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TRAIL & LANDSCAPE



*A Publication Concerned With
Natural History and Conservation*

The Ottawa Field-Naturalists' Club

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TRAIL & LANDSCAPE

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The Ottawa Field-Naturalists' Club

— Founded 1879 —

President

E. Franklin Pope

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 the 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, a quarterly devoted to reporting research in all fields of natural history relevant to Canada, and TRAIL & LANDSCAPE, a quarterly providing articles on the natural history of the Ottawa Valley and on club activities.

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

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Welcome, New Members

Ottawa Area

Joan Bishop and Family
K. Boyle and Family
Judy Burrows and Family
Theresa J. Caron and Family
Janet M. Castle
Louise M. Cooper and Family
Sue Eldride
Peter G. Goddard
Nigel R. Gumley and Family

Brenda P. Jack
Diane Y. Kitching and Family
Gregory Lawton and Family
Mark P. Oudin and Family
Thomas A. Reeve and Family
Hcather R. Scown
Brian R. Tousignant and Family
Rosemary Warren
Gregory T. K. Wong

To all our new members for 1994

Watch for your invitation to our annual **New Members' Night** in mid-November. This highlight of our Club year is an opportunity for the Council to welcome you to the Club and to answer your questions about the Club activities and how you may become more involved. The committee representatives are enthusiastic and more than willing to explain their responsibilities and may even try to solicit your help. Most years we are joined by our Ottawa area Honorary Members as well. This is a great chance to meet and chat with them as well as with other "old" and new members. □



P.J. Mickey Narraway
Membership Committee
August, 1994

From the Editor

This issue of *Trail & Landscape* reflects our Club's increasing concerns with conservation and the well-being of our environment. Thank you to all the contributors for making our journal a success and a treasure of local natural history.

Please keep sending in material. We admit to having a small backlog of good articles and poetry but we will need a continuing supply of interesting material to fill other pages.

I want to express my thanks to my team, Sandra Gushue (who does most of the work), Dave Thomson and Suzanne Blain (computer trouble-shooters) and Bill Gummer (associate editor, proof-reader par excellence, who has kept us from making some very embarrassing errors.)

Most of our articles are sent to reviewers for their suggestions and comments. Thank you to Tony Beck, Bob Bracken, Albert Dugal, Bill Gummer, Peter Hall, Lubomir Masner, Frank Pope, Jane Topping and Philip Youngman for graciously reading and offering useful advise to our authors. □

Ottawa Duck Club Inc.

18th Annual Wildlife Art & Carving Show/Sale

OFNC Members should be aware that the Ottawa Duck Club will be holding its 18th Annual Show & Sale, October 21-23 at the Nepean Sportsplex on Woodroffe Avenue. This event is to raise funds for wildlife conservation in the Ottawa area. The Duck Club builds and sets out improved boxes for raising not only ducks and geese but also nesting boxes for blue birds, swallows and martins.

This exhibition features wildlife carvers, antique and contemporary decoy collectors, wildlife artists and photographers, and taxidermists. Carving and painting demonstrations are encouraged.

As in the past, our Club plans to have an exhibit in this show. The hours are:

Fri. Oct. 21, 5 - 9 p.m.; Sat. Oct. 10 - 9 p.m.; Sun. Oct. 10 - 4 p.m.

Admission is \$3.00. Call Ellaine Dickson (729-1554) for further information. □

Council Report

Dave Smythe

Finance Policy

Council has accepted two recommendations from the Finance Committee for the management of the Club's equity:

1. It has agreed that equity (\$191,940 as of September 1993) should consist of a Club Reserve and General Equity. The former will be money reserved for a "rainy day," while the latter will provide the working capital for operations under normal circumstances.

A reserve is necessary to maintain important elements of the Club's activities during difficult economic times, and in the unlikely event of failure to recover from this situation, to provide for an orderly termination of the Club. Difficult economic times might be triggered by some combination of loss of contributors to CFN and the consequential loss of publication charges, loss of subscribers to CFN, inability to attract an Editor or Business Manager for the CFN for the honorariums now offered, low OFNC membership, and low interest income.

For the purpose of estimation, the Finance Committee postulated a period of three years during which the operations of the CFN, the Fletcher Wildlife Garden, and essential membership and administrative costs would be maintained, not necessarily at the present level. This period would also be used to develop a long term strategy to cope with changed circumstances.

A Club Reserve of \$100,000 has been established, subject to revision for inflation or other requirements that may arise. Payments from this fund may be authorized by Council if it is determined that essential requirements of the CFN, the Fletcher Wildlife Garden, and Club operations cannot be met by the current operating budget.

2. Council has agreed that investment of the Club's equity,
 - (a) shall be restricted to investments that guarantee the principal.
 - (b) must have a level of security at least as high as federal and provincial (including crown corporations) bonds.
 - (c) may lock in the principal for more than one year up to the amount specified as the Club Reserve.

Investments which meet these criteria include chequing and savings accounts guaranteed by federal or provincial deposit insurance, treasury bills, guaranteed investment certificates, and bonds, including "strip" bonds, issued by federal or provincial governments and crown corporations.□

Macoun Field Club

Ellaine Dickson and Fenja Brodo



*Left to right: Bruce Davidson, Tina and Andrew Fournier
on a Macoun Club trip to Charleston Lake Provincial Park.*

Our junior naturalists need your help. More people are needed to make the Macoun Field Club run smoothly, to generate ideas for a program of activities and field trips.

The three different age groups of the Macoun Field Club meet at the Canadian Museum of Nature. The Seniors (high schoolers) gather on Friday afternoons from 4:30-6:00 p.m. and the Intermediates (grades 7-8) and Juniors (grades 4-6) meet for an hour on Saturday mornings at 10:00 and 11:15, respectively. Many Saturdays they go on a field trip instead of meeting indoors. Rob Lee, a former member of this Club himself, has been the mainstay leader for several years. Happily for us, he wishes to continue in that capacity. However, at this time, he finds that he needs more help, new blood and different approaches to stimulate our junior naturalists.

People are needed to join the Macoun Field Club Committee in overseeing the childrens' activities. Some may wish to help run occasional meetings. There is also a great opportunity for someone to regularly spend time with the members, encouraging them to explore the Club's wonderful library, collections, and computer resources. Lastly, it would be useful if Rob had a few more people to call on to help him on those wonderful Saturday field trips.

Please call Ellaine at the Club number, 722-3050 (after 10:00 a.m.) if you would like to offer your services or if you would like more information.☐

Quercus—Queen of the Trees

Opportunity for silvicultural training and contribution of talents

Brent Coates

In 1992 the ROYAL OAK PLANTATION PROJECT (ROPP) was organized in response to an appeal from a UNITED NATIONS Foundation to encourage the planting of oak species throughout the world. In the National Capital Region several agencies and individuals have come together to take up this challenge. The Royal Oak Plantation Project was initiated here in the same year as the UN appeal. ROPP has an objective to plant a minimum of 1000 oak trees each year for a 20 year period. A general plan was prepared and a number of tasks were identified. To meet this basic objective a steady supply of seedlings need to be propagated. The Ontario Ministry of Natural Resources has agreed to be a partner for several aspects of this project, seed propagation being one of them.

A continual supply of acorns is needed over the next 10 to 15 years to build up a supply of hardy seedling stock. The identification of superior seed-trees and the collection of acorns are critical components of the overall plan.

The plantation project is looking for people willing to take on the responsibility for seed collection for a 5 year period.

Training and field experience will be provided. The Royal Oak Plantation Project has put together an educational training program which will give participants expert instruction from a hardwood specialist and an opportunity to obtain unique field experience with a professional forester.

Participants will learn to recognize superior seed-trees, measures for estimating acorn production and collecting techniques. The program will also provide the participants with an in-depth familiarity with a tree nursery, acorn fertility, seed preparation and germination rates.

This project would be another visible example of OFNC's support for efforts to restore environments of high quality for living things.

Please contact Frank Pope (829-1281), by October 15, 1994, if you are interested in participating in this project.□

The Importance of Snags and Downed Logs to Wildlife

Christine Hanrahan



Pileated Woodpecker hole in snag. Photo by Christine Hanrahan.

Introduction

While walking through our local forests and along trails at the city's edge your eye may be caught by the stark form of a standing dead tree or by a fallen log stretched across the forest floor. Perhaps you saw a woodpecker fly from a hole in the tree's trunk, or noticed a squirrel running down the log, using it as a sort of elevated highway through the forest, and recognized the value of this dead wood to birds and other forest creatures. To many people, however, standing dead trees or fallen logs are seen only as eyesores, or as potential threats to one's safety. In both cases, the usual solution is to remove the wood. Yet these standing dead and dying trees and downed logs are an important feature of forest ecology and essential to the continued survival of many species of wildlife.

A forest is a living entity, constantly changing and evolving. Old trees die, new ones sprout up and over many years the very composition of a forest may change. An important component of all forests is dead and dying trees, whether standing as snags or lying on the forest floor as downed logs. So vital is their role in the forest ecosystem that it is no exaggeration to say that **dead trees give life to the forest**. Norse (1990), writing of a Pacific Northwest rain-forest, states that "rotting snags and logs provide the tunnels, dens, and nesting cavities needed by animals from black bears and spotted owls to land snails and springtails."

