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N. B. Naturalist

Le Naturaliste du N.-B.

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New Brunswick Federation of Naturalists
277 Douglas Avenue, Saint John, N.B. E2K 1E5 Canada

La Fédération des naturalistes du Nouveau-Brunswick
277, avenue Douglas, Saint John, N.-B. E2K 1E5 Canada

The federation is a non-profit organization formed in 1972 to facilitate communication among naturalists and nature-oriented clubs, to encourage an understanding of nature and the environment, and to focus concern for the natural heritage of New Brunswick.

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N.B. Naturalist carries articles and reports pertaining to the natural history of New Brunswick. Articles are invited in either English or French, and will be printed in the language in which they are received. The opinions expressed are those of the authors. Contributions should be sent to the respective editors (see "Editorial Committee" above). Advertising rates available on request.

La Fédération est une organisation sans but lucratif formée en 1972 pour faciliter la communication entre les naturalistes et entre les divers clubs axés sur l'étude de la nature, pour encourager une meilleure compréhension de l'environnement naturel, et pour éveiller le souci pour le patrimoine naturel du Nouveau-Brunswick.

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Club de Naturalistes de la Péninsule Acadienne, C.P. 421, Lamèque (N.-B.) E0B 1V0; 344-2286 ou 395-5023; réunions alternants entre Caraquet, Shippagan et Tracadie, 1er mercredi, sept. à juin; *Le Gobe-mouche* mensuel.

Club des ornithologues du Madawaska, a/s Danielle Nadeau, RR 4, Edmundston (N.-B.) E3V 3V7; 739-7085; réunions à 19 h, 2ième lundi, sept. à mai, Centre communautaire de Bouche; bulletin *C.O.M.*

Fredericton Nature Club, Box 772, Station A, Fredericton, N.B. E3B 5B4; 459-8685 or 454-2117; meets N.B. Craft School, 7:30 pm, 1st Wed., Sept.-May; monthly *Newsletter*.

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Miramichi Naturalists' Club, 276 Heath Court, Newcastle, NB E1V 2Y5. Moncton Naturalists' Club, 20 Mountain Road, Moncton, NB E1C 2J8; 857-4271 or 384-5212; meets Moncton Museum, 7 pm, 2nd Wed., Sept.-May; monthly *newsletter*.

Neptisquit Naturalists' Club, P.O. Box 385, Bathurst, N.B. E2A 3Z3. Saint John Naturalists' Club, 277 Douglas Avenue, Saint John, N.B. E2K 1E5; meets N.B. Museum, 2nd Wed., Sept.-May, elsewhere in June; monthly *Bulletin*.

Valley Naturalists, Box 95, Florenceville, NB E0J 1K0; 375-6887 or 392-6485; meets Wicklow Agricultural Centre, 7:30 pm, 2nd Mon., Oct.-June; semi-annual *newsletter*.

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Schoodic Chapter, Maine Audubon Society, c/o Sid Bahet, Pembroke, ME 04666; meets Sunrise Apts., Calais, 7 pm, 3rd Tues., except Dec; bimonthly *Schoodic*.

Sunbury Shores Arts and Nature Centre, Inc., Box 100, St. Andrews, N.B. E0G 2X0; 529-3386; workshops, exhibits, semi-annual *Sunbury Notes*.



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On peut lire dans *Le Naturaliste du N.-B.* des rapports touchant l'histoire naturelle du Nouveau-Brunswick. Les articles seront acceptés dans français ou anglais pour être reproduites dans la langue d'origine seulement. Les opinions exprimées sont celles de leurs auteurs. Prière d'envoyer vos articles aux directeurs (voir «Comité de rédaction» au-dessus). Tarifs publicitaires disponibles sur demande.

From the President

It is again to update you on Federation affairs, so here goes!

A board of directors meeting was held at the Sussex home of Harriet Folkins on 11 February. Among the many topics discussed was the question of a club fee structure. It was agreed that each federated club would pay a yearly fee to the Federation of one dollar per member, effective November of each year. That action should generate additional revenue sorely needed by the Federation to better realise its objectives. In related business, the necessary documents have been submitted in support of an application for charitable status.

On the matter of outreach, the board is promoting the flow of ideas and assistance among clubs, particularly the newer francophone ones in the Acadian peninsula, the republic of Madawaska, and at Shediac. To further that initiative, it was agreed that the Federation would cover up to 75% of the expenses of those persons willing to travel to present talks to or lead field trips for other clubs. As noted before, we need to build on what we have, and so you are urged to exploit every opportunity to attract new members. Suggestions are still welcomed on how to foster naturalist activity in the Dalhousie-Campbellton region.

Since last reporting to you, I have dealt with a number of correspondence exchanges, some having to do with threats to ecological reserves. Questions concerning safeguarding the Blue Mountain Reserve, on the Tobique, and the Bull Pasture Bog, near Fredericton, have not yet been entirely satisfactorily resolved. The New Brunswick Ecological Reserves Act has been reported to compare favourably with much other ecological reserve legislation in Canada. Unfortunately, what is in many ways an admirable piece of legislation does not appear to have been acted on with the vigour and imagination that had been hoped for. Your Federation is pressing for a more pro-active official stance on this important matter.

The Federation supported two projects to employ students this summer. We are acting as sponsors for continuation of Roland Chiasson's educational program on Piping Plovers and their sea-beach habitat in the northeast, and we are employing two students to act as naturalist-wardens at Mary's Point and other parts of Shepody National Wildlife Area.

A trioka of the Nature Trust of New Brunswick, the New Brunswick Federation of Naturalists and the Fredericton Botanic Garden Association successfully applied for an Environment Week grant from the federal government. So production of a slide video on natural areas is pressing ahead. The Fredericton Nature Club also met with success in a similar venture, the money to be used for putting together a booklet on significant natural areas in the capital region. Watch for both in June. Meanwhile, we have updated Tourism's birdwatching brochure at the request of the Department; it is about to go into a second edition.

The Chignecto Naturalists' Club has kindly offered to host the annual meeting of the Federation at Sackville in early September. The border region, with its wealth of different habitats, holds a special fascination and interest for the naturalist. The meeting weekend will surely be an outstanding success—better plan to attend!

Although the winter seems reluctant to release its final grip, spring is definitely here—waterfowl are moving into our estuaries, crows are building in an elm outside my office window, atlasers have been nocturnally rambling to confirm those elusive owls as breeding species, and early spring flowers are thinking of peeping through. Lots of interest and excitement ahead! I wish you many instructional and refreshing hours afield.

Peter Pearce

From the Editors

Things don't always work out the way they were planned. This spring we were just about ready to finish preparing the N.B. Naturalist for the printer when disaster struck. We had just come home after once again checking out the marshes for the Snow Geese which had been around in unexpected numbers (almost 150), when some friends arrived to tell us there was an avocet by the Shepody River Dam. Back we travelled to see the bird in its beautiful breeding plumage.

It was late in the afternoon and we were planning to leave for a week of birding on Grand Manan. In my haste, I unsuccessfully tried to imitate a bird! Instead of running downstairs I flew, and not very gracefully landed in the greenhouse amongst the flowers and birds. My broken ribs and various other injuries are too painful to recall. Sufficient to say we never made it to Grand Manan. We forgot about planting the garden and never finished the magazine.

When, my weeks of convalescence and Dave's training stint as a nurse had ended, we were up to our ears and eyes in birds: Supported by a cane, I helped Dave with Breeding Bird Surveys and atlas fieldwork, and guarded our shorebirds on Mary's Point, plus a million other things I do besides birding.

It is therefore with great relief that we finally have this issue out of our hair. Hoping for your understanding, painfully yours,

Mary



Cover Illustration / Illustration de la Couverture

Seaside Goldenrod by Bruce A. Bagnell / Verge d'or toujours verte par Bruce A. Bagnell.

All Hail the Balsam Fir— It's New Brunswick's Official Tree¹

Geoffrey Ritchie

Balsam Fir, *Abies balsamea* (L.) Mill., is New Brunswick's official tree. It was so proclaimed in May, 1987, as the culmination of a long effort by the Canadian Forestry Association of New Brunswick to have the province choose an official tree.

Balsam Fir has much to commend it as our most representative tree species. For one thing it grows prolifically in New Brunswick. And, for another, it was the abundant species that helped give rise to the province's pulp and paper industry. It is, of course, the traditional Christmas tree and, accordingly, the foundation of a rapidly growing tree and wreath business in New Brunswick.

It is a most interesting tree, whose attributes include the following: Its needles are 3/4 to 1 1/2 inches long, flattened in cross-section, rounded or notched at the tip, deep green above with two white bands below, and attached directly to the twig without a distinct stem. The cones are oblong, two to four inches long, deep purple, sit upright on the twig, and have fan-shaped scales which fall from the axis at maturity.



