommended for winter nature study:

A GUIDE TO NATURE IN WINTER by Donald Stokes (Stokes series of nature guides).

To many, the term "Gingerbread" Display is bizarre and meaningless. It is simply our display panel, six feet high, in three parts. "Gingerbread" is the brand name. Two of the panels are of a felt-like material on which pictures or titles can be affixed with "Velcro" patches. The third panel has a counter and shelves for displays of booklets, etc.

The TFN is able to create a message in pictures and words which has, in the past, been displayed in libraries, exhibitions, at Eddie Bauer's on Bloor Street and at Kortright.

We feel this is an excellent way to reach the members of the public.



Our "Gingerbread" Display

# Keeping in touch . . .

Dear Helen,

Nov. 15, 1984

Thank you for including a reference in your November 1984 Toronto Field Naturalist to The Canadian Wildflower Society. At this point, with help from organizations like the Toronto Field Naturalists we have already signed on about 100 people as members. Of course, we are hoping to add substantially to our membership in the months ahead not only in this area but across Canada. I have been amazed at the strong feelings so many people have about our wild flora -- particularly in doing more to protect this beautiful natural heritage. I look forward to working closely with the Toronto Field Naturalists as we pursue our mutual objectives. We have decided to name our magazine "Wildflower". It will be published in January and I know it will be an interesting and informative issue.

James A. French

Dear Helen Juhola,

Nov. 25, 1984

Enclosed is a copy of my narrative entitled, "A Torontonion in Concord." This piece concerns my recent visit to the birthplace of Henry Thoreau [to attend the annual meeting of the Thoreau Society which has been held every July since 1941 in Concord]. The trip helped to further convince me of Thoreau's vital importance to the modern naturalist and conservation movement. His writings and life have so much to offer, and contain the roots of our present endeavours as naturalists. Yet finding anything by or about Thoreau (besides Walden) can be a difficult task in Toronto. I've also included a Bibliography [see pages 32-33] compiled from my efforts to locate sources of Thoreau material.

At a total of eleven pages, I realize this article goes beyond your limit of 1500 words for the newsletter. If, therefore, it cannot be included then you may want to retain it for the TFN library file -- if you think other members might be interested.

James Garratt

Ed. Note. Anyone wanting to read "A Torontonion in Concord" should call 690-1963.

Dear Diana:

November 27, 1984

On November 26 I was interested to notice that one of the many squirrels that chase around our bird feeders was predominantly grey, but with white ears - white on the outside! November 27 I read your article and was delighted to realize I had probably seen *S.c. leucotis*!...Best wishes

Mary Anne Miller

Dear Helen,

Dec. 11, 1984

Here are your copies of the next three Nature Notes. Thank you for your suggestions about the draft of the "year-end review". I think you'll be interested to know that the first Note for 1985 will be No. 255 in which I've mentioned the club. Back in 1975 the idea came to me to try CFRB with some 30-second "nature commercials" (public-service announcements). They were interesting and I did a few that year, also in 1976 and 1977. Picked up speed in 1978 and then over the next three years with John Bradshaw I produced a total of 91. Since I began sending them to Art Drysdale in the summer of '82, there have been 125. There 's a little bit of TFN history here.

Harold Taylor

## ENVIRONMENTAL GROUP REPORT

At the November meeting, Martin Rendl, Director of Planning for the Borough of East York, discussed the new draft of the official plan for the Borough with the use of maps illustrating density and land use.

The current official plan dates from 1960 and has become obsolete as a result of ravine development experienced during the 1960's. Problems of slopes and ravine erosion have brought about the need for an "urban valley" designation to give these areas protection for recreation and leisure use. Surveys of residents indicate the extensive usage and importance of the ravine system for these purposes. A "valley impact zone" has been added in the new plan to deal with effects on slopes of adverse usage of tableland properties. The draft plan recognizes the need to exercise more control over cutting of vegetation and regrading.

In the new draft plan there is an explicit policy for parks as passive, natural areas, and valleys as major recreation lands. Open space is emphasized.

East York Council will be holding a series of community meetings in January and February to seek public reaction to, and ideas on, the new draft official plan. (See below.) The TFN will be involved in offering input to the plan.

Melanie Milanich

### ATTENTION: EAST YORK MEMBERS OF TFN

The Borough of East York has just published a DRAFT OFFICIAL PLAN. Copies of a SUMMARY are available from the East York Planning Department. The complete draft plan is available for reference in all East York Libraries. As well, copies may be purchased from the Planning Department for \$5.00 each. For further information, contact Martin Rendl of the East York Planning Department at 461-9451. MEETINGS to obtain public response to the DRAFT are being held as follows:

G.A. Brown Jr. High School, 2800 St. Clair Ave. East: Thurs. Jan 17 at 7:30 pm

Secord Community Centre, 91 Barrington Ave.: Tues. Jan. 22 at 7:30 pm

Council Chambers, 550 Mortimer Ave.: Thurs. Jan 24 at 7:30 pm

East York Community Centre, 1081½ Pape Ave.: Tue. Jan. 29 at 7:30 pm

Thorncliffe Park Library, 48 Thorncliffe Park Dr.: Thurs. Jan. 31 at 7:30 pm

Bessborough Public School, 211 Bessborough Dr.: Tues. Feb. 5 at 7:30 pm

Also of interest to East York members is a study AN INVENTORY OF NATURAL RESOURCES OF EAST YORK (OUTSIDE PARKS). Copies of this may be obtained from Mary Smith. Call 231-5302 and she will bring you a copy at the next monthly meeting. (See page 20.)

### BOARD OF DIRECTORS NOMINATIONS INVITED

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:

Mary Smith, 49 Thorncrest Rd., Islington, Ontario M9A 1S6 (231-5302).

## NATURE SKETCHING GROUP Report

Saturday morning sketching outings hold a special charm for some people; 21 TFN members participated in the sixteen monthly outings arranged by Mary Cumming, the co-ordinator, between May 14, 1983, and September 8, 1984 - an average for each outing of seven sketchers and photographers. During the summer, Betty Paul volunteered to organize unscheduled monthly Wednesday morning outings by phone - the turnout was about the same as Saturday mornings. Four members led the outings, helping with organization and presenting ideas for making the best of the locale and subject matter. You can imagine the variety of subjects available at High Park, Metro Zoo, Riverdale Animal Farm, Jim Baillie Nature Reserve, Northwood Park, U. of T. Greenhouses, Allen Gardens, Harbourfront, Guild Inn Garden, Kew Beach and the TFN Nature Centre (the "Cabin" at Sunnybrook Park). In case of rain, locations with shelter were planned, but still with an opportunity to portray nature in the city. Structural subjects, however, were not shunned - since there is no escaping nature in all matter and laws of physics. Some outings were arranged with a view to inspiration - the McMichael Canadian Collection in Kleinburg (by bus), Yorkville "gallery hopping", and C.I.L. House with its extensive collection of art. But even these viewing expeditions provided some opportunity for sketching - indoor plantings, a window-killed cuckoo, each other.

Sketching outings had a beginning, a middle, but no particular end. The leader suggested some guidelines and a meeting place for lunch; after lunch the work of the morning was discussed with all participating in the "critique" - which actually means encouraging each participant and making suggestions for enhancement of the individual's style. The variety of the work was striking - some "fauve", some controlled, some delicate, some strong. The group encourages beginners, those more advanced giving them whatever help is wanted. Some members took courses during this period. The philosophy is that each person has something to say, the most important rule of art, with skills a secondary consideration, though useful. Often group members showed work which they had done since the last outing, which invariably proved entertaining. Many a sketch-book has been filled!

DB



(condensed from the notes of Mary Cumming, Co-ordinator, phone 699-6532)  
(week-day organizer Betty Paul, 224-0793).

What would the world  
be once bereft  
Of wet and of wildness?  
Let them be left!  
O let them be left,  
Wildness and wet,  
Long live the weeds  
And the wilderness yet!

by Gerald Manley Hopkins from Arizona Nature Conservancy Newsletter, Vo. 6,  
No 2, May 1984 contributed by Marjorie Blackshaw

# Toronto Region BIRD RECORDS

for the period Oct. 16 to Dec. 15, 1984

Contributors: Lise Anglin, Diana Banville, Becky, Sandy Cappell, Glenn Coady, Judy Coggle, Mike DeLorey, Clive Goodwin, Beth Jefferson, Helen Juhola, Victoria Latuszejnski, Millie Mansell, William Mansell, Ministry of Natural Resources Waterfowl Viewing Day, Maisie Newby, Gwen Ormerod, Joan Patterson, Matt Pierce, Don Peuramaki, Jim Rising, Helen Smith, TFN outing, Nigel Weaver, Bruce Wilkinson, Bob Yukich, many observers (m. obs.).

Loons through Herons: COMMON LOONS were observed at Humber Bay on Nov. 24 (MD). A RED-THROATED LOON was seen at Leslie Street Spit Dec. 1 (NW). RED-NECKED GREBES were also at Humber Bay on Nov. 24 (MD, HS). As well a WESTERN GREBE was reported there (HS). Three HORNED GREBES were seen at the Leslie Street Spit on Oct. 23 (GC).

DOUBLE-CRESTED CORMORANTS were at Toronto Island on Oct. 17 (MD) and one was snaking along the surface of the water scaring ducks in New Toronto Nov. 11 (BJ). GREAT BLUE HERONS were seen at many locations: Oct. 17 (DP) Rouge Park, Oct. 18 (SC) G. Ross Lord Park, 5 on Nov. 5 (HS) in the Humber Marshes, and on Dec. 15 (BJ) one flying into the city along the lake from the west. Activity with BLACK-CROWNED NIGHT HERONS continued to be reported from various sources until Oct. 31 in the Humber Marshes (HS).

Waterfowl: In October, MUTE SWANS and their adopted TRUMPETER offspring began to cruise the western lakeshore which seems to be their winter habitat, looking for free handouts at Humber Bay especially. A TUNDRA SWAN was seen amongst them on Dec. 5 (HS).

CANADA GEESE were noted by their absence at Humber Bay on a couple of TFN outings, Oct. 21 and Nov. 11.

Number of duck species continued to increase as winter descended. There were 40 GADWALL at Rouge Park on Oct. 17 (DP), 100 at Bronte on Nov. 30 (WM), and 150 WIDGEON, GADWALL, and a few MALLARDS and BLACKS in the lee of a southwest wind in New Toronto, Nov. 15 (BJ). Up to 20 individual GREEN-WINGED TEAL were observed a number of times and in a variety of places: Oct. 17, Rouge Park (DP); Humber Bay, Oct. 21 (TFN); Oct. 28 (LA); Nov. 24, (MD), (HS) and Dec. 9 (BJ). Three BLUE-WINGED TEAL were also at Rouge Park, Oct. 17 (DP) and Humber Bay Oct. 28 (LA). 35 AMERICAN WIDGEON were seen at Bronte and Oakville on Nov. 30 (WM); 2 at Rouge Park Oct. 7 (DP), at Humber Bay, Nov. 3 (GC), and continuously in New Toronto (BJ). Large numbers of Northern Shovelers were observed at Humber Bay (16) Oct. 28 (MNR) and in Grenadier Pond (21) on Nov. 21, (HS). Thirty WOOD DUCKS were seen at Rouge Park on Oct. 17 (DP), one in New Toronto on Oct. 20 (BJ) and in High Park Oct. 24 (GC). REDHEAD were seen at Humber Bay Nov. 21 (TFN), Nov. 24 (HS) and at the foot of 6th St. on Nov. 24 (MD); 100 of them were also observed at Joshua Creek Nov. 30 (WM). A RING-NECKED DUCK was at Humber Bay Oct. 14 (CG). CANVASBACKS were seen at Humber Bay Nov. 2 (BY), Nov. 4 (CG), Nov. 24 (HS, MD). Hundreds of GREATER and LESSER SCAUP have been around in large rafts every day (m. obs.) COMMON GOLDENEYE and BUFFLEHEAD and OLD SQUAW have also been reported by most birders who have visited the lake during this period. A flock of 50 OLD SQUAWS flew into Toronto on Nov. 4 from the north (GC).

A HARLEQUIN DUCK yawned sheepishly at Bob Yukich, Nov. 2, Humber Bay West.