Snags or wildlife trees

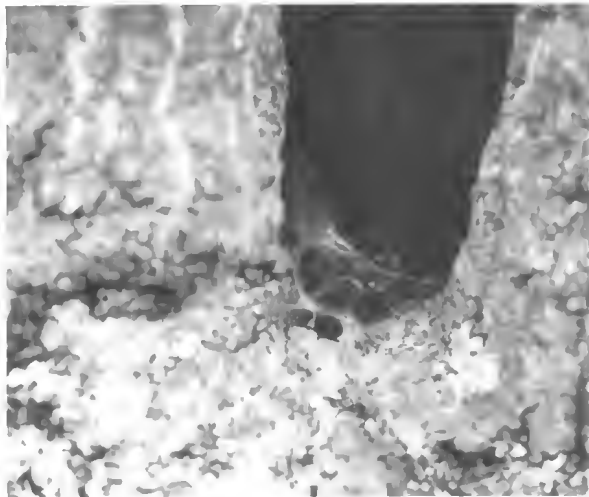
Snags are standing dead trees. They are also known as den or cavity trees and in British Columbia, as wildlife trees. The latter term is especially appropriate for their value to wildlife is immeasurable, providing food, safe nesting sites in the form of cavities and platforms, roosting and denning sites, hunting perches, display stations, and foraging sites for a wide variety of species (Guy 1994). The BC Wildlife Tree Committee defines a wildlife tree as "any standing dead or live tree with special characteristics that provides valuable habitat for the conservation or enhancement of wildlife."

From the time a standing tree dies until it falls to the forest floor, its many stages of decomposition attract different birds, mammals and invertebrates. Charles Elton (*in* Kennedy 1991) observes that "dying and dead wood provides one of the two or three greatest resources for animal species in a natural forest...if fallen timber and slightly decayed trees are removed the whole system is greatly impoverished of perhaps more than a fifth of its fauna."

It must be noted that not all snags occur within the forest proper. Sometimes isolated trees, left standing by design or chance, hold a lonely vigil over fields or cottage lots, or some other cleared area. Although these trees are less valuable to wildlife in general, they do provide nesting platforms for Ospreys (if near water), or hunting perches for flycatchers, Eastern Bluebirds, swallows and other species. Other snags retained in belts of trees (often planted along the edge of fields to serve as windbreaks or as property boundaries) are also very important as nesting and roosting sites, food, and hunting perches, and should be left in place unless they are a hazard.

Not all snags are equally attractive to all species of wildlife. It has been shown that some bird species require snags of a certain diameter before they will utilize the tree. Perhaps not surprisingly snags with the largest diameter support the greatest number of species (MacDonald 1992; Peck and James 1983).

When a tree dies it is attacked by a variety of insects and fungi which soften the wood allowing it to be easily shredded by birds and mammals. These insects then attract woodpeckers and other forest-dwelling animals who in the course of excavating for food, create holes or cavities which become in turn, nesting sites for birds and small mammals. Biologists call those species which greatly in-



Spider webs in cavity of dead tree. Photo by F. Brodo.

fluence other species, 'keystone species.' Woodpeckers are one such example, for the holes they create as they search for food provide homes for countless other creatures. Most readers will be familiar with the large rectangular holes of the Pileated Woodpecker, for example.

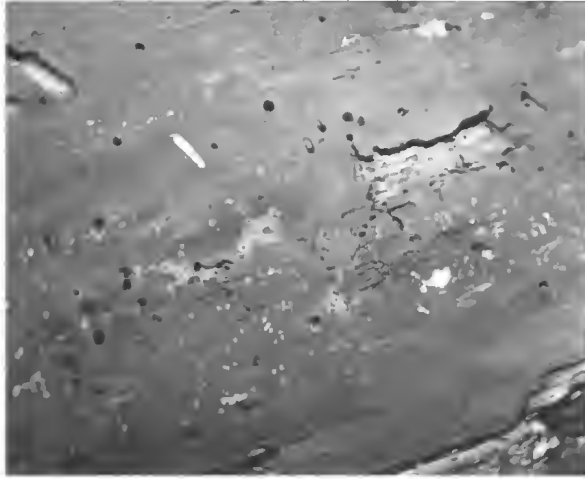
Norse (1990) writing of the beneficial role played by the primary 'colonizers' of snags, insects and fungi, comments that "people who automatically consider insects and fungi to be pests might be surprised to learn of their essential service to all cavity dwellers..." The variety of invertebrates inhabiting dead and dying trees is staggering: millipedes, mites, earwigs, beetles, spiders, ants and even earthworms; all of these creatures help in some way to carry on the long process of decomposition. But while they are at their work they provide a rich bounty of food for birds, so rich that some trees have been called "candy trees" for birds (Kennedy 1991)!

A standing dead tree can remain in place for many years. Some of the forest giants in Pacific Northwest rainforests have been snags for well over 150 years before they fall. Smaller trees come down sooner, but even they can last for many decades, and this should be remembered when considering the 'safety' aspects of snags in public places.

Downed logs

An old-growth forest is full of fallen trees, or downed logs. It is thought that in an ancient Douglas Fir/Western Hemlock forest in the Pacific Northwest, up to 25% of the forest floor is covered by logs (Norse 1990). In second-growth eastern hardwood or pine forests logs are less in evidence, but they still form an important part of the overall ecosystem just as they do in any forest or wooded area. In fact, biologists are now calling logs the “hot-spots” of the forest ecosystem, “essential to biological diversity” (ibid).

When a tree falls to the ground, it is quickly taken over by insects, especially beetles. Earlier, woodpeckers were referred to as a keystone species; beetles serve that same function in downed logs (Norse 1990). As they bore into the log they open up the way for fungi which in turn help to decompose the inner bark. As the beetles tunnel further into the log they provide access for spiders, ants, millipedes, and salamanders and the process of decomposition initiated by the beetles continues.



Downed log algae-covered and pock-marked by insect burrows. Photo by F. Brodo.

Like snags, downed logs provide shelter and denning sites for mammals, birds, and for amphibians and reptiles such as salamanders and snakes. Small animals such as squirrels use logs as easy routes through the forest.

Even more importantly, logs act as ‘nurseries’ for plants, allowing them a nutrient-rich base in which to take root. Many plants take root on downed logs and it is a fascinating exercise to count the number of plant species growing on a single ‘nurse log.’

Ecologists have classified five stages of decay in a downed log, from the first stage when a log is intact and not yet decayed, to the fifth, where the log has crumbled into a mass of organic material (Norse 1990). Because logs are more moisture-retentive than snags they decay more slowly since oxygen is excluded from wet wood (*ibid*). Large old-growth logs can take two hundred or more years to decompose completely. Smaller logs such as those found in this region will decay much faster.

Recognition of Wildlife Trees or Snags

Until recently I have been living in British Columbia, a province that has shown a degree of leadership in recognizing the importance of snags to wildlife. It is therefore interesting to compare the differing attitudes towards standing dead trees in the two provinces of British Columbia and Ontario where, in recent years, the importance of snags has become much more widely recognized.

British Columbia

In British Columbia, the provincial Ministry of Forests (MOF) acknowledged the value of wildlife trees by making them a focus of integrated forest management. Together with the Ministry of Environment, Lands and Parks (MOELP) they have set up a BC Wildlife Tree Committee, with representatives from government, universities, industry and environmental groups. This is a decided improvement over the days when standing dead trees were routinely dismissed as 'decadent' and useless. Public education is crucial in changing the way in which dead trees are viewed and to this end the BC MOF and MOELP have created a set of bright yellow signs to place on appropriate trees designating them a 'wildlife tree.' Anybody can apply for a set of signs and residents are actively encouraged to do so. Natural history groups are undertaking to survey and identify all crucial wildlife trees in their area and tag them with the yellow signs as a way of highlighting the importance of these dead trees. The term 'wildlife tree' is gradually replacing 'snag' in the terminology of biologists and naturalists in British Columbia, and with good reason.

The MOELP has developed an environmental education program for schools which focuses on wildlife habitat and conservation called Project WILD. This year, a new component of the existing program deals entirely with snags, and is called "Wildlife trees in British Columbia, discovering animal inns." It aims to teach young people about the immense importance of standing dead trees for a multiplicity of wildlife species, and is one more step in the province's promotion of snag retention.

Ontario

In 1979 the Ontario Ministry of Natural Resources (OMNR) identified snags as important to wildlife, and recommended leaving "at least two snags per hectare for wildlife purposes" (Euler 1979). Today, OMNR has revised this figure upwards and suggests retaining in "certain areas," 6 large or 12 small cavity or den trees per hectare in a variety of species (OMNR 1992). There are no formal policies regarding the retention of wildlife trees, and the above suggestions are just that, suggestions and their implementation is dependent on many factors including concerns over safety. However, recognizing that little was actually known about snags in the Ontario forest ecosystem and their relative value to wildlife, OMNR undertook a study in 1989 to look at snag characteristics and abundance in various forest types (MacDonald 1992).