¹ Reprinted from *The Arbor Day Planter* (Vol. 1, No. 1, May 1988), a publication of the Canadian Forestry Association of N.B., 65 Brunswick St., Fredericton, N.B. E3B 1G5.

With fir's natural conical shape and its spire-like growth, which some people refer to as "the church steeple," it's ideal for a compact, well-formed Christmas or ornamental tree. The fragrance of the Balsam Fir is a delight when walking in the forest or around the tree at yuletide, for its special aroma is unmatched among the evergreens. Fir is also unequalled indoors because its needles are much more persistent and can last two to three weeks with watering.

Wood

Balsam Fir has a soft, weak wood of poor durability, but other characteristics make it a valuable tree for society. Native people preferred the dry wood of fir to start their fires by friction using a bow drill and fire block method. The wood was also used for food containers because, unlike other conifers, it is free of resin, odour and taste.

Early lumbermen looked upon fir as a weed tree of inferior quality, but as quality timber became scarcer, they were forced to mix fir with spruce for finished sawn lumber. About 100 years ago, fir became a major source of fibre for the growing pulp and paper industry. Today, fir is used also for building construction, particle board, plywood, boxes and crates.

Natural History

Balsam Fir belongs to the pine family (Pinaceae) along with the spruces, larches and hemlocks. Balsam Fir is the only native fir in eastern Canada and is considered a medium-sized tree; it measures 50 to 70 feet in height and one to two feet in diameter.

New Brunswick is an ideal growing location for the Balsam Fir as it is in the eastern middle region of its natural range. With its aggressive ability to regenerate, fir can be found throughout the province where it is a winter food for ruffed grouse and several other birds that feed on the seeds. Deer and moose browse the trees, too.

Other Uses

Various oils are extracted from the needles for their medicinal properties and are used for sore throats and coughs. Another product is the resin blisters on the trunk, which are collected and sold as Canada balsam. The resin has a high index of refraction and is used as a glass cement in optical instruments.

For people who like to hike off the beaten trail and sleep under the open sky, the boughs of the fir make a soft and dry bed to sleep on. Falling asleep with a fragrant bed below and tall trees above, one realizes how each tree has its own beauty, its own uses to man, and its own special place in the forest around you.



Birds of the Night — Who, Who, Who

Rose-Aline Chiasson

Having learned that when owls answer a night call at two week intervals, they may be counted for the Atlas, I decided to try and locate some on Lamèque Island.

I began by recording several times on a cassette at top volume the call of the Great Horned Owl. March 13, 1987 was a calm evening and I decided to go on an outing though my husband didn't show much interest. However, he agreed to come along with me on an isolated stretch of road through a thinly wooded area. We stopped several times, and I played the recording at a very high volume and after listening several minutes I played it again two or three times. On the fourth stop I thought I heard a faint *who whoo* far away, as soon as the recording had stopped. I kept listening intently and sure enough, the Great Horned Owl was coming towards us. I went to tell Hilaire who had remained in the vehicle and we waited. The bird seemed to fly some distance, then stop, call and fly again. We were greatly astonished when we became aware that two Great Horned Owls were answering and were coming towards us, one on either side of the road. Had there been more observers, we might have been lucky enough to see them since it was a moonlit evening. We only went back home after they had come very close.

Next winter, we were anxious to return on our hunt, but this time with other species in mind, even more so since we had captured two injured owls, a Boreal and a Saw-whet, which were soon let free.

On March 7th, Hilaire and I returned to the same road and we made about the same stops calling the Boreal Owl. At the same spot as we had heard the Great Horned Owl, I heard a *poo, poo, poo* and imagined hearing a loader cleaning a driveway. But to my great surprise the sound was getting nearer. A Saw-whet Owl! Much excited, I called my husband so he could hear it too. A brook cuts across the road there, and the bird came as far as the tree line on the other side of the brook.

As our friends, Gérard and Denise Benoit, wished to come with us, we went out at approximately 9:30 p.m. on March 16, but without success at first. I then suggested we take another road leading to a peat bog. I played the recording for the Saw-whet Owl several times, but received no answer. We were on our way back and had made a last stop at one of the halts we had chosen on our way towards the bog, when Denise, who has very sensitive ears, told us she heard something. Soon the call became more clearly audible. It was the Saw-whet Owl. And all of a sudden, another call closer to us, that of the Boreal Owl. It had answered the recording for the Saw-whet Owl. And curiously, the latter became silent.

We had stayed there for a while listening and describing our feelings when, all of a sudden, a strange

call caused us to stand still. Nearby, on the other side of the road a bird was giving a call which we did not recognize. Though it called over and over again we still remained perplexed. Back at home, we played the recording by Peterson and a National Geographic cassette and found out that the call was that of a Long-eared Owl. Three different owls in one evening. What a bit of luck!

We now wanted to investigate Miscou Island. On March 31, a Saw-whet Owl answered, but as it became too windy, we gave up to return on the next day. That next night was ideal, as there wasn't a trace of wind. We followed the road to Pointe-Noire ("Black Point") and had played the recording quite a few times when we heard barking followed by a shrill howl. A pack of coyotes were answering. We didn't wait.... We then travelled toward the lighthouse and, at one stop, two Boreal Owls answered from two different sites at quite a distance from each other. At first, Gérard and Denise were the only ones to hear them, but the birds came closer and Hilaire and I could hear them distinctly. On our way back to the ferry, on the other side of the island, we took another road and another Boreal Owl answered quite close to us. It was to us a very rewarding evening.

Our outings have always started around 9 o'clock in the evening and lasted until 11:30 p.m. It is important to have a recording that can be heard quite far. A person with good ears is also very helpful since it takes several minutes before the bird comes closer. Patience is a prerequisite. We had the chance of having Denise with us and her "bionic" ears allowed her to hear the calls much sooner than the rest of us.

These trips brought exiting moments last winter. We plan to cover another territory this year. Try it for yourself. We think it's a worthwhile endeavour and a very easy way of adding new species to your list. Good luck!



Grande plaine de Miscou

Hilaire Chiasson

Depuis d'un an et surtout dû à la formation du Club de Naturalistes de la Péninsule Acadienne la région nord-ouest de l'île Miscou fait encore parler d'elle. En tant qu'elle est ignorée par les gens de la région, elle est appréciée par les scientifiques-écologiques de la province.

Après en avoir entendu parlé par le professeur Louis Lapierre lors d'une conférence donnée à Tracadie au printemps 88, et eu la chance d'y faire une visite guidée par le botaniste Harold Hinds, auteur de la *Flore du Nouveau-Brunswick*, c'est le 16 octobre dernier qu'un groupe de naturalistes de la péninsule s'y rendait, pour voir à leur tour ce qu'il en était.

C'est cette région désignée de Grande plaine qui fut, il y a quelques années, l'objet d'effort par le Conseil de l'environnement du Nouveau-Brunswick, pour en faire une réserve écologique. Les choses sont encore comme elles étaient et la réserve n'est pas créée.

Notre sortie sur ce terrain nous permis de constater que c'est un territoire assez spécial et unique pour notre région. Avons-nous déjà vu une succession de dunes? Un petit lac bien propre, habitant des plantes et des animaux aquatiques qui ne demandent qu'à être mieux explorés. Des plantes rares et spécialement adaptées au milieu très sec, côtoyant des champignons aux formes bizarres abrités du vent par de grosses épinettes blanches.

Le 27 août 88 lors de la visite avec M. Hinds sur cet emplacement, celui-ci disait que: «ce site devrait être préservé pour des fins scientifiques et éducationnelles seulement.»

Beaucoup de chose reste à être découvertes sur cet emplacement et nous souhaitons qu'un jour quelqu'un puisse écrire une histoire de son interprétation naturelle pour le plus grand plaisir des gens qui l'ignorent.



Lifeline Fair 1989

Sunbury Shores Arts & Nature Centre in St. Andrews has been coordinating Operation Lifeline, the education programme of the World Wildlife Fund, for the past three years. Operation Lifeline is Canada's only education programme on endangered species. There are over 400 "Panda Classes" in the Atlantic Provinces.

This year Sunbury Shores has conducted In-Class presentations around New Brunswick for over 2000 students on Canada's endangered species.

In April Sunbury Shores held its first "Lifeline Fair" for all the Atlantic Provinces due to the generosity of Environment Week. Two to three thousand visiting students were expected to see the endangered species exhibit and to view the projects sent in to be judged by the World Wildlife Fund. Winning classes received a signed and numbered Norman Panda print for their classroom. During their visit to Sunbury Shores the students will also took part in a lab/slide session on endangered species.

