

TRAIL & Landscape

A PUBLICATION CONCERNED WITH
NATURAL HISTORY AND CONSERVATION

Wetlands



THE OTTAWA FIELD-NATURALISTS' CLUB

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The Ottawa Field-Naturalists' Club

— Founded 1879 —

President

Daniel F. Brunton

Objectives of the Club: To promote the appreciation, preservation and conservation of Canada's natural heritage; to encourage investigation and publish the results of research in all fields of natural history and to diffuse information on these fields as widely as possible; to support and co-operate with organizations engaged in preserving, maintaining or restoring environments of high quality for living things.

Club Publications: THE CANADIAN FIELD-NATURALIST, devoted to publishing research in natural history; TRAIL & LANDSCAPE, a non-technical publication of general interest to local naturalists. THE SHRIKE, a local birding newsletter, is available by separate subscription.

Field Trips, Lectures and other natural history activities are arranged for local members. See "Coming Events" in this issue.

Membership Fees: Individual (yearly) \$13
Family (yearly) \$15

Sustaining (yearly) \$30
Life (one payment) \$300

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Members' Soiree

Help make this another great evening by contributing your *COLLECTIONS, MEMORABILIA, SLIDES, PHOTOS* and *ART* to the Natural History Display. Those wishing to contribute please contact the following before April 20.

Photography (slides, black and white or colour prints)
slides - Charlie Beddoe (733-9026, 995-5228)
prints - Pat Osler (741-0199)

Art (paintings, drawings, sculptures, etc.)
- Janette Dean (728-0695)

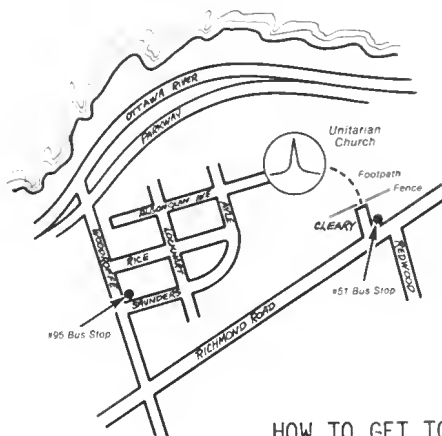
Collections and Memorabilia
- Eileen Evans (741-0789)

Prints and artwork must be mounted for easy hanging.

There will be a prize awarded for the best Macoun Club entry in each of the three age classes* for each of the three categories of Photography, Art, and Collections and Memorabilia. Any adolescents who are OFNC members but not Macoun members are also welcome to compete in the appropriate age classes.

See centrefold for complete information on the Soirée.

- * Junior (grades 3 to 6)
- Intermediate (grades 7 and 8)
- Senior (grades 9 to 13)



HOW TO GET TO THE SOIREE

Anne Hanes Natural History Award

At the council meeting of December 14, 1981, the Awards Committee recommended that the recently adopted Naturalists' Award (*Trail & Landscape* 15(5): 228-229) be named in honour of Anne Hanes, who died recently (*Trail & Landscape* 16(1): 63). The following wording was adopted at that meeting:

The Anne Hanes Natural History Award
This award is given to a Club member who, through independent study or investigation, has made a worthwhile contribution to our knowledge, understanding and appreciation of the natural history of the Ottawa Valley.

It has been decided that the most suitable trophy would be an objet d'art on a natural history subject created by a Club member. All artistically inclined Club members are asked to submit such things as drawings, paintings and sculptures of any natural history feature. Submissions will be judged by the Awards Committee, and the winner will be approved by the Council. The trophy will be given to winners of the Anne Hanes Natural History Award for a period of one year. After one year, it will be returned to the Awards Committee so that it can be enjoyed by future winners.

A number of donations have come, and are coming, to the Club in memory of Anne. A suitable financial price will be drawn from this fund for the winning artist. It is preferred that the actual sum not be specified at the present time as the fund is still growing, and we hope to award a sum appropriate to the value of the winning piece.

Submissions and any questions can be directed to

Stephen Darbyshire
Chairman, Awards Committee
7 Braemar Street
Ottawa K1K 3C3

telephone 749-9317 (home) or 996-1665 (work).

THE MACOUN FIELD CLUB urgently requires an Advisor for the Senior Group. If you like young people, have a strong background in natural history, are available every Friday afternoon during the school year, and are interested in helping, please contact Stephen Darbyshire, Chairman, Macoun Committee.

Council Report

Bill Gummer

The 103rd Annual Business Meeting took place on the -29°C evening of January 12 in the National Museum of Natural Sciences with 70 members in attendance. Following the business meeting, members were delighted by the National Film Board movie *Images of the Wild: A Portrait of Robert Bateman*.

Reports from standing and special committees were read, and these, along with the full report of the Council, will appear in a forthcoming issue of *The Canadian Field-Naturalist*. Some highlights of the year are summarized below.

Dr. Lorraine Smith, editor of *The Canadian Field-Naturalist* for the past nine years, regrettably did not accept reappointment. She has been replaced by Dr. Francis Cook. The Club is indebted to Dr. Smith for her long and productive service.

Excursions and Lectures Committee organized not only nine monthly meetings and forty-five other functions, chiefly outings, but also the Soirée which replaced the annual banquet. A second Soirée is planned for 1982.

The Conservation Committee has played a role in local and provincial issues, and also in national matters, including the questions of export of gyrfalcons from the Northwest Territories and of breeding of raccoon dogs in Ontario, subjects referred to in *Trail & Landscape* previously.

A new award structure has been drawn up which includes a Member of the Year Award, an OFNC Service Award, a Conservation Award, and the Anne Hanes Natural History Award.

At a special meeting of the Council on 23 November, By-law 15 was amended to raise annual fees to the levels shown on the inside front cover. The last fee increase was in 1977. In the interim, the revenue increase remained constant while expenses increased steadily and overtook revenue in 1981. Finance Committee brought forward the recommendation for the change in fee structure in order to avoid further deficits.

Membership remained constant (1223 vs. 1220 in 1980), but within this figure there were about 160 resignations balanced by a similar number of new members.

At the Annual Business Meeting several motions approving constitution changes were approved. In particular, there is now

provision for two Vice-Presidents; the Executive, Conservation and Awards Committees become standing committees; and the Recording Secretary will be a member of the Executive Committee.

Club Officers, Members of the Council and Committee Chairmen

The following slate of officers and members of the Council were approved:

President	Dan Brunton (829-7307)
Vice-President 1	Paul Catling (828-8392)
Vice-President 2	Chuck Gruchy (489-3748)
Recording Secretary	Frank Pope (829-1281)
Corresponding Secretary	Bill Gummer (596-1148)
Treasurer	Paul Ward (722-1203)
Past President	Roger Taylor (731-9270)

Other councillors: Ron Bedford, David Cameron, Barbara Campbell, Bill Cody, Francis Cook, Stephen Darbyshire, Ellaine Dickson, Stephen Gawn, Gordon Hamre, Jim Jackson, Sally Jackson, Diana Laubitz, Rick Leavens, Betty Marwood, Ken Strang, Ken Taylor, Peter Walker. Names of newcomers are underlined, and we welcome them at the same time that we say au revoir to those leaving: Frank Bell, Dave Bewley, Courtney Gilliatt, Frances Goodspeed, Barry Henson, Aileen Mason and Cam Montgomery.

At the first meeting of the new Council on January 18, the following Committee Chairmen were chosen:

Executive	Dan Brunton (829-7307)
Publications	Ron Bedford (733-8826)
Excursions and Lectures	Paul Catling (828-8392)
Finance	Chuck Gruchy (489-3748)
Membership	Roger Taylor (acting)
Conservation	Stephen Gawn (741-8597)
Awards	Stephen Darbyshire (749-9317)
Birds	Tom Hanrahan (226-5400)
Education and Publicity	Peter Walker (749-3287)
Macoun	Stephen Darbyshire (749-9317)
Centennial	Hue MacKenzie (226-1997)
Nominating	Bill Gummer (596-1148)
Study Groups Coordinator	Paul Catling (828-8392)

Finally, the Club would like to thank once again the National Museum of Natural Sciences for its valuable help with meeting rooms and the Dinobus.

President's Message

In the grand, early days of The Ottawa Field-Naturalists' Club it was customary for a newly elected President to present an Inaugural Address. I thought it would be a nice touch to resurrect that fine old tradition, though perhaps not with the Victorian elegance that characterized those earlier efforts. The comments I made at the recent Annual Business Meeting were directed as much to the general membership as to those who braved a frigid and blustery winter night to attend.

Fletcher ... the Macouns ... Ami ... Taverner ... Groh ... just a few of the famous names who have contributed to the success and endurance of The Ottawa Field-Naturalists' Club for over one hundred years. In all, we've had 56 Presidents, and it is safe to say that Roger Taylor will be counted high amongst them. No-one has served in this position longer. Few have served with such distinction.

It's usual to extoll the virtues of an out-going President, to thank him for his dedication and hard work, to cite him for his lasting contribution to the organization, and to thank him for steering the ship so successfully during his tenure. In a sense, it's unfortunate that we do this so automatically because it tends to lessen the impact when a truly outstanding leader steps down. Roger Taylor has been just such a leader for the Club, and all the clichés about excellence and dedication and hard work really do apply. During his stewardship the Club has undergone a revitalization unlike anything it has seen this century. Certainly, many members have contributed significantly to this revitalization. Not the least of those was Loney Dickson, who would be in my position were it not for the lure of the West. Nevertheless, for creating the climate and momentum for this revitalization, and for his fine personal efforts in this regard, we all owe Roger a tremendous vote of thanks. I am sure I'm speaking for everyone in the Club when I express sincere gratitude and appreciation for all of his tremendous work.

I must say, I'm facing the Presidency with some trepidation. That's in part due to the suddenness of all this and in part due to the difficulty of following Roger Taylor's performance. Still, I look forward to the challenge and greatly appreciate the honour of your confidence.

It seems to me that an important function of the President is to ensure the continuity of the long traditions of the Club, traditions that have made it the unique and nationally significant organization that it is. In this light, I recently looked back at the Inaugural Address of the incoming President for the year 1882 and was struck by how clearly our traditions have been maintained and how effectively Roger Taylor has set the stage for the

1980s. The President for 1882 was none other than the famous James Fletcher, founder and prime mover of The Ottawa Field-Naturalists' Club. In his address, he noted that the Club's influence and value were being felt in increasingly wide circles in Canada, and that this resulted from the solid foundation of natural history expertise upon which the Club was based. That immediately reminded me of several contemporary achievements within the Club ... and I speak here of the outstanding contribution that *Trail & Landscape* has made to both the natural history and naturalists of the Ottawa area and beyond, the establishment of the natural history study groups, and the tremendous activities of the Conservation Committee ... to name a few.

Fletcher would have been proud of us!

In his address, Fletcher went on to encourage the membership to keep detailed field notes, to collect and document specimens carefully, and generally to develop observational skills as naturalists to the greatest degree possible. In this way, he seems to have been saying, we can make our greatest contribution to natural history and to the natural environment. The validity of this argument, especially when we think of the important conservation issues before us today, is as great in 1982 as it was in 1882, or greater.

I will end this address with the words of that far-sighted naturalist and scientist as he said them one hundred years ago and at a place not far from where we now stand:

"It is the duty of everyone who takes a true interest in the welfare of his country to strive to help in every way possible the cause of science so that no benefits may be lost ..."

There is our challenge for the 1980s, spoken in century-old words. Let's rededicate ourselves to becoming the best naturalists that we know how to be, and let's share the knowledge that we learn in the process. By doing that, we serve ourselves, our community, our country *and* nature. It's a worthy challenge and one I look forward to sharing with you.

Thank you once more for the honour you have given me this evening. I hope I will be able to do justice to that confidence and that, with your help, I will be able to maintain the legacy of James Fletcher, John Macoun, Henry Ami ... and Roger Taylor.

It is indeed an honour and a privilege to serve as the President of The Ottawa Field-Naturalists' Club for 1982; I'm looking forward to meeting many members with whom I was previously unacquainted. Please do not hesitate to give me a call (829-7307) or drop me a note (2683 Violet Street, Ottawa K2B 6X1) if you wish to discuss any aspect of the Club.

Dan Brunton

Wetlands Policy Workshop

January 9, 1982

Winter, when the wetlands are sleeping, may seem like a strange time to have a meeting of those concerned with wetlands policy. However, the Ministry of Natural Resources has asked for input into the making of a policy aimed at the protection of wetlands, and 150 concerned individuals showed up on a cold Saturday morning to make the entire process a rousing success.

The morning speakers set the tone for the workshops which took place in the afternoon sessions. Speakers were Greg Wickware (Peatlands), Cam McLeod (Fisheries Policy towards Wetlands as Fish Habitat), Gerald McKeating (Wetlands as Wildlife Habitat), Isabel Bayly (Values of Wetlands to Society), and Ron Reid (Towards a Wetlands Policy for Ontario). All speakers were enthusiastically received, applause was generous, and discussions following each presentation were lively and illuminating.

After lunch, the participants broke into five discussion groups aimed at suggesting recommendations for the protection of wetlands. Chairmen for these sessions were Greg Wickware, Doug Dodge, Dave Whatton, Isabel Bayly and Ron Reid. Here again, discussions were spirited, and many interesting suggestions were made and recorded.

When, at 3:30 p.m., the plenary session was held to hear the results of the workshops, there were many useful and thoughtful suggestions put forward. In all, about 39 recommendations emerged, many of which received unanimous approval, while a few were received with some dissensions. These latter were agreed to be reviewed and reworded before forwarding to the Ministry.