In 1993, an OMNR study identified snags or cavity trees as habitats for roughly 15% of the wildlife species found in the Great Lakes-St. Lawrence Forest Region of Ontario (Anderson and Rice, 1993). Although the OMNR advocates retaining trees considered necessary to wildlife, they admit that snag protection in forestry operations is difficult due to the provisions for safe working conditions in the Occupational Health and Safety Act. Because snag development is a slow process, "intensive timber management over a 20-year period may reduce the amount of habitat for cavity users to a very low level" (ibid). Their solution for ensuring a supply of snags now and in the future, is to leave 'live' cavity trees, that is, trees beginning to decline. However, this is not good enough for those species which need dead trees for food and nest sites. Many species of excavators for example, cannot work a tree until it is well along in the decaying process. It is good to see that OMNR recognizes the value of standing dead and dying trees for wildlife, but more work obviously needs to be done to ensure that these wildlife trees are retained and in sufficient quantities and not left as isolated specimens.

Given the importance of standing dead trees for wildlife, it would be wise for OMNR to continue these studies and to set up a committee to look at the role of snags in forest management practices in order to formulate policies for the retention and protection of wildlife trees. This would eliminate the present situation whereby individual forest managers decide whether trees are retained or not. A program to educate the public could also be undertaken with the aid of local naturalists' clubs across the province.

National Capital Region

National Capital Commission (NCC) biologists are aware of the importance of standing dead trees to wildlife and to forest ecology. Although no specific policy pertains to this issue, snags are dealt with under a general 'environ-

mentally friendly policy' which looks at all aspects of environmental protection and conservation and which attempts to manage the Greenbelt and Gatineau Park in an ecologically responsible manner. Felled trees are left onsite to decompose naturally. Removal occurs only when snags pose a threat to human safety, which means that trees alongside trails are the most likely to be cut. The NCC responds to complaints from the public about dead trees and if possible an assessment of the tree is made, especially whether it appears to be harbouring wildlife, before a decision is made to cut. If the snag is being used by wildlife the cutting will be delayed. Education is one of the best ways to ensure that the importance of snags for wildlife is recognized by the public. Unfortunately, interpretive programs are no longer being run in the Greenbelt due to staff reductions, and only limited programs are undertaken in Gatineau Park (Wayne Johnson, Henriette Richard personal communication).



Well-used snag on King Mountain, Gatineau Park. Photo by F. Brodo

Wildlife using snags and downed logs

Birds

Nest boxes have been so successfully used by Eastern Bluebirds, Purple Martins and Tree Swallows that many people forget that their natural nest sites are in fact tree cavities. Many other birds are also cavity nesters and while some species readily adapt to man-made nest boxes, others will not, or can not adapt. Therefore we should never assume that nest boxes are an adequate substitute for natural nest cavities. Furthermore, for those species using cavities for winter roosting, nest boxes simply cannot provide the necessary insulation, nor can they provide "habitat for the multitude of species of microorganisms, fungi, insects, birds and mammals which natural snags do" (MacDonald 1992).

Not all birds make use of the cavities in snags for nest sites. For some birds, such as the tiny Brown Creeper, it is the loose bark on dead trees that gives shelter for nests, while for others such as Ospreys, standing dead trees near water provide platforms on which to build their large, bulky nests. Barred Owls and Great Horned Owls prefer the broken off tops of snags on which to build their nests, although Barred Owls will also nest in large cavities.

Birds such as Ruffed Grouse use downed logs for 'drumming' in their spring courtship ritual. And as noted earlier, many birds use snags as hunting perches or display stations.

MacDonald (1992) states that at least thirty-eight species of "Ontario breeding birds are to some degree dependent upon snags for nesting."

Mammals

Mammals also make use of snags for both shelter and for rearing young. Martens, weasels, flying squirrels, other small rodents, bats, even bobcats will den up in cavities. Black bears find winter refuge at the base of snags, as well as in hollowed out downed logs. Squirrels and chipmunks and other small rodents use logs as forest highways.

Invertebrates

A multitude of insects and other arthropods thrive on dead and dying trees. In turn, these animals provide much needed food for a variety of wildlife, particularly birds such as woodpeckers, nuthatches, flycatchers, and for mammals such as bats. When these trees are removed from the forest ecosystem the fauna associated with them are also removed, and this is a loss to the wildlife that would have fed upon them.

Ottawa area birds requiring snags for nesting

While some species can and will use other nest sites, most utilize only natural cavities, or some other part of the standing dead tree.

Wood Duck

Common Goldeneye

Hooded Merganser

Common Merganser

Turkey Vulture

American Kestrel

Merlin

Eastern Screech Owl

Great Horned Owl

Barred Owl

Northern Saw-whet Owl

Chimney Swift

Red-headed Woodpecker

Yellow-bellied Sapsucker

Downy Woodpecker

Hairy Woodpecker

Northern Flicker

Pileated Woodpecker

Great-crested Flycatcher

Purple Martin

Tree Swallow

Black-capped Chickadee

Red-breasted Nuthatch

White-breasted Nuthatch

Brown Creeper

House Wren

Winter Wren

Eastern Bluebird

European Starling

House Sparrow

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The Perilous Journey

Mark Hopson

for the Water Quality Committee of Ottawa-Carleton

The boundaries of the Regional Municipality of Ottawa-Carleton are not recognized by nature. Water supplies do not begin along the edge of a political boundary. Each of us lives and works within a watershed. A watershed is nature's boundaries or the geographical area which drains into a specific waterway. Parts of the Rideau, Mississippi and South Nation Rivers, and the watersheds which surround them, are contained within the boundaries of the region. In turn, each of these rivers eventually joins the St. Lawrence as part of the larger Atlantic watershed.



Glen Elbe Creek near Brockville. Photo by Jane Topping.

As a drop of rain falls and washes into the beginnings of a tiny stream, it starts a perilous journey through one of these watersheds. It must run a gauntlet of pollution sources both inside and outside the region. The water we receive has been used upstream. We use it again and pass it on to downstream neighbours.

This drop of "pure" water quickly changes into a product of the landscapes through which it passes. Outdated agricultural practices, unfriendly shoreline development, the collective output of our sinks and toilets, lawn fertilizers and

a thousand other human activities change the raindrop. By the time it leaves Ottawa-Carleton, and if it has not been treated, it carries with it bacteria, nutrients and traces of chemicals and/or heavy metals.

As the raindrop flows through heavily populated areas the pollution load increases. Stormwater flows quickly off roofs and pavement carrying a host of substances into the waterway. The raindrop which leaves Ottawa-Carleton to flow by downstream neighbours is very different from the one which became part of a tiny stream at the headwaters of a watershed. It has less ability to support life, it may be less safe for swimming and it requires treatment to turn it into safe drinking water.

According to Fel Petti, Manager, Surface Water Quality Branch for RMOC, "The key to maintaining and improving the quality of water we receive from upstream and pass on downstream is watershed planning. Each watershed is an integrated system and must be managed as such."

Management of a watershed is a highly complex task involving various levels of government, non-government organizations and the general public. Yet, each river which touches Ottawa-Carleton can boast environmental victories involving ground-breaking inter-agency co-operation. The most spectacular of these are the numerous and varied projects which are improving water quality along the Rideau waterway.

As far away as the Rideau Lakes, action is being taken which will influence water quality in Ottawa-Carleton. Municipalities are incorporating shoreline building setbacks into their official plans. This will ensure that stormwater is filtered by natural shoreline vegetation and that the important link between land and water remains unbroken by development.

A variety of volunteer environmental organizations such as lake associations, the Mutual Association for the Protection of Lake Environments (MAPLE), the Rideau Environmental Action League (REAL), Grenville Sportsman's Club and Friends of the Rideau have used government and corporate funds to carry out hands-on rehabilitation and education projects.

Provincial money and conservation authority expertise have assisted more than 60 farmers to reduce agricultural contributions to pollution through the Clean Up Rural Beaches Program.

State-of-the-art sewage treatment facilities at Smiths Falls and Kemptville are reducing excess nutrient loading. An innovative peat bed treatment system is being used by a school in Perth to remove nitrates from waste water.



Agricultural drain near North Gower.

A particularly important initiative is a study taking place as part of the Eastern Ontario Model Forest Program funded with federal Green Plan money. Several agencies are cooperating in the project including the Mississippi Valley Conservation Authority, the Ministry of Natural Resources, the Rideau Valley Conservation Authority and the Mutual Association for the Protection of Lake Environments. The focus of the study is the Carp River which winds its way from Kanata past the site of the Ottawa Palladium and on to the village of Fitzroy Harbour. Its purpose is to evaluate the ecological condition of the waterway.

Currently, work on the Carp River project includes a water quality analysis of the river and several of its tributaries, a fisheries and wildlife inventory, a land-use and landowner survey, a streambank assessment of erosion, vegetation and cattle access to the river. A demonstration site illustrates alternative streambank management practices. The results of this work will be used to develop an action plan to guide rehabilitation efforts through 1997.

Projects along the Carp River, and a variety of other initiatives within the watersheds of Ottawa-Carleton, focus on the ways our use of the shoreline influences water quality.