— Tim Beatty



Procession

Peter Pearce

They seemed to arrive from all points, singly, in small groups, in long, straggly lines. Crows—many of them. But mostly they flew in from the direction of agricultural lands downriver where they may have been feeding during the day. It was a still, mid-autumn evening. Coolish. The naturalist knew, as he watched from the quietening college campus, that the birds were destined to spend the night in a nearby, pre-migration roost, a copse of tamaracks. But first, there was an important ritual to be observed. Gradually the birds gathered, with much cawing and jostling for position, in spruce trees hard by a busy arterial highway, just off campus. Quite an uproar. It was as if the birds were excitedly relating the day's experiences, and grouping for an event to follow. A few made tentative flights towards the roost, to settle momentarily on the flat roof of a building part way, only to soon return to the activity of the "pre-roost."

Suddenly, after perhaps an hour, on command it seemed, peace and harmony descended on the assembled throng. The birds then commenced to process in orderly file, silent, purposefully, across the highway, over the flat-roofed building, to the roost. Black against the fading sky, spaced, they were easily counted: there were about two thousand. They quickly settled into the trees in the roost, as if to pre-determined berths. No noise, no fuss. Another busy day had ended.

Robie Tufts: The Complete Naturalist¹

J.A. (Sandy) Burnett

Two years ago, the Nova Scotia Museum, in collaboration with Nimbus Publishing Limited of Halifax, co-published the third edition of *Birds of Nova Scotia*. The well-designed 478-page book with its colour plates and striking line drawings is an attractive guide to the ornithology of the Atlantic Provinces for amateur and professional birders alike. Its most interesting feature, however, may not be immediately evident to the casual reader. Although the latest edition has been updated by an impressive array of editors and contributors, the essence of the book is still unmistakably a summary of the life work of one man—the late Robie W. Tufts of Wolfville, Nova Scotia, teacher, naturalist, and conservationist extraordinary.

Robie Tufts was born in Wolfville in 1884. He died seven years ago, in his 99th year. During that long and active life he amassed an immense knowledge of, and exercised a lasting influence on, the study of birds in Atlantic Canada.

His father was an economics professor at Acadia University; his mother, a botanist, was principal of Acadia Ladies Seminary. Robie and his older brother Harold grew up in an atmosphere of respect for the careful gathering, evaluation, and application of knowledge. As youngsters they accompanied their mother on field trips to the local marshes, shores, and woodlands. By their teenage years they had become competent ornithologists and taxidermists, keeping meticulous records of their observations.

Despite the early and intensive introduction to the study of birds which would remain his life's passion, Robie Tufts was no academic. After a period of study at Acadia, he found employment as a teller at the local branch of the Bank of Montreal and, although he remained a keen amateur, it was only in 1919 at the age of 35 that he was able to turn his avocation into a paying job.

The drafting of a joint Canadian-American conservation agreement gave him his chance. After the passage by Parliament of the Migratory Birds Convention Act he left the bank and was appointed as the first Chief Federal Migratory Birds Officer for the Maritime Provinces. His duties were simple to state, but hard to execute. He was to enforce the migratory bird laws and to educate the public in the importance of conservation.



¹ One in a series of articles by freelance writer and naturalist Sandy Burnett, under the sponsorship of the Canadian Wildlife Service of Environment Canada, to celebrate Wildlife '87, the centennial of wildlife conservation in North America.

Many years later, in 1975, he published *Looking Back*, a short and amusing memoir in which he downplayed the physical risks he had courted while introducing the rule of law to a populace long accustomed to the right of unrestricted hunting. Though threatened, abused, and shot at, he would not be deterred from his duty as he saw it: prosecuting offenders by day, and by night preaching the benefits of conservation to hunters, farmers, youth groups, and anyone else who would listen. During his first 13 years on the job, he won 679 convictions against violators of the migratory bird regulations!

However it was not Tufts the lawman, but Tufts the teacher who was to have the greatest influence on the protection and study of birds in this part of Canada. He never missed an opportunity to explain to an offender the reasons for conservation, and if his listener showed some interest in the subject there was no length to which he would not go to achieve a lasting conversion.

The story is told of how, one day in early April, he came upon two boys shooting songbirds with their slingshots in an Annapolis Valley apple orchard. Seizing them before they could escape, Tufts introduced himself as the migratory birds officer, confiscated their weapons, scolded the culprits and ordered them to appear before him at his office some days later.

At the appointed hour the two presented themselves, expecting the worst. They were pleasantly surprised to be ushered into a warm study filled with paintings of birds, mounted bird specimens, and shelves lined with bird books. With charm and enthusiasm their host captured their imaginations, turning them in the course of that afternoon from delinquents into lifelong conservationists, and in the process winning them also as lifelong friends.

Had that been the end of the matter the story would suffice to illustrate Tufts' capacity for positive personal leadership. However it did not end there. Like dozens of others whom he influenced throughout his life, the two boys avidly followed the new interest he had fired in them. Eventually, both studied biology and each became a distinguished professional ornithologist.

The career of one, the late Austin L. Rand, would culminate with his appointment as Chief Curator of Zoology at the Field Museum of Natural History in Chicago, and his election to the presidency of the American Ornithologists' Union. The other was W. Earl Godfrey, who became Curator of the National Museum of Natural Sciences of Canada and author of *Birds of Canada*. Through his own published works and through his inspiration of such disciples, Robie Tufts can legitimately be credited with having helped shape the cause of conservation and the science of ornithology across North America. No mean accomplishment for a lad who never left his hometown.



Nature News

Winter 1988-89

David Christie

As always the Christmas Bird Count results best represent the winter bird populations of New Brunswick. Referred to here are some of the observations later in winter. Unfortunately, the highlight observation of the season—a flock of ptarmigan—came too late for the birds to be found by additional observers.

Yolande Thomas Paulin saw 5 "oiseaux blancs avec queue noire et tache rouge sur la tête" flying rapidly with "ailes arquées" at Rivière à la Truite, near Tracadie, January 17. Four days later she saw 8 white birds flying in a similar manner but they were too far away to see other characteristics. This seems to be the first report of ptarmigan in New Brunswick since the rather vague reference in Frank Chapman's 1895 *Handbook of Birds of Eastern North America* to Willow Ptarmigan having been taken "once in New Brunswick." (The mention in Peterson's *Field Guide* of Rock Ptarmigan being accidental in New Brunswick is evidently in error for Nova Scotia.) Ms. Paulin thinks the birds she saw were Rock Ptarmigan, but distinguishing winter-plumaged Rock and Willow Ptarmigan in flight is a tricky business.

A Great Cormorant was inland, where they are rare, on the Hammond River-Hampton CBC, another at Mactaquac Dam Jan. 14 and 16 (Mark Phinney *et al.*).

Some years our Christmas Counts catch the last big flight of Canada Geese, but this winter they passed through earlier, for example 45 at Nictau Dec. 12 (Wilma Miller). Several were on the Saint John River at Silverwood, above Fredericton, Feb. 13 (Don Fowler).

The CBC total for Mallard was almost double the previous high. In recent years our top count has usually been at Moncton where a "park population" encouraged by handouts has been developing at Centennial Park. This winter the citizenry of Moncton outdid themselves—358 were tallied on the CBC and as many as 700 estimated in the park Feb. 28 (Mary Majka). 27 were with Black Ducks in open water among the islands upriver from Fredericton in January (Murray Neilson). Black Duck numbers were near average.

An apparently storm-tossed female or immature Harlequin Duck turned up in a Newcastle garden Jan. 31 and was sent to Magnetic Hill Wildlife Park for recovery (*vide* Harry Walker). Up to about 40 Barrow's Goldeneyes were reported at Cocagne in January and February. Three were at Lamèque Dec. 1 (Hilaire Chiasson).

Peter Pearce passed along a report from Rudy Stocck that forest ranger Benton Woodard and an unidentified "bird watcher" had seen an Osprey along the Waweig River near St. Stephen. I have been perplexed by winter

Osprey reports in the past. It's hard to imagine every observer was mistaken but if not seen well there is the possibility of mistaking a white-bellied young eagle or a light plumaged Rough-legged Hawk for one.

An adult Golden Eagle frequented Shepody Mountain and Daniel's Marsh, near Riverside-Albert, from Dec. 18 into March (DSC *et al.*) and a subadult was seen with it Feb. 4 & 5 (Stu Tingley *et al.*) This is the third winter in a row for Golden Eagles at this spot. Another was reported at Partridge Island, Saint John Jan. 11-12 (Kevin O'Donnell). Five Bald Eagles were attracted to a deer carcass on the Fundy National Park golf course Mar. 13 (George Sinclair & François Grainger). In the northeast, where there were none on the CBCs, one was at Caraquet Jan. 11 (Jean-Paul Godin). A dark Gyrfalcon wintered along the Petitcodiac River at Moncton from Dec. 26 into March (Rob Walker *et al.*) and an adult male Peregrine Falcon spent the winter around Saint John Harbour. A stray Turkey Vulture was seen at Sackville Dec. 26 (Bill Montevocchi).