Since 39 recommendations are really too many to include in a report as brief as this one, perhaps the example of the four recommendations of the Peatland workshop group will serve as examples, and these follow.

1. Forested peatlands play a significant role in the forest industry of northern Ontario. Since these sites are particularly sensitive to disturbance, guidelines should be developed to ensure their proper management and long term productivity. Forested peatlands are and must be regarded as a renewable resource.
2. (a) A more detailed inventory on the nature and type of peatlands is urgently required. A classification/evaluation system must allow for priority ranking among peatlands before development occurs. Such a system would entail the ranking of in-

dividual peatlands on the basis of ecological, social and economic factors.

(b) Due to their general scarcity and high social and ecological value, high protection priority should be afforded the peatlands in southern Ontario. When peatlands are deemed significant for social, ecological or hydrological reasons, conflicts with other interests, e.g., agriculture or peat extraction, should be resolved through a system of compensation or tax incentives.

3. Guidelines governing exploitation and development similar to those required under the Pits and Quarries Act are required and should be developed concurrently with the inventory process.
4. Despite the growing interest in peatlands, our understanding of their functioning and role is still comparatively weak. A more complete understanding of the long-term values of peatland ecosystems is required. Support for further intensive research from government, industry and other institutions is therefore essential.

In the other four workshops, the thrust was principally on recommendations related to freshwater wetlands.

The day-long sessions ended with thanks to all from the excellent chairman, Dr. V.E.F. Solman, who, among many others, urged that each and every one write to the Ministry as individuals, expressing their views and presenting their recommendations. Only then can the Ministry come to appreciate the concern felt by many people in the province for the protection of the wetlands of Ontario.

Isabel Bayly

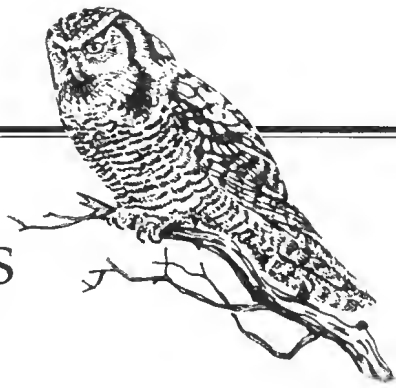
We ask each and every reader of Trail & Landscape to consider the importance of wetlands. If you have any doubt that the wetlands of Ontario are endangered, please read Jane Topping's account beginning on page 111.

Then write, expressing your concern for the preservation of the wetlands of Ontario, to

*The Honourable A. Pope,
Whitney Block,
99 Wellesley Street West,
Toronto, Ontario
M7A 1W3*

as soon as possible.

Recent Bird Sightings



Val Bernard Ladouceur
Bruce M. Di Labio

This account of the November-December period will probably be the shortest *Recent Bird Sightings* on record since the status of many of the birds in the Ottawa area is summarized more than adequately in *Ottawa Area Christmas Bird Counts* immediately following. However, while the rare bird harvest can hardly be described as bountiful, there were some birds worth noting. The relatively mild December temperatures also served as fertile ground (sticking to agricultural terms) for the survival of a number of overwintering species. January has not been so kind.

A Common Loon and a Red-necked Grebe were present on the Ottawa River until December 4 and 17, respectively. A Great Blue Heron remained in the Shirleys Bay area until December 29.

Ottawa's fourth White-fronted Goose was observed November 26 and 27 at Ottawa Beach and again on December 17 at Shirleys Bay. A Snow Goose lingered until December 6, and over a hundred Canada Geese were still here the last week of December. Interesting duck notes include a King Eider (immature male) at Shirleys Bay, 2 female Barrow's Golden-eyes near Champlain Bridge this winter, late reports for Gadwall (December 17), Wood Duck (until January 1), Ring-necked Duck and White-winged Scoter (both during the last week in December).

Hawk reports include an immature Bald Eagle at Shirleys Bay (November 24) and a Gyrfalcon (December 12).

Shorebird migration was just about over by the first week of November; however, a Purple Sandpiper (November 17) at Shirleys Bay represented the first record in a number of years.

There weren't any rare gull reports for November-December until the December 20 Christmas Bird Count when the 7 species observed included Ottawa's third record for Black-legged Kittiwake. Previous to this date, there had been only a few Thayer's Gull reports and somewhat lower than average Glaucous Gull numbers. Great Black-backed Gulls, however, were here in record numbers with flocks of 60 being observed and probably well over 100 birds being in the area. Ring-billed Gulls seemed to linger longer this year than ever before, at least in such numbers; 10-20 individuals were still here the first week of January.

The highlight of the winter so far has to be the number of Hawk Owl reports. There have been 7 so far, including sightings at Cantley (November 21), Fisher Avenue (November 23), Stewartville just outside the 50-km radius (late November), across from Quyon on the Ontario side (late November), Innesville (outside the 50-km radius) (December 26), Antrim (December 26), and, finally, Marchurst (January 2). All but the Cantley and Fisher Avenue birds were still here in January.

Other interesting records include 5 different Screech Owls in late December (3 at Billings Bridge, 1 at Vincent Massey Park, 1 on the Arnprior Count), Ottawa's seventh Red-bellied Woodpecker (in the Rockcliffe Air Base area in mid to late December), and late records for Belted Kingfisher (December 20), Rufous-sided Towhee (November 27) and Yellow-rumped Warbler (December 19-January 2). Exceptionally late dates were recorded for Swainson's Thrush (until December 15) and Chipping Sparrow (December 20-January).

If you want more detailed information on bird sightings in the Ottawa District, why don't you subscribe to *The Shrike*? Contact Bruce Di Labio at 729-6267 if you have any questions about this publication.

Visitors are Welcome at Birds Committee Meetings

The Birds Committee is responsible for all bird-related activities within The Ottawa Field-Naturalists' Club, including the Owl Census; Spring, Fall and Christmas Bird Counts; the annual Seedathon; maintenance of the Club feeders; and all rare bird reports for the Ottawa District.

Interested members of the Club are invited to attend and to participate in the meetings of the Birds Committee. Meetings are held regularly, except in the summer, at 7:30 p.m. in Activity Room #3 of the National Museum of Natural Sciences, Metcalfe and McLeod Streets.

Future meetings are scheduled for March 11, April 22, May 27 and June 24. As the meeting dates are occasionally changed due to unforeseen circumstances, it is advisable to confirm the date beforehand. For this and other information on the Birds Committee, contact

Tom Hanrahan
Chairman, Birds Committee
telephone 226-5400.

Ottawa Area Christmas Bird Counts

Val Bernard Ladouceur
and Bruce M. Di Labio

OTTAWA-HULL (63RD ANNUAL)

This year's count was held on Sunday, December 20, with Bernard Ladouceur as compiler, assisted by Bob Gorman. A total of 75 species were found which ties our third best performance. A total of 161 people participated, and this represents a Canadian record. This total will probably place us in the top five among the close to 1,400 counts in North and Central America.

The day itself was not that cold, if you ignored the wind. While we were ignoring the wind, some of the birds were ignoring us and staying warm.

This was the year of the great Gloucester area comeback. If you can recall last year's Christmas Bird Count article, you will remember that Gloucester finished in last place among the seven areas with 38 species. Well, we (including Ladouceur but not Di Labio) turned it all around this year.

This year, Gloucester, once again led by Stephen Gawn, finished with 45 species. This total included a Red-bellied Woodpecker and a Chipping Sparrow (the second time for each species on the count), 1 Cooper's Hawk, 1 Red-tailed Hawk, 1 Ring-necked Pheasant, 1 Northern and 2 Black-backed Three-toed Woodpeckers, 1 Hooded Merganser, and the count's only Pine Siskins.

Britannia, with co-leaders Dan Brunton and Roger Taylor, tallied 44 species. Their efforts to win were thwarted by a man who was totally unaware of the day's significance and decided that it would be a good day to cut some wood. The noise effectively kept Ottawa's resident House Finch from visiting the feeder of Harold Ferguson to which it had been coming regularly. No, the woodcutter wasn't paid by any of the Ottawa area leaders to sabotage Britannia's efforts, but we are sure it's only because this strategy hadn't occurred to anyone beforehand.

Another interesting story also comes out of Britannia. Willard Ellis, a man who was a feeder watcher on the count for the first time this year, has decided to take up birdwatching as a hobby at the young age of 93! Obviously, it's never too

late to start.

Britannia also found some good birds, including 135 Canada Geese, 1 Ring-necked Pheasant, 95 Gray Partridge, 556 of the count's 791 Crows, 1 Red-winged Blackbird, 3 Grackles, 17 Juncos, 2 Purple Finches, 2 Hoary Redpolls, 27 Cardinals and a Belted Kingfisher.

The Aylmer area, led by Monty Brigham, also finished with 44 species, including the Ring-necked Duck, 2 Ring-billed Gulls, 7 Great Horned Owls, 1 Black-backed Three-toed Woodpecker, 2 Ravens, 2 Grackles and 52 White-winged Crossbills.

Ottawa's total was also 44 species. The area, led by Mark Gawn, came up with 2 Screech Owls, 1 Red-tailed Hawk, 1 Ring-necked Pheasant, 4 Red-winged Blackbirds, 1 Grackle and 1 Hoary Redpoll.

Bruce Di Labio's Aylmer East area compiled 43 species, including a female Barrow's Golden-eye, 2 Red-breasted Mergansers, 6 Great Horned Owls (Bruce was owling from 12 midnight until 2:30 a.m.), 1 Black-backed Three-toed Woodpecker, 1 Eastern Meadowlark, and the count's only Horned Lark and Cedar Waxwings.

The Hull group, led for the first time by Stephen O'Donnell, had the Ring-necked Duck seen by the Aylmer group, as well as 1 Red-breasted Merganser, 1 Long-eared Owl, 3 Hoary Redpolls and a Swamp Sparrow. The area finished with 39 species.

Simon Gawn was the leader of Gatineau, which recorded 36 species; however, they did have an excellent total of six species of gulls. This total included the count's first and Ottawa's third record of Black-legged Kittiwake along with the count's third record for Thayer's Gull. The area also produced 4 Boreal Chickadees, 1 Golden-crowned Kinglet, 1 Rusty Blackbird, 1 Purple Finch and 1046 Common Redpolls.

DUNROBIN-BRECKENRIDGE (1ST ANNUAL)

This first-time effort was organized and compiled by Bruce Di Labio. The count was held on Sunday, January 3, and 43 observers found 52 species. This would have to rate as one of the most successful first-time counts ever.

The count area, with its circle of $7\frac{1}{2}$ -miles radius centered at the junction of Kennedy Road and Regional Road 9, was divided into six areas (leaders in brackets): Carp (Richard Poulin) - 32 species, Quebec (Jean and Rudolphe Dubois) - 31 species, Constance Bay (Tom Hanrahan) - 31 species, Kilmaurs (Ian Jones) - 31 species, Shirleys Bay (Bruce Di Labio) - 30 species, and Marchurst (Stephen O'Donnell) - 30 species.

The raptors, especially the owls, were the highlight of the count. The list included 5 Goshawks, 1 Sharp-shinned Hawk, 2 Red-tailed Hawks, 16 Rough-legged Hawks, 12 American Kestrels, 10 Northern Shrikes, 2 Great Horned Owls, 1 Snowy Owl, 2 Barred Owls, 5 Short-eared Owls, 3 Long-eared Owls and 1 Hawk Owl. Other results included 41 Gray Partridge, 13 Mourning Doves, 9 Pileated Woodpeckers, 1 Black-backed Three-toed Woodpecker, 1 Common Flicker, 85 Horned Larks (compared to 1 in Ottawa), 6 Ravens, 4 Boreal Chickadees, 22 Golden-crowned Kinglets, 1 Eastern Meadowlark, 2 Grackles, 2 Cowbirds, 1 Cardinal, 2 Hoary Redpolls, 6 Dark-eyed Juncos, 2 Lapland Longspurs and 2043 Snow Buntings.

Bruce would like to thank all who helped in this first time effort.

ARNPRIOR-PACKENHAM (56TH ANNUAL)

On December 26, 37 participants helped compiler Michael Runtz find 50 species for the first time in the long history of this count. Highlights included 2 Canada Geese, 8 Red-tailed Hawks, 22 Rough-legged Hawks, 1 Sharp-shinned Hawk, 1 Hooded Merganser, 29 Mourning Doves, 1 Screech Owl, 4 Snowy Owls, 1 Hawk Owl, 14 Pileated Woodpeckers, 15 Ravens, 7 Robins, 5 Red-winged Blackbirds, 3 Cardinals and 3 Song Sparrows.

CARLETON PLACE (38TH ANNUAL)

This year's count, held December 26, was compiled by Cliff Bennett and Arnie Simpson. The count produced 32 species including yet another Hawk Owl, 1 Common Flicker, 8 Cardinals, 2 Purple Finches and 2 White-throated Sparrows.

SUMMARY OF REGULAR SPECIES

Ottawa Count totals have been used unless otherwise indicated.

This year's counts produced an average number of waterfowl with exceptions of 135 Canada Geese being a record high and 26 Common Mergansers being fairly low.

A total of 12 Goshawks was reported on three different counts. The Goshawk total of 6 for Ottawa could be a North American high for this year. Buteos and such species as Horned Lark and Mourning Dove seemed to be more common on the more rural counts. The Arnprior and Dunrobin counts combined tallied 38 Rough-legged Hawks, 10 Red-tailed Hawks, 42 Mourning Doves, and no fewer than 85 Horned Larks. Ottawa's observers found 2 of each of the buteos, 13 Mourning Doves and only 1 Horned Lark.

