Bulletin of the Society of Canadian Ornithologists
Bulletin de la Société des Ornithologistes du Canada

PICOIDES

ISSN 0836-060X

Picoides, April, 1990
Volume 4, Number 1

DORIS H. SPEIRS

Editor's Message

This issue of *Picoides* contains three major articles. First Ian Barker's timely piece on Lyme disease, its symptoms, etiology, and distribution in Canada. Stuart Houston has added another chapter to his series on early naturalists in North America, with a report on Humphrey Marten. Finally, I am pleased to be able to publish the fine tribute to Mrs. Speirs written by Bruce Falls. Our society owes much to her interest in birds.

Earlier issues of *Picoides* included virtually everything authors provided me by each print date. I feel we have turned a corner of sorts as I now have a backlog (albeit small) of articles. We all measure success differently.

Many thanks to Donna Reilly, Steve Fisher and Carolyn Lilgert for their production assistance and Bob Kidd for his editing help on this issue.

I had a letter brought to my attention recently, entitled "Sparrows doomed" which appeared in the May 1989 edition of "Farm Light and Power." In it, and in a subsequent update in the Dec-Jan 1989/90 issue, a resident of Niton, Alberta, reports that an Australian passerine introduced into British Columbia to control bug pests is eliminating his House Sparrow population. He predicts the rapid demise of sparrows in central Alberta. Attempts to reach the author have failed. There are a lot of unlikely aspects to this intriguing story, not the least of which is an Australian bird out-competing House Sparrows during the -40°C Alberta winter. Pass the Fosters, mate.

W. Bruce McGillivray

Membership Information

If you would like to be a member of the Society of Canadian Ornithologists, please send your name, address, phone number, and a cheque or money order for $10.00 to:

Dr. Philip H.R. Stepney
Provincial Museum
of Alberta
12845-102 Avenue
Edmonton, Alberta
T5N 0M6

Si vous désirez devenir membre de la Société des Ornithologistes du Canada, faites parvenir vos coordonnées ainsi qu'un chèque ou mandat-poste au montant de 10,00$ à l'adresse ci-haut.

Published by:
The Society of Canadian Ornithologists
Provincial Museum of Alberta
12845 - 102 Avenue
Edmonton, Alberta
T5N 0M6

TABLE OF CONTENTS

Doris Huestis Speirs 1894 - 1989

Doris Huestis Speirs died on October 24 1989, shortly before her 95th birthday. She was a remarkable woman, an ornithologist to be sure, but also an artist and poet. Her broad interests were inspired by a love of beauty, especially in nature, and a desire to help others in whom she saw evidence of creativity.

She was proficient as an artist before bird study became her consuming interest. In 1919, as Mrs Doris Mills, she pioneered the picture rental system, approaching members of the Group of Seven to lend their pictures. Soon, with the encouragement of A. Y. Jackson and J. E. H. MacDonald, she herself was painting. Her pictures had a directness and simplicity as well as the bold use of colour and design that characterized the work of her mentors. Her subjects were taken directly or indirectly from nature. Beginning in 1926, she exhibited with the Group and continued to do so with the Canadian Group of Painters. Although her work appeared in later exhibitions and 11 of her paintings are in Canadian and international galleries, she stopped painting in 1937 as her attention turned more and more to the study of birds. She never lost her interest in art, however, and continued to collect the works of young painters. Among those she encouraged were Robert Bateman and Barry Kent Mackay.

As early as 1916 she described herself as a bird watcher, and in that year, she identified 56 species in and around Toronto. In 1936 she began to keep a regular diary, recording her observations of bird behaviour. In 1937, while visiting her friends, Lawren and Bess Harris in New Hampshire, she saw her first Evening Grosbeaks. "They were as brilliant as a tree full of parakeets" she wrote in her diary, and went on to describe their plumage and behaviour. She did an oil sketch of one seen from a window. Thus began her serious observation of birds.

Shortly after this she met Murray Speirs, who was pursuing graduate studies in ornithology, and they were married in 1939. Over the next fifty years they helped each other with bird studies. Doris pursued her interest in Evening Grosbeaks, observing them in the field and spending long hours watching nests in the blackfly season. She also compiled information from the literature and from her many correspondents.

She wrote a number of articles on birds, beginning with a note in The Auk in 1937. About half her contributions dealt with Evening Grosbeaks and most of them appeared in local publications including the Jack-Pine Warbler, the Toronto Field-Naturalists' Club Newsletter, the Wood Duck, the Bulletin of the Maine Audubon Society, the Blue Jay, the Ontario Field Biologist, the Thunder Bay Naturalists' Club Newsletter, the Federation of Ontario Naturalists' Bulletin, and the Curlew. Her major work in ornithology was undoubtedly the accounts of Eastern, Western and Mexican Evening Grosbeaks in Bent's Life Histories of North American Cardinals, Grosbeaks, Buntings, Towhees, Finches, Sparrows and Allies, published by the Smithsonian Institution in 1968. With her husband Murray, she co-authored the account of Lincoln's Sparrow in the same series. Much of the latter work was based on field studies which the Speirs carried out in Northern Ontario in 1956. These articles amply demonstrate the thoroughness and attention to detail that characterized Doris Speirs' observations of birds as well as the wide network of correspondents with whom she kept in touch.

Among those she met and corresponded with, three were particularly influential. As early as 1940, Doris knew Margaret Morse Nice and was greatly impressed by her critical approach. In 1952 when Doris was instrumental in founding the first women's group devoted to bird study, it was named appropriately the Margaret Nice Ornithological Club. At that time women were excluded from the Toronto Ornithological Club. In 1979 she edited the autobiography of Margaret Nice "Research Is a Passion with Me", and still later (1983) edited "An Address Book for Naturalists", featuring quotations collected by Margaret Nice.

In 1958, Doris and Murray visited Louise de Kiriline Lawrence who was studying birds and would later write both articles and books on her experiences. Lawrence learned from them "the best and proper way to study birds", and through them met Margaret Nice. This was the beginning of a close and enduring friendship between Doris and Louise.

In 1958, Doris began to correspond with the noted Finnish ornithologist, Dr. Lars von Haartman, who shared her interest in art and also wrote poetry. She was so intrigued with his poems, which were written in Swedish, that she taught herself the language and translated them. The result was of such quality that a volume of her translations entitled "The Forehead's Lyre" was published by the University of Toronto Press in 1962. Later (1976) a

second volume appeared under the title "Black Sails". These translations represent a remarkable feat when one considers that the feeling and poetic quality of the original was faithfully transferred across a language barrier. In 1973 Doris also published "a small harvest" of her own poems from 1922 to 1972 entitled "Exercise for Psyche".

Members of the SCO will remember Doris Speirs as a benefactor of many naturalists' and ornithological organizations. She belonged to the American Ornithologists' Union and the Cooper Ornithological Society and was a patron of the Wilson Ornithological Society. She was generous in support of the Federation of Ontario Naturalists, and the Long Point Bird Observatory. Her benefactions to the Society of Canadian Ornithologists made possible the award for significant contributions to ornithology that bears her name, as well as the more recent Taverner research awards. Both these initiatives are very much in the spirit of Doris Speirs' own desire to encourage the work of others.

She received a number of honours for her work. In 1974 Doris and Murray were awarded jointly the Ontario Conservation Trophy by the Federation of Ontario Naturalists and the Federation honoured Doris again in 1977. In 1975, she was one of 19 Canadian women honoured for their scientific contributions in an exhibition at the National Museum of Natural Sciences in Ottawa.

Doris Speirs was a highly intelligent person but was not formally trained in any of the areas in which she excelled She approached challenges with enthusiasm, imagination and considerable skill. She was encouraged and helped by her many friends - both artists and ornithologists - and especially by her husband, Murray Speirs. She was sustained by a deep faith rooted in Christian Science. She appealed to the better natures of all those who knew her and retained a buoyant optimism about the future. In her last year, aided by her secretary John Sabean, she was working on seven books based on her correspondence. To visit her was an uplifting experience, because she invariably enthused about a new artist she had discovered, birds she had recently observed or letters she had received. It was a privilege and inspiration to have known her.

I am indebted to J. Murray Speirs and John Sabean for providing background material.

J. Bruce Falls
University of Toronto.

Ph.D. or M.S. Position to Study Dispersal Among Colonies of Pacific Black Brant and Nest Site Fidelity Within One Colony

About 7500 Black Brant form a single colony of the Yukon-Kuskokwim Delta, Alaska, have been individually marked with unique encoded plastic tarsus bands. An additional 2000 birds will be marked each year for the foreseeable future. The principal focus of this project will be to assess the magnitude of dispersal of all age and sex classes from the colony of origin to other colonies on the Yukon-Kuskokwim Delta and in other parts of the breeding range (e.g., arctic Canada and the Soviet Union).