The last two Sanderlings of the fall were seen at Mary's Point Dec. 3 (DSC) and a few Dunlin apparently wintered in St. Andrews (v.o.), as they have in some other years.

Miscou Island dominated the CBC reports of Snowy Owl with a count of 14. Numbers in southern N.B. increased somewhat about early February, e.g. 2 at Moncton Feb. 4 (Cheryl Davis) and 2 between Sheffield and Jemseg Feb. 11 (Peter Pearce). A Northern Hawk-Owl was seen on the Paquetville CBC, 1 during count period at Riverside-Albert, 1 at Miscou Island from Nov. 6 through Dec. 1 (v.o.) and 1 at Fredericton Jan. 9 (Leta Clayden). A single Boreal Owl visited Partridge Island, Saint John, in mid-January (Kevin O'Donnell).

Doreen McIntosh identified a Carolina Wren at her feeder in Acamac, a Saint John suburb, Jan. 31; subsequently it was seen by many observers through March 5. It is about the 7th New Brunswick record.

A Hermit Thrush was seen on the UNB campus, Fredericton, Feb. 6 (Tony Thomas). There were still 40 Am. Robins in the northeast at Pigeon Hill on Ile Lamèque, Jan. 14 (Hilaire Chiasson *et al.*). A very heavy crop of mountain ash fruits persisted well into the winter in that part of the province. A Brown Thrasher at a Mactaquac feeder was verified by David Myles Jan. 15, about a week after it had first appeared.

Cedar Waxwing reports in addition to those on the CBCs included 12 at Ile Lamèque Jan. 24 (M.-R. Noël) and 6 at Fredericton Jan. 21 (Peter Pearce). In February a Pine Warbler appeared at a Saint John West feeder (Molly Smith).

The Dickcissel on the Riverside-Albert CBC survived into March (Rob Walker). One visited Harry Walker's feeder at Newcastle Dec. 1-2. A Rufous-

sided Towhee was seen near Saint John in February (Allen Gorham).

In some areas sparrows became much more obvious late in winter when increasing snow cover brought them out to roadsides and feeders. After Jan. 20, for instance, Tree Sparrows at our feeder at Mary's Point jumped from 3 to 12 and then 20, and White-throated Sparrows from one to 8. One White-throat spent all winter at Wilma Miller's feeder in Nictau and Tree Sparrows were coming to the Gauthiers' at Bathurst, where they often don't occur in mid-winter. A nice adult eastern race White-crowned Sparrow appeared at Doreen Rossiter's feeder in Alma Feb. 16 and was joined by a Field Sparrow Mar. 21.

A Vesper Sparrow (very rarely seen even early in winter) was feeding on the roadside at Shepody, Albert County, for about a week from Feb. 4 and was relocated Mar. 5 at a manure pile 1.5 km away (Rob Walker *et al.*). Even more unusual was a Lincoln's Sparrow at Rob's feeder at Harvey from Jan. 22 until about Feb. 24 — the first winter record for New Brunswick.

In addition to the CBC records, an Eastern Meadowlark was seen at Inkerman in the northeast Dec. 6 (Gérard Benoit), a Rusty Blackbird at Sussex Feb. 6-11 (Harriet Folkens *et al.*), and a Northern Oriole at Fairfield, St. John Co., Dec. 6 (Cecil Johnston). Alma and Don White report a suspiciously "greeny-yellow" oriole coming to their feeder for a few days through Dec. 1. Alma was unsure whether it wasn't an Orchard Oriole rather than a Northern (Baltimore).

Two Moncton feeders (2.4 km apart) were each reporting 5 House Finches throughout the winter, presumably the same birds (Alma White, Peggy Barnett).

The CBCs revealed most of the areas where there were big numbers of White-winged Crossbills. In addition, Ron Gauthier reports them numerous in February in the Kedgwick River area in the northwest and Craig Benkman found them feeding recently fledged young along the Plaster Rock-Renous Highway in -35° temperatures Feb. 19-20. They are truly hardy birds when a good food supply is available.

In southeastern N.B., after having been relatively quiet since mid-October the crossbills began singing again Dec. 1 and were hard at it all winter. Lots of males and females chasing about were observed. Many were coming down to sanded roads for grit, especially in Fundy National Park, where quite a number were killed by cars. All the birds I examined had stomachs and beaks packed with spruce seeds. After mid-winter, three feeder operators in Albert County reported a few crossbills coming for oil sunflower seeds in February and they were eating niger seed at Nictau.

Although Common Redpolls were scarce in most of the province, Ron Gauthier reports a lot of them in late winter along roadsides around Bathurst and Kedgwick.

Saving Important Natural Areas

There are relatively few undisturbed areas in New Brunswick which are considered special because of their overall beauty or their biological or geological value. They are areas such as scenic waterfalls or views, or areas where rare plants and/or animals or fossils may be found.

These precious areas are rapidly disappearing due mainly to various forms of human development such as housing, hydroelectric dams, roads, peat and other mining operations and logging.

The destruction of these natural areas happens principally because we do not know enough about them or because they have no special protection as a park, sanctuary or natural area preserve.

The Nature Trust of New Brunswick was organized to preserve and thus protect natural areas from destruction.

The trust is a tax-exempt, charitable membership organization dedicated to preserving significant natural areas, educating people about the importance of these areas and supporting responsible stewardship of natural areas by landowners.

Individuals or groups are urged to support the work of the Trust by becoming a member. The \$25 membership fee is tax deductible. The address is The Nature Trust of New Brunswick, c/o Dept. of Biology, University of New Brunswick, Fredericton, N.B. E3B 5A3.



Your Breeding Bird Atlas Needs You!

The Maritimes Breeding Bird Atlas project is in the fourth of five planned field seasons. A lot has been accomplished but much remains to be done. Seasoned atlasers are exhorted to continue their efforts so that the project objective is achieved. Casual observers of the passing bird scene can also make significant contributions. If you see any evidence of bird breeding (courtship behaviour, nests with eggs or young, young away from the nest, adults carrying food) it is important to note the species, date and precise location.

At your convenience, such information should be forwarded to one of the following from whom further details of the atlas project may be learned: Brian Dalzell, Maritimes Breeding Bird Atlas, 1747 Summer St., Halifax, N.S. B3H 3A6; Peter Pearce, P.O. Box 400, Fredericton, N.B. E3B 4Z9; David Christie, RR 2, Albert, N.B. E0A 1A0. All contributors will be acknowledged in the final product, the atlas itself, to be published in the early 1990s.

Book Review

Mount Carleton Wilderness — New Brunswick's Unknown North. By Marilyn Shaw, 1987, Goose Lane Editions, Fredericton, 103 pp, illustrated. \$19.95.

Reviewed by Henrik Deichmann

Mount Carleton Wilderness is an attractive mid-sized coffee-table book with a dust jacket illustrated by a colour photograph taken in the full splendour of fall. In about a hundred pages and a dozen chapters Marilyn Shaw gives us a thorough account of the history of what is now Mount Carleton Provincial Park. At approximately 70 square miles it is by far the largest park in the provincial system, being roughly equivalent in size to Fundy National Park.

Ms. Shaw, in prose that flows as easily as the Little Tobique in summer, paints a picture of the life and times of the guides and woodsmen of yore. Many of the over thirty black and white photographs that illustrate the book were provided by residents of the Tobique area: George Armstrong, Bill Miller and others.

The book is an excellent overview of the area, but it is also a tribute and testimonial to the lumbermen, sportsmen ("sports") and their guides. Letters of thanks and praise to guides have been written by some important persons, including that champion of conservation, Theodore Roosevelt. Many New Brunswickers will recognize the names of guides prominent about 80 to 100 years ago: Adam Moore, Charles Cremin, and George Armstrong.

Adam Moore, a virtual mountain of a man, stimulated some personal myths, which the photo showing him carrying what appears to be a good-sized bear on his back would certainly tend to perpetuate. The standard weight of a pack on the portage to the Nepisiguit was 150 pounds. None of this was a game for the frail or faint. On one occasion, after a man was rescued from the river, a fellow stream driver composed these impromptu lines:

Oh Lord of Hosts
and Holy Ghosts,
And Sweet Redeeming Jesus,
Send some aid
to poor McQuade
Before the bastard freezes!

Most reference to natural history in the book is supplemental to woodsman talk and "workin'" in the woods, except a chapter entitled "The Living Landscape." This reviewer would have liked to have seen more on geography, with some emphasis on the thorough treatments by William Francis Ganong and the toponymic research by the same man. (Possible grist for a further work?)