Dunrobin also had 5 Short-eared Owls and 2 Lapland Longspurs, two more species which aren't that hard to find in the Ottawa region but which are rarely encountered within Ottawa's Christmas Bird Count circle.

Ruffed Grouse numbers appear to be down about a third from the record numbers of the last two years. The Gray Partridge population has crashed from the all-time North American high of 675 last year to 165 this year, which is still above average. The Ringed-neck Pheasant count dropped from 15 to 3.

Numbers were average for the expected Herring Gull(15), Great Black-backed Gull (5), Glaucous Gull (11) and Iceland Gull (5).

The Great Horned Owl count of 26 was very good, as was a total of 12 Snowy Owls from three different counts.

Three-toed Woodpeckers appear to be very scarce this year as only 5 Black-backed and 1 Northern were reported on the four counts combined. Thirty-three Pileated Woodpeckers represent a very good total from the four counts. Hairy and Downy Woodpecker numbers were average and in the usual 1:1 ratio, except at Arn-prior where Hairies outnumbered Downies 76 to 47.

Northern Ravens became more common as one travelled up the Ottawa River and further north (into the Canadian Shield) with 4, 6 and 15 birds being recorded at Ottawa, Dunrobin and Arn-prior, respectively. Blue Jays (214) were found in lower than average numbers, while no Gray Jays at all were reported from any of the counts. Black-capped Chickadees (2309), White-breasted Nuthatches (178) and Brown Creepers (31) are all having an average winter. The Red-breasted Nuthatch total of 88 was above average. A total of 10 Boreal Chickadees was reported from three counts.

The Golden-crowned Kinglet distribution was skewed, with 2 being reported at Ottawa and 22 right next door at Dunrobin. Arn-prior reported 9.

It is a good year for Bohemian Waxwings with 1229 birds at Ottawa, representing a new high count. Ottawa also had the region's only Cedar Waxwings (13).

Northern Shrikes were in decent numbers as 35 were reported from the four counts.

Red Crossbills and Purple Finches were very scarce throughout the region. The same can be said for Pine Siskins except at Arn-prior where they had over a hundred, still not an exceptional number. American Goldfinches were in average numbers (170). Good numbers were recorded for Evening Grosbeak (1890) and White-winged Crossbill (116, a record high, but we've had a lot more

in other months during the year).

Excellent numbers were obtained for Pine Grosbeak (1500+ on all four counts, 1067 at Ottawa alone), Common Redpoll (5000+ on all four counts, a record 3155 at Ottawa) and Snow Bunting (7800+ on four counts, 3044 at Arnprior).

Tree Sparrows were found in near average numbers, while the Dark-eyed Junco total of 36 is a new Ottawa high.

We left Mockingbirds and Cardinals to be discussed last. There were no Mockingbirds reported on any of the counts. The birds at Pinecrest Cemetery were not found on count day but have been seen since. Another Mockingbird in the region was found killed by a cat. We can ill afford that!

Cardinals, on the other hand, have definitely extended their range into our area. A total of 69 birds was recorded on the four counts, with many other reports coming in from areas outside the count circles but within 50 km radius of the Peace Tower. A staggering total of 57 birds was recorded at Ottawa, 17 from the Quebec side. It is nice to know that this colourful species will be brightening up the days of winter for many more feeder watchers than ever before.

We would like to thank all the other compilers, including Bob Gorman, Michael Runtz, Cliff Bennett and Arnie Simpson, for their work this year and their assistance in writing this article.

SUMMARY

	team	add'l*	total	total	total**	hours in#
	<u>total</u>	<u>species</u>	<u>species</u>	<u>indiv</u>	<u>observers</u>	<u>field</u>
Gloucester	45	2	47	2087	29 (15+14)	35+21+3
Britannia	44	3	47	8002	40 (21+19)	30+4+0
Aylmer	44	1	45	1911	11 (11+0)	44+30+4
Ottawa	44	0	44	6653	35 (25+10)	46+29+3
Aylmer East	43	2	45	1241	17 (16+1)	43+47+3
Hull	39	0	39	2658	20 (20+0)	21+11+2
Gatineau	36	0	<u>36</u>	<u>2450</u>	<u>9 (9+0)</u>	<u>20+20+3</u>
OTTAWA			75	24,242	161 (117+44)	2375+199+18
DUNROBIN			52	8,189	43 (40+3)	70+94+5
ARNPRIOR			50	8,933	37 (33+4)	41+63+6
CARLETON PLACE			32	6,255	58 (28+30)	49+50+1

* additional species during the count period

** total observers (field observers + feeder watchers)

hours on foot + hours by car + hours owling

More Early Birding Records for the Archives

Daniel F. Brunton

In recent issues of *Trail & Landscape* I have described the valuable collections of bird data which were gathered by earlier observers in the Ottawa District. The records of A.G. Kingston made between 1889 and 1909 (*Trail & Landscape* 15(3): 146-150; 15(4): 210-214) and the detailed records of J.W. Groves from 1943 to 1970 (*Trail & Landscape* 15(3): 144-145) are very valuable contributions to our knowledge of birds in the District. These records have already been deposited in the Public Archives of Canada (in The Ottawa Field-Naturalists' Club's collection).

Mrs. D.K. Drury of Ottawa noted the request for additional collections of older bird data that concluded those articles. She recently forwarded a set of notes on dates of arrivals for the years 1942 and 1943 which were made by Dr. K.G. Chipman at his cottage along the Gatineau River at Larrimac, Gatineau County, Quebec. The notes are rather fragmentary in spots but nonetheless provide a good picture of the spring migration at that locality. We have very little detailed information from that era in the District.

Mrs. Drury believes that Dr. Chipman was the Dominion Surveyor with the Department of Mines and Technical Services (now Energy, Mines and Resources). He is not listed on The Ottawa Field-Naturalists' Club's membership list for 1943 and does not appear to have published any natural history information. It seems, then, that these notes represent the casual observation of spring returning in a favoured location. Just the same, they are worthwhile.

These notes are being added to the growing collection of The Ottawa Field-Naturalists' Club at the Archives. Many thanks to Mrs. Drury for recognizing that some apparently casual notes stuffed into the pages of an old copy of Taverner's *Birds of Eastern Canada* could be of value. I hope others will dig into their attics and "glory-holes" in search of other gems from the past.

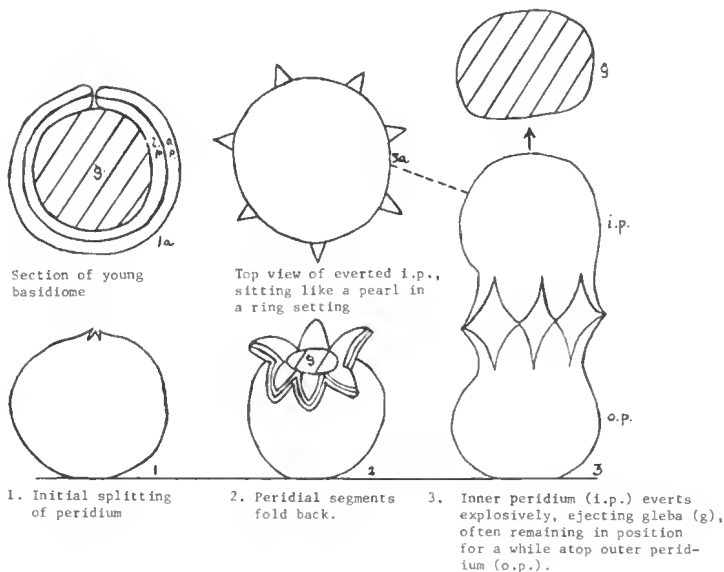
If you have any potentially valuable records which you would like to donate or allow to have copied, please contact Dan at 829-7307.

Nature's Champion Mortar Blasts off in Brewer Park

Bill Illman

One day late last September, Dr. H.J. Brodie reported that he had found massive numbers of his favorite little Bird's Nest fungi fruiting on the White Cedar shreds of bark and wood which Ottawa's Parks and Recreation Department had used as a mulch about the shrubs and trees in Brewer Park. A little later, Frank Horn dropped into the lab at Carleton University, and together we took off to find these "curiosities of delight" to use Dr. Brodie's turn of phrase.

While searching under some lilac shrubs near the foot of Cameron Avenue, Frank let out a whoop of joyous excitement upon finding a nice clutch of *Cyathus olla*, opened cups complete with eggs. Almost simultaneously, there came into the ken of my bifocals (I was on my knees with head reading-distance from the mulch) two tiny white cups of that intriguing artillery piece *Sphaerobolus*, which had already ejected their cannon balls.



MECHANISM OF EJECTION OF *SPHAEROBOLUS* FRUIT BODIES (GLEBA)

As I rejoiced with Frank in his find of the Bird's Nests, I showed him my discovery, which he well recalled seeing specimens of in the mycology laboratory. Minutes later, I heard him sing out, "Hey, look at this"; his sharp eyes had discovered a cluster of literally hundreds of *Sphaerobolus* fruit bodies, some empty, others opening, and still others in early stages of development.

The sage of events during the ensuing week of observing progress of a portion of this collection as it continued development in a large glass petri plate in the lab was most intriguing. All stages were observable under the dissecting microscope from the opening of the apical slits in the coat layers enveloping the internal mass of spores to the empty outer case (peridium) left behind after the sticky "cannon ball" of spores (gleba) had been shot to lodge on the petri plate lid. In all, over two dozen dark-reddish spore masses accumulated during the week, and from some of these axenic agar cultures were isolated. The accompanying drawings seek to elucidate the process that the late Professor Buller so dramatically described, in a very personal way, after watching one of these little mortars blast off from his bureau top in a Kenora hotel room to lodge its missile on the ceiling!

A word of thanks to the city department that provided such a lucrative substrate for development of no fewer than four species of Bird's Nest fungi, the Netted Stinkhorn (*Dictyophora*) and several Agarics, besides the *Sphaerobolus*, which still was flourishing in the park when last collected on December 3.

Publications of Sister Clubs

In our exchange program with other naturalists' groups, recent copies of the following publications have been received by our Club.

The Calgary Field Naturalists' Society newsletters
Pica - the Calgary Field Naturalists' Society journal
Catharine Trail Naturalists' Club newsletters
Thunder Bay Field Naturalists newsletters
Toronto Field Naturalists newsletters
The Pickering Naturalist

These publications are available for interested members to peruse at monthly meetings or by calling Bill Gummer at 596-1148.

Fern Group 1950 to 1956

Mary Stuart

The yearly migration and departure of birds, new species and sightings, are always exciting events and bring out devotees at any hour of the day or night. It may be hard for many to imagine that their friends could pursue a little plant just as enthusiastically. I know it is so - I did it.

In the fall of 1950, a number of dedicated bird watchers decided that they wanted to know more about some of the other things they were seeing. The way to do it was to form a group of interested people, plot a program, and work. This is just what happened again in our Club last fall.

You can't tackle the whole world of nature at once, so we decided to start on the ferns of our area. This is a small group of plants - a total of 36 species - yet having sufficient variety to be a challenge. Our aim was to learn all we could on the subject and to enjoy ourselves while doing it.

Ten of us met that September evening, and ten of us were still active when we decided to terminate our formal study of the subject in 1956. Others had joined us, of course, but the group was never more than sixteen.

We had monthly meetings at the home of Miss Winifred Anderson. She gave us more than a home; she guided and encouraged us, giving generously of her knowledge and experience as a botanist. We read available literature, presented studies of fern families, learned to use a key and to prepare specimens. In preparation for outings we searched the literature and herbaria for ferns collected in the area and for records telling where and when we might expect to find them.

As a group, or in ones and twos, we checked all the known locations of ferns and then other likely spots in the area. Personal work collections grew rapidly that first spring; the second, third and fourth summers we searched furiously to locate missing species to complete our collections. Also, by this time, we were working to add to the known locations of a number of rare ferns.

We each had our thrilling moments. Mrs. J. Woodside was able to lead us to where 23 species of ferns were growing in the

vicinity of her summer home near Cantley, P.Q. Mine was while I was squatted picking and eating wild strawberries in the Kingsmere area. It came to mind that I had read of someone finding the Lance-leaved Grape Fern (*Botrychium lanceolatum* var. *angustisegmentum*) under strawberry leaves. And, there they were! There was quite a number of plants, ranging in height from one to three cm - single, sessile blades with lanceolate, pointed pinnae and a branched, fertile blade. The only recorded specimen at that time was the one Sheila Thomson found in another part of the Gatineau in 1953.

One of our most enthusiastic members was Mrs. Gladys Bauche, then living near Old Chelsea, P.Q. The following item appeared in the *Ottawa Field-Naturalists' Club Newsletter* dated September 15, 1952.

POLYSTICHUM BRAUNII AND ATHYRIUM PYCNOCARPON
FOUND IN OLD CHELSEA - KINGSMERE DISTRICT

In a two-mile walk from Old Chelsea Creek via Ridge Road, down to the Kingsmere Road via the Mountain Lodge, are to be found 28 or more species of ferns. At the Creek are the walking fern and the maidenhair spleenwort which are sufficiently rare to make their finding a delight. The discovery also of the narrow-leaved spleenwort (*Athyrium pycnocarpon*) and Braun's holly fern (*Polystichum braunii*) in this region gave great pleasure to a novice, as I understand they are rare in the Ottawa district.