The natural shoreline of lakes, rivers and tributary streams is an endless ribbon of wetland habitat. It filters runoff, absorbs excess water during high water periods and supplements falling water levels during times of drought. Natural

vegetation protects the shoreline from the ravages of erosion by wind, water and boat wake. A wide variety of animals from insects and amphibians to mammals like beaver and muskrats must continually cross between dry land and deep water. Natural shoreline provides the bridge.

Developing shoreline property brings with it a special set of responsibilities. Perhaps not surprisingly, land development along the shoreline is directly linked to water quality, the health of fish and wildlife communities and the quality of water-based recreation. In general, the further back from the shore a specific residential or industrial development occurs, the less potential impact it may have on the nearest water course.

As much as 90 percent of the life in a lake or river is found around its shallow margins. Destroy natural shoreline and you often destroy valuable aquatic habitat.

Traditionally, development along the shoreline has meant clearing the natural vegetation, planting a lawn to the water's edge and perhaps even removing rocks and weeds in shallow water. Often this bare, unstable shore succumbed to the forces which cause erosion and the landowner found himself losing valuable shoreline centimetre-by-centimetre. In order to stop this process, in the past, the land owner would often build a retaining wall and backfill his shoreline.



Great Blue Heron among shore vegetation. Sketch by Laura-Lee Mahon.

Lawns increase runoff which carries excess nutrients, lawn chemicals and valuable soil directly into water courses. Vertical retaining walls cut the endless ribbon of habitat. The land is separated from the water. Unwise shoreline development turns land beside a river into a ditch beside a desert.

Today there are widely accepted environmentally friendly alternatives to old fashioned shoreline development. Solid docks no longer intrude into the aquatic environment, instead, floating docks are suspended over the valuable habitat. A gentler slope, softer materials and natural vegetation are replacing steel and concrete retaining walls. Most importantly, development is moving back from the shore leaving buffer strips of natural vegetation, 30 to 90 metres wide where possible.

As mentioned previously, several organizations conduct shoreline rehabilitation projects within Ottawa-Carleton and throughout the upstream watersheds. MAPLE is a volunteer organization dedicated to rehabilitating natural shorelines. They actually operate a nursery, within the Rideau watershed, which grows plants native to the shoreline. Subject to certain conditions, MAPLE will assist landowners to renaturalize their shorelines.

Federal and provincial legislation governing shoreline development is enforced by The Ontario Ministry of Natural Resources. Always check with MNR or your local conservation authority before altering your shoreline or planning any development activity on shoreline property.

Each time land along the shore is returned to a natural state, a splice is made in the endless ribbon of shoreline habitat. Landowners are proving that water quality begins along the shore and this is good news for every visiting raindrop.

Other initiatives underway in the region include the development of watershed plans for Sawmill Creek and Kemptville Creek which will ensure that these important tributaries are developed wisely, as well as high technology stormwater treatment including disinfection at Longfields-Davidson in Nepean which reduce stormwater pollution and eliminate bacteria from housing developments.

All of these efforts are important steps. To quote Mr. Petti, "We must each be painfully aware of the water we receive, how we treat it and what we pass on downstream."²⁴

Gatineau Park:

Vegetation, History and Geomorphology*

John M. Gillett and Paul M. Catling

Photos by John Gillett



Falls at Carbide Wilson Mill

Gatineau Park encompasses an area of 354.8 sq. km (137 sq. miles and 35,600 hectares) of forested upland situated between the Ottawa and Gatineau Rivers (approximately 45° 30' to 45°40'N and 75°46' to 76°16' W) in the province of Quebec. The area is frequently referred to as the Gatineau Hills and it is a part of the Laurentian Plateau.

1. History and Geology

Most of Canada was glaciated less than 15,000 years ago. Those portions of the continental glacier in the Gatineau Park region melted away between 11,000 and 12,000 years ago (Prest 1970). Thus, the flora and fauna of Gatineau is relatively new in a geological sense. It has moved in and developed to its present condition in only 11-12,000 years.

* From J.D. Lafontaine *et al.*, eds. 1983. The Arthropods of Gatineau Park. Agriculture Canada, Biosystematics Research Institute. Unpublished report.

Studies of fossils in recent lake sediments in the Gatineau Region suggest that a boreal-subarctic climate existed shortly after deglaciation followed by a humid continental climate which has existed for the past several thousand years.

The park is generally an area of rolling hills with some prominent cliffs and escarpments. The Eardley Escarpment along the southern middle edge rises to 230 m above the flat Ottawa Valley lowlands which are 80 m above sea level. Most of the park is 150-300 m a.s.l. with the hills rising 100-150 m above the valleys. The substrate is mostly exposed bedrock composed of impervious acidic gneiss and granite covered with a shallow layer of glacial till (Buckley 1967, Baird 1968). The sands, gravels and till (mixtures of sand, gravel and clay) which overlie the bedrock to a greater or lesser extent are of mostly glacial origin and are derived from non-calcareous acidic rocks. There are local deposits of Grenville crystalline limestone (Hogarth 1960) and the extreme southeastern lowland section of the park includes some sedimentary deposits of the Ottawa limestone formation. These local deposits as well as some calcareous tills have been correlated with the limited distribution of some plants in the park (e.g., Brunton and Lafontaine 1974).

In addition to the recent climatic changes and the effects of substrate variation, recent natural phenomena such as fire as well as human activities have influenced vegetation development. Recent human impacts include logging for white pine in the 1800's, local clearing and farming ca. 1900 and selective cutting of hardwoods more recently. Development for recreational purposes has also had an effect on the vegetation.

2. Biotic and Floristic Zone

North America has been divided into a number of distinctive zones based on the distribution of plants and animals. Gatineau Park is located in the "Canadian Zone" (Dice 1943), an area which corresponds approximately to the "mixed forest region" of North America (Gleason and Cronquist 1964).

In terms of vegetation, Gatineau Park is classified in the middle Ottawa section of the Great Lakes-St. Lawrence forest region (Rowe 1959) and in the Great Lakes-St. Lawrence flora region of Canada (Scoggan 1966), a region of mixed deciduous and coniferous forests. The southeasternmost portion of Gatineau Park, i.e., east of Fortune Lake, is included in the Upper St. Lawrence section of Great Lakes-St. Lawrence forest. This boundary is established on the basis of the limits of a more or less continuous deciduous forest on lowlands and the presence of bitternut hickory (*Carya cordiformis*) to the east and south (Lopoukhine 1974).



Mixed woods in winter near Lac Philippe.

3. Vegetation Cover

Approximately 80% of Gatineau Park is forested. Of this forested area 54% is predominantly hardwood including sugar maple (*Acer saccharum*), beech (*Fagus grandifolia*), yellow birch (*Betula lutea*), basswood (*Tilia americana*). On drier sites one finds red oak (*Quercus rubra*), white ash (*Fraxinus americana*) and ironwood (*Ostrya virginiana*). Mixed forest accounts for 43% of the forest cover and is characterized by sugar maple, red maple (*Acer rubrum*), red oak with white and red pine (*Pinus strobus* and *P. resinosa*) and hemlock (*Tsuga canadensis*). Only 3% of the park's forests are predominantly softwood including white, red and jack pine (*Pinus strobus*, *P. resinosa*, *P. banksiana*) on dry sites, hemlock, balsam fir (*Abies balsamea*) and white spruce (*Picea glauca*) on moist sites, and tamarack (*Larix laricina*) and black spruce (*Picea mariana*) on wet sites (Lopoukhine 1974, table 1).

The forests of the western portion of the park are generally younger and contain more trembling aspen (*Populus tremuloides*), largetooth aspen (*Populus grandidentata*) and paper birch (*Betula papyrifera*) and conifers than the forests of the eastern portion which is dominated by sugar maple (*Acer saccharum*) and beech (*Fagus grandifolia*). Various trees and herbs present in the eastern portion (especially the extreme southeastern section) of the park are rare or absent in the forests to the west (e.g., *Carya cordiformis*, *Acer nigrum*, *Asarum canadense*, *Allium tricoccum*, *Hepatica americana*, *Phryma leptostachya*,

Camptosorus rhizophyllus, and *Epilobium coloratum*). This interesting east-west pattern in the vegetation may be attributed to a variety of factors including more recent fire in the western section, a milder climate in the extreme southeast, lower elevation and proportionately more calcareous bedrock in the southeast.

Of the remaining 20% of the park that is not forested, cleared old-field type vegetation accounts for 4.6%. Dry open sites on rocky or gravelly substrate (resulting from natural drought and earlier fire) account for 2.5%. Lakes with various amounts of aquatic vegetation, marshes, open bog vegetation and flooded areas constitute 10% of the Park surface area (Lopoukhine 1974, Table 1).

Although quantitative data are not yet available, it is possible to describe the vegetation of the Park in general terms.