This is a physically sturdy, well-manufactured book of lasting interest and enjoyment. It is recommended for the library of anyone who considers themselves a devotee of "New Brunswickana." I hope to find it nestled among the branches of our Christmas tree!

Christmas Bird Counts

1988-89

David Christie



This year we welcome a new Christmas Bird Count at Paquetville, but the St. Stephen-Calais count was not continued. Unfortunately, although counts were apparently conducted at both Bathurst and Florenceville, results have not been received from those areas.

A male Blue-winged Teal at St. Andrews is the first CBC record for the province. David Clark reports that the bird was present there till mid or late January.

Some Wild Turkeys, surviving and reproducing from the 1987 introduction, were reported during count period at Grand Manan. While not yet countable as a fully established introduction, these birds seem to be doing better than I had expected they would.

This winter demonstrated well the effects of food supplies on bird populations. "Where are all the birds?" many people with feeders complained, yet the Christmas Bird Count results show that there was no scarcity of many species of birds.

Forests stressed by spruce budworm defoliation produce few seeds, but the last couple of years of reduced budworm numbers have allowed trees to regain strength so that, except in the southwest, most areas of New Brunswick had one of the biggest crops of spruce cones in years. As a result, several bird species were numerous in the forest and seldom ventured into residential areas.

Some of those were Red-breasted Nuthatch, Golden-crowned Kinglet, Dark-eyed Junco (very much concentrated in the southeast; numbers elsewhere below average; where common, feeding on abundant fallen spruce seeds), White-winged Crossbill (the most ever because of the high counts in four southeastern areas, but also moderate numbers numbers in the northeast and at Glassville—Juniper), Pine Siskin (average overall, numbers tended to be good in north-central and northwestern areas and by Chignecto Bay, almost absent elsewhere).

More frequent at feeders were Black-capped Chickadee (well above average though less numerous than last three years), Boreal Chickadee (average in the south, considerably more numerous in the north), American Goldfinch, and Evening Grosbeak (numbers high, only exceeded by 1986 results). Mourning Doves were down from last year but above all previous years; they are scarcer in northern N.B. but were reported north to Perth-Andover in the Saint John valley and to Caraquet in the northeast.

American Robin numbers were above average, as were Yellow-rumped Warblers, which were found mainly in the well-known Cape Tormentine wintering area; four at Miscou Island were probably also subsisting on the bayberry crop but in an awfully harsh environment.

for survival much further into the winter. Three other warbler species were seen.

On the other hand, certain land birds were scarcer than usual: **Hairy Woodpecker** (more numerous in the north), **Horned Lark**, **Common Raven** (lowest in the south since 1961, more usual numbers in the north), **Blue Jay** (count very low in the south, about average in the north), **Bohemian Waxwing**, **Northern Shrike**, **Red-winged Blackbird**, **Common Grackle**, **Brown-headed Cowbird**, **Pine Grosbeak** (very low in southern N.B., numbers better in northern areas), **Common Redpoll**, and **House Sparrow** (numbers down more in towns than in rural areas).

Among raptors **Bald Eagle** (CBC total 47, the best ever), **Northern Harrier**, and **Snowy Owl** were in above average numbers. **Grand Manan** is a great place for **Saw-whet Owls** and six on that CBC is a provincial record. **Rough-legged Hawk** numbers were below average, but good in the **Jemseg** area. **Great Horned** and **Barred Owls** were both below average.

Among waterbirds it was a good year for **Common Loon**, **Red-necked Grebe**, **Brant**, **Red-breasted Merganser**, **Purple Sandpiper**, **Herring** and **Great Black-backed Gulls**, **Black-legged Kittiwake**, **Razorbill** and **Thick-billed Murre** (highest ever). **Great Cormorant** (only one third of average number), **Canada Goose**, **Surf Scoter**, **White-winged Scoter** and **Ring-billed Gull** were all well below average.

CHRISTMAS BIRD COUNTS

(Dec. 16, 1988 - Jan. 3, 1989)

Abbreviations and Footnotes to the Tables

Species in boldface: first time on N.B. counts
Number in boldface: provincial record high count
Number in italics: no details submitted or details not fully convincing

- * recorded during count period (Dec. 16-Jan. 3)
- # birds released on the island in 1987
- a 1 by ferry, 3 owling
- b by boat
- c by all-terrain cycle
- d by bicycle
- e 1 raptor sp. (possibly *Rough-legged Hawk*), 2 finch
- f 1 *épervier* sp.
- g 32 kinglet sp.
- h 1 grouse sp., 2 woodpecker sp., 29 bird sp.
- i 1 small hawk sp., 2 sparrow sp., 48 finch sp.
- j 1 shorebird sp., 300 gull sp., 1 sparrow sp.
- k 1 duck sp., 1 songbird sp.
- m 1 *épervier* sp.



Sussex (Ssx) 16th year

Dec. 17; 0800-1545. Clear; temp. -20° to -14°C; wind W, 5-10 km/h. Light dusting of snow on ground; still water frozen, running water open.

Tom Anderson, Florence Arnold, Eleanor Arnold, Gert Bishop, Margaret Broomhead, Orland & Thelma Brown, Barbara Chestnut, Harriet Folkens (compiler), Helen McKenzie, Dorothy McVey, Doug Northrup, Marion Reid, Jim Proctor, Pauline Thibodeau, Cay Thompson, Ruth Willis, Cathy Yeomans

Hammond River—Hampton (Htn) 16th year

Dec. 27; 0700-1700. Clear; temp. -16° to -6°C; wind N-W, 10 km/h. 1 cm snow cover in some parts, otherwise bare; 90% of freshwater frozen.

Robert Barton, Annie Blacquiére, Rick Blacquiére, Sue Blacquiére, David Christie, Chad Coles, David Clark, Henry Darling, Phyllis Darling, Andrew Grant, Rory Grant, Harold Harding, Peggy Harding, Hazen Inches, Jean Isaacs, Peggy Kelbaugh, Mary Loughery, Dave McCurdy, John McIntyre, Gerry Mills, Mary Mills, Doris Mowry, Alice O'Neill, Mary Ross, Geoff Sayre, Peter Wilshaw, Charlie Wilson, Jim Wilson (compiler).

Cambridge-Narrows (C-N) 19th year

Dec. 30; 0830-1630. Clear; temp. -17° to -11°C; wind W, 15 km/h. Ground bare; lakes and rivers frozen.

Doris Appleby, Marion Belyea, Kenneth Carpenter, Mario Carpenter, Lawrence Carpenter, Talbert Carpenter, Pauline Chase, Thora Connell, Benjamin Fanjoy, Joan Fanjoy, Imogene Gilchrist, Sylvia Hamm, Enid Inch (compiler), Rhoda Inch, Joshua Kantor, Dot McConnachie, Elva McConnachie, Jamie MacFarland, Arthur Perry, Audrey Perry, Nellie Perry, Hazen Pugsley, Lillian Pugsley, April Robinson, Helen Robinson, Joyce Robinson, Jackie Straight, Joyce Thorne, Niven Thorne.

Jemseg (Jem) 26th year

Dec. 31; 0830-1600. Cloudy with light snow until mid-morning, clear by noon; temp. -12° to -3°C; wind NNW, 0.9 km/h. 10-15 cm snow cover, weeds protruding; most water frozen, but some open areas.

Chris Adam, Rod Currie, Jim Edsall, Nev Garrity (compiler), Barb Hicklebrand, Scott Makepeace, David Myles, Alice Smith, Muriel Smith, Rudy Stoeck Jr., Rudy Stoeck Sr., Paul Thompson, Owen Washburn, Susan Washburn, Max Wolfe.

Minto (Min) 3rd year

Dec. 26; 0800-1600. Overcast with very brief sunny interval; temp. -6°C; wind gusting to 30 km/h. 5 cm snow cover; no open water.

Ann Boucher, Loris Boucher, Charlie Coakley, Lionel Girouard (compiler), Ferdinand Lapointe, Lionel Lapointe, Ted Murphy, Vincent Poirier.

Fredericton (Ftn) 33rd year

Dec. 18; 0730-1645. Overcast with fine snow in a.m. (ca. 2 cm), lightning in p.m.; temp. -11° to -9°C; wind WNW, 15 km/h. 10 cm snow cover; most water frozen, but extensive open leads near the islands above the city.