The narrow-leaved spleenwort grows in clumps in very damp, rich woods by a creek. It is very graceful with the fertile blade more erect than the sterile ones and somewhat contracted. The tissue of the sterile blade is thin and membranous which causes it to suffer from the torrential rains we have had. The sun shining through the trees on the gracefully curving, fresh green plants of a clump of narrow-leaved spleenwort makes a picture to be cherished forever. Since the first discovery, another colony has been found by a creek in company with great clusters of goldie's fern, wood fern, and silvery spleenwort.

The thrill of finding the first plant of Braun's holly fern and my dismay and bewilderment when I could find no others will never be forgotten. If it was very rare, it should be left. If it was left, animal or insect might destroy it, and there would be no evidence it had been found. Should the plant be collected or left? The damp, rock-encircled enclosure was reached by following up a rocky creek. The boulder-strewn opening is crossed by other creeks. It is a dark, eerie place even on a sunny day. After a further search, about 20 plants were found. While the narrow-leaved spleenwort is to be seen and admired "en masse", the Braun's holly fern gives beautiful pictures of individual plants. The rather delicate leaves have a sheen and one is lost in admiration on seeing their graceful forms fanning downwards as the plant clings to the rock.

Gladys Bauche

The final winter was spent in organizing our material in a permanent form prior to sending it to the National Museum (CAN) or Canada Department of Agriculture (DAO) collections.

In his book *Ferns of the Ottawa District* (Canada Department of Agriculture, 1956, revised 1978) W.J. Cody refers to the work of our group, the rediscovery of Narrow-leaved Spleenwort and Braun's Holly Fern (both unknown for many years), and a new record for the District, Lance-leaved Grape Fern.

It was a wonderful five year experience, and, at the end of it, I had a continuing interest in ferns and some very good friends.

From Bog Group to Trail Group 1955 to 1965

Charlotte Dill

At their first fall meeting in September 1955, members of the Fern Group decided to widen their interests to include other aspects of natural history. Mrs. J. Woodside suggested a study of sphagnum bogs, and so the name was changed to the Bog Group.

The winter program of meetings started off with a comprehensive outline of the ecology of bogs by Dr. Pauline Snure, who described the plant succession and flora typical of bogs. Then the group examined pressed specimens of bog plants brought by Winifred Anderson and viewed slides of bog plants provided by other members. At later meetings we reviewed books available on the subject, studied carnivorous plants (Pitcher-plant and Sundew), plant succession, and trees found around bogs, and heard a talk by Dr. Alice Wilson on the geological history of the Ottawa area explaining the formation of bogs such as Mer Bleue.

In the following spring several trips were made to Mer Bleue, at intervals from April to early July, where we found plants such as Buckbean, Bog Rosemary, Bog and Sheep Laurel, Huckleberry, Cranberry, Swamp-candles, Wild Calla, Pitcher-plant, Iris, Tufted Loosestrife, and fiddle-heads of Virginia Chain Fern. For the next winter season, the group concentrated on the bog shrubs, learning their distinctive features and adaptations to their habitat.

By 1957 we recognized that our topics for study could include anything from amphibians to butterflies, to geology, to orchids. A new name was needed to describe our varied interests



Alice Frith is helping Mary Stuart ford the stream on the way into Chilcott's Swamp in June, 1958.

These photos were made from slides taken by Charlotte Dill.



Members of the Traill Group near Pinks Lake on May 29, 1965, one of their last outings before disbanding as a formal group. From left to right are Winifred Anderson, Ruth Rusenel, Alice Frith, Sheila Thomson, Bill Thomson, Rowley Frith, Hue MacKenzie, Elva MacKenzie, Anne Hanes and Deborah Haight.

As Edith Bowman reported in the *Ottawa Field-Naturalists' Club Newsletter* of April, 1957 "... it was decided to choose a new and permanent name for the group which would include past, present and any future studies and at the same time suggest a definite relation to all Field-Naturalist subjects and interests. For this reason the name 'Traill' - honoring the pioneer Canadian naturalist, botanist and author, Mrs. Catherine Parr Traill, has been chosen. Mrs. Traill, born 1802, lived a good part of her lifetime in the Peterborough district. Two of her better known publications are 'Backwoods of Canada', and 'Studies of Plant Life in Canada'..."

The Traill Group continued actively until 1965 with from twelve to twenty enthusiastic members. Winter meetings included studies of the structure of flowers as an aid to identification, descriptions of plants collected by Mrs. Hoare during several months spent in Pangnirtung, Baffin Island, a report on a trip to Churchill by Mary Stuart and Sheila Clark, a talk on amphibians and reptiles by Dr. J.S. Bleakney of the National Museum, examination of rock and mineral specimens, a review of the ferns, and an introduction to the native orchids.

Spring and summer excursions led us to many of the interesting spots within reach of Ottawa: to Osgoode Station in early April to see Skunk-cabbage (a rare plant in our area); to Fortune Lake in April to hear the spring chorus of frogs; to Chilcott's Bog near Alcove, where eight species of orchids were found on June 27, 1959. We were delighted to find the less usual plants such as Dwarf Ginseng near Wakefield, Walking Fern and Maiden-hair Spleenwort near Old Chelsea, Butterfly-weed and Pink Polygala near Constance Bay, Spurred-gentian near Corkery. The group also took part in the Spring Flower Survey suggested by Dr. W.G. Dore during the early sixties.

One of the subjects of greatest interest from 1957 on was the consideration of the orchid flora of the Ottawa District. Summer excursions were organized up until 1965, and many likely habitats were explored. By 1966 the general excursion program of The Ottawa Field-Naturalists' Club had been greatly increased, and Traill Group members decided to continue their activities as participants in the larger group. At about the same time, the Native Orchid Location Survey was organized under the expert guidance of Ed Greenwood and Hue MacKenzie, and the orchid enthusiasts of the Traill Group merged their interests with the new project.

The Traill Group soon gave up its identity as a separate group, but many of us have pleasant recollections of its meetings and excursions.



OFENC S



Place: Unitarian Church Hall
2101 Algonquin Avenue (See map on page 74.)
#51 bus stops at Redwood Ave. and Richmond Rd.
#95 bus stops at Woodroffe and Saunders Aves.

Reservations: To order tickets, fill in the order form and send it along with \$6.00 per ticket before April 9 to:

The Ottawa Field-Naturalists' Club
c/o Mrs. E.M. Dickson
2037 Honeywell Avenue
Ottawa, Ontario K2A 0P7

Soirée

Back By Popular Request:

Friday

April 30, 1982

7:30p.m.

Wine & Cheese Party

- selection of wines
- non-alcoholic punch
- cheese and crackers
- fruit
- tea and coffee

Natural History Exhibits

- Art
- Photography
- Collections and Memorabilia

Those wishing to contribute please refer to page 74 for further details.

Please Print

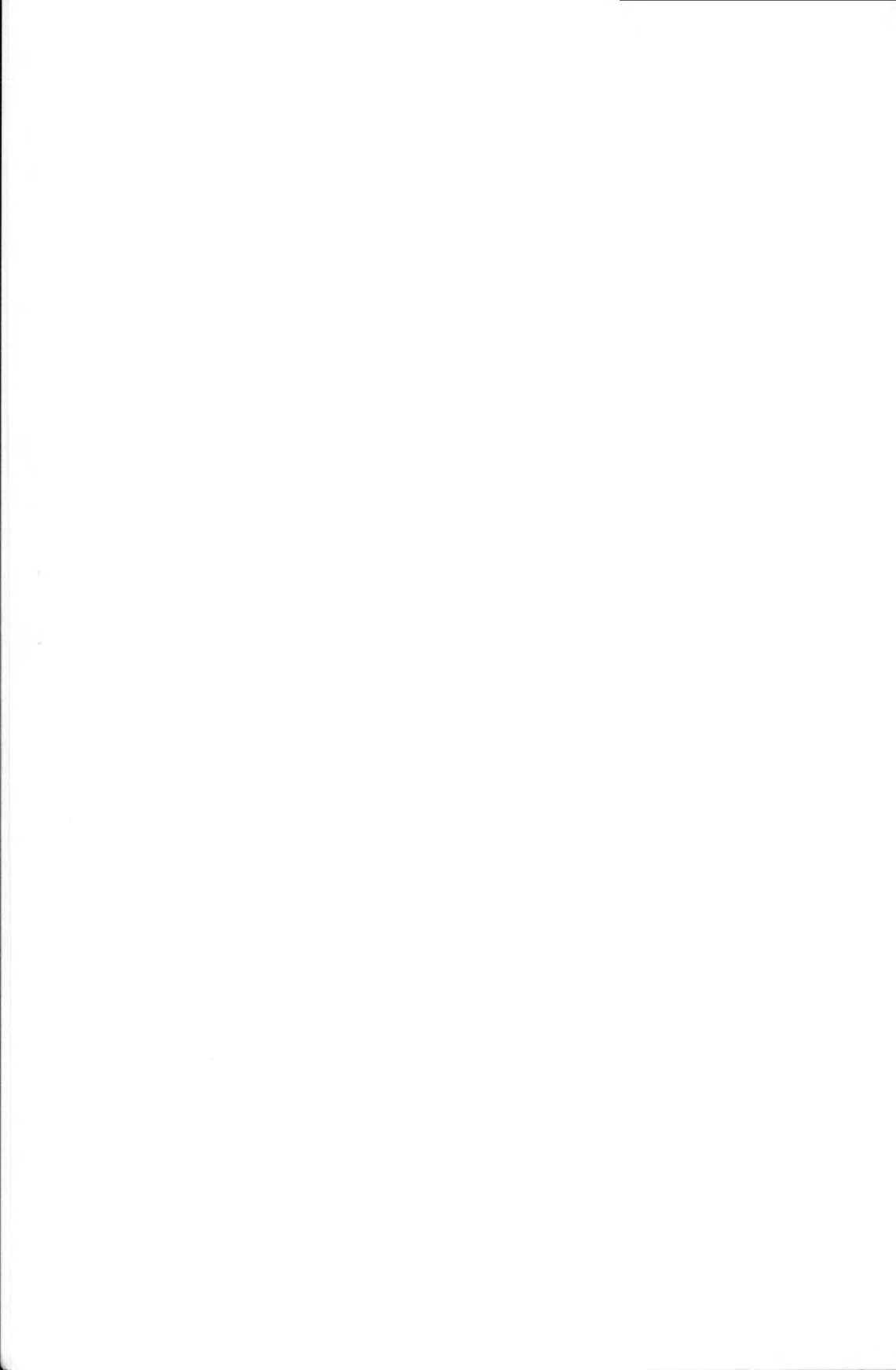
Name _____

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Please send me _____ tickets for the OFNC SOIREE at \$6.00 per person. Enclosed please find my cheque or money order for

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Sex and the Single Salamander

by S*

Today's society has a mosaic of sexual morality standards and behaviours. The standards and behaviour of humans is constantly changing from generation and to generation. For the salamanders who live in the Ottawa Valley, sexual activity has remained a short annual affair following the same script for 12,000 years since they first invaded this area after the Wisconsin Glaciation.

The eight different salamander species in the Ottawa area have very different reproductive patterns, and each species has its own special way. Success in courting for the single salamander will depend on strictly following the script and doing exactly the right thing at the right time. This may sound like an easy thing to do, and the youngest salamander seems to be knowledgeable on the subject, but unless the right species and the right sex can be distinguished, little can be accomplished.

This is not the place to discuss identification problems; the author assumes that the reader is mature enough (post-metamorphosis) to distinguish sex, and there are other guides to species identification (*Trail & Landscape* 15(2): 75-109, 1981). Because of the great differences in the reproductive behaviour of salamanders, it is very difficult to make generalizations about such behaviour.

To make its mark in life, any single salamander must perfect its timing. Changes in the seasons, such as temperature, day-length and rainfall, are the types of timing signals that salamanders respond to. The response to these environmental conditions is mediated through the endocrine (hormone) system. The hormone system functions in much the same way that the nervous system functions. Changing conditions within or without cause stimulation of the system. A signal is sent to the area of the body required to respond to the conditions. The signal in this case is a chemical one travelling through the circulatory system instead of an electric pulse travelling along nerves.

The hormone system is usually associated with control of metabolism and growth but also has an extensive behaviour control function. This is most evident in the reproductive cycle. Not only do hormones control the growth and activity of the reproductive system, but they also control the behaviour patterns that are required for mating. The chemical signals are very specific, and their meaning is subtly changed by changing the proportions

*Stephen J. Darbyshire

of many hormones with opposing effects, and by controlling the sensitivity of the target organs.

Unfortunately for the single salamander, it is a slave to its hormones. It has a highly complex system which is controlled almost perfectly and completely automatically. The genetic programming has had most of the bugs worked out by natural selection which does not allow for deviants. These deviants do occur from time to time among salamanders but are not adaptive and can only survive as lonely, unsuccessful individuals.

In his or her "pursuit of happiness", the single salamander pays careful attention to the body odour of any potential mate. During the mating season, the hormones stimulate scent glands on various parts of the body to produce a smell that is distinctive to each of the sexes of every species. Not only is the activity of the glands controlled by hormones, but also the sensitivity and reactivity of the opposite sex to these smells depends on hormonal state (the equivalent of being "in the mood"). Scientists call these odours pheromones, and the glands, courtship or hedonic glands, but to the single salamander they are for all practical purposes simply aphrodisiacs. Environmental stimulæ control the hormone state of the single salamander so that all individuals affected by the same environment will have co-ordinated hormonal and reproductive systems. This means that during the part of the year when one sex is producing attractants, the other sex is most stimulated by them.