WHITE-WINGED SCOTERS were seen at the Spit Oct. 21 (NW) and at Toronto Island Oct. 30 (MD, BY) and a Humber Bay Oct. 21 and Nov. 11 (TFN). Five SURF SCOTERS

## TORONTO REGION BIRD RECORDS (cont'd)

were also seen Oct. 29 (BY); a few were still there Oct. 28 (MNR), Nov. 10 (GC) and Nov. 11 (TFN). Nine BLACK SCOTERS were at Sunnyside Oct. 26 (BY) and 20 in Bronte Nov. 30 (WM).

RUDDY DUCKS have been frequently observed. Most numerous were 20 at Humber Bay Oct. 28 (MNR). 13 were there Nov. 2 (BY) and 10 Nov. 4 (CG). 2 RUDDIES were reported from the Spit Oct. 28 (GC).

Several COMMON MERGANSERS were fishing at Roy K. McMillan Conservation Area Nov. 25 (BJ).

Hawks etc.: TURKEY VULTURES (2) were flushed in the Nature Reserve on Toronto Island, Oct. 17 (MD, BY). A SHARP-SHINNED HAWK was seen on the Spit, Oct. 28 (NW). A COOPER'S HAWK was in High Park Nov. 14 (BY) and in Mt. Pleasant Cemetery Nov. 15 (DB) and in the Beaches area (DB, HJ). On Nov. 16 a COOPER'S was also at Steeles and Woodbine (DB). A RED-TAILED HAWK was seen Nov. 14 in West Deane Park (GO) and in G. Ross Lord Park Nov. 27 (SC). A NORTHERN HARRIER was at the Spit Oct. 28 (GC). A MERLIN was at Frenchman's Bay Oct. 16 (GC) and on the Spit Oct. 21 (NW). Two AMERICAN KESTRELS were observed at G. R. Lord Oct. 18 and Nov. 27 (SC) and one at Marie Curtis Nov. 24 (MD).

Pheasants through Shorebirds: A male RING-NECKED PHEASANT was seen in G.R. Lord Nov. 23 (SC). A COMMON MOORHEN and AMERICAN COOT were at Rouge Park Oct. 17 (DP). COOT were also at New Toronto Oct. 20 (BJ) and at Sunnyside (4) Nov. 3 (GC).

Several KILLDEER were at G.R. Lord Oct. 13 (SC) and one at the mouth of Mimico Creek Oct. 28 (BJ). The latest date for BLACK-BELLIED PLOVERS was Dec. 2, at the Spit (NW). 20 to 25 were seen at the Island Oct. 31 (BY). A RUDDY TURNSTONE was there the same date. A dead WOODCOCK was found in Prince of Wales Park Nov. 1 (B). Six SNIPE were observed in Frenchman's Bay Oct. 16 (GC). A SPOTTED SANDPIPER was last seen at Humber Bay Oct. 14 (CG). An injured EASTERN WILLET was reported at Rouge River Beach Oct. 30 (MP).

The latest report for GREATER YELLOWLEGS was Nov. 5 in Humber Marsh 5 (HS), and for LESSER YELLOWLEGS Oct. 21 (TFN). Forty-three PECTORAL SANDPIPERS were at Frenchman's Bay Oct. 16 (GC). Six WHITE-RUMPED SANDPIPERS were at the Spit Oct. 20 (BY) and five were there Oct. 28 along with 600 DUNLIN (GC). The last report for LEAST and SEMIPALMATED SANDPIPERS was Oct. 16 (GC) and for SANDERLING Oct. 21 at Humber Bay (TFN). Three HUDSONIAN GODWIT were on a beach at Toronto Island Oct. 31 (BY).

Gulls: GREAT BLACK-BACKED GULLS are more numerous during the winter. Nine were seen at the Spit Oct. 28 (GC), and two at the Rouge Marshes Nov. 29 (HJ). A LESSER BLACK-BACKED GULL was reported on the breakwall at Sunnyside Beach Nov. 17 (BY). Here numbers of HERRING GULLS were noted to be equal to RING-BILLS -- a contrast to summer populations because it is the common RING-BILLS that migrate to warmer climes. So most of the gulls you see soaring over the lake will probably be HERRING this time of the year. An immature LAUGHING GULL was reported in Bronte Nov. 5 by William Mansell.

Doves: The new landfill site at the Roy K. McMillan Conservation Area is a great habitat for many ROCK and MOURNING DOVES.

Owls: A red-phased SCREECH OWL was observed in an Etobicoke ravine by Bruce Wilkinson Oct. 17. A gray-phased SCREECH OWL has been observed frequently in

## TORONTO REGION BIRD RECORDS (cont'd)

Humber Marsh 7 and Bruce has observed 2 or 3 resident SCREECH OWLS in High Park in past years. Helen Smith sent in a report of many sightings and hearings of GREAT HORNED OWLS in the Humber Marshes, Sept. 1 to Nov. 13. Bruce saw a pair side-by-side in Marsh 5, Dec. 6.

This year's first SNOWY OWL was observed by Glenn Coady, Nov. 10 at Humber Bay. They have been seen frequently there and at the Island Airport during this period. Differences in the amount of brown markings indicates that more than one is wintering in Toronto. LONG-EARED OWLS were on the Island on Oct. 31 (BY). Helen Juhola saw crows chasing one at Eglinton and Bermondsey, Nov. 26. SAW-WHET OWLS were in the Toronto Island Nature Reserve Oct. 17 and 30 (MD).

Kingfishers through Flycatchers: The last date for KINGFISHERS was Nov. 21 in the East Don south of Finch (HJ).

NORTHERN FLICKER were observed until Dec. 4 when one was seen near Humber Marsh 7 (HS).

RED-BELLIED WOODPECKER: A male was seen in Marsh 7 on Oct. 31 and on Dec. 6 a female was observed in the same area (BW). Is there a pair hanging around?

HAIRY AND DOWNY WOODPECKERS were seen in Marie Curtis on Nov. 24 (MD). EASTERN PHOEBE were in High Park Oct. 24 and 27 (GC).

Swallows through Wrens: A late sighting for a BARN SWALLOW was Oct. 20 at the Spit (BY). Thirty BLACK-CAPPED CHICKADEES were at a feeder near West Deane Pk. Oct. 30 (GO). A RED-BREASTED NUTHATCH was along the Humber at Sheppard south of Finch Dec. 6 (HJ). BROWN CREEPERS were reported until Oct. 29 in New Toronto (BJ). A WINTER WREN was at Jack Darling Park on Oct. 21 (WM).

Thrushes through Waxwings: Dozens of ROBINS were moving south all afternoon on Oct. 28 at West Deane (GO). Two HERMIT THRUSH came to a feeder there Oct. 22 to 29, and Nov. 10. Five SWAINSON'S THRUSH were near Humber Marsh 7 Oct. 15 (HS). VEERY were seen near the Humber Marshes on Oct. 1 (HS).

EASTERN BLUEBIRDS come to the Allotment Gardens in High Park every fall near the end of October and this year was no exception. A total of 12 individuals was seen between Oct. 26 and 28 (GC, BY, BJ).

GOLDEN-CROWNED KINGLETS were seen on a TFN outing at Humber Bay Nov. 11 along with WATER PIPITS. CEDAR WAXWINGS were seen at a number of feeders (m. obs.) most notably 200 at Jim Rising's backyard for at least a week around Nov. 10.

Warblers: A NORTHERN PARULA WARBLER was banded on Muggs Island on the night of Oct. 24 (JR). A YELLOW-RUMPED WARBLER was at Marie Curtis on Nov. 24 (MD). Late dates for CHESTNUT-SIDED WARBLER were Oct. 26 (several) and Nov. 14 at a feeder near West Deane Park (GO). A COMMON YELLOWTHROAT was observed at Joshua Creek, Nov. 30 (MM). Nov. 14 and 15 were late dates to see immature REDSTARTS at a feeder, West Deane (GO).

Did anyone see HOUSE SPARROWS these months? Are their numbers decreasing as someone commented?

Blackbirds through Finches: EASTERN MEADOWLARKS were noted in the Toronto Island Nature Reserve on Oct. 30 (MD). 5000 RED-WINGED BLACKBIRDS were at Sandy Beach on Oct. 16 (GC). And they were heard singing in Ferris Ravine on Oct. 31 (HJ). Two were still at Grenadier Pond on Nov. 21 (HS). A mixed flock of PURPLE FINCHES and GOLDFINCHES was in High Park Nov. 14 (BY). Seven PINE SISKINS were there as well -- the first for the fall (BY). A "whole bunch" of

## TORONTO REGION BIRD RECORDS (cont'd)

GOLDFINCHES was observed in G.R. Lord Oct. 30 (SC). A RUFIOUS-SIDED TOWHEE was seen in Humber Marsh 5, Oct. 18 (HS). Flocks of JUNCOS began to be seen at the beginning of this time period and have been reported frequently.

Oct. 28 was the first sighting of TREE SPARROWS -- 3 on the Spit (GC). On the following day 20 or more were seen between Humber Bay and High Park (BY).

A western race FILLD SPARROW was reported at Rattray Marsh Oct. 16 (WM). Many WHITE-THROATED SPARROWS were seen during this period. Most unusual was the one at Yonge and College Nov. 14 (HJ). Three FOX SPARROWS were at High Park Oct. 14 (BY) and one at Rattray Oct. 16 (WM). A LINCOLN'S SPARROW was in the Allotment Gardens in High Park Oct. 27 (GC) and two LAPLAND LONGSPURS at the Spit Oct. 28 (GC).

Last, but by no means least, SNOW BUNTINGS were first seen at Humber Bay Oct. 29 (BY) and can be observed at many waterfront landfill sites and on the Island during the winter (m. obs.).

▷ The next report will try to cover the bird records for the period Dec. 16 to Jan. 15. Please send your observations to Beth Jefferson, 41 Lake Shore Dr., Apt. 404, New Toronto, Ont. M8V 1Z3 OR phone 251-2998 between 6 and 9 pm.

## IN CASE YOU WONDERED ....

- The road which suddenly appeared along the rim of the Don Valley between the Leaside Bridge and Don Mills Road has been built by the Metro Works Dept. The road is required to give access to workers and equipment repairing gas dissipators at the rear of the properties on Donlands Ave. and Davies Cres. Garbage was dumped in the valley in this area in the 1960's and the gas is still being released as the material settles. It was an inexpensive place to dispose of garbage in the 60's, but not so inexpensive in the long run as taxes in the 80's are used to solve some of the long-term problems.
- The construction in the East Don Valley north of York Mills road and south of Sheppard Avenue East is being done by the Metropolitan Toronto Parks and Property Department. They are developing a bike trail. We have been assured that such trails have been approved by the Conservation Authority and must be ten feet wide with a further twenty feet cleared on either side for maintenance and construction requirements. TFN has submitted our list of sensitive natural areas to the Metro Parks Department with the request that these areas be avoided when developing trails. Do not hesitate to call either TFN or the Parks Department if you know of areas which would be affected adversely by such construction.
- The red stakes in the Wildlife Sanctuary at Toronto Island this past summer were part of a City of Toronto Survey. The stakes are to be removed. No construction was intended. In fact, the Metro Works yard presently in the sanctuary will be moved north, closer to the Water Filtration Plant.

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 TORONTO'S 60th CHRISTMAS BIRD CENSUS 1984
 

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This year's count was held on Sunday, December 23.

Twenty-eight routes were covered by 129 participants within a 48 km radius of the Royal Ontario Museum.

The number of species counted was 91, and individuals totalled 43,879. Previous record highs: species 99 (1972); individuals 46,123 (1981).

There were 2 new species seen this year: sanderling and northern waterthrush which brings the total number of species recorded since 1925 to 166.

Species seen in record high numbers:

		Previous Highs	
Mute Swans	76	74	1982
Canada Goose	5,854	4,470	1983
Ring-billed Gull	5,248	3,596	1981
Mourning Dove	1,322	1,262	1980
Northern Flicker	26	22	1974
House Finch	94	51	1983

The unusually low number of pheasants (13) was the lowest recorded since 1931. Last year's count was 61, and in 1963, a record high of 861 was counted.

The red-throated loon was the first seen since 1948.

Species seen in high, but not record, numbers were:

		Last year's numbers
Brown Creeper	36	6
Cedar Waxwing	615	136
Dark-eyed Junco	1,163	598
Goldfinch	1,400	720
Purple Finch	146	12

Species missed but usually seen: common loon, all grebes, pintail, coot, snipe, saw-whet owl, red-headed woodpecker, brown-headed cowbird, and evening grosbeak. (The first time in 17 years that evening grosbeaks have not been seen.)