(a) Hardwood and Mixed Woods

Characteristic shrubs in these forests include *Viburnum acerifolium* and *Cornus alterniflora* with *Dirca palustris*, *Lonicera canadensis*, *Acer spicatum* and *Acer pennsylvanicum* common locally, and *Viburnum alnifolium* in rich moister sites. The abundance of various woodland herbs varies locally apparently due to differences in soil moisture and microclimate. Characteristic species include *Actaea pachypoda*, *Actaea rubra*, *Adiantum pedatum*, *Allium tricoccum*, *Aralia nudicaulis*, *Aster acuminatus*, *Botrychium virginianum*, *Brachyelytrum erectum*, *Carex peckii*, *Carex pedunculata*, *Carex platyphylla*, *Carex plantaginea*, *Caulophyllum thalictroides*, *Circaea alpina*, *Circaea lutetiana* ssp. *canadensis*, *Claytonia caroliniana*, *Dicentra cucullaria*, *Dryopteris marginalis*, *Erythronium americanum*, *Eupatorium rugosum*, *Festuca obtusa*, *Hepatica acutiloba*, *Hepatica americana*, *Maianthemum canadense*, *Mitchella repens*, *Mitella diphylla*, *Osmorhiza claytonii*, *Poa alsodes*, *Polystichum acrostichoides*, *Schizachne purpurascens*, *Smilacina racemosa*, *Solidago caesia*, *Thalictrum dioicum*, *Tiarella cordifolia*, *Trillium erectum*, *Trillium grandiflorum*, *Viola canadensis* and *Waldsteinia fragarioides*.

(b) Other Woodlands

Within the hardwood and mixed forests, steep north-facing slopes are frequently dominated by hemlock (*Tsuga canadensis*) with an understory composed of *Athyrium filix-femina*, *Dryopteris marginalis*, *Dryopteris spinulosa* and *Taxus canadensis*.

Characteristic in the understory of the spruce-fir-pine forests in the park are *Aralia nudicaulis*, *Clintonia borealis*, *Coptis groenlandica*, *Cornus canadensis*, *Gaultheria procumbens*, *Linnaea borealis*, *Maianthemum canadense* and



Wild Lily-of-the Valley (Maianthemum canadense) in spring.

Polygala pauciflora. Such forests are actually enclaves of the boreal forest type which is continuous across Canada further to the north (Rowe 1959).

Following fire and forest clearing, trembling aspen, large-tooth aspen, paper birch, white, red and jack pine and white spruce in various combinations may develop into the early successional forests. These forests are later replaced by the hardwood and mixed forest species such as sugar maple, beech and hemlock, except on very dry sites where there is very little organic material, in which case the successional stages tend to be more long-lasting.

Swamps may be composed of various combinations of black ash (*Fraxinus nigra*), white cedar (*Thuja occidentalis*) and Tamarack (*Larix laricina*) with an understory of shrubs such as speckled alder (*Alnus rugosa*), osier dogwood (*Cornus stolonifera*) and willows (*Salix bebbiana* and *S. discolor*). Common herbs of the swamp include *Amphicarpea bracteata*, *Boehmeria cylindrica*, *Carex crinita*, *Carex intumescens*, *Cinna latifolia*, *Impatiens capensis*, *Laportea canadensis*, *Onoclea sensibilis*, *Scutellaria galericulata*, *Thalictrum polygamum* and *Thelypteris palustris*.

Along streams, shores and edges of beaver meadows are thickets of alder and/or osier dogwood and willows in addition to many of the plants species characteristic of swamps (see above).

(c) The Eardley Escarpment

The Eardley Escarpment extends along most of the central southern edge of the park. It rises to 230 m above the flat Ottawa Valley lowlands. The relatively

warm southwestern exposure and rocky substrate in many places creates a rather dry permanently open habitat which is scarce elsewhere in the park. Not surprisingly, many plants are confined, within the park to the escarpment area (Brunton and Lafontaine 1974).

Much of the escarpment is characterized by open or sparse tree cover on steep slopes. The forest is composed mostly of red oak as well as white and red pine. White oak, red maple and ironwood are also present. Drier cold sites are dominated by jack pine, whereas the moister sites (in protected valleys and gradual basal slopes) are dominated by sugar maple, red maple and beech (Gagnon and Bouchard 1981).

Characteristic of the dry open oak and oak-pine woodland and rocky slopes are shrubs such as *Amelanchier arborea*, *Diervilla lonicera*, *Prunus virginiana*, *Sambucus racemosa* ssp. *pubens*, *Symphoricarpos albus* and *Vaccinium angustifolium*. Among the characteristic herbs are *Aralia nudicaulis*, *Aster macrophyllus*, *Carex pennsylvanica*, *Carex communis*, *Commandra umbellata*, *Danthonia spicata*, *Maianthemum canadense*, *Oryzopsis asperifolia*, *Poa compressa* and *Solidago squarrosa*. Among the species which are confined to the escarpment portion of the park are *Agropyron trachycaulum*, *Carex sprengeii*, *Desmodium glutinosum*, *Lilium philadelphicum*, *Helianthus divaricatus*, *Juniperus virginiana*, *Quercus alba*, *Rhus aromatica*, and *Saxifraga virginiana* (Brunton and Lafontaine 1974, Gagnon and Bouchard 1981).



Amelanchier arborea on exposed, dry ridge top.

(d) Dry Open Clearings

This type of habitat has already been described to some extent with reference to the escarpment, but a somewhat different type occurs on sandy and gravelly substrates and may be long-persistent after fire. The dominant species are *Comptonia peregrina*, *Danthonia spicata*, *Juniperus communis*, *Kalmia angustifolia*, *Lechea intermedia*, *Oryzopsis asperifolia*, *Polygonum cilinode*, *Pteridium aquilinum* var. *latiusculum*, *Salix humilis*, *Solidago juncea*, *Solidago nemoralis* and *Vaccinium angustifolium*. Open or closed forests surrounding such clearings are generally comprised of a combination including white, red and jack pine and the softwoods (*Populus tremuloides*, *Populus grandidentata*, and *Betula papyrifera*).

(e) Open Bogs

Developing on acid peat in depressions and infilling lake margins, bog vegetation is largely composed of *Sphagnum* mosses with black spruce and sometimes tamarack around the edges and stunted in the open areas. Characteristic shrubs include *Cassandra calyculata*, *Kalmia polifolia*, *Ledum goenlandicum*, *Myrica gale* and *Vaccinium oxycoccus*. The most frequent herbs include *Calla palustris*, *Carex canescens*, *Carex disperma*, *Carex trispemia*, *Smilacina trifolia* and *Triadenum virginicum*.



Hopkins Hole, a small open bog near Ramsay Lake.

(f) Marshes

Low, open areas that are moist or wet throughout the year generally have a vegetation cover dominated by either sedges (*Carex stricta*, *Carex retrorsa*, *Carex*

bebbii, *Carex crawfordii*) or grasses (*Calamagrostis canadensis*, *Glyceria striata*) and/or cattail (*Typha latifolia*). Other characteristic species include *Dulichium arundinaceum*, *Eupatorium maculatum*, *Eupatorium perfoliatum*, *Galium palustre*, *Galium triflorum*, *Rosa palustris* and *Thelypteris palustris*. Marsh vegetation is characteristic of lakeshores and edges of pools, often with a shrub cover of *Ilex verticillata*, *Myrica gale* and *Nemopanthus mucronata*.

(g) Aquatic Vegetation

Most of the lakes in the park are neutral but there are some acid (pH 5.8) and some alkaline (pH 7.5) lakes. Frequent floating-leaved aquatics include *Nuphar variegatum*, *Nymphaea odorata*, *Brasenia schreberi*, *Potamogeton amplifolius* and *Potamogeton epihydrus*. The most characteristic submersed and emersed species include *Dulichium arundinaceum*, *Eleocharis acicularis*, *Najas flexilis*, *Potamogeton berchtoldii*, *Sagittaria latifolia* and *Typha latifolia* (Aiken and Gillett 1974).

(h) Fields and Roadsides

The vegetation of fields and roadsides is comprised largely of grasses including *Agrostis stolonifera*, *Agropyron repens*, *Bromus ciliatus*, *Dactylis glomerata*, *Phleum pratense*, *Poa compressa* and *Poa pratensis*. Other important species include *Achillea millefolium*, *Chrysanthemum leucanthemum*, *Daucus carota*, *Fragaria virginiana*, *Hieracium* spp., *Hypericum perforatum*, *Prunella vulgaris*, *Rumex acetosella*, *Saponaria officinalis*, and *Veronica officinalis*. Trembling aspen, largetooth aspen and pin cherry (*Prunus pensylvanica*) are frequent along the edges.



A field of Chrysanthemum leucanthemum.

4. Floristic Affinity

Although most of the vascular flora of Gatineau Park (including at least 950 species) is characteristic of the Great Lakes–St. Lawrence forest region and the Canadian zone in which it occurs, there are some obvious affinities with other regions as well. It appears that habitat diversity, climatic history, and the Ottawa Valley migration route have resulted in floristic affinities with areas in all directions. In some respects Gatineau Park represents a meeting place and a distributional limit for southern, northern, eastern and western elements.