Very little is known about the breeding behaviour of the eight species of salamanders found in the Ottawa area. They are nocturnal and clandestine in their meetings. Although they will tolerate voyeurs, the potential peeping tom must be very patient, often under unpleasant conditions. Mating activity generally takes place at times and in places that are rather cool (5-15°C) and moist (often under water). In such temperatures, salamanders move very slowly with frequent (gravid) pauses.

For the purposes of this article I will divide salamanders into two types: those that like to stay at home, and those that prefer a cozy retreat away from the humdrum of home-life. Of those adult salamanders that remain in the same habitat during mating and general life, there are two types depending on whether they are aquatic or landlubbers. Perhaps the most common salamander in the Ottawa Valley is the Redback Salamander, a dryfoot to the core. Many Redback Salamanders never touch a toe to water in their entire lives, although they live in damp places. Some may scoff at such a way of living, but there is no denying that the Redback is successful.

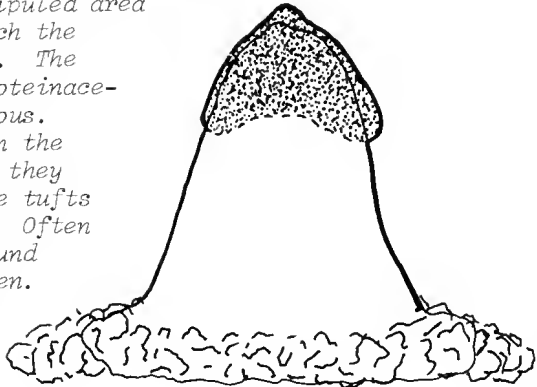
The Redback's way of life is made possible by laying its eggs in a moist spot, developing rapidly through a tadpole (larval) stage within the egg and hatching as a teenager (a small, sexually immature adult). This remarkable feat is both a bless-

ing and a curse for the Redback Salamander will never know the joys of childhood, of wriggling through shallow, warm waters which every other salamander enjoys. Childhood problems should be the subject of another article.

In the dry land courtship of the Redback, the male wanders his neighbourhood looking for a suitable companion. As with other salamanders, he will know her by her smell. The chase is then on; if the male is persistent and his aphrodisiac secretions work, he will be successful, and she will know she has found the right male for her. This activity tends to be hard work for males as females are not easily aroused. The aphrodisiac is undeniably effective, but its administration is not easily accomplished. During the breeding season, hormones produced by the active testes stimulate the growth of the mental gland on the fore part of the chin and a number of specialized, elongated teeth on the tip of the upper jaw. While the female pauses during her ritual flight, the male bangs his chin down on the female's back as hard as he can, and to get the aphrodisiac through her "thick" skin, he pulls his chin along her back so that his buck teeth scratch open her skin. This may seem physically cruel and emotionally hard to accept, but for some species these somewhat sado-masochistic relationships are a life style.

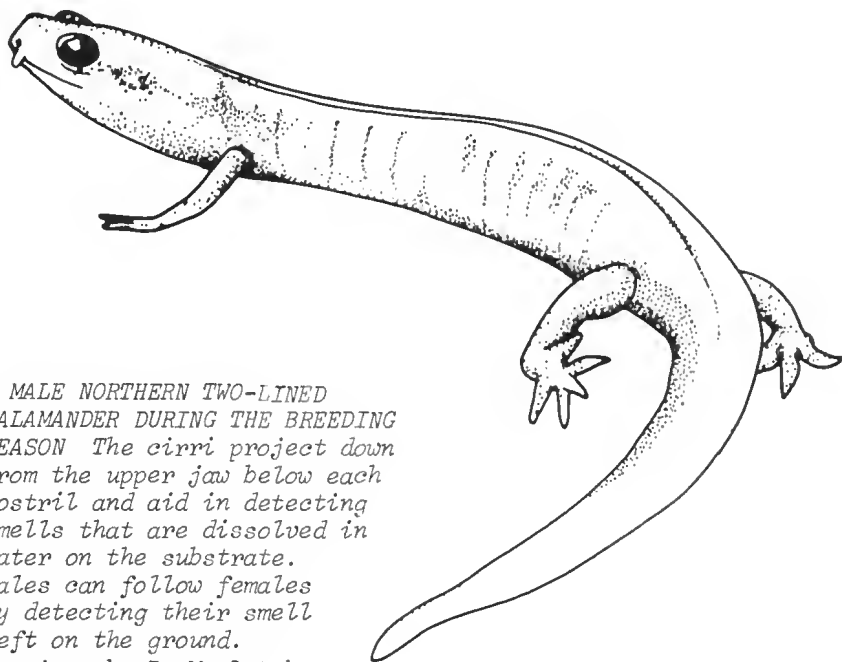
At this point in the chase, when the female has been "bitten", the tables will turn and she begins to follow the male. You've made it, boy! It is now up to the male to deposit his spermatophore. The spermatophore is the term used for the package of sperm cells and its gelatinous base. The package is delicately secreted from the cloaca of the male, and the female will walk over and pick it up, usually with the lips of her cloaca. All the salamanders of the Ottawa Valley practice internal fertilization without intromittant organs by using spermatophores.

A SINGLE SPERMATOPHORE OF THE MALE SPOTTED SALAMANDER The dark, stipuled area indicates the cap in which the spermatozoa are enclosed. The base, 3-4 mm wide, is proteinaceous and somewhat gelatinous. When viewed from above in the woodland breeding ponds, they appear as white, floccose tufts attached to dead leaves. Often spermatophores may be found in groups of several dozen. Spermatophores are often deliberately placed on top of a previously deposited spermatophore.

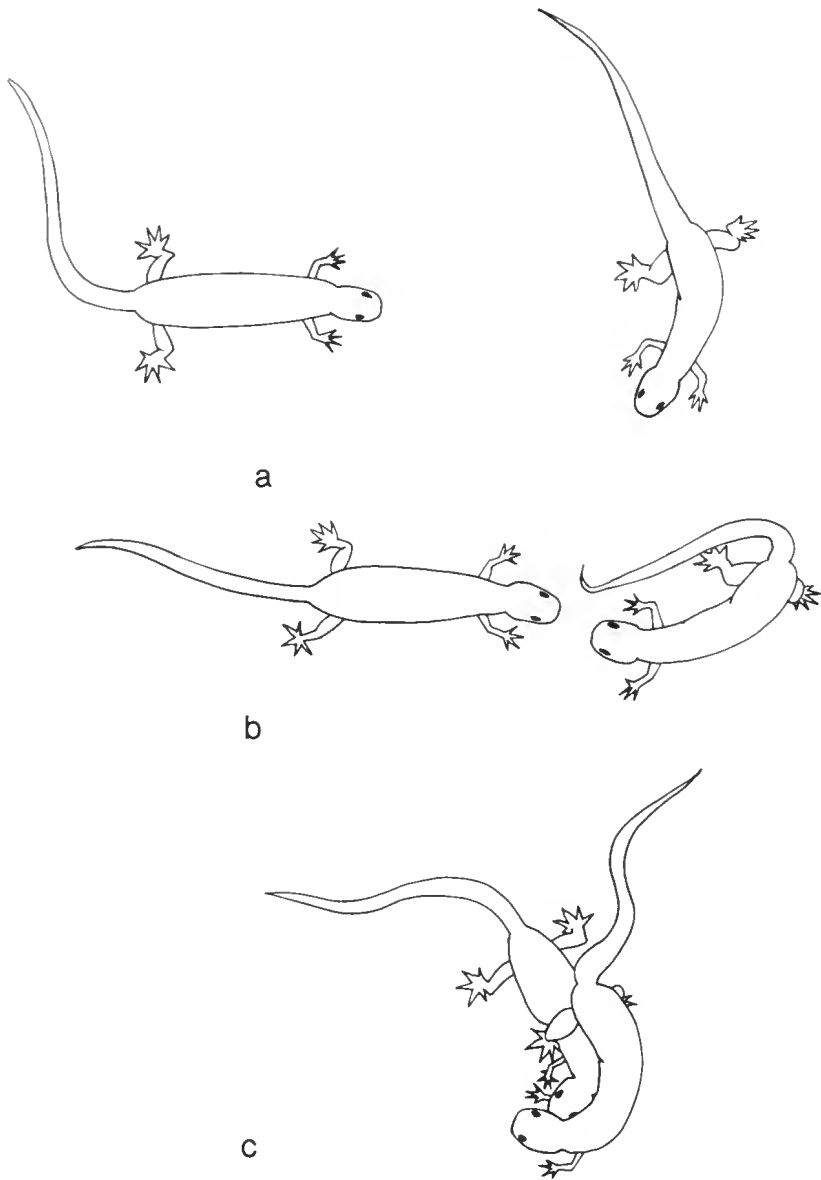


The Northern Two-lined Salamander follows a similar, late spring breeding. These are the "brook salamanders" that are always found at the edge of, or in, clean, running water. Courtship for Two-lined Salamanders is generally aquatic rather than terrestrial. Males of this species develop a fleshy growth hanging from the upper lip below each nostril. These protrusions are called cirri (singular cirrus) and are enlarged during the breeding season. A tiny channel is formed by the folding of tissues along the anterior side. The channel runs upward from the tip of the cirrus into the corresponding nasal cavity. The channel acts like a siphon by drawing up aqueous odours directly to the sensory organs - all the better to smell you with.

The Red-spotted Newt is another sedentary, aquatic breeder, but the nuptial chase is conducted very differently. The female casually strolls about the bottom of her pond in the shallows, indifferent to the graceful dancing of the male. He will place himself head on to the female and fan his tail at her. She continues walking past him. He quickly runs in front and waves his tail again. His performance is a rather single-sided dance that is not meant to impress or express his love visually. The male newt actually waves the tip of his tail by the glands at the side of his head causing the water to flow past them to the nose of this potential spouse. Once again the aphrodisiac secretions stimulate the female and make her receptive to further advances.



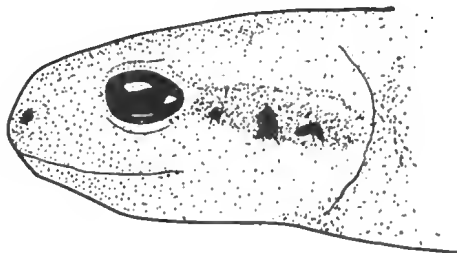
A MALE NORTHERN TWO-LINED SALAMANDER DURING THE BREEDING SEASON The cirri project down from the upper jaw below each nostril and aid in detecting smells that are dissolved in water on the substrate. Males can follow females by detecting their smell left on the ground.
Drawings by I. MacLatchy



THE SEQUENCE OF COURTSHIP IN THE RED-SPOTTED NEWT

- a) The female, on the left, is approached by a male.
- b) The male undulates his tail near his cheek so that a stream of water passes by his cheek and carries the pheromones to the female's nostrils. These pheromones make the female receptive to further advances.
- c) The male clasps the female with his back legs a little way behind her head. The female becomes further sensitized and will pick up the male's spermatophore after he has rubbed her nostrils with his cheek glands.

A SIDE VIEW OF THE HEAD OF A
MALE RED-SPOTTED NEWT The
dark areas behind the eye
on the cheek are the
areas where scent glands
open to the surface of
the skin.



Some male newts find it hard to control themselves; after a long winter they are flushed with hormones in late April and early May often leading to a complete lack of social grace where they will skip these first, few, gentlemanly steps and proceed to the next step without a proper introduction. When the female has been stimulated initially, the male will straddle her back and clasp her with hind legs that have become greatly enlarged and muscular for the breeding season. The female surrenders to his intoxicating caresses as he rubs his cheek glands over her nostrils so she experiences their full potential. In the last step, the female follows the male and picks up his spermatophore with her cloaca.

The Mudpuppy is the last of the stay-at-homes to be considered. This salamander is completely aquatic, and its courtship is little known, except to its own kind. Breeding is in the fall and possibly winter when they are still active under the ice. Egg laying occurs the following spring. This is the only salamander in our area in which the female maintains the male spermatophore long after mating; all other species fertilize and lay their eggs immediately after mating. It is speculated by those not in the know that spermatophore transfer is accomplished by placing the cloacas directly together.

The Four-toed Salamander is one which makes such a long journey, apparently one of the longest journeys of any of our salamanders. It is also a most secretive salamander, and its mating behaviour is least known. It belongs to the same family as the Redback Salamander, and it is expected to have a similar terrestrial ritual. The eggs are also laid on land but always in vegetation, such as moss or tufted aquatic sedges that overhang the water. When the eggs hatch, the aquatic youngsters wriggle into the water. Four-toed Salamanders may travel as much as 3 km through woodlands to find suitable breeding sites.

The Mole Salamanders, including the Spotted and the Blue-spotted Salamanders, also make migrations to water to breed, but their courtship and egg laying is done under water. These salamanders are both species of rich forests and breed in a very

similar way in the temporary spring meltwater ponds, some even going as far as using a ditch. Breeding sites are chosen for various factors, many of which are obscure, but mainly as a safe home for junior(s). The same breeding ponds will be used year after year, some possibly for thousands of generations.

The courtship dance of these two rather portly salamander species is rather slow and gentle, at least when compared with the Redback Salamanders. Males and females circle gently, the male doing a lot of tail waving and rubbing. Sometimes, when the males are overanxious, they will grab the females with their back legs. Such rude behaviour rarely accomplishes much.