A secondary objective of this project is to examine nest site fidelity and local philopatry within the colony of origin. There is a possibility that this project will become part of a larger collaborative effort comparing dispersal, gene flow and genetic structure of the Black Brant population. This study will involve field work under arduous conditions. Applicants with field experience (preferably with waterfowl) and strong quantitative skills will be preferred.

An appropriate annual stipend will be payed the student. Final selection of a student will be contingent on receipt of funding (1 January 1990). The student will be housed in the Department of Biology and Wildlife and Institute of Arctic Biology, University of Alaska, Fairbanks.

Apply to:
Department of Biology and Wildlife
Room 211 Irving Bldg.
University of Alaska, Fairbanks
Fairbanks, AK 99775

For information contact:

James S. Sedinger
Institute of Arctic Biology and
Department of Biology and Wildlife
Room 211 Irving Bldg.
University of Alaska, Fairbanks
Fairbanks, AK 9975
(907) 474-6598

The Taverner Award 1989 Progress Report

Since 1984, Dr. M. Ross Lein of the University of Calgary has been investigating the behavioral ecology of White-crowned Sparrows (*Zonotrichia leucophrys*) in the Kananaskis Valley of southwest Alberta. This species has been studied extensively with regard to the regional variation or dialects of its songs. The sparrows of the Kananaskis Valley are unique in that two subspecies (*Z. l. gambelii* and *Z. l. oriantha*), each with a distinctive song, overlap across a broad range. While each male sings only one song type, the two song types are equally common in populations near the midpoint of overlap.

As part of my Ph.D. program, I have studied the impact of dialectal song variation on mate choice by female White-crowned Sparrows. It has been suggested that females might use song variation to distinguish among potential mates. If a male's song indicates his place of origin, females might choose males preferentially who sing the local song type. This would help ensure that offspring would be equiped genetically for local conditions. Like males, female songbirds learn the species-specific song during a short sensitive period early in life, and so a father's song may have an impact on the choice of mates by his daughters.

The role of song variation in mate choice is difficult to study in a population in which males sing only one song type. The mixed dialect population in Alberta provides an opportunity to investigate this phenomenon. The field portion of this study is designed to answer two questions about White-crowned Sparrows in the mixed situation: (1) Does a female choose a mate whose song type matches her father's? and; (2) Does a female consistently choose males of a single song type, or does she choose a male with different songs in successive years? With a large banded population, a high rate of return of banded nestlings to their natal area, and extensive records of song type and mated pair association, answers to these questions are possible.

Results of my study suggest that females are no more likely to choose a mate whose song type matches her father's than would be expected by chance alone. Furthermore, females are equally likely to choose mates with different songs in successive years as they are to pair with males of one song type only.

Female sparrows have also been under scrutiny in the laboratory. Though they normally do not sing in nature, female White-crowned Sparrows will sing when injected with testosterone. This enables a comparison of the songs learned by females early in life to the songs of their chosen mates. It appears that the songs of females match the songs of their mates no more often than expected by chance.

These same captive females were also treated with the hormone estradiol. So treated, females respond to the playback of conspecific song with a characteristic copulation-solicitation display. This technique has been used to assay the sexual potency of different songs. Females from the Kanaanaskis Valley were subjected to playback of both *oriantha* and *gambelii* song types, and to a third, control song recorded in the Cypress Hills. Females generally responded equally to the two familiar songs, regardless of the song type of their mates, and gave a lesser response to the novel song. As an additional control, female White-crowned Sparrows from a population near Rocky Mountain House were tested. In this region, males sing only the *gambelii* song type. Of the three song types heard, these females responded almost exclusively to the familiar form.

If mate choice on the basis of song dialects were to serve to isolate populations, the discrimination would have to occur at dialect boundaries, where females could choose among males with different song types. My research in this mixed dialect population suggests that this is not the case.

Dr. Lein and I have used the unique opportunity provided by the mixed dialect population of White-crowned Sparrows to study the role of early experience in song learning. As male songbirds are most sensitive to song learning early in life, it has often been asked who has the greater influence; fathers or neighboring males? By studying the songs of fathers and sons, it is apparent that males almost always sing their father's song type at maturity.

Glen Chilton
University of Calgary
(Mr. Chilton was the recipient of the first Taverner Award in 1989, ed.)

HUMPHREY MARTEN, 1729(?) - 1790(?)

Humphrey Marten contributed the type specimen of the Eskimo Curlew, (*Numenius borealis*) which was named as a new species by Johann Rheinhold Forster (1772, Houston 1983). The type locality is Albany, Ontario. Marten is thus important as one of the first two natural history collectors (the other being Andrew Graham) in what is now Ontario. He was the first person to put up bird boxes in what is now Canada. Marten also played a major role in planning the first inland fur trading posts of the Hudson's Bay Company.

Humphrey Marten was born about 1729. An unusually clear-headed man, he was engaged by the Hudson's Bay Company in the capacity of "writer" on 1 March 1750. He sailed in the Prince Rupert in May and arrived at York Factory on 18 August. After employment as clerk and steward, he became acting chief at York Factory during James Isham's furlough in 1758-59 (Tyrrell, 1934).

Marten founded Fort Severn and was its chief from 1759 to 1761, then for a year, commanded York Factory before returning to England on furlough. He was second-in-command at Fort Albany for the first year following his return, and then became chief at Albany from 1764 to 1768 and 1768-69 and 1774-75. Subsequently, he was in charge of the headquarters post, York Factory, and in 1774-75 both directed and supported the founding by Samuel Hearne of the first inland fur trading post at Cumberland House, within present Saskatchewan. Marten took long rides on horseback in 1776 and 1777 in an attempt to improve his health, but presbyopia meant that in the latter year he had to give up reading, one of his foremost pleasures in life.

Marten was "devotedly loyal" to the Company (Glover 1952). He had a persuasive way with the Indians, who carried goods inland in 1777 to supply Cumberland House and another post upstream at Hudson House, west of present Prince Albert. By using Indians, he was disobeying orders from head office in London to use Orkneymen, who, however, would not go inland until their exorbitant wage demands were met. This conflict caused him to say that "sleep, health and peace of mind are to me no more" (Ibid.). The distinguished historian, Richard Glover, has said that Marten's writings, describing the competition between the Hudson's Bay Company and the Northwest Company traders from Montreal "contain perhaps the best, clearest and most informative brief pictures of the early days of what is called the strife between the companies" (Ibid.). Each year Marten took special pains to go through the journals of the inland posts and assemble their most important points in well organized, numbered paragraphs, "unsparingly blunt and mercilessly bare."

The Hudson's Bay Company could undersell the Montrealers, but it couldn't get enough trade goods inland. The lives of the inland servants were "frequently threatned (sic) by the Canadians who's numbers are as 15 to 1; frequent hungry bellys; wet and cold lodgings are amongst the many other hardships they undergo..." (Glover 1952). Marten did not go inland because of his age and ill-health occasioned by gout.

Marten had in many ways a difficult life in the northern frontier, where journals could be written only after the ink thawed, and strong beer froze solid in bottles two feet from a stout fire. Yet he undertook some of the first farming northwest of the St. Lawrence river valley, maintaining at York Factory a flourishing breed of cattle and pigs and a fine garden. His first native wife died "at 10 minutes before 3 o Clock" on the morning of 24 January 1771, leaving him a son John America Marten, whom he later educated at some cost in England. The bill for the boy's "maintenance and education" was £50 in May 1780. His second native wife bore him three children, two of whom survived. Before he left York Factory in the fall of 1781, Marten arranged for his wife's father to come from Albany to take his wife and two children back with him under his care.

After his leave to Britain in 1781-82 he returned to York Factory just in time to surrender the post to the French admiral, La Pérouse. Marten was taken back to France and held a prisoner for one year until the signing of the Treaty of Paris. The Company persuaded Marten once more to return in charge of York Factory. When he arrived there on 15 September 1783, he learned that William Tomison had waited there from 6 August until 8 September and then returned to Cumberland House, despairing of any supplies being sent that year. In 1785 Marten was cheered by the arrival of David Thompson as his assistant. Marten left York Factory for good on 30 August 1786. Because he had constant pain in his left kidney area while ill in 1779, he asked that an autopsy be done after his death, since the

knowledge so gained might be of benefit to others. He is believed to have died the following year.

During his second term as chief factor at Albany, 1769-1774, Marten was called upon to provide the Royal Society of London with natural history specimens and information. He admitted to little knowledge but in 1770 and 1771 he developed increasing enthusiasm for the project. He sent back to England, as Samuel Hearne reported, several hundred specimens of animals and plants. Marten's initial shipment, sent with other specimens provided by Andrew Graham, contained 17 skins of seven species, including the skin of the Eskimo Curlew, described by Johann Reinhold Forster the next year as *Scolopax borealis*. Marten also sent home "a fine brace of Partridges a Cock & Hen," both alive, and tried to send a pair of Snowshoe Hares, but only the male survived the voyage.