(a) Southern

A southern element in the flora is well developed in the extreme southeastern lowland area and along the Eardley Escarpment. The lower elevation of the southeastern sector probably accounts for its milder climate and the warm southwestern exposure of the Eardley Escarpment no doubt creates a warmer situation than is characteristic over the rest of the park (Brunton and Lafontaine 1974). Southern species include *Amelanchier arborea*, *Acer nigrum*, *Carya cordiformis*, *Celtis occidentalis*, *Hamamelis virginiana*, *Juglans cinerea*, *Juniperus virginiana*, *Menispermum canadense*, *Quercus alba*, *Rhus radicans* var. *rydbergii*, *Ulmus thomasii* and *Zanthoxylum americanum*. Many of these are at or very near to their northern limit in Gatineau Park.

(b) Boreal and Cordilleran

The boreal element in Gatineau Park includes such species as *Pinus banksiana* and *Potentilla tridentata* all at or near their southern limit at 300 m a.s.l. In addition to the northern element there is a cold-climate montane element including species which have their main area of distribution at higher elevations in the western cordillera. Included here are *Draba cana*, *Arabis holboellii* var. *retrofacta*, *Corallorhiza striata* and *Melica smithii*. Some of the boreal flora of Gatineau is associated with the escarpment which formed the shoreline of the Champlain Sea approximately 11,500 BP (Prest 1970). It has been suggested that boreal plants may have persisted on the exposed rocky face as relicts from the boreal-subarctic environment that coincide with the Champlain Sea period (Brunton and Lafontaine 1974).

(c) Eastern and Appalachians

Plants at or near to their northwestern limits in Gatineau Park include *Aster acuminatus*, *Hieracium paniculatum*, *Woodsia obtusa*, *Picea rubens*, *Carex radiata* and the diploid fern *Polypodium virginianum* f. *acuminatum*. A number of other species are primarily eastern but extend further west including *Caulophyllum thalictroides*, *Trillium erectum*, *Viburnum alnifolium* and *Carex platyphylla*.

(d) Western

Some of the species occurring along the Eardley Escarpment have a distinctly midwestern or prairie affinity (i.e., *Quercus alba*, *Viburnum rafinesquianum*, *Silene antirrhina* and *Amelanchier alnifolia* var. *compacta*). *Polygonum douglasii* and *Rhus aromatica* are both at their northeastern limit in Gatineau Park.

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Bird Sightings in the Ottawa Area for 1993

Michael Tate



*Blue Jay. Sketch by Laura-Lee Mahon.
[One of the 'other birds' often seen but seldom mentioned.]*

These reports have been taken from the records of the Bird Status Line of the OFNC.

1993 started out with some unusual birds on the Quebec side of the river. A Harris's Sparrow came to a feeder on Du Verger in Aylmer. A couple of kilometres away, on Crescent, an Ovenbird was fed a diet of beetle larvae and seeds, at a feeder, in an effort to get this first ever overwintering warbler through the winter. The bird stayed around until mid March. A Carolina Wren was found in early January at Lac Gilmour. Pairs of Barrow's Goldeneye were seen off Parc Brebeouf in Hull.

A Black-throated Sparrow was a visitor at Plaisance through January and into early February. A Red-headed Woodpecker was at Camp Fortune in February, and Boreal Owls were seen on the Eardley-Masham Rd. in March, to round out an exceptional variety of birds for Quebec this early part of the year.

An immature brown phase Gyrfalcon was hunting the skies primarily over the Experimental Farm and Clyde Quarry in the early part of the year. It was joined in March by a grey phase bird. A Northern Hawk-Owl was a regular visitor on the Thos. Dolan Parkway, Carp, until March. A Three-toed Woodpecker was at MacLaren's Landing in January, and Ray Holland reported another at Bell's Corners in March.

April and May produced three egrets, a Snowy Egret in Kanata, a Cattle Egret at Thurso and a Great Egret near Cobden. Also near Cobden was a Garganey which attracted birders from all over eastern and southern Ontario. A Greater White-fronted Goose was seen at Manotick and Bearbrook on April 11th.

A Lesser Black-backed Gull was noticed by Tony Beck among the many gulls at the Nepean Dump in April.

Mark and Simon Gawn spotted a Brewer's Blackbird among the hundreds of blackbirds near Bear Brook in April. Another western stray, a Western Meadowlark was found in Kanata in May. Several Loggerhead Shrikes returned during this period.

In Gatineau Park, in May, the Olive-sided Flycatcher, Philadelphia Vireo, Cerulean Warbler and Lincoln's Sparrow were seen. Britannia was visited by as many as 90 Arctic Terns, as reported by Bruce Di Labio on May 30th. A Little Gull was also seen there the same day.

June and July were relatively quiet, however, John Dubois found a Laughing Gull at Deschênes and Bev Scott reported a Ruff with a partial chestnut ruff at the Munster Lagoons. Yellow Rails were back in the Richmond Fen and Bernie Ladoucer also heard a Sharp-tailed Sparrow there.

Just West of Chaffey's Locks Bruce Di Labio reported a Yellow-billed Cuckoo, Red-headed Woodpecker, Blue-gray Gnatcatcher, Yellow-throated Vireo and Golden-winged Warbler.

Ottawa Beach in August was the place to find the Red Knot and Western, White-rumped, Baird's and Buff-breasted Sandpipers. On September 13th and 14th another Buff-breasted Sandpiper was seen there by Tony Beck, Michael Tate and Stephen Gawn.

Shirleys Bay was the scene for Black-crowned Night-Herons, Redhead, Bald Eagle, Merlin, Peregrine Falcon, Long-billed Dowitcher, Red-necked Phalarope, and Caspian and Common Terns during August and September. A Connecticut Warbler was banded at the Innes Point banding station in August.

October and November were significant in Quebec with Daniel St-Hilaire's reporting of a Northern Wheatear near Quyon, a Slaty-backed Gull near Chicoutimi and a Cattle Egret south of Mont Laurier.

A Gyrfalcon was again hunting over Ottawa by November and a Golden Eagle was reported by Bob Bracken and Don Davidson over Shirleys Bay. A Hudsonian Godwit was seen at Casselman and there was a report of a jaeger on November 21st over the Ottawa River at Britannia.

October produced two extremely unusual reports. One sadly was the body of a Dovekie shot by a hunter near Carleton Place on October 23rd. Amazingly another Alcids was found in October, this time very much alive. Bruce Di Labio, on one of his frequent visits to the Cornwall Dam, found a Marbled Murrelet in winter plumage. This bird was present from October 11th to 30th and drew birders from all over northeastern North America. This bird could be seen from both the U.S. and Ontario side and swam back and forth across the border, generating questions about which list it should be put on. The appearance of this bird was considered enough of an event for the U.S. authorities to open up the Eisenhower Dam several weekends to accommodate visiting birders. This was truly appreciated in these days of big Government and economic cut-backs, especially since most visitors were from the Canadian side.

The Cornwall Dam was also host to Little Gulls, large numbers of Bonaparte's Gulls and Common Terns along with Red-throated Loons.

The year ended as it had begun with the birds of winter moving in or through. Loons, grebes and ducks were numerous. An immature male King Eider spent a week fattening up on crayfish at the mouth of the Jock River until freeze up in late December. There were reports of as many as three Gyrfalcons by the end of the year and Hoary Redpolls were reported among the Common Redpolls. The Quebec side of the river finished up as it had started, with a couple of unusual sightings: a Brown Thrasher at the same feeder that had been host to the Ovenbird and a Grasshopper Sparrow in Gatineau on December 19th.

Many other birds were also seen by many other birders. On behalf of The Ottawa Field-Naturalists' Club I would like to thank all those people who took the time to report sightings. Keep those reports coming in.☐

Ottawa-Hull Mid-Fall Bird Count

Four week count period between Saturday, October 15th and Sunday November 13th inclusive (five weekends).

Rules:

1. All participant must pre-register with the compiler, Daniel St- Hilaire: 776-3822; you will be sent a "Mid-Fall Count Checklist" package.
2. Participants fill a single calendar day on the checklist (the blue Ottawa Daily Tick List), noting location, total numbers of each species for each separate birding day during the count period.
3. Sightings must be within a 50 km radius of the Peace Tower (see next page).
4. All check lists must be returned to the compiler by November 30th.

NOTE: Participants may report for as many days as he/she wishes within the reporting period, but each day requires a separate report.☐

Ottawa-Hull 1994 Christmas Bird Count

This year's Christmas Bird Count will be held on Sunday, December 18th. Members interested in participating should contact the coordinator, Daniel St-Hilaire, of the Club's Birds Committee at 776-3822 (home phone), or at 19 rue Connaught, Hull, J8Y 4C8. He will provide information on action time, sectors where counts will be made and the sector leaders.

At 4:00 p.m., after the count, there will be a meeting of all interested people involved to review the events of the day and to compile an official summary of numbers and species of birds. This will be followed by a meal. Participants will be informed by the section leaders of the location for this get-together.