The males of these species have complications not experienced by other salamander males. In many types of salamanders, the male establishes a territory from which he chases any potential rival. The Mole Salamanders breed in small ponds where it is impossible to fend off all the interlopers. It is common practice in the frenzy of breeding for one male to place his spermatophore on top of a rival. The rival will do all the seduction work resulting in at least half the benefits going to the other male. For the single male, it can be hard to protect one's investment with such cads around.

There is an ironic twist in the sexual behaviour of the last species to be considered. Tremblay's Salamander is scarcely distinguishable from the Blue-spotted Salamander, not only to the peeping toms but also to the Blue-spotted Salamanders. Tremblay's Salamander is an unusual genetic mutation of the Blue-spotted Salamander (likely a hybrid with the more southern Jefferson's Salamander) and possesses a larger amount of the same chromosomes. The chromosomes are the blueprints for breeding behaviour, so consequently Tremblay's Salamander and the Blue-spotted Salamander are programmed for the same behaviour, and even the production of the same pheromones.

The difference of major interest here is that all the individuals in all populations of Tremblay's Salamanders are female. Although some salamanders exist as all female species without any sex or mating, the Tremblay's salamander has its cake and eats it too. Bluntly, these salamanders "need love too", and because there are no male Tremblay's, male Blue-spotted Salamanders serve as the next best thing. Because the genes are the same, the most important conditions of smell and sensitivity to the smell of the opposite sex are met. It appears that Tremblay's Salamander utilizes male Blue-spotted Salamanders for sexual gratification when their sperm can make no genetic contribution to the offspring. Tremblay's Salamander may well be capable of virgin birth (parthenogenesis), but, after all, what fun is the short pregnancy without the normal prerequisites. This may also serve as a warning to aspiring male Blue-spotted Salamanders so that their efforts may not be in vain.

Reproduction is the means to genetic survival, and reproductive isolation is the means to speciation (development of a unique set of genes into a new species). The diversity of species reflects a diversity of reproductive patterns, and no two species do it in the same way, and the same time, in the same place. May this be an inspiration to all lecherous biologists and salamanders.

For further reading on this topical subject, look for

Bishops, S.C. 1943. *Handbook of salamanders. The salamanders of the United States, of Canada, and of Lower California.* Cormstock.

Dunn, E.R. 1926. *Salamanders of the family Plethodontidae.* Smith College.

Noble, G.K. 1931. *The biology of the Amphibia.* McGraw-Hill.

Taylor, D.H. and S.I. Gultman, editors. 1977. *The reproductive biology of amphibians.* Plenum.

Got a Special Interest?

If you would like to join with other Club members to study any of the special interests below, give the leader a call. New members are especially welcome.

Birds	Jean Higginson	820-2084
Art	Pat Osler	741-0199
Butterflies	Peter Hall	733-0698
Insects	Fenja Brodo	225-7081
Botany	Aileen Mason Trudy Bedford	722-2279 733-8826
Sound Recording	Jack Gates	592-1529
Photography	Betty Marwood	692-4195

Paul Catling, Coordinator

Bluebirds * 1981

C. Graham MacNay

Bluebirds fared considerably better along my Bluebird Trail during the past summer than they did in 1980. They nested successfully in 31 boxes, the same number as in 1980, but in that year more were taken over by Tree Swallows.

In both years, as is usual, several nests apparently built by Bluebirds were never occupied. Tree Swallows occupied 32 boxes, 4 of them taken over from Bluebirds where eggs were already laid. Other box occupants included the following: 3 House Sparrows, 2 Chickadees, 1 House Wren, 1 Red Squirrel, 3 mice, 1 unidentified bird with small, speckled eggs.

Second nestings by Bluebirds in occupied boxes numbered 18. Two late nestings in August were abandoned.

Number of eggs laid by Bluebirds was 230, up 20% from 1980; 198 young hatched, up 40% from 1980; 14 young were dead in the nest, up from only 3 in 1980; 6 House Sparrow young also were found dead. The young always die if the parents are lost, but the high mortality in 1981 could have been the result of extreme temperatures, both high and low, during the nesting period.

Several people along the Bluebird Trail have put out boxes and are getting good results. There is also a considerable spin-off over a wide area beyond the trail, even across the Ottawa River in Quebec.

I abandoned part of the trail in 1981 because of saturation by Tree Swallows in the area. This resulted from well-intentioned young people putting out boxes and permitting any occupants, notably Tree Swallows, to nest and raise their young. Tree Swallows need no assistance to survive.

Box losses resulting from theft, vandalism, hunters, and so forth were less than in 1980.

Earlier reports on Graham MacNay's Bluebird Trail may be found in:

- Gummer, B. 1980. *Bluebird Trails*. Trail & Landscape 14(2): 42-43.
Gummer, B. 1980. *Preliminary Nesting Results*. Trail & Landscape 14(4): 117.
Gummer, B. 1981. *Bluebird Notes*. Trail & Landscape 15(1): 55.

Vincent Massey Park and Area

H. Loney Dickson

Vincent Massey Park and the immediate surrounding area was one of the most disturbed sites that Stephen Darbyshire and I inventoried in the 1979 field season. Despite this, we found a surprising number of interesting animals and vascular plants.

We looked at the area along the Rideau River, from Bank Street to Mooneys Bay, and along the Rideau Canal from the Experimental Farm property in the east to the Hogs Back Road. Vincent Massey Park was included.

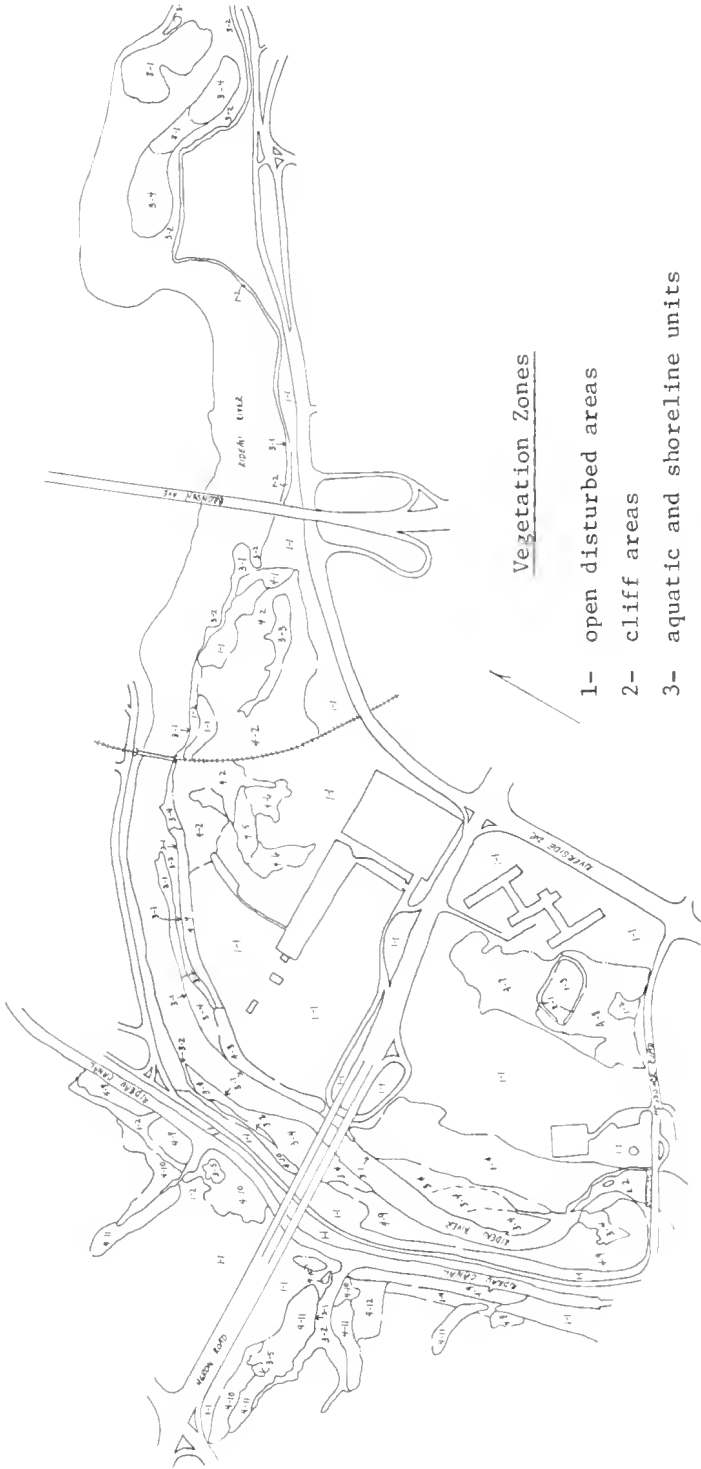
As you can see from the map, over half the area we looked at was artificial habitat (vegetation units 1-1, 1-3, 1-4). You might think that with this much disturbance the area would not be too exciting from a biological point of view. But if any of you have been on the spring bird walks, you will know that it is quite the contrary. Although it is no Point Pelee National Park, the use of this area by migrating warblers is great, and with the Rideau River's presence, even a not-so-keen eyed and eared birder can record a large number of birds daily. Better still, the bicycle paths and hiking trails enable one to observe bird behaviour in a leisurely fashion.

Botanically there are a number of interesting habitats to look at and explore. Stephen and I identified 23 vegetation units which may be grouped into four major zones: open disturbed areas; cliff areas; aquatic and shoreline areas; and forested areas.

Within the open disturbed areas there are a few species worth seeing besides the many introduced shrubs. Seven Hackberry trees* (*Celtis occidentalis*) are to be found along the Rideau River near Billings Bridge in vegetation unit 1-1, while in vegetation unit 1-2 one can find Red Elm (*Ulmus rubra*), and Moonseed (*Menispermum canadense*), an uncommon and beautiful vine. Of course, the fantastic but less loved *Xanthoxylum americanum* can be found in vegetation unit 1-3. What's that, you say? Prickly Ash, of course. It's a shrub which is generally taken for granted

* In 1978 Bill Dore noticed a plantation of young Hackberry trees just east of the Hogs Back bridge and south of the road. To make sure that these nursery trees are not confused in the future with the native population, he made a collection which he deposited in the herbarium of the Department of Agriculture (DAO) along with an account of their provenance. JMR

VEGETATION UNITS OF VINCENT MASSEY PARK AND AREA



Vegetation Zones

- 1- open disturbed areas
- 2- cliff areas
- 3- aquatic and shoreline units
- 4- forested areas

in the Ottawa area but which is to many of Ontario's naturalists a real goodie!

The limestone cliff communities of the Prince of Wales Falls is an interesting spot to visit. A trip in the winter to see the masses of ice built up will enhance one's understanding of the sparse vegetation and stunted growth of the nearby trees in this area.

The aquatic and shoreline habitats of vegetation zone 3 are very productive, and support a relatively diverse flora and fauna. Unfortunately, pollution in the Rideau River appears to have taken its toll on at least one species of animal. As recently as ten to fifteen years ago, the Northern Two-lined Salamander (*Eurycea bislineata bislineata*) was known to exist as a large population in the Rideau River between Prince of Wales Falls and Bank Street. In fact, I can remember as a Macoun Field Club member finding these salamanders under rocks during our yearly forays to Vincent Massey Park. Unfortunately, Stephen was unable to relocate this population. It may well have succumbed to the pollution in the Rideau River. If anyone is out looking around this area and finds a Two-lined Salamander, Stephen would appreciate being informed.

Other animals to be found in this area are the Painted Turtle (*Chrysemys picta marginata*), Green Frog (*Rana clamitans*) and a variety of waterfowl. The Royal Swans also frequent this stretch of river.

A few plants worth seeing in this zone are Wild Rice (*Zizania aquatica*), Bulrush (*Scirpus acutus*), Water Starwort (*Callitriche verna*), Buttonbush (*Cephalanthus occidentalis*) and a grass (*Muhlenbergia sylvatica*), to name only a few.

The most interesting areas in terms of woodlands (vegetation zone 4) are those designated as vegetation units 4-2 and 4-7. Vegetation unit 4-2 is dominated by Sugar Maple, Black Cherry, Elm and Basswood. The abundance of Black Cherry in these woods is fantastic and well worth seeing. While you are in this area, keep an eye out for Blue Beech (*Carpinus caroliniana*), the small tree that looks like it is muscle bound, Highbush Cranberry (*Viburnum opulus* var. *americana*) and Nodding Trillium (*Trillium cernuum*). This latter plant is known from this area, but unfortunately neither Stephen nor I could locate it again. It may have succumbed to the works of a bulldozer. Of course, for those of you who really like a challenge, there is a whole mess of significant sedges to find, things like *Carex hirtifolia*, *C. leptoneuria*, *C. sparganoides* and *C. vulpinoides*. Good luck!

If you are after spring flowers, look in vegetation unit 4-7 for such things as Round-leaved Hepatica (*Hepatica americana*), Bellwort (*Uvularia grandiflora*), Red and White Trilliums (*Trillium erectum* and *T. grandiflorum*) and Downy Yellow Violet (*Viola*

pubescens). These are all quite common here.

As you can see, despite the disturbances which have taken place in the Vincent Massey Park area, there are still a number of significant entities remaining. So don't let anyone tell you that an area isn't worth saving because it has been developed unless you or someone qualified has actually looked at the area and assessed its significance. That is, unless the area has a 20-metre building on it or has been paved over for a parking lot.