The weather was ideal on census day: sunny with a light dusting of snow on the ground which was slightly frozen. Creeks and rivers were free of ice, although ponds had a thin covering. Temperatures ranged from -6° to 0°C.

Thanks again to all the TFN members who helped make the count a success.

Compiler: Harry Kerr

Names of Participants: W. Backus, D. Baker, H. Barnett, J. Bateman, J. Bendell, G. Bennett, A. Blewitt, F. Bodsworth, M. Bodsworth, D. Borchert, D. Broughton, S. Brigden, D. Burton, G. Cameron, K. Carmichael, G. Coady, J. Cooper, G. Crawshaw, J. Cranmer-Byng, H. Currie, J. Dales, R. Davis, M. Delorey, A. Dobson, D. Drew, F. Drew, W. Edmunds, H. Elliott, A. Falls, B. Falls, K. Falls, G. Fairfield, J. Fairfield, T. Farley, J. Foster, R. Gasken, J. Giffen, A. Gooch, C. Gooch, C. Goodwin, J. Goodwin, N. Hannah, R. Hannah, H. Hardy, P. Hardy, R. Harris, B. Harrison, H. Hart, P. Hartley, N. Hawkrigg, G. Hembry, F. Hindle, T. Hindle, H. Inch, S. Inch, R. Jasiuk, S. Jefferson, E. Johns, G. Joiner, P. Joiner, J. Keenlyside, J. Kelley, S. Kelly, E. Kerr, H. Kerr, D. Knudsen, J. Knudsen, R. Knudsen, K. Knudsen, S. Kooman, M. Kubitz, M. Lachine, J. Lamey, T. Lane, A. Lang, P. Lehmann, C. Lennox, T. Levere, P. Livingstone, A. Love, D. Love, R. MacLellen, K. Macnamara, W. McLellan, O. Moorehouse, K. Moores, W. Morris, A. Moum, D. Naghan, E. Nasmith, D. Newton, K. Newton, D. Pace, B. Parker, D. Perks, J. Peterson, S. Price, J. Rising, S. Rowe, B. Sansom, S. Sansom, E. Schwab, D. Scovell, H. Selles, G. Shemilt, H. Shultz, J. Smelinski, J. Smith, M. Smith, R. Speak, G. Speirs, M. Speirs, C. Spytz, J. Stevens, T. Stevens, E. Strenge, R. Strenge, J. Tasker, M. Tasker, R. Tasker, D. Tate, I. Tate, J. ten Bruggenkate, L. Tye, B. White, G. White, J. Woodford, P. Woodford, P. Wukasch

## The 60th Toronto Christmas Bird Census, December 23, 1984

Red-throated Loon	1	Yellow-bellied Sapsucker	1
Great Blue Heron	10	Downy Woodpecker	162
Mute Swan	76	Hairy Woodpecker	31
Snow Goose	1	Northern Flicker	26
Canada Goose	5,854	Pileated Woodpecker	5
Wood Duck	1	Horned Lark	10
Green-winged Teal	2	Blue Jay	555
American Black Duck	1,089	American Crow	431
Mallard	3,742	Black-capped Chickadee	1,381
Northern Shoveler	5	Red-breasted Nuthatch	21
Gadwall	344	White-breasted Nuthatch	85
American Wigeon	47	Brown Creeper	36
Canvasback	33	Winter Wren	1
Redhead	139	Golden-crowned Kinglet	35
Greater Scaup	1,146	Ruby-crowned Kinglet	2
Lesser Scaup	15	Eastern Bluebird	1
Oldsquaw	594	Hermit Thrush	3
Common Goldeneye	343	American Robin	266
Bufflehead	410	Northern Mockingbird	1
Hooded Merganser	2	Cedar Waxwing	615
Common Merganser	248	Northern Shrike	6
Red-breasted Merganser	8	European Starling	7,814
Northern Harrier	2	Northern Waterthrush	1
Sharp-shinned Hawk	5	Northern Cardinal	328
Cooper's Hawk	1	Rufous-sided Towhee	2
Northern Goshawk	4	American Tree Sparrow	596
Red-tailed Hawk	75	Chipping Sparrow	2
Rough-legged Hawk	3	Field Sparrow	2
American Kestrel	45	Song Sparrow	77
Ring-necked Pheasant	13	Swamp Sparrow	6
Ruffed Grouse	7	White-throated Sparrow	61
Killdeer	1	White-crowned Sparrow	1
Sanderling	3	Dark-eyed Junco	1,163
Ring-billed Gull	5,248	Snow Bunting	188
Herring Gull	2,430	Red-winged Blackbird	45
Iceland Gull	3	Rusty Blackbird	2
Glaucous Gull	12	Common Grackle	5
Great Black-backed Gull	89	Purple Finch	146
Rock Dove	2,146	House Finch	94
Mourning Dove	1,322	Red Crossbill	2
Eastern Screech Owl	2	White-winged Crossbill	16
Great Horned Owl	21	Common Redpoll	3
Snowy Owl	2	Pine Siskin	5
Long-eared Owl	1	American Goldfinch	1,400
Short-eared Owl	1	House Sparrow	2,693
Belted Kingfisher	7		

SPECIES OF THE SPIT
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Autumn field notes for the Leslie Street Spit have been received from Norm Murr. (By the way, if Metro wants to call The Spit "Tommy Thompson Park", we hope they will keep in mind that Tommy Thompson wants to see it remain in the wild state.) No bird species have been added, but some interesting observations have been made. For instance, on September 8, two peregrine falcons with leg bands allowed Norm to approach "too close for their safety" (i.e. had Norm been the kind who would take advantage). It makes one wonder about the possibility of excessive handling by enthusiastic biologists. On that date he described the movements of "many" chimney swifts, barn swallows and bank swallows "flying towards the tip". Since they apparently were not seen following the contours back (as the blue jays do at Point Pelee) does this mean that these swallows and swifts fly directly across the lake?

The European starling was described as "common" (meaning "in all or most of the proper habitats throughout") on all visits, except December 1 when only seven of this species were recorded, all at the base of The Spit. Does this mean that starlings come further inland in our area during the winter? One "pale, almost white," starling was recorded September 8.

The subject of association came into the "comments" column on several occasions and birds do not apparently limit themselves to their own order. On November 3 two brants flew by with a double-crested cormorant; on September 30, the lone brant which Norm observed was within its assigned family with mallards and black ducks. An assortment of songbirds was observed together on October 13 - "very foggy, everything wet, including me"; 20-30 water pipits flocked with 10-15 larks and at least 4 Lapland longspurs. The fog interfered with census-taking. October 27 "foggy again - heard more (Canada geese) than I saw". Dunlin in the hundreds that day were easy to approach and count.

November 3 five American robins were observed - the only ones Norm has recorded for the entire fall season, while last year he had many October observations. Oddly, only one summer robin has been recorded since Norm started this project (July 28, 1984). None was recorded for August 28/82, August 6/83, August 4 nor August 25/84; there were, however, no spring nor early summer visits to The Spit.

Also November 3 was the date Norm saw three Hudsonian godwits, one of which was "limping and nervous". Again, one stops to ask oneself "why?" Was it attacked by a predator or was that predator a human who can't resist those larger targets in the bird world?

Red-winged blackbirds also make an interesting pattern in Norm's notes. They were listed as "common" September 8, none recorded September 30, twenty-one turned up October 13, none recorded October 27; then on November 3 at 7 AM more than a hundred redwings flew over.

On December 1, Norm saw only five Canada geese. Herring and ring-billed gulls were listed as "common" all fall but on December 1, though herring gulls were still common, only two ringbills were recorded.

Norm says "Most of my counting is incidental to my birding", yet it is this very counting, coupled with the dates, which makes Norm's birding valuable. If many more people would do this for the areas they frequent, and the material studied, in time patterns would begin to emerge. Norm requests a friendly exchange among birders, and ends his notes with: "20 years birding for me and it is still fun and a challenge."

DB

Correction: TFN (368) 23 D 84. Reference to saw-whets  
"in vines and cedars". There are no cedars in that location.  
per Norm Murr.

# projects

## TRUMPETER SWANS IN ONTARIO

The two trumpeter swan cygnets raised by a pair of mute swans in Cranberry Marsh in 1983 migrated to Chesapeake Bay, Maryland for the winter. In April 1984 they returned to Ontario, but the male died at Burgessville (near Woodstock) on May 24.

In 1984 two more trumpeter cygnets were raised by mute swans at Cranberry Marsh. They left that area in early November with the 1983 female and have been living between the mouth of the Humber River and Port Credit on the shore of Lake Ontario.

In the summer of 1984 we marked 25 mute swans. All are carrying yellow petagium wing tags with a two-digit system of numbers.

We would appreciate hearing of all records of swans carrying wing tags. Some of the mute swans migrate from Lake Ontario and we do not know where they go. We want to know who goes and who stays. Please phone all your records to Harry G. Lumsden (416) 832-2761, Ontario Ministry of Natural Resources, Maple.

## URBAN WILDERNESS STUDIES

I am interested in the development of wilderness areas in towns and cities, their history and the present status of the movement, especially in Western Europe and North America. Please contact me if you are aware of any articles or books on this subject.

Roy Merrens, 48 Waverley Rd., Toronto, Ont. M4L 3T1 (h 690-2333) (w 667-3218)

## SNOW BUNTING SURVEY

The Ontario Bird Banding Association has been conducting a study on the winter movement of Snow Buntings by banding and colour-marking Snow Buntings with pink, blue, yellow, or green dye. If you see a colour-marked Snow Bunting, please record the date, location and colour and send the information to: The Bird Banding Office, Canadian Wildlife Service, Ottawa, Ontario. KIA 0E7.

## ONTARIO BREEDING BIRD ATLAS DAY

If you're a birder, here's something to enter in your nice new 1985 Calendar under June 15.

The Ontario Breeding Bird Atlas coordinators are planning "Atlas Day" now and hope to interest new participants as well as the 1600+ who have taken part so far. This is the final year of the project and the hope is that this "Atlas Day" - a sort of warm-weather Christmas Bird Count, with advance planning on each person's part - will fill in some of the gaps and still leave time to assess the status of the project and to make plans for its completion in the summer. Participants can decide what they want to do (e.g. survey of area, search for elusive species, confirmation of common bird breeding status) and how they want to get about (by car, bike, canoe, or on foot). An evening social will provide opportunity for discussion of the day's adventures. If and when you are inspired to "report for assignment" contact Judith Kennedy (our regional co-ordinator) at U. of Waterloo, Atlas Database Management Project, Waterloo, Ont. N2L 3G1 (phone 519 - 885-1211 ext. 2089) or Mike Cadman (the provincial co-ordinator) at Federation of Ontario Naturalists, 355 Lesmill Road, Don Mills, Ont. M3B 2W8 (phone 449-2554). The sooner the better.

## PROJECTS (cont'd)

## GROWING TREES

As a naturalist, I have many interests, as do you, I suspect. My chief calling is trees, and this interest has grown into a passion. There are many facets to this passion, but for now I shall confine myself to describing how I have gone about obtaining the trees that are growing in my yard here in Don Mills, and how you can grow your own trees.