The figures from the final count will be presented as the official Ottawa-Hull report to the National Audubon Society. As previously, participants will be asked to pay a fee of \$5.☐



- | | | |
|-----------------------|-----------------------------|-----------------------------|
| 1 Ramsay Lake | 14 Britannia | 28 Jack Pine Feeder |
| 2 Lac Philippe | 15 Clyde Woods | 29 Experimental Farm, Outer |
| 3 Steel Line Road | 16 Kitchissippi | 30 Ottawa Intl. Airport |
| 4 Champlain Lookout | 17 Arboretum | 31 Russell Lagoon |
| 5 Morns Island | 17 Experimental Farm, Inner | 32 Embrun Lagoon |
| 6 Carp Ridge | 18 Lemieux Island | 33 Casselman Lagoon |
| 7 Dunrobin Ridge | 19 Rockcliffe | 34 Nepean Dump |
| 8 Pink Road Feeder | 20 Beechwood | 35 Richmond Lagoon |
| 9 Shirley's Bay | 21 Black Bay/Baie Noire | 36 Munster Lagoon |
| 10 Deschênes | 22 Mer Bleue | 37 Richmond Fen |
| 11 Bate Island | 23 Vincent Massey Park | 38 Marlborough Forest |
| 12 Parc Brébeuf | 24 Ramsayville Marsh | |
| 13 Andrew Haydon Park | 25 Ridge Road | D Dump |
| 13 Dick Bell Park | 26 Bear Brook | F Feeder |
| 13 Ottawa Beach | 27 Larose Forest | S Sewage Lagoon |

Ottawa-Hull Christmas Bird Count 19th December 1993

Daniel St-Hilaire

Gl=Gloucester; Ott=Ottawa; Br=Britannia;
Gat=Gatineau; Hull=Hull; Ayl=Aylmer

Boldface highlights a new species for the Christmas count or a new total high.

f-females; m=males; i=immature

Totals are sometimes lower than expected because in many cases it was recognized that the same birds were seen more than once.

SPECIES/ESPÈCES							Totals
	Gl	Ott	Br	Gat	Hull	Ayl	
Great Blue Heron/Grand Héron					1		1
Canada Goose/Bernache du Canada		1	1417			332	1418
American Black Duck/Canard noir	219	471	203	24	158	22	870
Mallard/Canard colvert	102	775	102	3	109	1	997
Hybrid Black x Mallard/Canard noir x C. colvert		35	15				50
Widgeon/Canard siffleur d'Amérique					1f		1
Ring-necked Duck/Morillon à collier		1					1
Lesser Scaup/Petit Morillon					1	1	2
Common Goldeneye/Garrot à oeil d'or	65	422	154	2	390	61	586
Barrow's Goldeneye/Garrot de Barrow	2f	2m					4
Bufflehead/Petit Garrot		3m			2m	5(4f)	7
Hooded Merganser/Bec-scie couronné	3	1					4
Common Merganser/Grand bec-scie	20	30	13	7	6	16	73
Red-breasted Merganser/Bec-scie à poitrine rousse		1					1
Sharp-shinned Hawk/Épervier brun	1	3	2	1		1	8
Cooper's Hawk/Épervier de Cooper	1	3	1	1	1		7
Northern Goshawk/Autour des palombes						1i	1
Red-tailed Hawk/Buse à queue rousse	2	1	2	1		3	9
Rough-legged Hawk/Buse pattue		3		1			4
American Kestrel/Crécerelle d'Amérique	3	6	7	3	1		20
Peregrine Falcon/Faucon pèlerin		1			1		1
Gyrfalcon/Faucon gerfaut		1	1				2
Gray Partridge/Perdrix grise		13			8		21
Ruffed Grouse/Gélinotte huppée	1	3	1	2	3	12	22
Common Snipe/Bécassine des marais	1						1
Ring-billed Gull/Goéland à bec cerclé	8	9	14	4	8		34
Herring Gull/Goéland argenté	23	200	5002	12	42	332	5002
Iceland Gull/Goéland arctique	1		22			1	22
Glaucous Gull/Goéland bourgmestre		2	62			20	62
Greater Black-backed Gull/Goéland à manteau noir	4	103	1012	11	7	842	1012

	Gl	Ott	Br	Gat	Hull	Ayl	
Rock Dove/Pigeon biset	660	2538	1259	489	201	65	5212
Mourning dove/Tourterelle triste	72	79	146	156	21	70	544
Greater Horned Owl/Grand-duc d'Amérique	1	1					2
Snowy Owl/Harfang des neiges	1		1				2
Barred Owl/Chouette rayée						1	1
Long-eared Owl/Hibou moyen-duc			1				1
Belted Kingfisher/Martin-pêcheur d'Amérique		1	1				1
Downy Woodpecker/Pic mineur	16	23	33	16	16	18	122
Hairy Woodpecker/Pic chevelu	15	18	24	11	27	13	108
Northern Flicker/Pic flamboyant			1				1
Pileated Woodpecker/Grand Pic	9	7	1	3	3	4	27
Blue Jay/Geai Bleu	33	83	24	91	86	62	379
American Crow/Corneille d'Amérique	128	571	172	25	20	57	973
Common Raven/Grand corbeau	3				5	4	12
Black-capped Chickadee/Mésange à tête noire	320	649	635	174	539	772	3089
Boreal Chickadee/Mésange à tête brune					1		1
Red-breasted Nuthatch/Sittelle à poitrine rousse	3	9	15	3	6	2	38
White-breasted Nuthatch/Sittelle à poitrine blanche	23	43	46	30	47	36	225
Brown Creeper/Grimpereau brun	1	3	3		5	1	13
Carolina Wren/Troglodyte de Caroline	2						2
Golden-crowned Kinglet/Roitelet à couronne dorée		12	3				15
Hermit Thrush/Grive solitaire			1		1		2
American Robin/Merle d'Amérique	18	1	5		1	2	27
Northern Mockingbird/Moqueur polyglotte		1					1
Bohemian Waxwing/Jaseur boréal	118	268	406	70	377	199	1438
Northern Shrike/Pic-grièche grise	2	1				5	8
European Starling/Etourneau sansonnet	946	1400	1174	535	351	306	4712
Northern Parula/Paruline à collier			1				1
Northern Cardinal/Cardinal rouge	13	67	22	5	17	40	164
American Tree Sparrow/Bruant hudsonien	19	7	1	10	1	15	53
Grasshopper Sparrow/Bruant sauterelle				1			1
Song Sparrow/Bruant chanteur		1			3		4
White-throated Sparrow/Bruant à gorge blanche		1				1	2
Dark-eyed Junco/Junco ardoisé	5	27	5	12	14	66	129
Snow Bunting/Bruant des neiges		200				43	243
Red-winged Blackbird/Carouge à épaulettes	2m						2
Common Grackle/Quiscale bronzé			1	3			4
Pine Grosbeak/Dur-bec des pins	107	84	3	75	107	40	416
Purple Finch/Roselin Pourpré	1	2		10	2		15
House Finch/Roselin familier	132	212	466	230	121	63	1224
White-winged Crossbill/Bec-croisé à ailes blanches		13				1	14
Common Redpoll/Size rin flammé	64	229	63	168	286	209	1019
Hoary Redpoll/Size rin blanchâtre	1			1		1	3
Pine Siskin/Chardonneret des pins	1			85	8		94
American Goldfinch/Chardonneret jaune	44	60	72	12	14	42	244
Evening Grosbeak/Gros-bec errant	66	11		36	7	3	123
House Sparrow/Moineau domestique	461	1598	925	520	384	354	4242
Totals							
Species	48	56	46	40	44	45	76
Individuals	3743	10310	13540	2844	3409	4145	35196

76 species plus one exotic: Mandarin Duck/Canard Mandarin.♠

Requests for the Fletcher Wildlife Garden

Sandy Garland

Leaves: We are still trying to build up a deep layer of litter in the Ash Woodlot habitat of the Fletcher Wildlife Garden. Please bring your bagged leaves, pine needles, or cedar cuttings to the leaf depot. Follow the signs beginning at the big green barn on Prince of Wales Drive south of the traffic circle.

Woodland Wildflowers: If you have species indigenous to Canadian woods such as Trilliums, Trout Lily, Bloodroot, Jack-in-the Pulpit, Hepatica, Gentian, Columbine, ferns, etc., please consider donating a few plants to the Fletcher Wildlife Garden's woodlot.

Call Sandy Garland, habitat manager, at 730-0714 for further information or to arrange pickup of wildflowers, now or in the spring.☐



White Spruce

David Fraser

The White Spruce has a balanced, gentle nature —
A single central shaft, evenly expanded on all sides.
When young it holds its branches high,
Angling up with carefree optimism.
Older boughs stretch sideways,
Each one longer than the one above,
To give the tiny leaves full breath of sun.
The oldest branches droop beneath their burdens,
Bent down by years of life and many snows,
Sheltered now by stronger boughs above.
A benevolent community, fashioned like a steeple,
Trusting in the symmetry of life.

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Coming Events

arranged by the Excursions & Lectures Committee

For further information,
call the Club number (722-3050) after 10 a.m.

Times stated for excursions are departure times. Please arrive earlier; leaders start promptly. If you need a ride, don't hesitate to ask the leader. Restricted trips will be open to non-members only after the indicated deadlines.