SIGNIFICANT VASCULAR PLANT SPECIES OF VINCENT MASSEY PARK AREA*

<i>Common Name</i>	<i>Scientific Name</i>	<i>Unit</i>
<u>Zone 1: open disturbed areas</u>		
s Wood Poa	<i>Poa nemoralis</i>	1-2
u Cottonwood	<i>Populus deltoides</i>	1-3
s Hackberry	<i>Celtis occidentalis</i>	1-1
u Red Elm	<i>Ulmus rubra</i>	1-1, -2
u Moonseed	<i>Menispermum canadense</i>	1-2
u Prickly-Ash	<i>Xanthoxylum americanum</i>	1-3
<u>Zone 2: cliff areas</u>		
u Black Willow	<i>Salix nigra</i>	2-1
<u>Zone 3: aquatic and shoreline units</u>		
u White Grass	<i>Leersia virginica</i>	3-4
u Mexican Muhlenbergia	<i>Muhlenbergia mexicana</i>	3-4
r	<i>M. sylvatica</i>	3-4
u Wild Rice	<i>Zizania aquatica</i>	3-2
u Bristly Sedge	<i>Carex comosa</i>	3-3
u Fox Sedge	<i>C. vulpinoides</i>	3-4, -5
u Red-stemmed Spike Rush	<i>Eleocharis calva</i>	3-4, -5
s Great Bulrush	<i>Scirpus acutus</i>	3-1, -2
u American Bulrush	<i>S. americanus</i>	3-1, -4
s River Bulrush	<i>S. fluviatilis</i>	3-1, -4
u Red-sheathed Bulrush	<i>S. microcarpus</i>	3-1, -4
u Cottonwood	<i>Populus deltoides</i>	3-4
u False Nettle	<i>Boehmeria cylindrica</i>	3-3, -4
Water Knotweed	<i>Polygonum punctatum</i>	3-4
u Bristly Crowfoot	<i>Ranunculus pennsylvanicus</i>	3-4
s Northern Crowfoot	<i>R. septentrionalis</i>	3-4
u Moonseed	<i>Menispermum canadense</i>	3-4
u Marsh Cinquefoil	<i>Potentilla palustris</i>	3-3
s Groundnut	<i>Apios americana</i>	3-1, -4

r rare s sparse u uncommon

* Nomenclature and status in the Ottawa District follow Gillett, J.M. and D.J. White. 1978. Checklist of Vascular Plants of the Ottawa-Hull Region, Canada. National Museums of Canada.

SIGNIFICANT VASCULAR PLANT SPECIES ... continued

Zone 3: aquatic and shoreline units (continued)

u Small-flowered Evening Primrose	<i>Oenothera parviflora</i>	3-4
u Common Water-starwort	<i>Callitriche verna</i>	3-2
s Water Hemlock	<i>Cicuta maculatum</i>	3-3, -4
u Dodder	<i>Cuscuta gronovii</i>	3-3
u Turtlehead	<i>Chelone glabra</i>	3-1
u Buttonbush	<i>Cephalanthus occidentalis</i>	3-3
r Dyer's Bedstraw	<i>Galium tinctorium</i>	3-4
s Bur-cucumber	<i>Sicyos angulatus</i>	3-4

Zone 4: forested areas

u Meadow Horsetail	<i>Equisetum pratense</i>	4-2
u Canada Yew	<i>Taxus canadensis</i>	4-4, -11
u Mexican Muhlenbergia	<i>Muhlenbergia mexicana</i>	4-9
u Ivory Sedge	<i>Carex eburnea</i>	4-4
s Hairy Sedge	<i>C. hirtifolia</i>	4-2
u Finely-nerved Sedge	<i>C. leptonevia</i>	4-2
s Bur-reed Sedge	<i>C. sparganioides</i>	4-2
u Fox Sedge	<i>C. vulpinoides</i>	4-1, -2
s Nodding Trillium	<i>Trillium cernuum</i>	4-2
u Cottonwood	<i>Populus deltoides</i>	4-7, -9 -11, -12
u Black Willow	<i>Salix nigra</i>	4-9
u Blue Beech	<i>Carpinus caroliniana</i>	4-2
u Red Elm	<i>Ulmus rubra</i>	4-8, -9
u False Nettle	<i>Boehmeria cylindrica</i>	4-1, -2
s Wild Currant	<i>Ribes triste</i>	4-5
u White Avens	<i>Geum canadense</i>	4-2
s American Mountain Ash	<i>Sorbus americana</i>	4-1, -7, -10, -11
u Soapberry	<i>Shepardia canadensis</i>	4-10
u Dodder	<i>Cuscuta gronovii</i>	4-1
u Wild Honeysuckle	<i>Lonicera dioica</i>	4-10
s Hobblebush	<i>Viburnum alnifolium</i>	4-2
u Highbush Cranberry	<i>Viburnum opulus</i> var. <i>americana</i>	4-1, -2, -10
r Whorled Wood Aster	<i>Aster acuminatus</i>	4-11
u Zigzag Goldenrod	<i>Solidago flexicaulis</i>	4-11

Trail & Landscape Circulation

Circulation of the January-February issue was as follows: a total of 1031 copies was mailed, 996 of them to members, subscribing libraries and other institutions in Canada. Thirty-five copies were sent outside Canada, 30 of them to the United States. The cost of postage for that mailing was \$46.84 (second class) for the 72-page issue.

In Defense of Wetlands

Jane M. Topping

In 1971 I moved to the country near Brockville and took up residence in a 150-year-old house set in over forty hectares of rolling countryside. A decision was made to keep some parts of the farm under active cultivation while leaving other areas in their natural state. This appeared to be a logical balance of land use as parts of the property have excellent soil and crop capabilities while other areas, such as the beaver pond, wetland, natural meandering creek and a more than 8-metre waterfall, lend themselves to being retained naturally. These wetland areas support a great variety of flora and fauna entirely dependent on the wetness for their existence. Maintained in this way these areas provide not only valuable habitat but also future potential for resource management as the pond and creek offer ideal ecological conditions for fish and bullfrogs along with the waterfall's capability of supporting a micro hydro-electric system.

This whole plan was working very well. The parts of the property highly suitable for agriculture were rented to one of the most progressive farmers in the area. Their agricultural capability was being enhanced by proper management. The natural areas were providing much needed habitat for flora and fauna, and enjoyment and beauty for those who explored them, while their retention protects an extremely valuable resource for the future.

However, all of this was to change in October 1978. I found surveyors on the property who finally, although reluctantly, identified themselves as working for the consulting firm of A.J. Graham of Ottawa. One of the fields of interest of this firm is agricultural land drainage consulting. I requested information from this firm as to what was going on, and this is how things started.

I soon learned that a petition for drainage had been raised in the area. Anyone who was not known to be supportive of the petition was carefully kept in the dark as to what was going on. I was not, nor was anyone else who would have been opposed, invited to the on-site meeting on July 29, 1978. Consequently, as one of the few rights given those who oppose a project such as this is the right to attend this meeting, I had the meeting declared legally void.

I was subsequently invited to the reconvened on-site meeting set for March 27, 1979. After much "digging" for information and presenting a brief at township council on that day, I persuaded enough people that the astronomical cost of the project,

coupled with the "hidden costs" which are downplayed to the landowners, would not justify the probable gain of the project. One or two of the councillors had to declare a conflict of interest with respect to this project as they had signed the petition for drainage. In the end, enough landowners removed their signatures so that on the 21st of August the firm of A.J. Graham formally informed the Township of Rear of Yonge and Escott that the petition for the Glen Elbe Municipal Drain was not legally sufficient, and the plans were cancelled.

One might think that this was the end of the problem. However, the moment a drainage petition is quashed, a new one may be initiated. In May, 1980, I received notice from the adjacent Township of Elizabethtown that a petition for drainage had been raised. I was requested to attend the on-site meeting for the new, supposedly much scaled-down version of the Glen Elbe Municipal Drain Proposal. This project, if implemented, would have the same potential for detrimental consequences as the first proposal. This new project has the potential to destroy valuable habitat for flora and fauna dependent on wetland and natural creeks for their survival. It would turn a beautiful natural creek into an unaesthetic, sterile agricultural sewer and would blow a channel through the brow of a waterfall of local historic and natural history heritage merit. Environmental degradation on the downstream reaches of the creek would affect Wiltse Lake, which is valuable for waterfowl and fish habitat, and ultimately Charleston Lake, one of the most historic and beautiful lakes in our part of Ontario. It is a lake which is very important recreationally and one that still can boast good water quality and a viable lake trout population.

Surely these aspects alone are reason enough to question the necessity and wisdom of such a project. However, when one adds to this the astronomic costs of such a project which are largely paid from the public purse, the necessity for both environmental and economic accountability by proponents of such proposals prior to the project's authorization is evident.

One rarely hears about, much less knows of, the existence of the Drainage Act 1975. Unless one is unfortunate enough to own property that has any potential for "benefits" from drainage proposals that are initiated and constructed under the authority of this Act, one might never know the implications of it. Hence, beware of that beautiful country property listed in the real estate column replete with century-old stone house, meandering creek and natural pond, which sounds so enticing! While you are signing the mortgage papers, landowners upstream and downstream from you may be signing a petition for drainage.

If the petition is considered valid, you will find yourself with a major construction project ripping through your property. Your taxes will be increased by your share of the total cost based on the amount of "benefit" your property will receive from

the drainage works. Whether you want or need drainage is of no consequence. In fact, a drainage engineer was quoted at a recent drainage proposal meeting as coming out with a comment that says it all: "The Drainage Act recognizes no opposition". The sad part is that this statement is basically true.

The Drainage Act 1975 once invoked allows the implementation of drainage projects subsidized by the public purse (in Eastern Ontario both Federal and Provincial): 1/3 Federal, 1/3 Provincial and the final 1/3 assessed to all the landowners who will receive any benefit, real or perceived, from the project. This is allowed without demanding, at the proponents' expense prior to authorization, an in-depth cost benefit analysis prepared by *unbiased* experts. It also permits authorization of these projects without the prior submission of thorough environmental appraisals, again by *unbiased* experts.

The ever-increasing threat that this act presents to the survival of the remaining wetland areas and natural creeks in this province must be addressed. This, however, Queen's Park refuses to do!

The proposed plan to turn an additional 10,000 hectares of land in Eastern and Northern Ontario in the next five years into agricultural production, as discussed in a Provincial Cabinet document, will only give impetus to this destruction. I understand that a question was posed in the Ontario Legislature regarding protection of Class I agricultural land. The reply was that it wasn't necessary as the Ministry of Agriculture and Food was developing new cropland. As it stands at the present time, the Government of Ontario is allowing Class I agricultural land to be subdivided and paved over. To remedy this situation, it dips into the public coffer for funds (16.6 million dollars last year) to finance drainage projects. These projects have the potential to destroy valuable natural resources supported by the wet areas which, in many instances, form the new land that this expansion program is developing. Much of this expanded cropland turns out to be of marginal agricultural value. The whole program is being carried out at the taxpayers' expense under the excuse of making Ontario self-sufficient in food for the future.

While it is a crime that the wetland areas we have left are being eradicated by indiscriminant drainage proposals, this program is also jeopardizing the very existence of our natural creeks. Once a creek is designated as a municipal drain, it is no longer eligible for any legal protection as it has been stripped of its natural watercourse status by the passage of the bylaw classing it as a municipal drain. This fact is of critical importance to stream protection or rehabilitation projects, as once this assignment has been made, the watercourse is henceforth classed as a drain. Consequently, at any time it may be re-channelled or dredged. The attendant destruction of fish habitat

or populations now has no meaning as the vital criteria (its watercourse status) required to invoke any applicable legislation that could be beneficial has been preempted permanently by the Drainage Act.

Some of the most glaring shortfalls of this act are

1. No indepth, unbiased cost benefit analysis is required prior to authorization of the project.
2. Spending of public funds is without independent review. Funding (in Eastern Ontario) is 1/3 Federal, 1/3 Provincial and 1/3 payable by anyone receiving real or perceived benefit from the project.
3. Downstream landowners' interests are not considered nor do they have any voice in the drainage project. The upstream owners' rights are absolute.
4. The Drainage Act preempts other Provincial and Federal legislation such as the Environmental Protection Act, the Water Resources Act and the Fisheries Act. Furthermore, it does not take into account the Federal Land Use Policy.
5. The Drainage Act is often in contradiction of Provincial water management objectives.
6. The Drainage Engineer has monopoly of knowledge and interpretation of the Act, which benefits his business or is self-serving. (In fact, the engineer is the only party at present which is guaranteed a profit from such projects, whether they proceed or fail.)
7. The tribunal is staffed with drainage contractors and those with a vested interest in drainage.
8. This is the only Act where the party calling for Environmental Assessment must pay cost, a unique case under the Environmental Assessment Act.
9. No municipal drainage is justified without being followed by tile drainage of fields. Often tile drainage is not installed, and if it is, more public funds are used, increasing the "total" cost of the project.
10. It would appear that the Drainage Act supersedes and extinguishes any riparian rights a landowner may have under Common Law.

In 1974, the Select Committee on Agricultural Land Drainage made a formal report to the Ontario Legislature and numerous recommendations for improvement of the Drainage Act. Some capsule comments from this report follow:

- a) "Benefit-cost ratios in Eastern Ontario are generally low and only two of the drains studied are likely to pay for themselves. Many of the sample drains particularly in Eastern and Northern Ontario have benefit-cost ratios with values below 1.0 and have been beneficial to property owners only because of government grants."
- b) "The Committee found that approximately 30-35% of the drains constructed would not pay their way in the foreseeable future. The Committee believes that steps should be taken to ensure that drains return to the landowner the value he expects from the total cost of the drainage works and also that public funds invested in drainage by the governments of Ontario and Canada through A.R.D.A. yield positive returns. The Committee recommends that an environmental impact statement on every new drain proposed in Ontario be filed with the Council of the Municipality in which the drainage works is proposed."