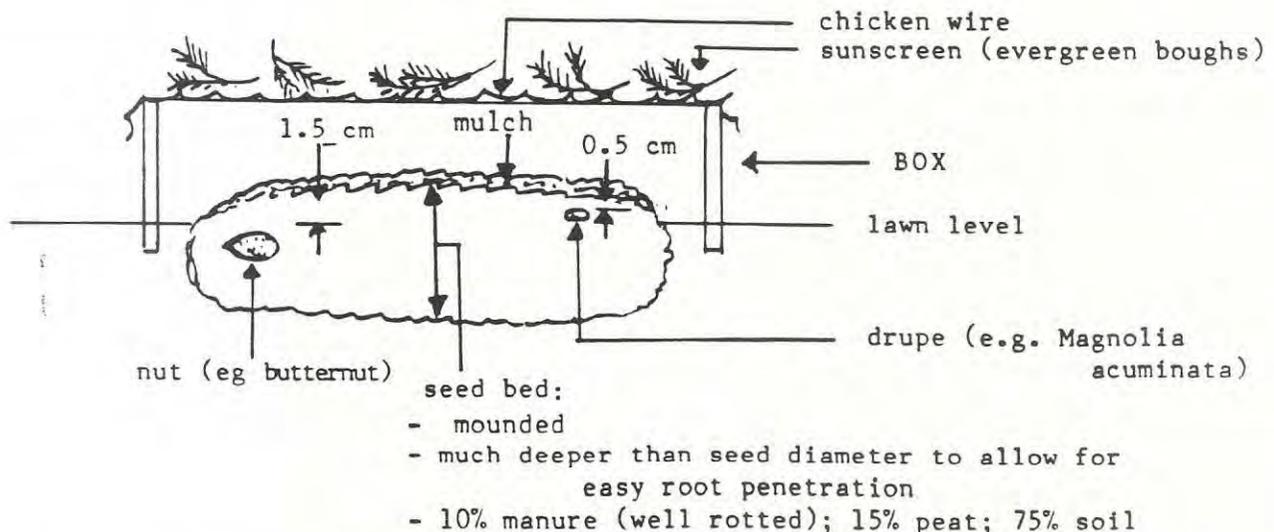
What made our lot attractive in the first place was its size and the two fair-sized silver maples (*Acer saccharinum*) that are our natural air conditioners, shading the house in the heat of summer. We noticed that these trees produced an abundant crop of samaras (winged seeds) each June. These seeds were blown everywhere around and out of the yard. Those landing in the garden managed to sprout and, out of a combination of interest and benign neglect on our part, grew tall and strong. Many silver maples have found homes with neighbours and friends, and on city property, too.

When we moved to the house in 1971, we liked trees, but could not distinguish a Norway maple (an introduced species) from a sugar maple, a native tree. Over the years, through interest, reading, discussing the subject with more learned colleagues, one learns a lot (for example, what a samara is).

In 1976, the black walnut (*Juglans nigra*) became the target of my affection. These trees are fairly common locally, and even more so in the Hamilton area and farther south. As I walk to work, and as Edwards Gardens and its magnificent walnut trees are growing but a short jaunt from my regular walking route, it was fairly easy to collect black walnuts that year. They were planted and right away pilfered by gray squirrels. Only the use of chicken wire to cover the seed beds stopped this thievery.

In late May of 1977, the walnuts poked through the ground and it's been clear sailing ever since. Many of the trees in our yard were nursery-bought. Over the years they are being replaced by native trees, grown from seed collected locally. Occasionally, a naturalist friend and I will swap trees. Some of our tulip trees (*Liriodendron tulipifera*) are native Ontario trees, obtained from John Mackenzie, a fellow TFN member.

Now, let me share with you the way that I prepare a seed bed and then protect it from marauding squirrels.



## PROJECTS (GROWING TREES) (cont'd)

In our yard, we have ground that is covered in water each spring; I avoid this area. Once a spot is selected, it is necessary to remove the sod. This may be done in two ways: remove the sod with a spade, shaking off the excess dirt, or simply covering the ground for a month with a newspaper and something heavy. The latter method is preferable as it's easier and you don't lose soil. (By the way, pile the unwanted sod together and it will decompose by itself underneath.) Then, use a spade and a pitch fork to turn over the soil and break it into a fine mixture. I mix in peat moss and a bit of cow manure as our soil can be heavy, it being a clay loam. This extra material serves to raise the seed bed so you have good drainage. (Don't forget that loose soil will compact itself, so a seed bed raised several centimetres in October will be a lot lower next July.)

Now for the seed itself. If you have collected it yourself, I'd advise cleaning it. A hickory nut should have the husk removed; if it won't come off easily, you probably picked the nut too soon. Keep the nut in a cooler place and the husk should split of its own accord. A drupe (which is a stone encased in a succulent outer covering -- a "smartie" to a bird) should be cleaned; alternate-leaved dogwood (*Cornus alternifolia*) and cucumber magnolia (*Magnolia acuminata*), our only native Canadian magnolia, are two examples of trees with this type of fruit. The exceptions to the rule of cleaning are the walnuts: black and butternut (*Juglans cinerea*); it ain't worth it, folks, to clean these!

In the seedbed, etch a row the length of the bed with your finger for small seeds such as drupes. Drop the seeds in every 20 cm apart, then cover with about  $\frac{1}{2}$  cm of loose earth. Mark each end of the row (I use popsicle sticks). Subsequent rows should be about 20 cm apart. For larger diameter seeds such as black walnuts, just excavate a hole, place the nut into the hole, and cover with about  $\frac{1}{2}$  cm of loose soil. Keep these nuts in a row, too. And draw a plot of the seed bed so you won't forget what's what. (You wouldn't forget, would you? That's what I always said!)

When your seedbed is finished, cover it with a mulch; I use peat as it retains moisture. Leaves or sawdust will do.

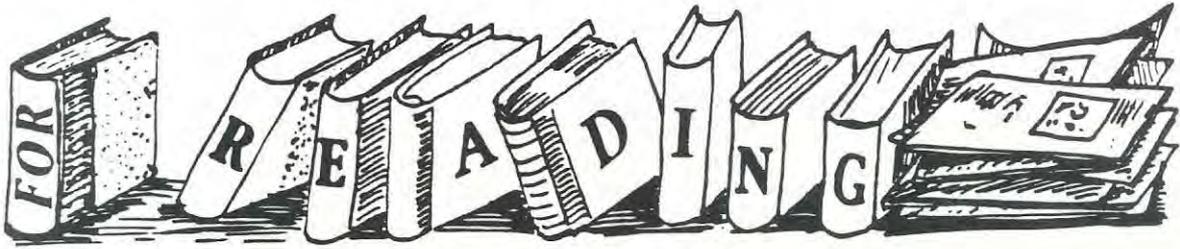
If you have rodent problems, cover the seedbed with something these natural distributors of seeds cannot get at, and leave the cover on until the second spring. If you don't, a squirrel will pull up your seedling, cut off its nut, and abandon the tree! I build a plywood box and put on a removable chicken wire cover. The cover should be removable so as to enable you to weed the seedbed during the growing season. Then, to simulate conditions on the forest floor, place a few loose evergreen branches over the cage. Insulating snow will get through to the ground, but not too much sunshine to dry out the ground or scorch the juvenile tree the first year or two.

Seed should be planted as soon after you get it (via collection or by purchase from a seed source) as possible. You may keep it in a plastic bag containing moist peat in your refrigerator (not freezer) and plant it in the spring; you may plant it out in pots in the spring, but I don't believe either of these methods is as good as planting the freshly collected seed.

I would intend to write more on collecting seed in another article but, as they say "on the riverbank", that's a story for another day.

I have surplus trees on hand for FREE: sugar maple, silver maple, ash, tulip, black oak (*Quercus velutina*), catalpa, Ohio buckeye (*Aesculus glabra*) and many more. Just call me if you are interested in trees, either in getting one or just to "talk trees".

Tom Atkinson (449-7907) 



THE STARLING by Christopher Feare, Oxford U. Press, 70 Wynford Dr., Toronto, 1984. 285 pages, including 16 plates of black and white photo illustrations, 18 maps, numerous diagrams and charts, plus 21-page bibliography and 14-page index. \$42.75.

To read this fascinating book on the European Starling (*Sturnus vulgaris*) is to begin to understand something of every aspect of the bird world. It makes an excellent handbook of ornithology for the beginner and advanced biologist alike. There is no glossary since, in all but a very few cases, terminology is explained en route. This common species lends itself so well to study, yet the author repeatedly mentions the need for more studies to provide missing knowledge. In fact, his is the first monograph in the English language on the European Starling.

Dr. Feare is a zoologist with the British Ministry of Agriculture, Fisheries and Food. For the past ten years of his career he has been studying starlings so that man can better cope with them, and in so doing he has grown quite fond of these commonplace birds, replying to them both beauty and character - thanking them, in fact, for their 'ceaselessly satisfying entertainment'. Dr. Feare's warm enthusiasm for his 'subject' is apparent throughout the book and balances perfectly with his cautious scientific approach. He is reaching, probing, and often frankly groping for information about his bird. Weighing the study material he has drawn in from all over the world - on origin, range, habitat, biology, breeding, behaviour, diet, and relations with man - Dr. Feare is in the best of all positions to point out possible directions in which to advance, as well as detecting apparent inaccurate conclusions previously drawn (from meticulous studies based on doubtful assumptions or in which tolerable amounts of handling of or interference with the subject have been exceeded). Some of Dr. Feare's hypotheses have been based on studies of other gregarious songbird or shorebird species - out of necessity, because the aspect to be illustrated had not been studied in the European Starling. In fact even studies of very different life forms are shown to cast some light on certain aspects for future study of the starling.

The author shows in his book how man has made possible the expansion of starling range and numbers, given the bird's extraordinary adaptability. All means of control are discussed and, while some merit is attributed to a few of them for temporary relief, Dr. Feare leans toward changes in agricultural and animal husbandry practices to protect man's long-term interests. Without minimizing the problems, he suggests means which might be developed to this end, cautioning that the most realistic attitude is to view starlings as an environmental factor.

A bonus to this informative monograph is the impressive list of sources, which is going to be of inestimable value to us - particularly those concerned with North American populations - about thirty sources. With this book, the author is extending a unique opportunity to naturalists' groups and schools in all of the English-speaking countries to learn about the bird which is so much of a presence and yet so little understood.

DB

FOR READING (cont'd)

SEA OF SLAUGHTER by Farley Mowat, McClelland and Stewart, Toronto, 1984  
438 pages, hard cover \$24.95

Like medicine, this book is not easy to take, but I am glad I read it -- to the end. In it the author outlines the story of 500 years of human greed and its effects on the sea birds, land mammals, fish, whales and seals of the Gulf of St. Lawrence. Read it for the remarkable natural history of the many species which inhabit, and did inhabit, eastern Canada. You will learn how quickly species which we have always been told are renewable natural resources can be exterminated. You will also learn how, in practice, the word "conserve" has come to mean "use up" rather than "save". This is a book which every Canadian should read.

HJ

GRANNY'S GANG: LIFE WITH A MOST UNUSUAL FAMILY OF OWLS by Katherine McKeever, illustrated by Olena Kassian, an OWL Magazine Book, Greey de Pencier Books, Toronto, 1984, \$8.95 paperback

This book is about an unusual family of owls living with Kay and Larry McKeever. The "gang" includes Granny, of course, who is a Spectacled Jungle Owl from South America, Pop, a Great Horned Owl, and Tiglet, a nervy little Screech Owl. Other members of the "gang" are Sook, Mama-San, Cricket, Buster and Bertha. Every year the McKeever's have new and exciting arrivals in their owl sanctuary. So far there are over a hundred owls sheltered by the McKeever's.

"Granny's Gang" is both informative and funny. One very amusing encounter was when the owl Granny was given a chicken to raise and oddly enough the chicken thrived on mice. The book would be a delightful gift for any young person or even a grandmother. (Mine enjoyed the book.)

Danielle Devine (age 13)

Recently published...

ROUGE WATERSHED POLLUTION SOURCE INVESTIGATION, Rouge Watershed Pollution Source Investigation Project, Save the Rouge Valley system Inc., Nov. 1984  
105 pp, 8½" X 11", spiral binding

This report discusses the findings of a survey of the water quality of the Rouge River

100 WAYS TO CELEBRATE 100 YEARS: Heritage Conservation in your Community by the National Parks Centennial Citizens' Committee, Sept. 1984

Includes suggestions for youth for individuals, for families, for business, for organizations.

TALES OF THE DON by Charles Sauriol, Natural Heritage/Natural History Inc., Toronto, 1984, \$11.95

TOURIFIC T.O. SESQUICENTENNIAL CELEBRITY WALKING TOURS (29 altogether) prepared for the City of Toronto Planning and Development Department by the Information and Communication Services Division, Department of the City Clerk, City of Toronto, FREE, available at Information Desk, Toronto City Hall  
#9 LESLIE STREET SPIT

ATLAS OF THE RARE VASCULAR PLANTS OF ONTARIO edited by G.W. Argus et al, National Museum of Natural Sciences, Ottawa (Part 3) 1984 Free

TFN LIBRARY report
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BOOKS IN TFN LIBRARY - PART VIII - PLANT AND ANIMAL LIFE GENERAL
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CANADIAN WILDLIFE ALMANAC by Darryl Stewart, Lester & Orpen Dennys publishers 1981, 133 pages, of quaint design with text accompanied by the author's drawings and old woodcuts.