ALL OUTINGS: *Please bring a lunch on full-day trips and dress according to the weather forecast and the activity. Binoculars and/or spotting scopes are essential on all birding trips. Unless otherwise stated, transportation will be by car pool.*

REGISTERED BUS TRIPS: *Make your reservation for Club bus excursions by sending a cheque or money order (payable to The Ottawa Field-Naturalists' Club) to E.M. Dickson, 2037 Honeywell Avenue, Ottawa, Ontario K2A 0P7, at least ten days in advance. Include your name, address, telephone number and the name of the outing. Your cooperation is appreciated by the Committee so that we do not have to wait to the last moment to decide whether a trip should be cancelled due to low registration. We also wish to discourage the actual payment of bus fees on the day of the event.*

EVENTS AT THE CANADIAN MUSEUM OF NATURE: *The Club is grateful to the Museum for their cooperation and thanks the Museum for the use of these excellent facilities. Club members must be prepared to show their membership cards to gain access for Club functions after regular museum hours. There is a charge for parking in the museum lot.*

BIRD STATUS LINE: *Phone 761-1967. The service is run by Larry Neily. Club members (and non-members) may call to learn up-to-date news on birding potential in the Ottawa district. (See T&L Vol. 22, No. 3, page 123.)*

Le Club des Ornithologues de l'Outaouais has a similar service, in French, run by Daniel St-Hilaire. The Club number is 776-3822 and the Bird Status Line is 778-0737.

Saturday
1 October
8:00 a.m.

GULLS OF THE CORNWALL POWER DAM

Leader: Bruce Di Labio

Meet: Elmvale Shopping Centre, N.E. corner of parking lot,
St. Laurent Blvd. at Smyth Rd.

This will be a full-day outing to the American side of the Moses-Saunders Power Dam to observe various species of gulls in different stages of their development. Bring passport or other proof of citizenship or residency for entry into U.S.A.

Sunday
2 October
9:00 a.m.
to
4:00 p.m.



BUS EXCURSION:

AUTUMN COLOURS IN GATINEAU PARK

Leaders: Colin Gaskell and Ellaine Dickson

Meet: Supreme Court Building, front entrance, Wellington at Kent St.

Cost: \$8.00

(PLEASE REGISTER EARLY...see Registered Bus Trips at the beginning of COMING EVENTS for details).

Gatineau Park, with its rugged blend of escarpment, rolling hardwood hills, coniferous forests, beaver ponds and glacially carved lakes, is traditionally ablaze with autumnal colours at this picturesque time of year. Our tour will visit several interesting locations within the Park affording ample opportunity to wander along different trails to observe signs of nature at this season.

Tuesday
11 October
8:00 p.m.

OFNC MONTHLY MEETING

A NATURALIST'S GUIDE TO THE OTTAWA AREA

Speaker: Dan Brunton

Meet: Auditorium, Canadian Museum of Nature, Metcalfe and McLeod Sts.

The Ottawa area offers naturalists a wealth of biologically significant habitats harbouring an incredible diversity of plants and animals. Dan Brunton, a longtime Club member and natural environment consultant, will provide an illustrated overview of the intriguing natural components comprising the National Capital Region. Dan will be delighted to sign copies of his invaluable guide book *Nature and Natural Areas in Canada's Capital* which will be available for sale. Dan gave a similar presentation at last year's FON Conference, considered by many as the highlight of the weekend! Whether you are new to Ottawa or not, don't miss this excellent opportunity to discover more about nature in our region.

Saturday
22 October
8:00 a.m.

FALL BIRDING ALONG THE OTTAWA RIVER

Leader: Tony Beck

Meet: Britannia Drive-In Theatre, 3090 Carling Ave.

Participants on this half-day outing will visit several spots along the Ottawa River to observe waterfowl and migrating birds.

Saturday
5 November
9:00 a.m.

LATE FALL RAMBLE IN GATINEAU PARK
Leader: Philip Martin
Meet: Supreme Court Building, front entrance, Wellington at Kent

This leisurely outing through the autumn woods will afford an opportunity to discover and identify a variety of nuts, fruits, seeds, fungi and other forms of plant life. Birds and mammals may also be encountered. Bring a lunch and dress warmly.

Sunday
6 November
8:00 a.m.

NOVEMBER MIGRANTS
Leader: Tony Beck
Meet: Britannia Drive-In Theatre, 3090 Carling Avenue.

Migrating waterfowl, late fall raptors and early winter arrivals will be the focus of the half-day outing.

Tuesday
8 November
8:00 p.m.

OFNC MONTHLY MEETING
GROUSE COUNTRY
Speaker: Stewart MacDonald
Meet: Auditorium, Canadian Museum of Nature, Metcalfe and McLeod Streets.

Stewart MacDonald, Curator Emeritus of Ethology at the Canadian Museum of Nature, will show his award-winning film "Grouse Country," which first appeared on the C.B.C. programme "The Nature of Things" in the early 1970's. The film has subsequently garnered significant international acclaim and has been aired on television in eight countries. This nature documentary was the first to portray the intricacies of grouse communication and the spectacular displays accompanying various behavioural patterns exhibited by the different species of grouse and ptarmigan found throughout Canada. Stewart will complement the film presentation with anecdotes of his experiences observing grouse in their particular habitats.

Sunday
13 November
9:30 a.m.

GENERAL INTEREST WALK IN THE WEST END
Leaders: Ellaine Dickson and Robina Bennett
Meet: Lincoln Heights Galleria, northeast corner of the parking lot, Richmond Road at Assaly Road.

Dress warmly and bring a snack for this long half-day adventure.

Sunday
20 November
8:00 a.m.
to
7: p.m.



BUS EXCURSION TO THE MONTREAL BIODOME

Meet: Supreme Court Building, front entrance, Wellington at Kent St.

Cost: \$30.00 (includes transportation and all admission fees). (PLEASE REGISTER EARLY...see registered Bus Trips at the beginning of the Coming Events section for details). Participants will explore at their leisure the four ecosystems housed within the marvellous Biodome: the St. Lawrence Marine Ecosystem, the Laurentian Forest, the Tropical Rain Forest and the Polar World. In addition, your fare includes admission to two other facilities adjacent to the Biodome, namely the Insectarium (North America's foremost entomological museum) and the Montreal Botanical Garden with its outdoor gardens and greenhouses featuring over 26,000 plant species from around the world! All three facilities are located within a 5-10 minute walk of each other and are also accessible by means of a frequent free shuttle service. Bring your own lunch or purchase one in the Biodome's cafeteria. Transportation will consist of a comfortable, washroom-equipped motor coach supplied by Carleton Bus Lines. This excursion is a true bargain at this price!

Sunday
4 December
8:00 a.m.

LATE FALL AND EARLY WINTER BIRDS

Leader: Jim Harris

Meet: Westgate Shopping Mall, southeast corner of the parking lot, 1309 Carling Ave.

This half-day outing will concentrate on lingering fall migrants as well as some of the intriguing species that inhabit the Ottawa District during the harsh winter season.

Tuesday
13 December
8:00 p.m.

OFNC MONTHLY MEETING

OFNC VISITS NEWFOUNDLAND

Speaker: Tony Beck

Meet: Auditorium, Canadian Museum of Nature, Metcalfe and McLeod Streets.

This past summer a keen contingent of Club members participated in a fabulous 16-day natural history odyssey to Newfoundland. The organizational skills of Carol Lynch and able leadership provided by Tony Beck and Monty Brigham contributed inestimably to the success of the excursion. Tony will offer an entertaining travelogue of the group's itinerary depicting the rugged natural beauty of land and sea and the magnificent wildlife encountered thereon.

January **WINTER BIRDING AT THE CORNWALL POWER DAM**
Date and Time **Leader: Bruce Di Labio**
to be **Meet: Front entrance, Brooke Claxton Building (Health and**
decided **Welfare Canada), de la Colombine Boulevard at Tunney's**
 Pasture.
This full-day outing will centre upon the identification of overwintering gulls and waterfowl in the vicinity of the Moses-Saunders Power Dam. Bring a lunch, warm drink and heavy winter clothing as well as proof of citizenship. (We may travel to the American side). Transportation will be by private car. Registration will be limited to the first 20 persons to telephone the Club number (722-3050 after 10:00 a.m.) by January 5th. Registrants will be notified when a specific date and time have been established.

Tuesday 10 January 7:30 p.m.	OFNC 116th ANNUAL BUSINESS MEETING Meet: Auditorium, Canadian Museum of Nature, Metcalfe and McLeod Streets. At this meeting the 1995 Council will be elected, the various committee reports will be read and a full disclosure of the Club's financial position will be provided. In addition, there will be a separate short presentation on the activities and functions of the Club's Education and Publicity Committee.
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SPRING EXCURSION TO POINT PELEE



The Club is planning another four-day bus excursion to coincide with the peak of spring migration at this world-renowned birding locale. The trip is tentatively scheduled from Thursday, May 11 to Sunday, May 14, 1995, inclusive. The excursion will proceed on the basis of a sufficient early response from the membership. Those interested should contact the Club number (722-3050 after 10:00 a.m.) as soon as possible.□

DEADLINE: Material intended for the January–March 1995 issue must be in the editor's hands by November 1, 1994. Mail your manuscripts to:

Fenja Brodo
Editor, *Trail & Landscape*
28 Benson Street
Nepean, Ontario, K2E 5J5
H: (613) 723-2054; W: (613) 990-6443 Fax: (613) 990-6451.

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