Margery Acheson, Chris Adam, Malcolm Bunfield, Cliff Beck, Wendie Blais, Joseph Blais, Graham Burgess, Don Cafferty, Eric Carr, Mike Casey, Gerry Clayden, Leta Clayden, Jeff Cotter, Marlene Crawford, Rod Currie, Andy Didyk, Wayne Donaldson, Scott Drummond, Jerry Dunlap, Jim Dunlap, Lucy Dyer, Jim Edsall, Florence Edsall, Ron Edsall, Don Fowler, Susan Gavin, Don Gibson, Doug Gibson, Margaret Gibson, Lionel Girouard, Jim Goltz, Heidi Grein, Gayle Greer, Hal Hinds, Brian Holden, Allison Hubert, David Kristmanson, John Lavigne.

| 1988-89 CBCs | Ssx | Hm | C-N | Jem | Min | Pin | Mac | Sry | Wak | Hrt | G-J | P-A | PR | Nic | Em | MTC | SFLU | Pa | Inland Tot. |
|---------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-------------|
| Grt Cormorant | | 1 | | | | 1 | | | | | | | | | | | | | 1 |
| Great Bl Heron | | | | | | 7 | | | | | | | | | | | | | 1 |
| Canada Goose | | | | | | * | | | | | | | | | | | | | 7 |
| Am Black Duck | 11 | | | 2 | 74 | * | 22 | | | * | | 2 | 4 | | | | | | 115 |
| Mallard | | | | | | * | 4 | | | | | | | | | | | | 4 |
| Corn Goldeneye | | 23 | | 2 | 201 | * | 195 | | | | | | | 8 | | | | | 429 |
| Barr Goldeneye | | | | | | | | | | | | | | | | | | | * |
| Corn Merganser | 6 | | | 13 | 47 | * | 30 | | | | 1 | 2 | | 3 | 6 | | | | 108 |
| Red-bc Mergans | | | | 3 | | | | | | | | | | * | | | | | 6 |
| Bald Eagle | 2 | | | * | 2 | 1 | 1 | | * | 1 | | | | | | | | | 1 |
| Northern Harrier | 1 | | | 1 | 1 | 1 | 1 | | | | | | | | | | | | 1 |
| Sharp-shin Hawk | | | | 3 | | | | | | | | | | | | | | | 6 |
| Northern Goshawk | | | | | | | | | | 1 | | | | | | | | | 3 |
| Broad-w Hawk | | | | | | | | | | * | | | | | | | | | 1 |
| Red-tailed Hawk | * | | | 2 | | 3 | 2 | | | | | | | | | | | | 7 |
| Rough-leg Hawk | 1 | | | 14 | 3 | 3 | | | 1 | 1 | | | | | | | | | 19 |
| American Kestrel | | | | | | * | | | 23 | 5 | | | | | | | | | 1 |
| Ring-billed Gull | | | 4 | | | | | | | | | | | | | | | | 39 |
| Spruce Grouse | | | | 1 | 1 | | | | | | | | | | | | | | 1 |
| Ruffed Grouse | 1 | 7 | 6 | 1 | 1 | 7 | 4 | 1 | | 2 | * | 4 | 3 | 4 | 1 | 1 | 1 | | 44 |
| Herring Gull | 25 | | | | | 110 | 14 | | | | | | | | | | | | 140 |
| Lessard Gull | 4 | | | | | 1 | | | | | | | | | | | | | 5 |
| Glaucous Gull | | | | | | | | | | | | | | | | | | | 1 |
| Grt Blk-bk Gull | 25 | | | | | 520 | 6 | | | | | | | | | | | | 551 |
| Rock Dove | 333 | 34 | 51 | 6 | 7 | 318 | 116 | | 226 | 136 | 14 | 50 | 175 | | 30 | | | 11 | 1307 |
| Mourning Dove | 12 | 39 | | 22 | | 307 | 6 | 3 | 24 | 12 | 2 | 3 | | | | | | | 435 |
| Grt Horned Owl | * | | | * | | * | | | | | | | | | | | | | * |
| Snowy Owl | | | | | | | | | | | | | | | | | | | * |
| North Hawk-Owl | | | | | | | | | | | | | | | | | | | 1 |
| Barred Owl | | | 1 | | | 1 | | | | | | | | | | | | 1 | 1 |
| Belted Kingfisher | | | | | | * | | | | | | | | | | | | | * |
| Downy Woodpecker | 3 | 30 | 11 | 7 | 1 | 60 | 22 | 1 | 26 | 19 | 5 | 1 | 16 | 8 | 1 | 10 | * | 5 | 208 |
| Hairy Woodpecker | 1 | 7 | 12 | 10 | 1 | 54 | 20 | 2 | 23 | 24 | 7 | 2 | 16 | 5 | 4 | 4 | 1 | 5 | 198 |
| 3-toed Woodpecker | | | | | | | | | | | | | | | | | | | * |
| Blk-bk Woodpecker | | | | | | 3 | 1 | | | | | | | 2 | | 6 | * | 2 | 14 |
| Northern Flicker | | | | | | | * | | | | | | | | | | | | * |
| Pileated Woodpecker | | | * | 4 | 4 | 7 | 3 | 2 | 1 | * | 2 | | | * | | 2 | * | 1 | 25 |
| Horned Lark | | | | | | 1 | | | | | | | | | | | | | 1 |
| Gray Jay | 4 | | 3 | 7 | 15 | 34 | 4 | | 6 | 5 | 6 | | 12 | 20 | | 7 | 6 | 10 | 139 |
| Blue Jay | 62 | 55 | 140 | 37 | 11 | 282 | 151 | 52 | 176 | 214 | 165 | 16 | 90 | 85 | 35 | 8 | | 55 | 1634 |
| American Crow | 32 | 76 | 15 | 40 | 13 | 253 | 46 | 6 | 64 | 82 | 32 | 2 | 9 | | 12 | | | 60 | 742 |
| Common Raven | 148 | 20 | 65 | 13 | 89 | 176 | 44 | 5 | 54 | 41 | 151 | 42 | 19 | 87 | 2 | 15 | 2 | 98 | 1041 |
| Blk-cap Chickadee | 129 | 358 | 242 | 176 | 33 | 798 | 281 | 63 | 289 | 198 | 6 | 29 | 107 | 146 | 144 | 168 | 4 | 112 | 3283 |
| Boreal Chickadee | | 10 | | | | 7 | 15 | | | | 1 | | | 5 | | 60 | * | 5 | 112 |
| Red-bc Nuthatch | 4 | 22 | 6 | 14 | | 94 | 46 | 12 | 17 | 3 | 4 | 4 | 6 | 4 | 6 | 70 | * | 37 | 349 |
| Wh-bc Nuthatch | 5 | | | | | 8 | | | 2 | 1 | | | | 5 | | 7 | | 1 | 36 |
| Brown Creeper | | | 2 | 1 | 2 | 7 | 1 | 1 | | | | | | 2 | | | 2 | | 18 |
| Gold-er Kinglet | 6 | 17 | 7 | 8 | | 72 | 12 | 11 | 6 | | | 6 | 5 | 3 | | 3 | 2 | 9 | 166 |