Marten kept spring arrival dates for birds such as swallows, and reported late fall dates for Snow Buntings. He attempted to have eggs of the Sharp-tailed Grouse incubated by a domestic hen, but this experiment failed.

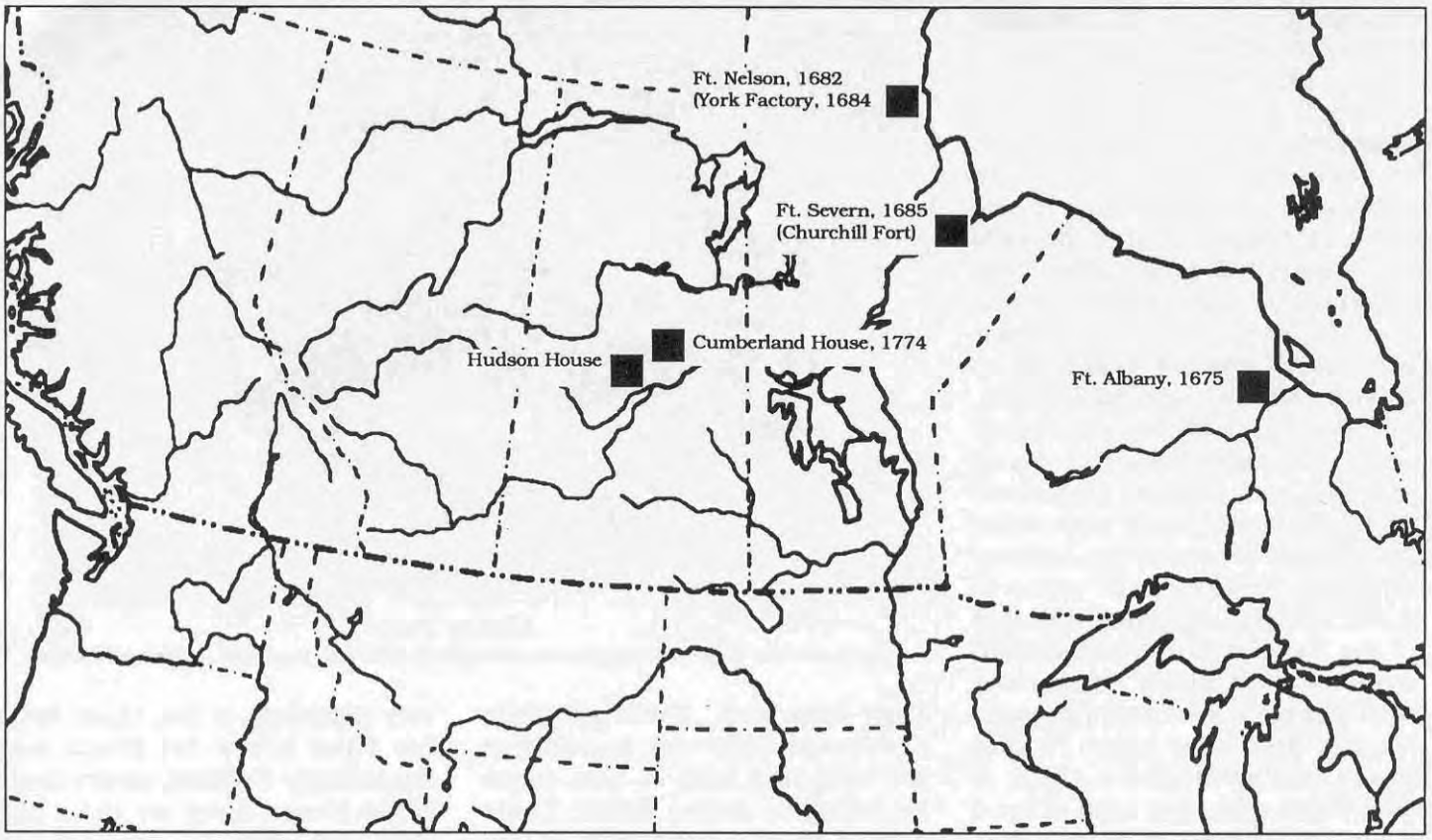
Forty years ago, when Guerdrum A. Allen, the wife of Arthur A. Allen, Professor of Ornithology at Cornell University, was writing her landmark history of early North American ornithology (Allen 1951), her researches took her to Royal Society offices in London. The librarian found for her a Marten manuscript entitled "A short Description of the Birds in a Box," in which Marten described 26 specimens by their native names. Mrs. Allen published Marten's description of the swallow; in the version that follows her errors in transcription or printing have been corrected by reference to the original.

"No. 1 A Cock Swallow, No. 2 a hen Ditto, No. 3 the Nest with Their Eggs in it. These are Birds of Passage, They visit us between the 10th and 20th of May, begin Building in June, finish Their Nest in about 8 Days more or less as the Weather is foul or fair, have generally 5 Eggs, though sometimes but three, sometimes 6, the Time of Incubation from 17 to 24 Days, the Cock & Hen sit Alternately, from the breaking of the Shell to the flight of the Young Birds a lunar Month nearly according to the Goodness or badness of the Weather, about 7 Days before the Young can fly the Old Ones take them out of the Nest between Their Claws, Carry them 30 or 40 Yds to Exercise them, and regularly bring them back to the Nest every Night, or at the approach of a Storm, about 7 Days after the Young are grown Strong They All go away to the Northward, return on the first approach of bad Weather, Stay a Day or two at the Fort, and then farewell untill the next Season. I never heard that Either Swallows or Martens lurk in Rocks, or Were found in this Country under Water, but I have Seen them Several times mount in Circles very high in air, then Dart away to the Southward, during the time the Cock is off the Nest, he Sings very pleasingly a fine Open Note, his Eyes are a Jet Black and Exceedingly Brilliant, as are those of the Hens; They are not a shy Bird, and when You approach too near Their Young will dart full at You with a Squeeking Noise, They are fond of Building in Our Guns or Loop holes, and have for 2 Years past Built in Boxes which I fix'd up about the Fort for that purpose, when the Cock treads the Hen, he Mouths her as doth the common Poultrey, They are not numerous, but the Swallow and Marten Skim in Flight/ Except when going away/ When they have a darting Waving motion, both Sorts Young & Old, feed on small Worms, grubs, and flys found by the sides of the River."

Albany Fort

Photo courtesy of HBC Archives Picture Collection B. 3/d/102, Provincial Archives of Manitoba

Marten's handwriting was much better than average, but as was common in his era, his spelling, punctuation and capitalization of the first letter of words were idiosyncratic. For each of the 26 specimens of the 21 different species, Marten gave descriptions of the colors of soft parts that might fade before reaching England, described the color of the pupil of the eye, gave the Cree Indian name, and for all but the Snow Goose, (which



Forts founded or managed by Humphrey Marten for the Hudson's Bay Company

nested farther north) gave the number of eggs. As Earl Godfrey comments, in a letter of 1 January 1990: Marten obviously had little personal knowledge to draw from and he had little biological training... he was merely trying to comply with orders from headquarters. . . Specimen identification and consequent application of names came from Indians of various experience and ability, as did much of the life history data... It's like trying to do a jigsaw puzzle, most of the pieces missing or mutilated.

Clearly, Marten felt descriptions were superfluous with the specimens themselves present. Today without specimens, identifying the species from his descriptions is problematic. Godfrey agrees with my identification of the Tree Swallow, Bank Swallow, Snow Goose, Nighthawk and Gray Jay, and with "best-guest" tentative identification of Gyrfalcon, Herring Gull, Whimbrel, Arctic Tern, Red-breasted Merganser, Common Goldeneye, Northern Goshawk, Eskimo Curlew, and Pine Grosbeak. A small yellow bird could have been either a Yellow Warbler or an American Goldfinch. A bird with red on its head, size not indicated, could have been a redpoll. Four others are completely unidentifiable from the limited descriptions and conflicting information given.

Although Marten exaggerated the incubation period of the Tree Swallow and the carrying of the young in the claws, his other observations were unusually good for the time. At least he was not misled by the widespread belief, supported by no less a personage than Daines Barrington (1727-1800), compiler of *The Naturalists Journal*, and a major influence on Gilbert White of Selborne, that birds did not migrate Barrington (1772).

Acknowledgments

I wish to thank Sheila Edwards, Librarian of the Royal Society, London, Endland, for an electrostatic copy of Humphrey Marten's "Birds in a Box," Shirlee Ann Smith of the Hudson's Bay Archives, Provincial Archives of Manitoba, Winnipeg, for assistance in biographical details and for the sketch of Fort Albany, and W. Earl Godfrey, National Museum of Natural Sciences, Ottawa, for his notes on the possible identity of the birds described by Marten. Mary I. Houston provided invaluable help in deciphering Marten's handwriting.