This report was a positive step in looking at agricultural drainage and its attendant problems and benefits. It would appear, however, that some of the more important recommendations put forward by this Committee have been totally ignored, and rather than making the Drainage Act a better piece of legislation by addressing its inadequacies, the Legislature chose instead to give the proponents of drainage even greater advantage by plugging some loopholes that had been used to present successful challenges to drainage proposals in the past.

A government that condones and subsidizes programs such as this with blanket phrases like "It is democratic" or "We are building food self-sufficiency for Ontario's future" loses credibility. Taxpayers are told that you must use restraint. On the other hand, this same government says to farmers "Here is the money, we don't need any valid justification for its expenditure".

Certainly, some drainage works are warranted. However, until the Ministry of Agriculture and Food and the Government of Ontario are prepared to accept their responsibility to safeguard our land resource for the future by wise land use planning, and provide indepth cost-benefit analyses and environmental appraisals prior to authorization of major drainage projects, they are shirking their responsibility to the people of Ontario.

The Government of Ontario is in the process of developing a Policy for Wetlands. However, unless this policy provides absolute safeguards for wetland preservation which are exempt from Acts such as the Drainage Act 1975, to quote a newspaper columnist, it is "worthless political rhetoric". It is up to you, the citizens, to determine the future of our wetlands.

Do you believe that wetlands, an increasingly valuable natural resource but poorly understood and severely threatened

segment of the environmental landscape, should be protected?

Do you have a favourite stream, pond or wetland on your property or somewhere you go that you wish to see retained in its natural state rather than ditched, dredged, drained or filled, whichever is more expedient in the name of progress?

Do you enjoy birdwatching, canoeing, photography, fishing, hunting, camping ...?

Do you want better water quality now and for the future, not just for drinking water in our cities but also in our lakes and streams?

Do you realize the need for undisturbed natural areas to provide habitat for flora and fauna to ensure that the resources we are drawing upon now will be able to provide for future needs?

Do you earn your living from trapping, guiding, selling bait, tourism and the like?

Do you value environmental quality of life which provides for you and your children and which will, if safeguarded, allow your children's children the privilege of fishing in a natural creek, exploring the exciting world of a marsh, and drinking and swimming in clear, clean water?

If any of the above reasons for preserving wetlands is important, then write to the Minister of Natural Resources, if possible before the end of February. State that you support the necessity and value of our wetlands and the URGENT need for strong legislation to be enacted for their protection.

Urge that the Minister recognize the valuable resource that wetland complexes provide now and for the future.

Urge that the Government of Ontario immediately stop promoting and funding projects that jeopardize these areas.

Urge that the proponents of projects having the potential to jeopardize valuable areas be required to provide at their own expense (1) indepth environmental appraisals by outside impartial experts, and (2) indepth cost benefit analyses by outside impartial experts.

Please write to: The Honourable A. Pope
Whitney Block
99 Wellesley Street West
Toronto, Ontario
M7A 1W3

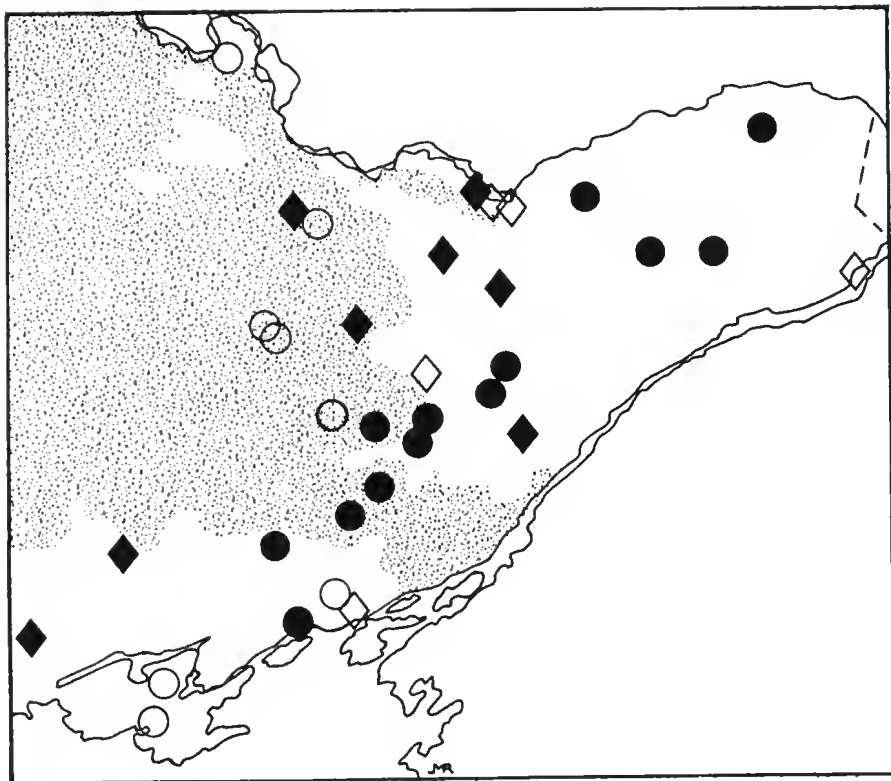
Some Eastern Ontario Wetlands

Joyce M. Reddoch

Eastern Ontario is still rich in numbers and varieties of wetlands; however, very few of them are protected in any way. The map below shows some of the more significant marshes and peatlands (bogs and fens), but only a few of the kettle-lake bogs on the Canadian Shield (shaded area) and only a few of our numerous *cedar swamps* (○).

Cattail marshes and reed marshes have been plotted as *marshes* (◇); all types of bogs have been plotted together as *bogs* (●).

Similarly, treed fens, low shrub fens (shrub carrs) and open sedge fens have been plotted as *fens* (◆). Many of these fens are parts of wetlands complexes which include swamps and/or bogs. (For a description of five Ottawa District fens, see Reddoch, J. 1979. *Calcareous Fens in the Ottawa District*. *Trail & Landscape* 13(1): 16-27.)



National Museum Activities

The Basics of Bonsai - the art of shaping miniature trees - will be demonstrated on Saturday, March 20, at 3 p.m. and Sunday, March 21, at 1 p.m. by Jane Donnelly of the Toronto Bonsai Society, and on Saturday, March 20, at 1 p.m. and Sunday, March 21 at 3 p.m. by Yves Bordeleau and Jean Fontaine of the Montreal Bonsai Society. These illustrated talks will be given in the Plant Life Gallery.

Coming films include *Darwin - Evolution of Flight* and *Sable Island* on March 20 and 21; *Les Paysages végétaux du Canada*, *Spongeuse* and *Perception écologique de l'environnement* on April 3 and 4; and *The Solar System* and *The Sunspot Mystery* on April 17 and 18, all at 2 p.m.

The Audubon Film, *Land of the Shortgrass Prairie* with Lorne Wallace, will be shown on March 17 at 8 p.m.

Dinobus outings of interest are *Sugar Bush* on March 28, *Frog Time* on April 27 (bring rubber boots and a flashlight), *La cabane à sucre* on April 4, and *Les grenouilles* on April 28 (bring rubber boots and a flashlight). The duration of the trips is from 10 a.m. to 4 p.m. except for those of April 27 and 28, which are from 6:30 p.m. to 9 p.m. Registration begins Monday at 9 a.m. two weeks prior to each excursion. Please register by calling 995-9060.

N.C.C. Activities

The National Capital Commission announces *It's Maple Sugar Time* at the Log Farm Sugarbush, Cedarview Road, April 10, 11 and 12 from 10 a.m. to 4 p.m. There will be guided tours both morning and afternoon.

The Mer Bleue Interpretation Centre on the Dolman Ridge welcomes weekend visitors until March 14, between 11 a.m. and 5 p.m. The following special features have been scheduled:

Where do they go in winter? is an illustrated talk to be presented on March 7 at 2:30 p.m.

The Shantyman of the Ottawa will be present to discuss with visitors the early lumbering days in the Valley on March 14 between 1 and 5 p.m.

Coming Events

arranged by the Excursions and Lectures Committee
Paul Catling (828-8392), Chairman

All times stated for excursions and walks are departure or starting times. Please plan to arrive ten minutes early to avoid being left behind; leaders start promptly. If you need a ride, don't hesitate to ask the leader.

Saturday SKI TRIP TO EXPLORE THE MADAWASKA WILDERNESS IN WINTER
6 March Leaders: Sheila and Harry Thomson (234-0845)
Bring a hearty lunch for this all-day outing. All
persons wishing to go, phone the leaders by Thursday,
March 4, to arrange further details.

Tuesday	OFNC MONTHLY MEETING
9 March	MOOSE, ROCKS AND OTHER WILDLIFE
	Speaker: Dave Fraser
	Meet: Auditorium, National Museum of Natural Sciences, Metcalf and McLeod Streets
	Time: 8:00 p.m.
	The speaker is an ethologist who has worked on both wild and domesticated ungulates. His talk will include a wide range of observations on wildlife and natural history, especially on the Canadian Shield. The speaker's re- search on the moose's remarkable fondness for aquatic plants and mineral springs will be described. The talk will be illustrated with slides of the moose and other northern wildlife.

Date and AMPHIBIANS IN SPRING
time to Leader: Stephen Darbyshire (749-9317)
be decid- Meet: to be decided
ed

The success of this outing is very dependent on the
weather. If you are interested in participating, tele-
phone the Club number, 722-3050, (after 10 a.m. only)
before March 10. When a date and meeting place for the
outing have been fixed, you will be notified by phone.
Bring a strong flashlight and a long-handled dip net;
wear rubber boots and warm clothes.

Sunday
4 April BUS EXCURSION: BIRDING AT PRESQU'ILE PROVINCIAL PARK
Leader: Bruce Di Labio
Meet: Loblaws, Carlingwood Shopping Centre,
Carling Avenue at Woodroffe Avenue
Time: 6:30 a.m.
Cost: \$15.50 per person (prepaid ten days in advance)
The large flocks of migrating waterfowl gathered at
Presqu'ile prior to journeying further north should be
the highlight of the trip. Since this is an all-day
trip, be sure to bring enough food for lunch and snacks.
Dress warmly and wear waterproof footwear. Bring bin-
oculars and, if available, telescopes.
Make your reservation for this trip by sending your
cheque or money order (payable to The Ottawa Field-
Naturalists' Club) to Elaine Dickson, 2037 Honeywell
Avenue, Ottawa K2A 0P7, at least ten days in advance
of the trip. Include your name, address, telephone
number and the name of the excursion.

Tuesday 13 April	OFNC MONTHLY MEETING SPRINGTIME IN THE VALLEY Speakers: Sheila and Harry Thomson Meet: Auditorium, National Museum of Natural Sciences, Metcalfe and McLeod Streets Time: 8:00 p.m. A slide show featuring springtime flora and fauna.
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Wednesday A REFRESHER COURSE FOR BIRDERS: SHARPEN YOUR SENSES OF
7 April SIGHT AND HEARING
(sight); Leader: Steve O'Donnell (729-1554 after 10 a.m.)
14 April Meet: Activity Room #3, National Museum of Natural
(hearing) Sciences, Metcalfe and McLeod Streets
Time: 7:30 p.m.
Those attending this course may wish to try out their
newly honed birding skills by participating in the
following outing on Sunday, April 18th to Shirleys Bay.

Sunday
18 April EARLY SPRING MIGRANTS
Leader: Steve O'Donnell (729-1554 after 10 a.m.)
Meet: Britannia Drive-In Theatre, Carling Avenue
Time: 7:00 a.m.
Bring waterproof footwear and binoculars for this half-
day outing.

Friday OFNC SOIREE - BACK BY POPULAR REQUEST
30 April Meet: Unitarian Church Hall,
2101 Algonquin Avenue
Time: 7:30 p.m.
See the centrefold for additional details.

Saturday BUS EXCURSION TO CHAFFEY'S LOCKS
8 May Leaders: Roger Taylor and Vivian Brownell
Meet: National Museum of Natural Sciences,
Metcalfe and McLeod Streets,
front entrance
Time: 8:00 a.m.

This all-day, general interest trip is to an area about 130 km distant which is noted for such rarities as the Black Rat Snake, the Blue Wing - Golden Wing hybrid Warbler and the West Virginia White Butterfly (Ontario's only protected butterfly). Additional attractions will be spring wildflowers not found in our area, a variety of spring warblers and a visit to Queen's Biology Station.

Those wishing to participate should register at least ten days in advance of the outing by phoning the Club number, 722-3050 (after 10 a.m.). Bring a lunch and insect repellent.

LOOKING AHEAD - This year the Federation of Ontario Naturalists' Annual Meeting will be in Eastern Ontario, at Queen's University in Kingston from May 28 to May 30. Plan to attend!

Be prepared to act

The Regional Council will be considering its yearly budget in early March. Last year, naturalists' expressions of strong support for the Natural Environment Areas system were crucial in preventing the council from scrapping the land acquisition budget and jeopardizing the whole land acquisition program.

This year, as soon as possible, be sure to let your regional councillor know that you support the Natural Environment Areas system in Ottawa-Carleton and urge him or her to vote for the land acquisition budget.

Your contribution is essential.

DEADLINE: *Material intended for the May-August issue must be in the Editor's hands before March 13.*

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TRAIL & LANDSCAPE

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