NATURE ATLAS OF AMERICA (HAMMOND), Jerry Mason ed. in chief, a Ridge Press Book, Hammond, Maplewood NJ, 1973. 245 pages of informative text and many full-colour photos and maps to give a wide picture of life forms of the United States, including many species native to our area. Bibliography, Glossary, Index.

HOW TO TELL THE BIRDS FROM THE FLOWERS AND OTHER WOOD-CUTS by Robert Williams Wood, Dover Publications New York 1917/1959. 54 pages of zany humour illustrated with cartoons (visual puns by the author, as well as verbal ones).

In our resource files we have general information on "species", pictures in colour of plants and animals in association, and a file on endangered species (including categories "threatened" and "rare"). In this file is the coil-bound ONTARIO HYDRO FIELD GUIDE TO ENDANGERED, THREATENED AND RARE SPECIES IN ONTARIO, report No. TE/ER-80-0003, Ontario Hydro 1980, 125 pages; 44 species illustrated in colour with range maps, and a page of text for each on its natural history, habitat, problems, and status; many more species are listed in status tables; contents table, introduction, glossary, and guide; no index; bibliography. Also in the "endangered species" file is the CITES CONTROL LIST No. 5 1981, Convention on International Trade in Endangered Species of Wild Fauna and Flora, 67 pages of species categorized according to Canadian regulations for importing and exporting. A file is also kept on animal and plant fossils, including the booklet FOSSILS IN ONTARIO by R.R.H. Lemon, published by the Royal Ontario Museum, 16 pages and bibliography, no index, with maps and drawings. Another file in this general category is called "animal and plant control". Everything about man's conflict with other species, "pests" and pesticides, controversy and ideas. Whether animal, plant, or both, we also keep our books on this subject together:

PREVENTION AND CONTROL OF WILDLIFE DAMAGE (See review TFN (366) 7, 0 84.)

GOODBYE BUGS! (See review TFN (364) 20, May 84.)

ACQUISITIONS - November, 1984
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TFN Library wishes to thank members for their contributions to our resource files.

HARROWSMITH, recent issues, also newspaper clippings on proposed Leslie extension, glass recycling, beltline, checklists of Australian birds. From Gloria Summerville.

SEASONS Autumn 1984, and literature on birds, insects, animal welfare, paper mill effluents, Ontario fossils. From Jean Macdonald.

NATURE CANADA, recent issues. From Ruth Airey.

ACQUISITIONS - December, 1984
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A METRO TORONTO NATURAL RESOURCES INVENTORY - A CASE STUDY IN EAST YORK (OUTSIDE OF PARKS) prepared by Marjorie Blackshaw, Molly Campbell, Gavin Miller, et al. for Environment Canada, October, 1984. 75 pages including 38 maps, glossary, bibliography, plus appendices on street trees, heritage buildings, ownership.

(Further donations by members in December - details next issue.)

## TFN LIBRARY REPORT - continued

The following two books which were among those donated by Walter Muma belong in the category:

NATURAL AREAS - NORTH AMERICA - ATLANTIC COAST

LIFE AND DEATH OF THE SALT MARSH by John and Mildred Teal, illustrated by Richard G. Fish in black and white. Audubon/Ballantine NY 1969. 262 pages plus 12-page index. Well written - gives history, ecology, wildlife, suggestions for preservation.

UNDER THE SEA WIND by Rachel Carson, Oxford U. Press 1941 (New American Library of Canada Limited) 132 pages plus illustrated glossary. Told in a rather poetic narrative style.

The following book among those donated by Barbara and Margaret Douglas should be added to the category:

NATURAL AREAS - ONTARIO

THE PLACE IN THE FOREST by R. D. Lawrence. Publishers Michael Joseph, London (Nelson - Canada) 1967. 224 pages including a 3-page index. The author describes terrain and conditions as well as wildlife at his wilderness home "The Place" - near Uphill, Ontario.

1984: 'T WAS A SEEDY YEAR INDEED!

1985 is the year to look for tree and shrub seedlings. 1984 has been the best year for seeds in decades with trees that rarely produce seed coming into production and many young plants producing seed for the first time.

On September 25 and the week following, the white fir trees in our yard threw caution to the wind -- and their seeds and cone scales far and wide. Now only the spikes from the middle of the cone remain pointing to the sky and every nook and cranny for hundreds of feet has its white fir seed, waiting to germinate.

Birds and mammals are not begging here this year. It's difficult to give sunflower seeds away and not one has been taken from the standing sunflowers in the garden. Birds are everywhere but they are eating "wild". Even the house finches have almost deserted the feeders though water is still popular, but not all day as it was during the summer.

Perhaps we should take advantage of the coming opportunity to obtain seedlings. I expect that beech seedlings will be in evidence at sugaring-off time. They could be standing by the thousand on the forest floor in the spring sunlight with the fat seed swollen up, without its brown cover, propped up on a fat pinkish-white root, so eager to grow that it stands an inch into the air as the root tries to penetrate the ground. In these circumstances, you'd be doing a seedling a favour if you took one home to give it room to grow up.

It will be interesting to see how many seedlings do come up in the spring. I haven't seen beech seedlings like that near Metro for at least 15 years.

It will also be interesting to see if we can notice any effects of acid rain, which is said to be hard on seedlings. The 1984 crop of seed appears to be of the best quality -- large, heavy and fully ripe.

Mary Smith (231-5302)

## issues---

## WHAT "CONSERVATION OF LAND" MEANS

A conservation authority cannot refuse a valley-land owner permission to fill or build in the valley merely in order to protect natural open space. That is the upshot of a recent Ontario government tribunal decision involving the "Hinder estate" property in the West Don Valley. By so narrowing the power of the conservation authorities to regulate privately owned land, this decision will likely serve to impede efforts to preserve the natural character of valleys in Metro and across Southern Ontario.

The Hinder property lies east of Bathurst Street and north of Sheppard Avenue West on the north-east side of the West Don River. Presently it contains a mansion and some outbuildings, old fields and stands of early-succession tree species typical of Don valley bottomland. East of the property the steep, forested valley wall belongs to York Cemetery. In the valley to the south is the Don River Boulevard subdivision. The owner, George Hinder, proposes to develop about half of his land, creating a 49-lot subdivision. His bid to have the land rezoned to permit the development was rejected by the Ontario Municipal Board because he did not have the approval of the Metropolitan Toronto and Region Conservation Authority.

It is illegal to build or deposit fill in a valley regulated by a conservation authority unless the authority has granted a permit. Under the Conservation Authorities Act, the authority may refuse a permit if "in the opinion of the authority the control of flooding or pollution or the conservation of land may be affected". If a permit is denied, the applicant may appeal to a tribunal headed by the Ontario Mining and Lands Commissioner (standing in for the Ontario Minister of Natural Resources).

In 1983, after protracted negotiations, the Metropolitan Toronto and Region Conservation Authority turned down Hinder's application. At the appeal hearing North York and Metropolitan Toronto joined the conservation authority in opposing the granting of a permit to fill. It is the policy of all three bodies that valleys be retained as open space. A year later [October 1984] Mining and Lands Commissioner Grant Ferguson handed down a 45-page decision ordering that Mr. Hinder be given his permit.

As the development was to be above the regional storm flood-line and pollution was not a concern, the question before the Commissioner was whether the Hinder project would affect the conservation of land. The Metropolitan Toronto and Region Conservation Authority argued, firstly, that the proposed development would reduce the stability of the slope belonging to the York Cemetery and, secondly, that the lands in question ought to, as a matter of environmental policy, be preserved in a more or less natural state. The Commissioner found the conservation authority's evidence on the first point to be inconclusive. More importantly, in response to the second point he held that "the proper meaning to be attributed to the word 'conservation' is the concept of wise use as contrasted with retention in its existing state, where as is the case under the Ontario Statutes there is a distinction between that word and 'preservation'". In other words, because of the wording of the Conservation Authorities Act, conservation authorities do not have the legal power to use their fill regulations to protect natural areas.

In coming to this surprising interpretation of the law, the Commissioner, oddly enough, held "conservation" to be the narrower of the two terms. One might have thought that "conservation" was the broader, that it would include "preservation" in those cases where "retention in the existing state" was the "wise use" of the

## ISSUES (WHAT CONSERVATION OF LAND MEANS) (cont'd)

land. Further, one might have thought that the considered policies of North York, Metropolitan Toronto and the Metropolitan Toronto and Region Conservation Authority regarding the use of valley lands would be relevant to the issue of what the wise use of the Hinder property is. Indeed, the Commissioner, having used the "wise use" definition to avoid a "preservationist" interpretation of the legislation, seems not to have considered the wisdom of Mr. Hinder's proposal at all.

The Commissioner's position is that while a conservation authority may develop policies and plans in accordance with its broad objectives to guide the management of its own lands, when regulating private land it must act according to narrower technical considerations so as to protect the rights of the owners. Nor may the authority apply municipal policies, since municipalities and conservation authorities represent two separate and independent systems of land-use control. Thus a valley landowner may be able to frustrate the intent of valley protection policies altogether. If the owner can deposit fill in accord with sound geotechnical standards, the authority cannot refuse to issue a permit. Then, the damage already done, the owner would likely succeed in getting the rezoning necessary for development.

An alarming implication of the Hinder decision is that a conservation authority may not even be able to refuse to permit the filling in of a designated "environmentally significant area" on regulated land (assuming the project is geotechnically sound). The decision does not actually close the door on using fill regulations to protect significant areas. The Commissioner ruled that "conservation of land" refers to vegetation as well as soil, and pointed out that the vegetation on the Hinder site was not of special significance. The conservation authority did in fact make a last-ditch attempt at the hearing to claim that the hop-hornbeam and red osier dogwood growing on the site were "regionally rare" (!?) and that it was an "oversight" that the place was not designated as an environmentally significant area. The Commissioner was unimpressed with this claim, but it remains to be seen how he would respond were some spectacularly rare species involved.

Regardless of how the Commissioner would rule in such unusual circumstances, the major threat posed by the Hinder decision involves the incremental diminution, constriction and isolation of natural areas in the major valley systems. Even if (as may happen) economics and lack of municipal cooperation lead Mr. Hinder to abandon his project, the rule laid down in this decision reduces the leverage conservation authorities have to protect the natural integrity of all privately owned valley land.

The approach of the Mining and Lands Commissioner, as a tribunal, has been to interpret and apply the law strictly rather than to exercise a lot of case-by-case discretion. This has not always meant favouring the interests of the landowner -- the Commissioner has refused to order the permission of even the tiniest encroachments onto floodplains because of the potentially serious cumulative effects of individually insignificant encroachments. A government review of the Conservation Authorities Act is due to be released shortly, and that portends amendments to the legislation. The scope of the fill regulation is apparently not one of the matters under consideration. Considering the interpretation placed on "conservation of land" in the Hinder decision, it may take a rewording of the Act to give conservation authorities the comprehensive control of valley land development that many of us had assumed they'd always had.

Allan Greenbaum

# IN THE NEWS

## CONSERVATION AUTHORITY RULING ANNOYS TORONTO BIRD COUNTERS

One of the most significant alterations of the Toronto environment has been the development of the landfill known as the Leslie Street Spit. Fortunately the new headland's impact upon local wildlife populations has been quite well monitored and the Christmas bird count has always been a part of that monitoring system. Each year birders have received the co-operation of the authorities in conducting a Christmas bird census on the spit. That continuity was broken this year when the conservation authority, which recently took over management of the spit, flatly refused admission to the landfill. The decision was made by a lawyer concerned about the authority's liability. That concern was not an insurmountable problem during the many years the spit was managed by the Harbour Commission. The conservation authority's greater interest in rules and regulations than in the needs of the people whose interests those rules and regulations presumably are meant to serve [seems strange].

from an article by Barry Kent MacKay in the TORONTO STAR, Dec. 30, 1984

## HUGH HALLIDAY, 88, WROTE WILDLIFE ARTICLES IN THE STAR

One of Canada's best known naturalists, Hugh M. Halliday, 88, who wrote about wildlife for the Star for more than 40 years, died at his winter home in Florida. Mr. Halliday's feature stories appeared regularly in the daily Star and the Star weekly. He wrote five wildlife books which were best-sellers in their category. Mr. Halliday was a member of the Toronto Field Naturalists as well as a number of other naturalist organizations.

from the TORONTO STAR, Nov. 27, 1984

## AUTHENTIC JAPANESE GARDEN PROPOSED FOR HIGH PARK

Toronto may have a traditional Japanese garden constructed in High Park if all the arrangements can be worked out among the city, local residents, Metro Toronto's Japanese community and even the Japanese government.... City council approved a parks department report urging the garden be built in the park's southeast section near the duck and fish pond, just east of Colborne Lodge. Parks commissioner Herb Pirk said the garden would be a "significant cultural and recreational attraction."