C. Stuart Houston
University of Saskatchewan

Literature Cited

Allen, Elsa Guerdrum. 1951. The history of American ornithology before Audubon [Humphrey Marten, pp. 519-520]. Transactions of the American Philosophical Society, new series, 41 (3): 386-591

Barrington, Daines. 1772. An essay on the periodical appearing and disappearing of certain birds, at different times of the year. Philosophical Transactions 62: 265-320.

Forster, J.R. 1772. An account of the birds sent home from Hudson's Bay, with observations relative to their natural history; and Latin descriptions of some of the most uncommon. Philosophical Transactions 62: 382-433.

Glover, Richard. 1952. Introduction, Pp. xv-xxxv, *in:* Cumberland House Journals and Inland Journals, 1775-82. Second Series, 1779-1782. (E.E. Rich, ed.), London: Hudson's Bay Record Society.

Houston, C.S. 1983. Birds first described from Hudson Bay. Canadian Field-Naturalist 97: 95-98.

Marten, H. [1772]. A short description of the birds in a box marked No. 2A. Unpublished manuscript in files of Royal Society, London, England.

Tyrrell, J.B. 1934. Appendix B, Humphrey Marten, Pp. 592-597 in: The Journals of Hearne and Turnor. Toronto: Champlain Society.

Symposium on: Aquatic Birds in the trophic web of lakes, Mount Allison University Sackville, New Brunswick, Canada, August 1991

Rationale for the Symposium

Birds are an integral part of most freshwater ecosystems (lakes, rivers, wetlands) but their role in the trophic dynamics of these water bodies is usually ignored. Aquatic birds are part of the biota of water bodies and are indicators of their trophic state both in terms of species composition (quality). Birds may also influence the trophic state of a water body by importing nutrients (e.g., resident or migrating birds feeding on adjacent watershed or the sea).

Because of anthropogenic activities and animal predation or their mobility, birds may not utilize otherwise suitable aquatic habitats. This often creates difficulties in relating aquatic bird production to trophic status of habitats. Therefore, their role in the trophic web in inland water bodies is often overlooked. This situation is now changing rapidly and ornithologists and limnologists are increasingly conscious of the response and contribution of aquatic birds to the trophic state of the water body as indicated by nutrient levels. Recently, attempts are being made to define the role of aquatic birds in the flow of energy in lakes.

Objective of the Symposium

This Symposium will facilitate communication among aquatic scientists' studying the role of aquatic birds in inland water bodies. The proceedings of the Symposium will be published in a Special Volume of the journal Hydrobiologia.

Partial list of topics to be considered:

1. Quantitative and qualitative response of aquatic birds to nutrient levels and acidification in water bodies.
2. Food requirements in relation to food availability, for the maintenance of adult birds and to raise young to fledging.
3. Nutrient import and export from lakes by birds.
4. Interactions with fish as both predators and competitors.
5. How to express bird abundance in meaningful ways. By unit water surface area, unit shore length?, etc.
6. Occurrence or absence of birds for reasons other than availability of food.
7. Juxtaposition, the importance of the relationship of a water body to its surroundings (water and land).

To receive further information and to receive subsequent circulars please write to: Aquatic Birds Symposium '91, Canadian Wildlife Service, Bedford Institute of Oceanography, P.O. Box 1006, Dartmouth, Nova Scotia, Canada B2Y 4A2.

Lyme Disease and the Canadian Ornithologist

Lyme disease is a bacterial infection caused by an organism called *Borrelia burgdorferi*. The condition is named for the town in Connecticut where it was first recognized in North America, in the mid-1970s (Steere et al. 1978). Lyme disease was associated with the bite of a tick, but it was not until 1979 that *Ixodes dammini*, the main vector in northeastern North America, was named (Spielman et al. 1979). The bacterial agent was isolated from this tick in 1982 (Burgdorfer et al. 1982), and subsequently named after its discoverer (Steere et al. 1983).

The syndrome has been recognized in Europe since early this century as a tick-associated disease, though the cause was uncertain, and it is now known to occur on several continents, generally associated with ticks of the *Ixodes ricinus* group (Anderson 1989; Steere 1989). Hence, it is of global, rather than simply "new world", concern.

Lyme disease is acquired accidentally when an individual is bitten by a tick infected with *B. burgdorferi*. A wide variety of wild vertebrates, principally small mammals and ground-frequenting birds, carry *B. burgdorferi*, and ticks transmit infection from host-to-host. In northeastern and midwestern North America, the principal vector is *I. dammini*; in northern California and Oregon, *I. pacificus* is implicated. Other ticks may also be infected with *B. burgdorferi*, including *I.scapularis*, the deer tick; *Dermacentor variabilis*, the wood tick; *Amblyomma americanum*, the lone star tick; *I.dentatus* and *Haemaphysalis leporis-palustris*, both associated with lagomorphs and birds; and possibly *I. angustus*, associated with small mammals (Anderson 1989. Anderson et al. 1989). Biting flies may also carry *B. burgdorferi* (Magnarelli et al. 1986).

Infection of some of these hematophagous arthropods may simply represent "spill-over" from a cycle maintained among vertebrates by a highly competent tick vector. *D. variabilis* has proved, in laboratory studies, to be a poor host and potential vector for *B. burgdorferi* (Piesman and Sinsky 1988), though it has been found to be infected in areas where *I. dammini* is active. Ticks with a tendency to feed on man have the greatest significance in transmitting infection from the wildlife reservoir to people. Hence, *I. dentatus*, which has been reported only once from a person, poses a low direct human risk, though it is an effective vector for infection among small mammals, and possibly birds (Anderson 1989).

I. dammini is the best-known vector of the Lyme disease agent in North America. As a three-host tick, it feeds on a new animal at each of the three stages of its life cycle, and it has a wide host range. Although associated particularly with the genus *Peromyscus* (white-footed and deer mice), larval and nymphal *I. dammini* have been recorded from 29 species of mammals of 7 orders, and from 49 species of birds, representing 15 families (see Table 1). Parasitism of these species is related likely to their ground-frequenting habits, which brings them into contact with the tick. Adult *I. dammini* have a narrower host range, preferring larger and medium-sized mammals (12 species of 6 orders); they are not reported from birds (Anderson 1988).

B. burgdorferi has been isolated from the Veery (*Catharus fuscescens*, Anderson et al. 1986), and House Wren (*Troglodytes aedon*, Schulze et al. 1986). *B. burgdorferi*-infected ticks have been removed from a number of species of birds, suggesting that they may have served as a reservoir (Anderson and Magnarelli 1984, Anderson et al. 1986, Mather et al. 1989).

However, the single study of reservoir competence of birds suggested that Gray Catbirds *(Dumetella carolinensis)* had poor potential as a reservoir of the Lyme Disease agent (Mather et al. 1989).

Table 1. Families (genera in parentheses) of birds from which *Ixodes dammini* larvae or nymphs have been described in at least one species (data from Anderson 1988).

Meleagrididae *(Meleagris)*
Phasianidae *(Colinus)*
Scolopacidae *(Philohela)*
Tyrannidae *(Sayornis)*
Corvidae *(Cyanocitta)*
Paridae*(Parus)*
Sittidae *(Sitta)*
Certhiidae *(Certhia)*
Troglodytidae *(Thyrothorus)*
Muscicapidae *(Dumetella, Toxostoma, Turdus, Catharus, Hylocichla)*
Sturnidae *(Sturnus)*
Vireonidae *(Vireo)*
Emberizidae (Vermivora, Dendroica, Seiurus, Icteria,Geothlypis, Wilsonia, Helmitheros, Mniotilta, Agelaius, Quiscalus, Molothrus, Pipilo, Spizella, Zonotrichia, Melospiza, Pheucticus)
Passeridae *(Passer)*
Fringillidae *(Carpodacus)*

Birds also have been inferentially implicated in the geographic dissemination of the Lyme Disease agent and tick vector (Anderson and Magnarelli 1984, Anderson et al. 1986, Battaly et al. 1987). Battaly et al. (1987) suggest that birds may be significant in dispersal of the tick locally or during both spring and fall migration. However, they argue that dissemination of *B. burgdorferi* is more likely to occur in a southerly, rather than northerly direction. Mallards *(Anas platyrhynchos)* have been infected experimentally with *B. burgdorferi* orally, and the organism was reisolated from feces up to 29 days later, suggesting that ducks may have the potential to spread this agent in the absence of vector ticks (Burgess 1989). Though direct oral infection of small mammals can occur (Burgess and Patrican 1987), the significance of birds in direct transmission is speculative Immature ticks feed on birds, and most ticks which have been on the host for any length of time will be embedded, in which case they are very unlikely to disengage and attach to a new host (such as a person handling a bird). However, if a tick has not attached, there is a potential for it to move to a new host. Engorged larvae or nymphs dropping from a host after feeding will not moult and seek a new host for many months.