| 1988-89 CBC's | Sex | His | C-N | Jem | Min | Pin | Mac | Sy | Wok | Har | G-J | P-A | PR | Nc | Em | MitC | SEU | Pa | Inland Tot. |
|--------------------|-------|-------|-------|-------|-------|------|------|-----|-------|------|------|-----|-----|-----|-----|-------|-----|-------|-------------|
| Ruby-cr Kinglet | 1 | 4 | * | 33 | 6 | 1 | | | 1 | | | 2 | | | | | | | 47 |
| American Robin | | | | | | 1 | | | | | | | | | | | | | 1 |
| No Mockingbird | | | | 25 | 12 | | | | | | | | 29 | | | | | | 66 |
| Bohem Waxwing | | | | | | 1 | | | | | | | | * | | | | 2 | 4 |
| Cedar Waxwing | | 3 | | * | | | 1 | | | 1 | | | | | | | | 262 | 3267 |
| Northern Shrike | 384 | 350 | 405 | 127 | 131 | 1063 | 117 | 21 | 181 | 68 | 50 | 23 | 64 | 20 | 1 | | | | * |
| European Starling | | | | | | * | | | / | | | | | | | | | | 1 |
| Pine Warbler | | | | | | | | | | | | | | | | | | | 4 |
| Blackpoll Warbler | 2 | | | | | 2 | | | | | | | | | | | | | 821 |
| Northern Cardinal | 43 | 42 | 82 | 175 | 11 | 185 | 67 | 32 | 71 | 103 | 4 | 4 | | * | | | 2 | | 1 |
| A Tree Sparrow | | | | | | 1 | | | | | | | | | | | | | 4 |
| Chipping Sparrow | | | | | | 3 | 1 | 2 | | | 3 | | 2 | 1 | | | | | 13 |
| Song Sparrow | | 4 | | | | 1 | | | | | | | | | | | | | 2 |
| White-thr. Sparrow | | | | 1 | | 1 | | | | | | | | | | | | | 186 |
| White-c. Sparrow | | | | 18 | | 62 | 40 | | 9 | 2 | 8 | 2 | 2 | | | | | | 2110 |
| DK-eyed Junco | 8 | 30 | 5 | 344 | 71 | 118 | 1 | | 555 | 52 | 125 | 80 | 79 | * | * | | 404 | * | 1 |
| Snow Bunting | 200 | 67 | 14 | * | | | | | | | | | 1 | | | | | | 1 |
| Red-w Blackbird | | | | | | | | | | | | | 1 | 1 | | | | | 1 |
| East Meadowlark | | | | | | | | | | | | | | | | | | | 2 |
| Rusty Blackbird | 1 | | 1 | 3 | | 10 | * | | 1 | 2 | | | 3 | | | | | | 21 |
| Common Grackle | | | | 6 | 1 | 3 | * | | 4 | | | * | | | | | | | 31 |
| Bm-hd Cowbird | 20 | | * | | | | | | | | | | 17 | 3 | | 22 | 32 | 11 | 109 |
| Pine Grosbeak | 1 | 6 | | | | 13 | | | | 15 | 19 | | 8 | 15 | 30 | 50 | | 22 | 249 |
| Purple Finch | 7 | * | | | | 24 | 10 | 30 | 8 | | | | | | | | | | * |
| House Finch | | | | | | * | | | | | | | | | | | | | 2 |
| Red Crossbill | | 1 | | | | 2 | 10 | | | | 33 | | 2 | | | | | 27 | 119 |
| Wh-w Crossbill | | | | | | 26 | | | | | | | | | | | | | 2 |
| Common Redpoll | | | 37 | | | 58 | 1 | 2 | 18 | 7 | 17 | | 12 | 23 | 2 | | | 56 | 258 |
| Pine Siskin | 2 | | | | | 40 | 1 | 9 | 11 | 26 | 26 | | 10 | 27 | | 55 | 37 | | 244 |
| Amer Goldfinch | 12 | 111 | 19 | 22 | 256 | 256 | 59 | 7 | 14 | 43 | | * | 14 | 2 | | 3 | | | 582 |
| Evening Grosbk | 178 | 270 | 391 | 255 | 89 | 1934 | 406 | 269 | 700 | 541 | 273 | 11 | 175 | 103 | 32 | 45 | | 160 | 5832 |
| House Sparrow | 164 | 53 | 15 | 221 | 469 | 469 | 94 | 30 | 178 | 163 | 119 | 7 | 113 | 20 | 30 | | 47 | | 1732 |
| Unidentified | 328 | | | | | 308 | 36 | | | | | | | | | | 1f | | 0 |
| TOTAL BIRDS | 1746 | 1708 | 1548 | 1617 | 447 | 7752 | 1858 | 565 | 2691 | 1725 | 1136 | 292 | 994 | 605 | 345 | 553 | 112 | 1408 | 27102 |
| TOTAL SPECIES | 24 | 26 | 26 | 35 | 16 | 57 | 40 | 21 | 30 | 27 | 25 | 20 | 28 | 26 | 15 | 18 | 10 | 28 | 71 |
| Add. Sp. in Period | 1 | 1 | 5 | 4 | | 8 | 3 | | 1 | 4 | 1 | 2 | 1 | 3 | 2 | | 6 | 1 | 9 |
| Hrs on foot | 1.25 | 9 | 4.5 | 18.5 | 5 | 118 | 14.5 | 3 | 4.25 | 15 | 3 | 6 | 9 | 12 | | 22.25 | 9 | 5.5 | 259.75 |
| Hrs by car | 16 | 18 | 19.25 | 12.5 | 17 | 65 | 23.5 | 3 | 6.5 | 5 | 7 | 5 | 10 | 16 | 16 | 3.5 | 1 | 24.1 | 268.35 |
| TOTAL HOURS | 17.25 | 27 | 23.75 | 31 | 22 | 183 | 38 | 6 | 10.75 | 20 | 10 | 11 | 19 | 28 | 36 | 25.75 | 10 | 29.6 | 528.1 |
| Km on foot | 4 | 9.5 | 8 | 33.5 | 4.5 | 217 | 31 | 5 | 11.8 | 29 | 4 | 4 | 15 | 25 | | 48 | 4 | 9.1 | 462.4 |
| Km by car | 184 | 335.5 | 262 | 181 | 149 | 589 | 312 | 50 | 215 | 133 | 205 | 105 | 55 | 80 | 70 | 50 | 24 | 320 | 3319.5 |
| TOTAL KM | 188 | 345 | 270 | 214.5 | 153.5 | 806 | 343 | 55 | 226.8 | 162 | 209 | 109 | 70 | 105 | 70 | 98 | 28 | 329.1 | 3781.9 |
| No. of observers | 6 | 11 | 13 | 15 | 8 | 82 | 11 | 2 | 15 | 14 | 4 | 2 | 8 | 6 | 7 | 4 | 7 | 13 | 228 |
| No. of parties | 4 | 5 | 7 | 5 | 4 | 37 | 5 | 1 | 5 | 12 | 2 | 1 | 3 | 4 | 5 | 4 | 3 | 4 | 111 |
| Feeder reports | 12 | 15 | 15 | 6 | 3 | 138 | 2 | 11 | 37 | 267 | 11 | 1 | 2 | 10 | 2 | | | | 265 |