The garden plan was sparked by members of Toronto's Japanese community who approached the city with offers to provide the necessary funding on the condition the city donate the land and maintain the garden once it has been built.

In addition, the Consul General of Japan is willing to pay the costs involved in bringing a garden design expert from Japan to judge the site for its appropriateness. The designer would also make recommendations to achieve design authenticity, which is necessary for fund-raising efforts.

Although the project has been approved in principle, a number of details, including the garden's size, still have to be worked out. The parks department wants to meet with area residents who could be affected and also wants a board of trustees established that would look after fund-raising activities, as well as representing the interests of the city's Japanese community.

from the REAL ESTATE NEWS, Nov. 30, 1984

IN THE NEWS (CONT'D)

THE Highbush Cranberry is waiting to get its due: The article on the bog or American cranberry was a beautiful lead-in to the colourful and festive side of the Christmas season. No question - this diminutive North American fruit has firmly established itself in the hearts and palates of much of the world.

But there is yet another North American native (from New Brunswick to British Columbia) with rival merit and which is waiting - as the American cranberry waited for Cape Codder Henry Hall - to claim its rightful place in the edible world. Our highbush cranberry (*Viburnum trilobum*) which grows to 10 feet, is not at all related to the *Vaccinium macrocarpon* but it has similarities of taste, colour and use. It should be distinguished from the similar European highbush cranberry, whose fruits are bitter.

I'd be surprised if the Indians did not also use it for pemmican. But the Canadian pioneers certainly did, and my mother relates how in central Alberta the children relished dipping bread into the colourful red syrup before cultivated fruits were available on the homesteads. Others used the syrup on pancakes and everybody enjoyed the jelly on toast and fowl - it was colourful, sprightly and distinctive in flavour. To my mind, few fruits surpass it for jelly and my wife often presents it as a distinctively Canadian gift. And to be Canadian, it has to be versatile. Manitobans use it for pies - seeds and all - and a friend who recently visited Saskatchewan told of cooking several bushels into ketchup. It is delightful for mixing drinks. Medicinally, it is not to be outdone by the bog cranberry, for it too has a modest amount of vitamin C, and I have heard of its use for quieting hemorrhoids. If Toronto's jelly connoisseur and craftsman Tommy Thomson has not yet discovered the highbush cranberry, he remains unfulfilled. It awaits a Canadian Henry Hall.

(Letter from Victor Chanasky, Professor, School of Landscape Architecture, University of Guelph in the GLOBE & MAIL, December 27, 1984)

#### "VALLEY" CAT PROBLEM

The problem [of cats reverting to the wild and living in valleys] isn't an isolated one, according to a Toronto Humane Society official. "Stray cats are everywhere," he said. "People who get tired of their house pets often just let them free. They gather anywhere people will feed them." He said one man in Scarborough has trapped and turned at least a dozen ravine cats over to the society in the past three months. Trapping and turning the animals over to the society or the local pound or shelter to be humanely destroyed is the only solution to the problem, said Bob Braham of the North York dog pound. But the animal control people, health departments and other government institutions will not do the trapping. Residents must borrow or rent traps and turn the live animals over to the authorities. The humane society or local pounds will advise residents where to get the traps.

from "Wild" cats pose a rabies threat to children" by Sterling Taylor in the Toronto Star, Aug. 12, 1984

IN THE NEWS (cont'd)

RESIDENTS OPPOSE PLAN FOR QUARRY

If a Toronto developer has its way, the shale quarry that once housed the Toronto Brick Works will hold eight office buildings with a 25-story tower, an apartment hotel, three apartment buildings, 35 townhouses, eight villas and 140 parking spaces... Residents whose homes overlook the wooded ravine and deep quarry fear an influx of traffic and increased use of facilities such as shops and schools. The ravine is both a source of beauty and an important geological study site. The land is designated as a conservation area and any development plans will require a change in zoning regulations. Members of a neighbourhood committee who thought the consultation process would be a free-wheeling brain-storming session were stunned by the 21-page proposal for the 13-hectare site. "There was no market study done, no consultation done as to what might have been appropriate."

from the GLOBE AND MAIL, Nov. 6, 1984

ARE METRO'S TERMITES CREEPING OUT OF CONTROL?

The white, ant-like insects have crawled from their traditional Metro homeland around Gerrard and Woodbine to as far as Scarborough and North York. They are also creating problems in at least 26 other Southern Ontario municipalities including Markham, Thornhill, Mississauga, Guelph, Hamilton, Dresden, Fergus, Leamington and in most of Essex County. Toronto has the province's most extensive infestations, however, the worst areas being the east end, from Jarvis Street to the city limits, and around Kensington Market from College to Queen streets and west to the Shaw-Ossington area. Metro Toronto enforces a by-law requiring the pre-treatment of all new buildings and also compelling homeowners to treat any infestations they find...the City recommends that infested wood and soil be chemically treated before disposal [however] there are no by-laws requiring that this be done.

from an article by Susan Watt in THE GLOBE AND MAIL, Dec. 6, 1984

WORRIED ABOUT FUMES? GET A SPIDER PLANT.

The increased use of ureaformaldehyde foam in cavity wall insulation and other synthetic building materials has resulted in a problem of indoor air pollution by formaldehyde fumes. The effects on people living or working in such an environment include eye irritation, respiratory trouble, and a host of allergies.

A team of scientists, working at NASA's Space Technology Laboratory in Mississippi, have investigated the feasibility of using foliage plants to purify formaldehyde-polluted air in enclosed environments such as space stations -- or indeed well-insulated homes (Economic Botany, vol. 38, no. 2).

They examined a number of common houseplants for their ability to purify air. Among these, devil's ivy (*Scindapus aureus*) was effective in removing half the formaldehyde from polluted air in 24 hours. However, the team got a surprise when they tested the spider plant (*Chlorophytum elatum*). Its ability to process polluted air was outstanding. In less than 24 hours levels of formaldehyde were so low as to be undetectable by the most sensitive of gas analysers.

Their research showed spider plants to be so efficient at purifying air that they drew up recommendations requiring the use of 70 spider plants to keep the averaged sized house formaldehyde-free. The team are now continuing their search for more vegetative air filters.

an article by Anne-Maria Brennan in BBC WILDLIFE, Vol 2, No. 8, Aug. 1984

IN THE NEWS (cont'd)

THE REVIVAL OF A SPECIES: Fifteen slender, white-plumed whooping cranes were all that stood in the way of the species' extinction in 1941. But now, after an intensive project by the Canadian Wildlife Service and the US Fish and Wildlife Service begun in Alberta in 1967, the population of the four-foot-tall, spindly legged crane - known for its comical courtship ritual of bowing, leaping and whooping its throaty call - stands at about 160. This year the crews of Canadian and US ornithologists who monitor the cranes' progress are particularly pleased with the birds' revival. Said David Klinger, a press officer with the US Fish and Wildlife Service: "we are cautiously delighted." The caution remains because chicks in the wild are not considered part of the flock until they have completed their first migration.

That migration is just now getting under way from Alberta where the cranes were grouping during the summer in preparation for a 2,600-mile flight south to winter in the Aransas National Wildlife Refuge on the southeast coast of Texas. The migration is a rigorous test, especially for the younger birds, with the sheer strain of the flight causing deaths. The Canadian Wildlife Service has been carefully nurturing and protecting the cranes in Alberta since early summer. The service began its part of the 1967 foster parent program by taking some of the birds' eggs and sending them in incubation cases to Patuxent. There, they were put into the nests of captive sandhill cranes, a more common species. The sandhills are grey, drab-looking birds about a foot shorter than the whooping cranes. After the success of that experiment, conservationists expanded the program in 1975. Conservation officers placed eggs from Alberta and Patuxent in sandhill cranes' nests in the wild at Gray's Lake, Idaho. The sandhills proved to be equally effective parents in the wild as they were in captivity.

The ornithologists remain concerned for the safety of the birds heading south on their treacherous migration. They acknowledge that this winter a few will be lost, perhaps as many as 15. That would be a blow, but a similar loss in 1941 would have meant extinction.

(MACLEAN'S MAGAZINE, November 5, 1984)

PANEL APPROVES SCALED-DOWN PLAN FOR GARRISON DAM: A scaled-down version of the Garrison water project that would not affect the Canadian environment was tentatively approved by a special US commission studying alternatives to the controversial North Dakota plan. Under the new plan, which is open to amendment, no water from the Missouri River basin would enter the Hudson Bay drainage basin. The new plan would reduce the amount of acreage to be irrigated by more than half, to about 90,000 acres, and would cut the total cost to about \$853-million from an estimated \$1.3-billion under the original scheme. Among other things, it would leave unfinished the Lonetree dam, for which the foundation has already been constructed.

(GLOBE & MAIL November 29, 1984)

IN THE NEWS (cont'd)

WARMING UP TO CHRISTMAS LISTING

...Farther south, Blenheim (Rondeau) may have best measured the balmy day [Dec. 16]. Birders there found six reptiles and amphibians out of hibernation in 17-degree weather. There were spring peeper, garter snake, painted turtle, leopard frog and green frog -- and a grey tree frog was even calling. Near Oakville, a small bat flew past.

from Peter Whelan's column in the Globe and Mail, Dec. 19, 1984

PARKLAND PINCHERS PINCHED

Homeowners living beside Metro's 3,723 hectares (9,200 acres) of parkland have been told fences, tool sheds, garages and tennis courts that encroach on public land will have to go. "People feel that because it's public property it's theirs to use," Metro parks commissioner Robert Bundy says. Metro's battle to keep parkland public began five years ago.

from the TORONTO STAR NEIGHBOURS NORTH, Nov. 27, 1984

HIGHWAY WILDFLOWERS WIN A ROUND: There was a time when spraying and mowing public roadsides were given top priority in Ontario road maintenance. Now economics has forced cutbacks, and highway boulevards - as they are in some US states and the Netherlands - have been given over to the unstinted growth of wildflowers. Splashes of colour have burst forth in the form of yellow vetches and mauve asters along roads in Middlesex and Lambton counties. Wild hollyhocks, lupins, Queen Anne's Lace and the common golden-rod were a traveller's joy this summer in Brant County and the Six Nations Reserve. Almost everywhere in southern Ontario there has been a rapid multiplication of clover and wild strawberry.

A spokesman for the Brant County roads department said weed spraying has been almost entirely deleted, though mowing in bulrush areas where the water flow may be impeded is carried out twice a year. Ralph Dell of the Ministry's landscape division said grass seed was replaced this spring with wildflower mixtures along a portion of Highway 404 and the Aurora Sideroad. However, he said the experiment wasn't too successful as the area became weedy and just as costly to maintain as grass.

(GLOBE & MAIL October 11, 1984)

<p>February crow          Calling from the west woodlot,          You do insist so!</p>
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haiku by Diana Banville

### LICHENS: NATURE'S PIONEERS

Paddling quietly along the tree-covered shores of Stoney Lake in the Kawarthas of south-eastern Ontario, we pause to wonder at a scraggly pine whose twisted roots cling to a rock with so little soil that the growth of the tree seems impossible. Yet, on the large pink granite rock beside the cottage something even more wonderful has happened and we walk over it without giving it a second thought. Small, greyish-green crusty plants called 'lichens' grow right on the rock without any soil at all!

Many species of these plants exist. About 370 kinds have been found within a thirty-mile radius of central Ottawa alone. They are found in almost every conceivable habitat and survive in Earth's harshest environments. Not developed to the point of having real leaves and stems, they grow on rocks high on mountain tops just below the snow caps. They survive in the cold of the Arctic and on desert rocks too hot for your hand. Lichens grow on rocky sea coasts and may be found on seashells cast up on the shore. They make their homes by fresh water lakes and rivers and cling to rocks submerged in streams. Some Galapagos turtles may sport lichens on their shells and certain weevils in New Guinea have these tiny plants on their backs. Lichens are found on leather, iron, bones, and pottery. Trees both living and dead, and soil support them. Many can be found in the spruce-fir forests of southern Canada and neighbouring parts of the United States.