In the United States, the greatest risk of exposure to Lyme Disease is in the northeastern seaboard, including downstate New York, New Jersey and parts of Maryland, Connecticut, Massachusetts, and adjacent states, where *I. dammini* is prevalent. Another focus of *I. dammini* endemicity is found in Minnesota and Wisconsin, associated with relatively high numbers of cases in people. Lyme Disease in northern California and adjacent areas is associated with the distribution of *I. pacificus*. However, Lyme Disease has been reported from all but a few of the continental United States (Anderson 1989, Ciesielski et al. 1989, Centers for Disease Control 1989).

The distribution of Lyme Disease vectors in Canada is less clear. Sporadic, apparently indigenous, cases of Lyme Disease have been recognized in people in Canada, principally in Alberta, southern Manitoba, northwestern and southern Ontario, and rarely, in Quebec (Bollegraaf 1988; Seckla et al 1989; Todd and Carter 1989). However, outside Ontario, *I. dammini* is only known from three adult specimens in southern Manitoba (Galloway et al. 1989), two from Quebec (Costero et al. 1989), and three from Prince Edward Island (Cawthorn et al. 1989). *I. dentatus, A. americanum,* and *I. scapularis* probably do not occur with any frequency in Canada, and *I. pacificus* may be confined to south-central British Columbia.

"Although associated particularly with the genus *Peromyscus* (above) larval and nymphal *I. dammini* have been recorded from....49 species of birds"

Within Ontario, *I. dammini* and *B. burgdorferi* have been found regularly among small mammals on the Long Point National Wildlife Area, Lake Erie (Barker et al. 1988). However, surveys of small mammal populations at 20 other localities in southern and northwestern Ontario have failed to reveal this tick, and other ticks have been distributed only sporadically (Barker et al. 1988, 1989 and unpublished). We have not found *I. dammini* at Point Pelee National Park, Rondeau Provincial Park or Presqu'ile Provincial Park, suggesting that it is not distributed widely at sites along the north shores of Lakes Erie and Ontario favoured by migrating birds. And we did not find any ticks in localities within about 20 km of the base of Long Point, indicating that it has not spread to the adjacent mainland. We speculate that *I. dammini* and *B. burgdorferi* may have been introduced to Long Point in 1886 with White-tailed Deer *(Odocoileus virginianus)* imported from Minnesota, where both occur (Snyder 1931). Long Point is essentially insular, and the tick vector and agent of Lyme Disease appear not to have dispersed to the remainder of southern Ontario.

Hence, the risk of acquiring Lyme Disease in Ontario would seem largely to be limited to Long Point. In the rest of Canada, the situation is less clear, but the risk in most areas would appear not to approach that in the more seriously affected parts of the United States.

Ornithologists are perhaps at

greater risk of exposure to Lyme Disease than the general public, not so much because of their association with birds, but because of possible contact with ticks during outdoor activity. Certainly, when frequenting Long Point, Lake Erie, a popular destination for ornithologists in Ontario, precautions should be taken to avoid infection. These include: wearing light-coloured long-sleeved shirts and long pants; applying insect repellents containing DEET^{R} to the clothing; removing any ticks from clothes, before they reach the skin; searching for ticks on the body after outdoor activity; and removing any attached ticks as soon as possible.

I. dammini are small at all stages of the life cycle; nymphs and unengorged adults are only 1-5 mm long. From personal experience, I can attest to the fact that the bite may be virtually painless, perhaps causing only a vague tingling or itching sensation. Hence, these ticks may not be noticed, engorging on blood for several days. Since they do not begin to transmit *B. burgdorferi* for the first 12-24 hr after attaching (Piesman et al. 1987), removal of the freckle-like tick as soon as possible is likely to reduce the risk of acquiring Lyme Disease. Using fine forceps, the tick should be grasped by the base of its mouthparts, at the level of the skin, and pulled straight out, leaving no mouthparts in the skin to act as a focus for infection. The bite site should be cleansed with disinfectant, and the hands washed, after removing the tick.

Lyme Disease is important, not because it is highly fatal, but because it may cause debilitating chronic disease, and mimic other difficult-to-treat conditions. In its early stages, though Lyme Disease responds well to antibiotics (Steere 1989). It is described as having an early, middle and late phase. During the early phase, within a few weeks of the tick bite, fever and swelling of local lymph nodes may accompany a spreading rash, which may become up to more than 15 cm in diameter, with a red rim, and paler central area. This rash, which is caused by bacteria multiplying in the skin around the bite site, is called Erythema Chronicum Migrans (ECM) and is the only characteristic sign of Lyme Disease.

Within days to weeks, systemic spread of bacteria is signalled by signs of a "flu-like" illness, with headache, neck stiffness, musculoskeletal pain, and generalized malaise and fatigue. Within several weeks or months, 15-20% of patients develop central nervous system disease, such as unilateral facial paralysis or peripheral neuritis. A few (4-8%) develop cardiac problems. Later, usually months after infection, about 60% of patients develop repeated attacks of arthritis, especially in the knees. Late stages of the disease, which persists for years, are characterized by chronic arthritis and central nervous system disease (Steere 1989).

Persons developing flu-like illness, especially if accompanied by a rash, following an insect/tick bite, or frequenting of an area where Lyme Disease is known to occur, should see their doctor, giving a history of possible exposure. Diagnosis of Lyme Disease is difficult. With the exception of ECM, there are no specific symptoms; the organism is not readily isolated; and serodiagnostic tests are often unreliable (Barbour 1989, Steere 1989). A history of possible exposure in a known endemic area, and compatible clinical signs involving several body systems, with supportive positive serology, are desirable. Unfortunately, in much of Canada, the disease is not known to be endemic, and the uncertainties of diagnosis, especially serodiagnosis, with false positive reactions, may lead to overdiagnosis in people with other problems.

In most of Canada, at present, it doesn't seem appropriate to extrapolate the risk of acquiring Lyme Disease directly from information emanating from highly endemic areas of the United States. The effect of media "hype" is to cause an outbreak of unjustified "Lyme Disease Hysteria", which may be as bad as the actual disease. Never-the- less, prudent caution in the form of wearing repellents on clothing, and watching for ticks, is probably warranted while working or enjoying outdoor pursuits in areas where the distribution of potential vectors is not well-defined.

Ian Barker
Ontario Veterinary College
University of Guelph

Acknowledgments

Original work referred to in this article was supported by the Ontario Ministry of Health.

Literature Cited

Anderson, J.F. 1988. Mammalian and avian reservoirs for *Borrelia burgdorferi*. Annals of the New York Academy of Sciences 539: 180-191.

Anderson, J.F. 1989. Epizootiology of *Borrelia* in *Ixodes* tick vectors and reservoir hosts. Reviewsof Infectious Diseases 11, Suppl.6: S1451-S1459.

Anderson, J.F., R.C. Johnson, L.A. Magnarelli, and F.W. Hyde. 1986. Involvement of birds in the epidemiology of the Lyme Disease agent *Borrelia burgdorferi*. Infection andImmunity 51: 394-396.

Anderson, J.F. and L.A. Magnarelli. 1984. Avian and mammalian hosts for spirochete infected ticks and insects in a Lyme Disease focus in Connecticut. Yale Journal of Biology and Medicine 57: 627-641.

Anderson, J.F., L.A. Magnarelli, R.B. LeFebvre, T.G. Andreadis, J.B. McAninch, G-C. Perng and R.C. Johnson. 1989. Antigenically variable *Borrelia burgdorferi* isolated from cottontail rabbits and *Ixodes dentatus* in rural and urban areas. J.Clin. Microbiol. 27: 13-20. Barbour, A.G. 1989. The diagnosis of Lyme Disease: rewards and perils. Ann. Intern. Med. 110: 501-502.

Barker, I.K., G.A. Surgeoner, S.A. McEwen, &

H. Artsob. 1988. *Borrelia burgdorferi*, the agent of Lyme Disease, in tick vectors and wildlife reservoirs in southern Ontario. Ontario Disease Surveillance Report 9: 151-154.

Barker, I.K., G.A. Surgeoner, S.A. McEwen, & H. Artsob.1989. Distribution of the Lyme Disease agent in wildlife reservoirs in Ontario. Ontario Disease Surveillance Report 10:226-228.

Battaly, G.R., D. Fish and R.C. Dowler. 1987. The seasonal occurrence of *Ixodes dammini* and *Ixodes dentatus* (Acari: Ixodidae) on birds in aLyme Disease endemic area of southeastern New York state. Journal of the New York Entomological Society 95: 461-468.

Bollegraaf, E. 1988. Lyme Disease in Canada. Canada Diseases Weekly Report 14: 95-97.

Burgdorfer, W., A.G. Barbour,S.F.Hayes, J.L. Benach, E. Grunwald and J.P.Davis. 1982. Lyme Disease - A tick-borne spirochetosis? Science 216: 1317-1319.

Burgess, E.C. 1989. Experimental inoculation of Mallard Ducks (*Anas platyrhynchos platyrhynchos*) with *Borrelia burgdorferi*. Journal of Wildlife Diseases 25: 99-102.

Burgess, E.C. and L.A. Patrican.1987. Oral infection of *Peromyscus maniculatus* with *Borrelia burgdorferi* and subsequent transmission by *Ixodes dammini*. American Journal of Tropical Medicine and Hygiene 36: 402-407.

Cawthorn, R.J., B.S. Horney and R. Maloney. 1989. Lyme Disease vector, *Ixodes dammini* (the northern deer tick) identified in Prince Edward island. Canada Diseases Weekly Report 15: 255. Centers for Disease Control. 1989. Lyme Disease United States, 1987 and 1988.M. M. W. R. 38: 668-672.

Ciesielski, C.A., L.E. Markowitz, R. Horsley, A.W. Hightower, H. Russell, and C.V. Broome. 1989. Lyme Disease surveillance in the United States, 1983-1986. Reviews of Infectious Diseases 11, Suppl. 6: S1435-S1441.

Costero, A. 1989. Lyme Disease vector, *Ixodes dammini*, identified in Quebec.Canada Diseases Weekly Report 15: 247.

Galloway, T.D. 1989. Lyme Disease vector, *Ixodes dammini* identified in Manitoba. Canada Diseases Weekly Report 15: 185.

Magnarelli, L.A., J.F. Anderson and A.G. Barbour. 1986. The etiologic agent of Lyme Disease in deer flies, horse flies, and mosquitoes. Journal of I nfectious Diseases 154: 355 358.

Mather, T.N., S.R. Telford III, A.B. MacLachlan and A. Spielman. 1989. Incompetence of catbirds as reservoirs for the Lyme Disease spirochete (*Borrelia burgdorferi*). J. Parasitol. 75: 66-69.

Piesman, J., T.N. Mather, R.J. Sinsky and A. Spielman. 1987. Duration of tick attachment and *Borrelia burgdorferi* transmission.Journal of Clinical Microbiology 25: 557-558.

Piesman, J. and R.J. Sinsky.1988.Ability of *Ixodes scapularis, Dermacentor variabilis* and *Amblyomma americanum* (Acari: Ixodidae) to acquire, maintain, and transmit Lyme Disease spirochetes (*Borrelia burgdorferi*). J. Med. Ent. 25: 336-339.

Schulze, T.L., J.K. Shisler, E.M. Bosler, M.F. Lakat and W.E. Parken. 1986.Evolution of a focus of Lyme Disease. Zblt.Bakt. Hyg. A 263: 65-71.

Seckla, L., W. Stakiw and A.Roberts. 1989. Lyme Disease in Manitoba.Canada Disease Weekly Report 15: 137-140.

Snyder, L.L. 1931. A Faunal investigation of Long Point and vicinity, Norfolk County, Ontario. II. The mammals of Long Point. Transactions of the Royal Canadian Institute 18: 127-138.

Spielman, A., C.M. Clifford, J. Piesman and M.D. Corwin. 1979. Human babesiosis on Nantucket Island, USA: Description of the vector, *Ixodes (Ixodes) dammini*, n.sp. (Acarina: Ixodidae). Journal of Medical Entomology 15: 218-234.

Steere, A.C. 1989. Lyme Disease. New England Journal of Medicine 321: 586-596.

Steere, A.C., T.F. Broderick and S.E. Malawista. 1978. Erythema chronicum migrans and Lyme arthritis: epidemiologic evidence for a tick vector. American Journal of Epidemiology 108: 312-321.

Steere, A.C., R.L. Grodzicki, A.N. Kornblatt, J.E. Craft, A.G.Barbour, W. Burgdorfer, G.P. Schmid, E. Johnson and S.E. Malawista. 1983. The spirochetal etiology of Lyme Disease. New England Journal of Medicine 308: 733-740.

Todd, M.J. and A.O. Carter.1989. Lyme Disease in Canada -1989 update.Canada Diseases Weekly Report 15: 135-137.

New Bird Gallery at the Royal Ontario Museum

The Royal Ontario Museum has recently opened the first phase of a new permanent gallery: The Sportman's Shows Gallery of Birds. The overall theme for the gallery was "diversity." Exhibits were designed to illustrate the variety of bird life in the world, and to draw attention to the problem of diminishing diversity at the hands of people.

A team consisting of several curators, a couple of interpretive planners, a designer and a taxidermist, along with a project coordinator and assistance from taxidermists, artists, sound and lighting consultants, translators and graphic designers, planned and built the gallery in little more than two years. Although some work has yet to be finished, the design and construction are nearly complete.

The entrance of the gallery consists of a flock of more than 300 birds, many suspended in flight. This is a well-lit area, in contrast to most museum galleries, and visitors can walk around centrally-placed cases and under overhead enclosures. This flock contains representatives of all orders of birds in the world, arranged roughly in "taxonomic" sequence. In this exhibit, a series of speakers emit the calls of 25 species that vocalize regularly in flight. Sounds are mixed and "travel" to various speakers. A panel on one wall and text on the information rails inform visitors about avian classification. The "inforails" also hold about 20 drawers which visitors can explore to discover about various topics from feathers and eggs to bird droppings.

An adjacent section looks at various types of flight. The BBC's "in flight" movie is running continuously on a TV monitor, with headsets and benches for those wishing to enjoy the full 24 minutes. In this area, we have an albatross and an eagle suspended in the open above the heads of visitors. Exposing these specimens to potential problems with insects, dust and vandalism was somewhat controversial, but we felt the visual impact was worth the risk.

Parental patterns of various types are illustrated with species as diverse as Satin Bowerbirds, Brown-headed Cowbirds and Wilson's Phalaropes. Another area looks at the needs of migrants in both temperate and tropical forests,presented in simplified forest backgrounds.

Continued on page 14

Continued from page 13

A section dealing with threatened birds presents examples of birds driven to extinction or imperiled by human activity, such as tropical deforestation, and habitat degradation. In one exhibit, we have an excellent wood carving of a Black-capped Vireo prepared by Al Glassford. Use of models may have to be more frequent in future galleries.

The second phase of the gallery, to be opened at the end of this year, will highlight a large southern Ontario marsh. An eighty foot long mural is being painted by Dwayne Harty for this walk-in diorama. In a multi-disciplinary approach, mammals, reptiles, amphibians and invertebrates will be combined here. Birds calls and sounds will also be a feature of this space.

We will have a bird song work station where visitors can listen to songs, learn to identify birds by song or look at some research applications using song. The sounds and illustrations for this station, the songs and calls used in various parts of the gallery, and the video material are all on a single compact disc. Several disc players are used, however, to direct sound to various segments of the gallery.

The Sportsman's Shows provided most of the funding for this gallery. This was a somewhat different venture for them in the realm of educational exhibits. Visitor response has been very positive to date and completion of the gallery by the end of 1990 should enhance the visitor experience.

R.D. James
Royal Ontario Museum

Entrance to new bird gallery at the Royal Ontario Museum.

NEWS SHORTS

SOME SUGGESTIONS FOR FUTURE CO-OPERATIVE WORK IN LATIN AMERICA - EXCERPTS FROM AN OUTLINE by - Jorge Correa-Sandoval, Jesus Garcia-Barron, Hiram Gonzalez, Daniel Hernandez, Belkys Jimenez, Jorge E. Morales, Luis G. Noranjo, Adolfo Navarro, Rosa Maria Vidal, Laura Villasenor, Fernando Villasenor, and Jose Colon. From: Neotropical Migrant Land bird Symposium, Manomet, MA. December 1989.

The few Latin American ornithologists present at this symposium decided to have an informal meeting to construct an outline of suggestions for future co-operative work in our countries. The following are the main conclusions of our discussion.

1. We can talk for eons about ways to help native Latin American communities to preserve the remnants of native forests. But, as was clearly pointed out by someone in this audience last night, we have to talk business before thinking of conservation. In a region where most people are striving for survival, you cannot expect to stop the expansion of the agricultural frontier. There are a few examples throughout Latin America of attempts to enhance the means of survival of small agricultural communities related to natural parks and reserves. While several of our scientists and technicians are already working to find these alternative solutions, we still urge you as a whole to help us find ways to improve land use and management through funding of our current projects or directly by

means of research. The sustainable development of our natural resources is by far the most important goal towards achieving real conservation in the Neotropics.