Not until the 1860's was the true nature of lichens understood. In 1867 the idea that lichens are two plants in one met with a great deal of controversy. It is now placidly accepted that a lichen, the toughest of all growing plants, is a unique combination of an alga and a fungus, different from either partner living alone. No longer dependent on decayed matter, the fungus lets the alga manufacture its food and thus is able to live longer and in harsher environments. It has been found experimentally that fungus quickly benefits as soon as the alga has enough light and moisture, as it converts sugars from the alga into its own nutrients within three minutes after photosynthesis begins. It's a neat trick if you can get away with it. At present it is debated whether the fungus is a parasite on the alga or whether it supports the alga, protects it from injury, excessive drying and too much sunlight, provides minerals, and secretes substances which promote photosynthesis. In such a case, lichen partnership would be considered an example of 'symbiosis'.

Crustose lichens are the most primitive. They grow in flat, scabby patches, so firmly attached to the substance on which they are growing that they break up if you try to remove them. Sometimes crusts on limestone or granite invade the rock - between grains and crystals - to depths of several millimetres.

Foliose and fruticose lichens are more highly developed. Foliose lichens have leaf-like structures and are less firmly attached than are their crustose relatives. The hollow stalks of fruticose lichens often spring from a sod platform of frosty-green flakes. 'Fruits', which may be brightly coloured, often surmount these stalks as in the 'British soldier' with its scarlet cap.

Generally lichens live thirty to fifty years. In an unchanging environment they grow still more slowly. On an Arctic boulder there might be a patch of crustose lichens hundreds of years old.

How do lichens reproduce in nature? Strangely enough, we don't really know. Pieces of the lichen, such as the minute branchlets called 'insidia' may break off, or the powdery granules called 'soredia' (made up of algal cells and fungal filaments) may be discharged; carried by wind or animal, these may alight on a suitable surface and produce a new lichen. Many lichens 'fruit' and produce

## LICHENS (cont'd)

spores, and have been known to reproduce in this way in experimental studies.

How did lichens begin? The oldest fossilized lichens were found in Germany and France, in deposits of the Mesozoic era (135-225 million years ago). Lichen fossils have been found beautifully preserved in amber 25-70 million years old. Such plants are thought to have evolved several times in the past.

A fungus on algal carpets growing on damp logs on the floor of deciduous woodlands in North America may present a possible scenario of lichen evolution. This fungus is a parasite and kills the alga to get its food. The next step in evolution might occur if the fungus surrounded the algal cells without killing them as happens in a true lichen. Perhaps over the ages, algae and fungi, threatened by competition from related species, have formed lichen partnerships to save themselves from extinction.

If nature can do it, why not man? Since the dual nature of lichens was proposed in 1867, attempts have been made to combine an alga and a fungus artificially to make a lichen. Generally these attempts have met with qualified success. Algae which are found in lichens also exist independently in nature, but fungal components of lichens do not. In the laboratory, with too much moisture the alga grows away from the fungus; with too much food the fungus leaves its alga behind. Cultured on purified agar, which lacks nutrition, they are forced to seek each other's help. So it seems that, among lichens too, necessity may be the mother of invention. Even with improved laboratory techniques, lichens grow so slowly that their synthesis is time-consuming and difficult. But if we keep trying to combine different types of fungi and algae, some day we may create a new 'species' of lichen.

Where there is no sand, silt, nor clay, hard rock must be broken down to form soil. Natural forces of cold and wet are at work to do this, but they aren't alone in their task. Along with the mosses, lichens help lay the foundations for future life. On rocks where lichens grow they catch and hold wind-borne dust and the remains of other lichens that have lived and died there before them. Though lichens' ability to create soil may have been exaggerated, rhizines (filaments anchoring the plant to the rock) can absorb water from the atmosphere and expand, pushing their way into crevices and loosening tiny particles. As the rhizines dry, they shrink and pull, stripping off thin layers of rock and dust. Russian scientists found that, unlike higher plants, lichens and mosses could extract materials such as phosphorous and iron from rocks. These nutrients were added to plant remains and rock dust which had formed a 'primitive soil'. Small one-celled animals which speed the formation of humus have been found in this 'soil'. As well as helping to make soil, larger lichens improve the climate in their immediate vicinity. They reduce windspeed and help maintain humidity and a more stable temperature than is found on naked rock. Lichens and mosses are succeeded by grasses, ferns and small herbs; birches and evergreens which don't require a depth of soil may follow. Ultimately, perhaps, a forest may cover what was once only bare rock.

Man has found uses for lichens - in bread-making, in dye-making, in salve for burns, in plant pathology preparations, in mummification (ancient Egypt). A species of lichen on which sheep feed in the Libyan desert may have been the 'manna' which sustained the Israelites on their journey to the Promised Land. Animals too use lichens. Snails and slugs munch on them, as do caterpillars. Many species of birds use them in nest-building. Lichens which have white, unbranched, worm-like strands are used by golden plovers on St. Lawrence Island in the Bering Sea, to build nests which are camouflaged by brightly coloured lichens and Arctic flowers.

## LICHENS (cont'd)

Strontium 90 and Caesium 137 constitute particular problems in countries which have delicate Arctic ecologies. Here these materials which are released by nuclear explosions become absorbed by the lichens, thus entering the food chain which goes to caribou and eventually to man. If caribou were rendered useless as food for people, extensive northern areas would become incapable of supporting human life.

Hardy as these tiny plants are in the face of the powerful forces of nature, they find city life difficult. Here they are subjected to low humidity and higher temperatures. Native trees hosting lichens are cut down and replaced by lichen-free nursery stock. Lichens are very sensitive to air pollution, particularly sulphur dioxide from industrial processes. In a polluted city, the green algae fade in a few months and the plants die.

Lichens have their own beauty. Some lichen fungi secrete acids which give the plants a brilliant yellow or orange-red colour. Rocks with lichens attached can be used to add colour to rock gardens, though this is not recommended for a large city where they usually die of air pollution. Around Churchill, Manitoba, these plants add colour to the grey rocks beside the cold blue of Hudson Bay.

Claire Brownscombe

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- THE VANISHING LICHENS - Their History, Biology & Importance - by David Richardson, David & Charles, Newton Abbot, London & Vancouver 1975
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- LICHENS OF THE OTTAWA REGION - Syllogeus No. 29 - Irwin M. Brodo - National Museum of Natural Sciences, Ottawa
- LICHENS OF THE OTTAWA AREA - The Crustose Species, by Irwin M. Brodo
- VEGETATION, ORGANIZATION, AND DYNAMICS OF LICHEN WOODLAND COMMUNITIES IN THE NORTHWEST TERRITORIES, CANADA - by E.A. Johnson, Dept. Biology, U. of Calgary

Further Reading on Lichens in TFN Library (690-1963):

- BIOLOGY OF PLANTS second edition by P. H. Raven et al., Worth Publishers 1976. pages 228-232 and bibliography p. 243.
- NON-FLOWERING PLANTS, A Golden Guide, by F. S. Shuttleworth et al., 1967 160 pages (pages 93-99 on lichens).
- HOW TO KNOW THE LICHENS by Mason E. Hale. Wm. C. Brown Publishers, Dubuque, Iowa, 1969. 206 pages plus illustrated glossary and index. An illustrated key.

Strong in loveliness, they neither  
blanch in heat nor pine in frost.  
To them, slow-fingered, constant-hearted,  
is entrusted the weaving of the dark, eternal  
tapestries of the hills.

John Ruskin

THOREAU -- an annotated bibliography• THOREAU'S WRITINGS

Journal, 1837-61. Undoubtedly his greatest work, though, due to its size, not generally read today. Yet only by reading the full Journal can one gain a true appreciation of Thoreau's accomplishment. Best present edition is the two-volume Dover reprint of the 1906 Torrey and Allen edition. Peregrine Smith Books is preparing a fourteen-volume paperback version of this same edition, which will aid portability (the Dover set weighs over eleven pounds). The Writings of Henry D. Thoreau is currently being prepared at Princeton University Press, and will include the full Journal. When this becomes available (two volumes now are) it will be the definitive scholarly text.

Walden, 1954. Many editions are available. The definitive one, however, is the Princeton Edition, available in paperback.

A Week on the Concord and Merrimack Rivers, 1849. By far the best version is again the Princeton Edition (1980). Many excerpts have been printed from this book, but it can be judged only in its entirety. This was Thoreau's first book, and a financial failure. Recent criticism has tended to find much of value in this book (see the "Historical Introduction" in Princeton Edition).

The Maine Woods, 1964. The only reliable version is the Princeton Edition, issued as paperback in 1983. This posthumously-published book records Thoreau's three trips to the wilds of Maine in 1846, 1853 and in 1857. It contains a fascinating narrative of Thoreau's developing conservation ethic, his reaction to native Indians, and wilderness.

Nature Essays. An excellent edition is The Natural History Essays, 1980, from Peregrine Smith Books. This inexpensive paperback contains Thoreau's major nature essays first published in magazines and/or read as lectures. Additionally it offers the important but little-known essay, "Huckleberries."

• OTHER STUDIES

Harding, Walter. The Days of Henry Thoreau (New York: Dover Publications, 1982, reprint of 1970 edition). This is the most comprehensive and factual biography.

Lebeaux, Richard. Thoreau's Seasons (Amherst: University of Massachusetts Press, 1984.) A deeply moving, psychoanalytically-oriented study of Thoreau's later years.

Howarth, William. The Book of Concord (New York: Viking Press, 1982. Reprinted in 1983 by Penguin Books). An indispensable study of the Journal, and Thoreau's later works.

• SOURCES OF THOREAU LITERATURE

Difficult to find in Canada. There seems to be no comprehensive selection available here. The following stores do carry some titles:

SCM Book Room, 333 Bloor Street West, 979-9624. Sometimes has a good stock of the Princeton Edition.

Bob Miller Book Room, 180 Bloor Street West. 922-3557. Various editions of Walden.

Albert Britnell Book Shop, 765 Yonge Street. 924-3321. Will order from most publishers.

## THOREAU (cont'd)

Open Air Books and Maps, 10 Adelaide Street East. 363-0719. Very good selection of titles, and always the excellent "Literature of the American Wilderness" series from Peregrine Smith.

Metropolitan Toronto Library, 789 Yonge Street. 928-5284. The best selection for reference in the city. But it is far from complete, and does not include the Journal!

The Thoreau Lyceum, 156 Belknap Street, Concord, Massachusetts, U.S.A. 01742 (617) -369-5912. This "learning centre" carries a complete line of new and used books, both by and about Thoreau. A continuously updated list of books is available. Payment in U.S. dollars. The best single source of Thoreau materials.

James Garratt

THE FABLED REYNARD

Until recent years the red fox of North America was called *Vulpes fulva*, a name which suggests a "fulvous" (yellowish) animal. But photos in TFN Library show it is (typically) just as "red" as THE fox of Europe. In fact they are now considered to be the same species, *Vulpes vulpes*, which is "circumpolar", embracing New World and Old.

Attempts have been made to change the English name of the red fox to "the coloured fox", but it hasn't caught on. It is usually rufous with white cheeks, throat, and belly, but can be black or "silver" (black with white hairs interspersed), or "cross" (tawny with a dark cross on back and shoulders). All colour phases usually have a white-tipped tail, but occasionally the tip is black. There are variations of these colour phases too.

So close to the Eurasian species as to be identical with it, and yet not very closely related to other New World foxes. Though no other fox occurs in the Toronto Region, along the St. Lawrence the grey fox, *Urocyon cinereoargenteus*, may be encountered - grizzled grey, rusty below, having a tail with black dorsal streak and tip. The gray fox, a south-temperate species dependent on trees, is becoming scarce as trees disappear, while the red fox extends its range, and is now found over most of Canada and the United States - both in its original mixed forest habitat and adapting to brushy semi-open countryside, including farmland (as it does in the Old World), tundra, and as we know, even to cities providing suitable cover.