2. For most Latin American naturalists, it is a surprise to know how unaware of environmental issues the average citizen in the United States (or Canada - ed.) really is. Since conservation of tropical forests is not an isolated matter, we need to be sure that in Latin America we educate our people in environmental matters, while North Americans help make the average "gringo" wake up and become aware of what is going on in other parts of the world. We have heard in this meeting the old story about prohibited pesticides and chemicals currently been exported to Latin America. While using these chemicals in the United States would cause considerable turmoil, thanks to the mass media, few are concerned that your labs still produce these substances and send them to ruin our nature.

3. In most Latin American countries there is a surplus of reasonably well trained field biologists that cannot get a job and must abandon forever the dreams of working on research. As we suggested last night, instead of hiring American graduate and undergraduate students to work as field assistants in the Neotropics, it is feasible to hire local naturalists. You can either have local research assistants, local co-authors, or both. Although we do not have a surplus of Ph.D. level scientists, most of them holding a B.S. are better trained than many inexperienced North American biologists. To get this kind of co-operation, you must establish an active correspondence with well-established biologists in our countries who can provide a list of qualifed candidates for these positions. At the same time, North American researchers would benefit from enhanced mobility, direct contacts with local authorities, reduction in logistic costs, and access to some information up to now unavailable to North Americans.

As a conclusion, we would like to summarize by saying that such cooperation is not possible unless we both give it our best effort. While we Latins can greatly benefit from your knowledge, expertise and funding, you can also learn one or two things from us: (Spanish, for example), how to reduce the cumbersome dealings with Latin American bureaucracy, how to get to places of importance more easily, and how to actually change the rules of this destructive game of "progress." Migrant birds do not recognize political borders. To save these species we must begin to have a similar perspective of the hemisphere.

Alberta Bird Atlas Update

Jack Clements has resigned as Executive Director of the ABA to pursue a business opportunity. His role has been filled by two individuals: Albert Brulé as Executive Director and David Adie as Executive Assistant.

The project is into its final two years of field work and could use interested ornithologists and birders as atlassers, particularly in remote areas

For forms and information on how to participate, even on a casual basis, contact:

David Adie
ABA Project
c/o Provincial Museum
of Alberta
12845-102 Ave.
Edmonton, Alberta
T5N 0M6
(403) 453-9100

DATA BASES ON μONTARIO BIRDS

The Federation of Ontario Naturalists announces the existence of two data bases of possible interest to Canadian Ornithologists. We would like to encourage the use of these data bases for research purposes.

1. The Ontario Breeding Bird Atlas data base contains 205,000 records on the distribution of birds in Ontario from 1981 through 1985, as published in the *Atlas of the Breeding Birds of Ontario*. Data are stored on the basis of 4000 10 X 10 km Universal Transverse Mercator Grid squares, and summarize breeding evidence reported for species observed in each square. About half of the records are also accompanied by log-based estimates of breeding abundance.

2. The Ontario Rare Breeding Bird Program (ORBBP) data base is in production. It contains information on the breeding sites of 58 rare bird species in Ontario and the known history of usage of each site. Of particular interest at present are extensive data for the "Threatened" Loggerhead Shrike and the "Rare" Red-shouldered Hawk. Both species are declining in Ontario and in need of immediate attention from researchers and wildlife managers. The ORBBP data base would be a useful starting point for research and management activities. Access to some of these data may be restricted.

For more information on the data bases and access to them, contact:

Mike Cadman,
ORBBP Coordinator,
Federation of Ontario Naturalists
355 Lesmill Road,
Don Mills, Ontario M3B 2W8.

In Press

Current and In Press Articles In Canadian Ornithology

University of Alberta

Desrochers, A., and S.J. Hannon. 1989. Site related dominance and spacing among winter flocks of Black-capped Chickadees. Condor 91:317-323.

Dhindsa, M.S., and D.A. Boag. 1989. Influence of age on the flushing distance of marked and unmarked black-billed magpies. Ornis Scand. 20: 76-79.

Dhindsa, M.S., and P.E. Komers, and D.A. Boag. 1989. Nest height of black-billed magpies: is it determined by human disturbance or habitat type? Can. J. Zool. 67:288-292.

Dunn, P.O., and S.J. Hannon. Evidence for obligate male parental care in black-billed magpies. Auk, (in press).

Hannon, S.J., and R.C. Gruys. Patterns of predation in a Willow Ptarmigan population in northern Canada. Fourth Int. Grouse Symposium. (in press).

Komers, P.E., and M.S. Dhindsa. 1989. Influence of dominance and age on mate choice in Black-billed Magpies; an experimental study. Anim. Behav. 37:645-655.

Leblanc, Y., 1989. Variation in size of eggs of captive and wild Canada Geese. Ornis Scand. 20:93-98.

Martin K., S.J. Hannon, and R.F. Rockwell. Clutch size variation and patterns of attrition in fecundity of willow ptarmigan. Ecology. (in press).

O'Reilly, P. and S.J. Hannon. 1989. Predation of simulated Willow Ptarmigan nests: the influence of density and cover on spatial and temporal patterns of predation. Can. J. Zool. 67:1263-1267.

Pattenden, R.K. and D.A. Boag. 1989. Skewed sex ratio in a northern wintering population of mallards. Can. J. Zool. 67:1084-1087.

Pattenden, R.K. and D.A. Boag. 1989. Effects of body mass on courtship, pairing, and reproduction in captive mallards. Can. J. Zool. 67:495-501.

Schieck, J.O. and S.J. Hannon. Breeding site fidelity in Willow Ptarmigan: the influence of previous reproductive success and familiarity with partner and territory. Oecologia. (in press).

Schroeder, M.A. and D.A. Boag. 1989. Evaluation of a density index for territorial male spruce grouse. J. Wildl. Manage. 53:475-478.

Waterman, J.M., A. Desrochers, and S.J. Hannon. 1989. A case of polyandry in the black-capped chickadee. Wilson Bull. 101:351-353.

Zwickel, F.C., D.A. Boag, and J.F. Bendell. 1989. Longevity in blue grouse. No. Amer. Bird Bander 14:1-4.

DFO - Biological Station and Huntsman Marine Scieces Centre, St. Andrews, N.B.

Porter, J.M., Patterns of recruitment to the breeding group in the kittiwake Rissa tridactyla. Animal Behaviour. (in press).

Sherbrooke University

Brunet, R., S. Gauthier, and A. Cyr. 1989. Does visual structural environment influence the periodicity of circadian activity rhythms in Red-winged Blackbirds *(Agelaius phoeniceus)*. J. Interdiscipl. Cycle Res. 20:249-256.

Brunet, R. et A. Cyr. 1990. Effet du stress de la manipulation sur le comportement du Carouge à épaulettes *(Agelaius phoneniceus)*. J. Can. Zool. (in press).

Cyr, A. 1988. Aim - oriented backyard landscaping: first step toward improved environment. Pp. 213-220. In: Landscape Ecology and Management. (M.R. Moss, ed.) Polyscience, Montreal.

Cyr, A. et A. Dion. 1989. Attracting birds year-round with fruiting trees and shrubs. Sialia 11:11-14.

Gauthier, S. et A. Cyr. 1990. Variation saisonnière des rythmes circadiens endogènes chez le Carouge à épaulettes. In: Behavioral strategies for coping with winter. (F. Whoriskey et R. Titman, eds.), Montreal (in press).

Gauthier, S. et A. Cyr. 1990.

Facilitation sociale sous un cycle de lumière-obscurité et sous des conditions constantes de luminosité chez le Carouge à épaulettes *(Agelaius phoeniceus)*. J. Can. Zool. (in press).

Lacombe, D., A. Cyr et P. Matton. 1990. Spermatogenesis in photostimulated Red-winged Blackbirds *(Agelaius phoeniceus)* chronically treated with a potent GnRH analogue. J. Can. Zool. (in press).

Lacombe, D., P. Matton et A. Cyr. 1990. The effect of intermittent GnRH analogue treatments on hormonal levels and spermatogenesis in photostimulated Red-winged Blackbirds *(Agelaius phoeniceus)*. J. Exp. Zool. (in press).

Robidoux, Y et A. Cyr. 1989. Sélection granulométrique pour la construction du nid chez l'Hirondelle à front blanc *(Hirundo pyrrhonota)*. Can. Field-Nat. (in press).

Canadian Wildlife Service, Atlantic Region

Busby, D.G., L.M. White, P.A. Pearce and P. Mineau. 1989. Fenitrothion effects on forest songbirds: A critical new look. In Environmental effects of fenitrothion use in forestry: Impacts on insect pollinators, songbirds and aquatic organisms. (W.R. Ernst, P.A. Pearce and T.L. Pollock eds.) Environment Canada, Atlantic Region.

Busby, D.G., L.M. White and P.A. Pearce. Effects of aerial spraying of fenitrothion on breeding White-throated Sparrows. J. Appl. Ecol. (in press).

Busby, D.G., L.M. White and P.A. Pearce. Brain acetylcholinesterase activity in forest songbirds exposed to a new method of UULV fenitrothion spraying. Arch. Environ. Contam. Toxicol. (in press).