Diana Banville

In TFN Library:

RED FOX, 3 pages. Canadian Wildlife Service "Hinterland Who's Who" series\*  
ONTARIO FISH AND WILDLIFE REVIEW Spring 1976, excerpt: "Recent Research on  
the Red Fox" by D. R. Voigt

A FIELD GUIDE TO THE MAMMALS, by Burt and Grossenheider, Peterson series  
MAMMALS OF THE GREAT LAKES REGION, by Wm. H. Burt, U. of Michigan Press  
HIGHLAND ANIMALS by David Stephen

\*with bibliography

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 THE WEATHER THIS TIME LAST YEAR
 

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City of Toronto, February 1984

Like the rest of Ontario and in fact much of Canada, Toronto experienced its warmest February on record in 1984 with a mean temperature of 0.5° C beating the record set 30 years ago by 1/10 degree. The records go back to 1841. Warmth records are as follows: mean minimum temperature of -2.3° C warmest ever (but mean maximum of 3.3° C highest only since 1976); highest overnight low ever on Valentine's Day of 7.0° C; warmest February night (old record of 6.6° C set on Feb. 19, 1981, but the record may be invalidated by the climatological day which was changed in 1969 -- the times of day at which the maximum and minimum are taken); warmest Valentine's Day on record at 9.2° C, and a record-long above-freezing spell from the morning of the 10th to the evening of the 20th -- 10½ days during which it never went below freezing at night! (Former record above-freezing spell was 10 days from the forenoon of February 15, 1981 to the small hours of February 25, 1981.) It hit 13.9° ON Feb. 23rd; this was the second-highest February temperature ever recorded (highest 14.2° in 1976, on the 25th). On this day the airport hit a phenomenal 14.9° which is the warmest day for any February in any station in the Toronto region.

Spring bulbs were beginning to show and hazel catkins were out this month. The grass began to turn green after the 18th or so. However, the plant growth was no further ahead than February 1981 or 1983. In 1983 snowdrops were seen and in 1976 maple keys were sprouting -- neither event was observed in 1984. Perhaps they knew what was in store for them in March.

The month had two significant precipitation events: a heavy rainfall on the 13th-14th, and a major winter storm on the 27th-29th. The rainfall of about 36 mm was the most since September 14, 1982 for one day. It was the greatest 24-hour February rain since Feb. 23, 1925. This deluge resulted in flooding and extensive melting of snow that had lain since about Christmas. The Don Valley was flooded and two brothers were swept to their deaths in Black Creek.

Colder air that arrived after the 24th was reinforced by the worst winter storm of the 1980's so far on the 27th-29th. 36.6 cm fell in total, 24.4 cm on the 28th. This was our heaviest snowstorm since December 5th-8th, 1977 and the most disruptive winter storm since Jan. 26, 1978. Snowfall for the month was 47.7 cm, the most since 1967. Rainfall at 40.0 mm was the most since 1981. Total precipitation was 81.6 mm, the highest since 1971.

Sunshine was slightly below normal but was above the values for our other outstanding warm February's of 1954, 1976 and 1981.

Winds were light at 17.7 kn/h and were below normal for the 3rd year.

The pattern of severe cold early in the winter followed by spring-like conditions later in the season seems to be a common one in recent years, to wit 1976, 1977, 1981, and 1984.

Gavin Miller

### This Month's Cover

"Red Fox" by Owen Fisher

Our Toronto ravines fit nicely into the category of the original habitat of the red fox - mixed hardwood and softwood forest. Owen Fisher "caught" this one being typical. As it continued on its way, little did it know that it had ended up as a subject for one of Owen's etchings - "brush" and all!

# COMING EVENTS

## COMING EVENTS

### Civic Garden Centre

The following courses will be offered at the Civic Garden Centre, 777 Lawrence Ave. E., at Leslie. Telephone 445-1552 for details.  
 Gardening with Wildflowers - 5 weeks, commencing Wednesday, February 6, 8.00 p.m.  
 Botanical Drawing and Painting - 8 weeks, commencing Tuesday, March 5, 10.00 a.m.

### Kortright Centre for Conservation

Winter Wildlife Detective Hikes will be held on February 2, 3, 9, 10, 16 at the Kortright Centre, Pine Valley Drive, 3 km west of Highway 400, just south of Major Mackenzie Drive. Telephone 661-6600.

### Royal Canadian Institute

The following lectures will be offered Sunday afternoons at 3.00 p.m. at the Medical Sciences Auditorium, University of Toronto. Admission free. Telephone 979-2004.

January 27 -- Canada in Space: Past, Present and Future - Roberta L. Bondar, M.Sc., Ph.D., M.D., F.R.C.P., Canadian Astronaut Program, National Research Council.

February 3 -- Memory and Aging: Downhill all the Way? - Fergus Craik, B.Sc., Ph.D., Professor of Psychology, Erindale Campus, University of Toronto.

February 10 -- Joint Meeting with TFN -- Trail of a Naturalist-Conservationist - Charles Sauriol, Special Advisor and former Executive Director, The Nature Conservancy of Canada.

February 17 -- The Imperial Highway: A Commemoration of the C.P.R. Centennial - Omer Lavalée, Corporate Historian and Archivist, Canadian Pacific Limited.

February 24 -- The David Dunlap Observatory: Its Origins, Accomplishments and Future - J. Donald Fernie, M.Sc., Ph.D., F.R.S.C., Director, David Dunlap Observatory; Chairman, Dept. of Astronomy, University of Toronto.

### Royal Ontario Museum

The ROM will present a series of programs about the animal kingdom January 12, 19, 26, February 2, at 2.00 and 3.30 p.m. Telephone 978-4972 for details.

An exhibition titled "A Brush with Life" of watercolours, drawings and pewter sculptures by Glen Loates will be shown at the ROM from February 15 to May 15.

### TV Watching

Wednesday, January 23, 8.00 p.m. - CBC THE NATURE OF THINGS - documentary on toxic poisons in the Great Lakes.

Series of 8 programmes commencing Wednesday, February 6, 8.00 p.m. - A PLANET FOR THE TAKING, with David Suzuki. An alternative perspective on the way things work in nature - and our place in it.

## COMING EVENTS (cont'd)

## MINERAL EXPLORATION CLASSES - Toronto 1985

Presented by the Ministry of Natural Resources, Ontario Geological Survey  
 Will be held Mon. Feb. 25 to Sat. Mar. 2, 6 evenings, 7 to 10 pm each evening  
 NO CHARGE, free literature, everyone welcome  
 Registration at classes 6:30 to 7  
 Ontario Room, Macdonald Govt. Bldg., 900 Bay St. (Bay and Wellesley)

SAVE THE ROUGE VALLEY SYSTEM - monthly meeting  
 Thursday February 8  
 West Rouge Public School at 401 Friendship Ave.  
 For further information call Lois James at 284-6409

## ~~THE~~ NATURE TRIPS

NATURE TRAVEL SERVICE, 127A Princess St. Kingston, Ont. K7L 1A8 (613-546-3065)  
 12th season of nature tours, mostly led by well-known naturalist, Gus Yaki  
 A variety of trip and topics offered (weekends in Ontario to out-of-the country trips)

CANADIAN NATURE TOURS, 355 Lesmill Rd., Don Mills, Ont. M3B 2W8 (416-444-8419)  
 co-sponsored by the Federation of Ontario Naturalists and the Canadian Nature Federation  
 Winter, spring, northern, canoe, backpacking and southern trips available

CLIVE AND JOY GOODWIN. Plans are being made for trips to Point Pelee in April. For information call the Goodwins at 249-9503.

FEDERATION OF ONTARIO NATURALISTS' membership trips (Jan. to May 1985)  
 For information about 11 day-trips at \$15 each and 3 weekend-trips at \$95 each contact FON Membership Trips, P.O. Box 1647, Port Elgin, Ont. N0H 2C0 (519) 832-5928.

Federation of Ontario Naturalists ANNUAL GENERAL MEETING AND CONFERENCE  
 In Hamilton, Ont., May 24-26, 1985. Outings in the area planned.  
 For complete program and registration form contact FON Conference 85,  
 106 Reding Rd., Ancaster, Ont. L9G 1M6 (416-681-2838)

Outings in the area planned.

A word about the Canadian Wildlife Federation is called for... Formed in the 1960's by hunting and fishing groups to represent their special interests, it must under no circumstances be confused (although such confusion seems suspiciously easy) either with the Canadian Wildlife Service -- a federal government agency -- or the Canadian Nature Federation -- an affiliation of conservation and environmentalist groups. In its solicitations for funds and public support, the CWF proclaims it is devoted to "enhancing wildlife populations". What it does not explain is that this "enhancement" is, to a very considerable degree, intended to provide living targets to satisfy its sportsmen members.

from Sea of Slaughter by Farley Mowat, McLelland and Stewart, Toronto, 1984

# TFN MEETINGS



## GENERAL MEETINGS

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

Monday, February 4, 1985. 8 p.m. (Coffee at 7:15)

Nature of Things - CBC films  
"Frogs, Snakes and Turtles"  
"Pelee"

Monday, March 4, 1985. 8 p.m.

The Private Life of a Moose  
- Dr. Edward Addison, Ministry of Natural Resources, Maple

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## GROUP MEETINGS

### Bird Group

Wed. Feb. 20 Gulls  
7:30 p.m.

Location: Room 251, Education Centre, 155 College Street,  
1 block west of University Avenue.

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### Botany Group

Thur. Feb. 14 Plant Identification Workshop  
7:30 p.m. - Grasses in the Toronto Area  
(Continuation of first workshop in October)

Location: Room 207, Botany Bldg., University of Toronto,  
northwest corner of College and University.

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### Environmental Group

Thur. Feb. 28 Planning Issues of the Leslie Street Spit  
7:30 p.m. (Outer Harbour) - Larry Field, Metro Toronto  
Region Conservation Authority.

Location: Huron Public School, 541 Huron Street, 1 block west  
of St. George subway station.

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### Junior Club

Sat. Feb. 2 Families of Flowering Plants  
10:00 a.m. - Dr. Bill Andrews, Ontario College of Education,  
U. of T.

Location: Planetarium Auditorium, immediately south of  
Royal Ontario Museum.

All TFN Publications are for sale at monthly General Meetings.

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SECOND CLASS MAIL REGISTRATION PENDING

**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.

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Members are encouraged to submit notices, reports, articles up to 1500 words in length, and illustrations at least six weeks before the month in which the event is to take place or the material is required to appear.

Other Publications	
	Price
TORONTO FIELD NATURALISTS CLUB: ITS HISTORY AND CONSTITUTION by R.M. Saunders, 1965	\$ .50
CHECKLIST OF PLANTS IN FOUR TORONTO PARKS: WILKET CREEK, HIGH PARK, HUMBER VALLEY, LAMBTON WOODS, 1972	.50
TORONTO THE GREEN, 1976	2.50
AMPHIBIANS AND REPTILES OF METRO TORONTO, 1983	2.00
TORONTO REGION BIRD CHART, 1983	2.00
FIELD CHECKLIST OF PLANTS OF SOUTHERN ONTARIO, 1977	.25 ea. 5/\$1.00 or
TORONTO FIELD NATURALISTS' RAVINE SURVEYS . . . . . 2.00 ea.	
Survey #1 - Chatsworth Ravine, 1973	
Survey #2 - Brookbanks Ravine, 1974	
Survey #3 - Chapman Valley Ravine, 1975	
Survey #4 - Wignmore Ravine, 1975	
Survey #5 - Park Drive Ravine, 1976	
Survey #6 - Bunick Ravine, 1977	
Survey #7 - Taylor Creek-Woodbine Bridge Ravine, 1977	
Survey #8 - West Don Valley, 1978	
A GUIDE TO THE JIM BAILLIE NATURE RESERVE, 1977 . . . . . 1.25	
INDEX OF TFN NEWSLETTERS (1938-1978) . . . 10.00	
ANNUAL TFN INDEX, 1979, 1980, 1981, 1982 . . .25 ea.	

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\$20.00 Family (2 adults same address)	\$15.00 Senior Family (2 adults 65+)
\$15.00 Single	\$10.00 Single Senior
\$10.00 Student	Tax receipts issued for donations

Publication orders (add 50c per item for postage and handling), membership fees and address changes should be sent to:

83 Joicey Blvd., Toronto, Ontario M5M 2T4 (488-7304)

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