Busby, D.G., and L.M. White. Factors influencing variability in brain acetylcholinesterase activity in songbirds exposed to aerial fenitrothion spraying. Special publication of the cholinesterase symposium held at the November 1989 meeting of the Society of Environmental Toxicology and Chemistry, Toronto. (in press)

Chardine, J.W. and R.D. Morris. 1989. Sexual size dimorphism and assortative mating in the Brown Noddy. Condor 91:868-874.

Chardine, J.W. 1990. Dead Manx Shearwater found in Atlantic Puffin burrow on Goat Island, Newfoundland, 1989. Osprey. (in press).

Erskine, A.J. 1989. The BBS over the years. BBS Canada: a newsletter for cooperators in the Breeding Bird Survey of Canada. 1:1-2.

Erskine, A.J. 1990. Joint laying by *Bucephala* ducks: parasitism or competition for nest sites? Ornis Scand. (in press).

Erskine, A.J. 1990. Half a million eiders off Cape Cod: compounded errors or changed populations? Auk 107:208-209.

Erskine, A.J., B.T. Collins and J.W. Chardine. 1990. The co-operative Breeding Bird Survey in Canada, 1988. Can. Wildl. Serv. Prog. Notes. (in Press).

Erskine, A.J., M.C. Bateman, R.I. Goudie and G.R. Parker. 1990. Aerial surveys for breeding waterfowl, Atlantic Region, 1985-1989. Can. Wildl. Technical Report No. 85, Can. Wildl. Serv., Atlantic Region. 11 pp.

Finney, G.H. 1989. Native hunting of waterfowl in Canada. Proceedings of the International Waterfowl Research Board. Astrakan, Russia.

Hanson, A.R., C.D. Ankney and D.G. Dennis. Body weight and lipid reserves of American Black Ducks and Mallards during autumn. Can. J. Zool. (in press).

Hicklin, P.W., R.G. Hounsell and G.H. Finney. 1989. Fundy pull trap: a new method of capturing shorebirds. J. Field Ornithol. 60:94-101.

Kerekes, J. 1989. Possible correlation of summer loon populations with the state of a water body (Aquatic birds as trophic indicators of water bodies). Internat. Verien. Limnol. Verhandlung 24. (in press).

Morris, R.D. and J.W. Chardine. 1990. Costs of parental neglect in the Brown Noddy *(Anous stolidus)*. Can J. Zool. (in press).

Parker, G.R., M. Petrie and D. Sears. 1989. Breeding waterfowl, wetland acidity, and food resources in the Lepreau River watershed of southern New Brunswick. Technical Report No. 84. Can. Wildl. Serv., Atlantic Region. 37 pp.

Pearce, P.A., J.E. Elliott, D.B. Peakall and R.J. Norstrom. 1989. Organochlorine contaminants in eggs of seabirds in the northwest Atlantic, 1968-1984. Environ. Poll. 56:217-235.

Université du Québec à Montréal

Giroux, J. -F. 1990. Roost fidelity of Pink-footed Geese *(Anser brachyrhynchus)* in north-east Scotland. Bird Study. In press.

Giroux, J.-F. & J. Bedard. 1990. Activity budgets of greater snow geese in fall. Can. J. Zool. In press.

Giroux, J.-F., D.V. Bell, S. Percival & R.W. Summers. Tail-

mounted radio transmitters for waterfowl. J. Field Ornithol. In press.

Belanger, L., J.-F. Giroux & J. Bedard. 1990. Effects of goose grazing on the quality of *Scirpus americanus rhizomes*. Can. J. Zool. In press.

Canadian Ornithologists and their Research

University of Victoria

Darryl Ainsley, (M.Sc. student, E.H. Miller) - Acoustic signalling in the Pacific-slope Flycatcher.

University of Alberta

Cathy Schuppli, (M.Sc. - Dr. Susan J. Hannon) - Timing of reproduction in Willow Ptarmigan.

Brett Sandercock, (M.Sc. - S. J. Hannon) - Parental investment in Willow Ptarmigan.

Gloria Dobush, (Ph.D. - S. J. Hannon) - energetic costs and fitness consequences of polygyny for male willow Ptarmigan.

Rogier Gruys, (M.Sc. - S. J. Hannon) - Winter ecology of Willow Ptarmigan.

Dr. David A. Boag, - Population studies of spruce grouse.

Richard Chabaylo, (M.Sc. - Dr. David A. Boag) - Impact of radio-telemtry on Mallard reproduction.

Richard Cotter, (M.Sc. - D. A. Boag) - Role of predation on populations of Rock Ptarmigan.

Margorie Bousfield, (Ph.D. - D. A. Boag) - Study of dominance in snow geese.

Jon Swenson, (Ph.D. - D. A. Boag) - Implications of monogamy in hazel grouse.

Iwona Pawlina, (M.Sc. student of D.A. Boag) - Body condition, feeding ecology, and behavior of wintering mallards.

Brent Murray, (M.Sc. student of Curt Strobeck and W. Bruce McGillivray) - MtDNA variation in Emberizid sparrows.

CWS Atlantic Region

Myrtle Bateman - migratory gamebird surveys.

Dr. Dick Brown - pelagic seabird ecology.

Dan Busby - effects of toxic chemicals on birds.

Dr. John Chardine - influence of the Newfoundland murre hunt on populations, geographic variation in the Black-legged Kittiwake, breeding biology of Black-legged Kittiwakes in Newfoundland, breeding biology and feeding ecology of a marked population of Brown Noddies.

Dr. Tony Erskine - Analysis of Breeding Bird Survey data for Canada, Maritimes Breeding Bird Atlas.

Ian Goudie - waterfowl surveys and research, Common Eider re-introductions, habitat protection.

Al Hanson - wetlands habitat research.

Peter Hicklin - seaduck breeding bioenergetics, shorebird migration

Bruce Johnson - endangered species, Piping Plover and Peregrine Falcon recovery.

Dr. Joe Kerekes - effects of acid rain on wildlife and habitat, limnology.

Dr. Tony Lock - Gull and tern reproductive success and population assessment.

Colin MacKinnon - wetland resource inventories and waterfowl use and production on National Wildlife Areas and Migratory Bird Sanctuaries, habitat management for upland birds, avifauna movements through the Northumberland Strait, seabird monitoring on Machias Seal Is.

Gerry Parker - impact of mortality factors on Black Duck populations.

Peter Pearce - effects of toxic chemicals on birds.

Al Smith - Eastern Habitat Joint Venture, migratory bird habitat protection.

Willife Division, Province of NFLD and Labrador

Wallace Skinner, - Use of prescribed burning for the purpose of improving habitat for Willow Ptarmigan.

Susan Wilson (Student of Neil Payne, University of Wisconsin) - Utilization of various heath cover types by Willow Ptarmigan.

Joseph Brazil and Pam Northcott, - Qualitative and quantitative assessment of food delivered to fledglings by Peregrine Falcons nesting on sea cliffs in Nain Bay, Labrador.

Dept. of Fisheries and Oceans - Biological Station and Huntsman Marine Sciences Centre, St. Andrews, N.B.

Julie M. Porter (DFO Research Scientist and adjunct professor, Memorial U. of Nfld.) - Recruitment to breeding in seabirds and cognitive ethology of gulls.

R. (Bob) Rangeley (McGill, Biology Ph.D. student.) - the effects of fish and bird predators on the distribution and behaviour of juvenile pollock.

Université du Québec à Montréal

Jean-Francois Giroux- Ecology and management of waterfowl and their habitats.

Renée Bergeron (M.Sc.-J.-F.Giroux) - Comparative analysis of food habits of greater snow geese and Canada geese staging in the same area in spring.

Stephanie Cazelais (M.Sc.-J.-F.Giroux) - Feeding behavior of Canada geese using different habitats in spring.

Pascal Dehoux (M.Sc.-J.-F.Giroux) - Effects of hunting on habitat selection by black ducks along the St. Lawrence Estuary.

Raymond de Koster (M.Sc. - J.-F.Giroux) - Activity and habitat selection by greater snow geese in spring in relation with agriculture.

Society of Canadian Ornithologists 1989-90 Officers and Councillors

President:
Jon C. Barlow
President Elect:
J. Bruce Falls
Treasurer/Membership Secretary:
Philip H.R. Stepney
Picoides Editor:
W. Bruce McGillivray
Recording Secretary:
Position Vacant
Ex-officio (Past President):
Erica H. Dunn

Councillors (Retire following 1990 meeting)
Gary Bortolotti
André Cyr
Julie M. Porter
Nicolaas Verbeek
Steve Wendt

Councillors (Retire following 1991 meeting)
Peter Hicklin
Ross James
Cynthia Bluhm
Richard Elliot
David Hussell