| | GMC | GM | E-C | S/A | Pom. | Lep | SI | PNP | R-A | Sch | Mm | CT | KNP | Mtr | Tm | Lam | Mia | Car | Count | Inland | TOTAL |
|---------------------|------|------|------|-----|------|-----|------|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-------|--------|-------|
| 1988-89 | | | | | | | | | | | | | | | | | | | | | |
| Purple Sandpiper | 430 | 1 | | | 17 | 150 | | | * | | | | | | | | | | 597 | 0 | 597 |
| Common Snipe | | | | | | | | | | | | | | | | | | | 1 | 0 | 1 |
| Bronze-tailed Grull | | | | | | | | | | | | | | | | | | | 3 | 0 | 3 |
| Ring-billed Gull | 3500 | 4800 | 3349 | 833 | 2500 | 373 | 7 | 1 | 222 | 102 | 1136 | 81 | 588 | 641 | 4 | 8 | 2 | 95 | 19552 | 169 | 19701 |
| Herring Gull | | | | | | | 88 | 5 | 65 | 1 | 57 | 80 | 1 | 1 | 5 | 27 | 4 | 480 | 824 | 5 | 829 |
| Iceland Gull | | | | | | | 3 | | | | 1 | | 30 | 25 | | 2 | 5 | * | 48 | 1 | 49 |
| Glaucous Gull | 350 | 450 | 179 | 47 | 165 | 69 | 499 | 23 | 37 | 109 | 938 | 295 | 230 | 649 | 73 | 50 | 7 | 202 | 4372 | 551 | 4923 |
| Grt Blk-bk Gull | 750 | 3000 | 2792 | | 5 | 3 | | | | | | | | | | | | | 6550 | 0 | 6550 |
| Black-bk Kittiwake | | | | | | | | | | | | | | | | | | | 75 | 0 | 75 |
| Dovekie | 28 | 2500 | 2 | * | | | | | | | | | | | | | | | 2530 | 0 | 2530 |
| Thick-bk Murre | | | | | | | | | | | | | | | | | | | 487 | 0 | 487 |
| Razorbill | | | | | | 175 | | | | | | | | | | | | | 4 | 0 | 4 |
| Black Guillemot | 20 | 9 | | | 23 | 30 | | | | | | | | | | | | | 90 | 0 | 90 |
| Rock Dove | | | | | 122 | 87 | | | | | | | | | | | | | 1764 | 1507 | 3271 |
| Mourning Dove | 175 | 16 | | | 124 | 1 | 8 | | | | | | | | | | | | 636 | 435 | 1071 |
| Grt Horned Owl | | | | | | | 1 | 1 | * | 1 | * | | 3 | 1 | * | 1 | 14 | | 2 | * | 2 |
| Snowy Owl | 1 | | | | | | | | | | | | | | | | | | 21 | * | 21 |
| North Hawk-Owl | | | | | | | | | * | | | | 2 | | | | | | * | 1 | 1 |
| Barn Owl | | | | | | | | | | | * | | | | | | | | * | 4 | 4 |
| Short-ear Owl | | | | | | | | | | | | | | | | | | | 2 | 0 | 2 |
| H Saw-whet Owl | 6 | | | | | | | | | | | | | | | | | | 6 | 0 | 6 |
| Red Kingfisher | | | | | | | | | | | * | | | | * | | | | * | 0 | * |
| Yel-b Sapsucker | | | | | | | | | | | | | | | | | | | * | 0 | * |
| Downy Woodpecker | 5 | | | | 5 | 1 | 18 | 9 | 4 | 8 | 7 | 8 | 2 | 6 | 4 | 1 | | 1 | 79 | 208 | 287 |
| Hairy Woodpecker | 3 | 1 | | | 6 | 1 | 5 | 1 | 3 | 2 | 4 | 5 | 4 | 11 | 5 | 3 | 2 | 2 | 58 | 198 | 256 |
| 3-toed Woodpecker | | | | | | | | | | | | | * | | | | | | 0 | * | * |
| Blk-bk Woodpecker | | | | | | | | | | | | | | | | | 1 | | 2 | 14 | 16 |
| North Flicker | 1 | | | | | 1 | | | | | 1 | | | | | | | | 3 | * | 3 |
| Plumbeous Warbler | | | | | | | 1 | 3 | 1 | | 1 | | * | 2 | | | | | 9 | 25 | 34 |
| Herring Lark | | | | | | | 2 | | 6 | | | | | | | | 1 | | 9 | 1 | 10 |
| Gary Jay | 13 | 5 | | | | 1 | 1 | 8 | 15 | 14 | * | 6 | 27 | 9 | 6 | | | 8 | 95 | 139 | 234 |
| Blue Jay | 160 | 129 | | | | * | 37 | 18 | 21 | 46 | 37 | 24 | 17 | 52 | 13 | 5 | 6 | 20 | 361 | 1634 | 1995 |
| American Crow | | | | | | | 288 | 21 | 70 | 133 | 212 | 108 | 39 | 34 | 33 | 37 | 16 | 70 | 1752 | 742 | 2494 |
| Common Raven | 100 | 66 | | | | | 39 | 17 | 48 | 73 | 75 | 77 | 43 | 150 | 35 | 95 | 25 | 37 | 939 | 1041 | 1980 |
| Blk-cap Chickadee | 88 | 37 | | | | | 219 | 93 | 73 | 363 | 137 | 202 | 149 | 259 | 144 | 22 | 40 | 106 | 2067 | 3283 | 5350 |
| Boreal Chickadee | 4 | | | | | | | | | 37 | 51 | | 4 | 5 | 23 | | 34 | 34 | 230 | 112 | 342 |
| Red-bk Nuthatch | 4 | 22 | | | | 4 | 30 | 55 | 52 | 187 | 5 | 83 | 30 | 34 | 28 | 6 | 12 | 27 | 495 | 349 | 844 |
| White-bk Nuthatch | | | | | | | | | | | | | 3 | | | | | | 3 | 36 | 39 |
| Brewer's Creeper | 5 | | | | | | 2 | 4 | 1 | 2 | | 1 | | | | | | 2 | 39 | 18 | 37 |
| Winter Wren | * | | | | | | | | | | | | | | | | | | * | 0 | * |
| Gold-cr Kinglet | 20 | 21 | | | | 8 | | | | 115 | 15 | 113 | 4 | 17 | 15 | 1 | 8 | 10 | 562 | 166 | 728 |
| Ruby-cr Kinglet | | | | | | | | | | | | | | | | | | | 1 | * | 1 |
| American Robin | 15 | | | | | 1 | 4 | 3 | * | 40 | 3 | 3 | 1 | * | * | 4 | 45 | 15 | 142 | 47 | 189 |
| No Mockingbird | 5 | | | | | | | | | | * | 1 | | | | | | | 8 | 1 | 9 |
| Bohemian Waxwing | | | | | | | | | | | | | * | | | | | | 0 | 66 | 66 |
| Cedar Waxwing | | | | | | | | | | | | | | | | | | | 31 | 4 | 35 |
| Northern Shrike | * | 594 | | | | | | * | 1 | | * | 7 | | 2 | 1 | | 1 | 1 | 13 | 4 | 17 |
| European Starling | 125 | | | | | | 3501 | 20 | 271 | 938 | 1133 | 379 | 68 | 734 | 53 | 147 | 154 | 420 | 9304 | 3267 | 12271 |

| 1988-89 | GMC | GM | E-C | Sta | Penn | Lep | SJ | FNP | R-A | Sk | Min | CT | KNP | Mir | Tm | Lam | Mis | Car | Cont | Inland | TOTAL |
|--------------------|------|-------|------|------|------|------|-------|-------|-------|------|------|------|------|------|-------|-----|-----|-------|--------|--------|---------|
| Nashville Warbl | 1 | | | | | | | | | 2 | | 109 | | 1 | | | 4 | 1 | 116 | 0 | 1 |
| Yel-rump Warbler | | | | | | | | | | 2 | 1 | | | | | | | | 4 | * | 4 |
| Pine Warbler | | | | | | | | | | | | | | | | | | | | | |
| Blackpoll Warbler | | | | | | | | | | | | | | | | | | | | | |
| C Yellowthroat | | | | | | | | | | | | | | | | | | | 0 | 1 | 1 |
| Northn Cardinal | 1 | | | | | | | | 1 | | | | | | | | | | 4 | 4 | 8 |
| Dickcissel | | | | 3 | | | | | | | | | | | | | | | | | |
| A Tree Sparrow | 65 | 6 | | 39 | 6 | 4 | 47 | 5 | 32 | 248 | 94 | 92 | 75 | 8 | 2 | 1 | 3 | 3 | 727 | 821 | 1548 |
| Chipping Sparrow | | | | | | | | | | | | | | | | | | | 0 | 1 | 1 |
| Savannah Spar | | | | | | | | | | | | | | | | | | | 3 | 0 | 3 |
| Song Sparrow | 13 | 2 | | 5 | 1 | | 5 | 2 | 4 | 6 | 8 | 1 | 10 | | | | | | 57 | 4 | 61 |
| Swamp Sparrow | | | | | | | | | | * | | | | | | | | | 3 | 0 | 3 |
| Wh-thr Sparrow | 1 | | | | | | 4 | 13 | 9 | 4 | 2 | 3 | | | | | | * | 37 | 13 | 50 |
| Wh-cra Sparrow | | | | | | | | | | | | | | | | | | | 0 | 2 | 2 |
| Dk-eyed Junco | 28 | 4 | | 4 | 2 | 1 | 73 | 125 | 71 | 276 | 60 | 162 | 2 | 5 | * | | | | 813 | 186 | 999 |
| Lapland Longspur | * | | | | | | 8 | | | 20 | 8 | | | | | | | | 38 | 0 | 38 |
| Snow Bun-ang | * | | | | | | 77 | | | 1690 | 54 | 49 | 564 | 7 | 35 | | | | 3728 | 2110 | 5838 |
| Red-w Blc. Kinglet | 2 | 1 | | | | | 1 | | | | 1 | | | | | | | | 6 | 1 | 7 |
| East Meadowlark | | | | | | | | | 3 | | | | | | | | | | 3 | 1 | 4 |
| Rusty Blackbird | | | | | | | | | | | | | | | | | | | | | |
| Coronatus Grackle | 10 | | | | | | | * | 5 | 2 | | | | 5 | | | | 1 | 28 | 21 | 49 |
| Brn-bd Cowbird | 12 | | | | | | | | | 4 | 4 | 1 | | 4 | | | | 3 | 33 | 31 | 64 |
| Pine Grosbeak | | | | | | | 2 | 2 | | 4 | 45 | | | * | | | | | 47 | 109 | 156 |
| Purple Finch | 1 | | | 2 | | | 6 | 6 | | 6 | 25 | 3 | 8 | | | 7 | | | 58 | 249 | 307 |
| House Finch | | | | | | | | | | 4 | | | | * | | | | | 4 | * | 4 |
| Red Crossbill | | | | | | | | 5 | | | | | | | | | | | 4 | | 4 |
| Wh-w Crossbill | | | | | | | | 706 | 344 | 451 | 4 | 285 | 2 | * | | | | | 1853 | 119 | 1972 |
| Common Redpoll | | | | | | | | | | 25 | | 40 | * | 43 | 10 | | | | 322 | 258 | 580 |
| Pine Siskin | | | | | | | 1 | 199 | 52 | 105 | | 11 | 1 | 62 | | | | | 344 | 675 | 1021 |
| Amur Goldfinch | | | | | | | 40 | 4 | 4 | 242 | 86 | 35 | | | | | | | 429 | 562 | 991 |
| Evening Grosbk | 195 | 4 | | 85 | 35 | 25 | 245 | 5 | 21 | 129 | 577 | 54 | 20 | 616 | 137 | 38 | 9 | 88 | 2293 | 5832 | 8115 |
| House Sparrow | 60 | 2 | | 67 | | | 106 | 17 | 79 | 431 | 192 | 92 | | 150 | 49 | | | 128 | 1373 | 1752 | 3105 |
| Unidentified | | | | | | | | 51 | 3021 | | | 28 | | | | 1m | | | 356 | 68 | 424 |
| TOTAL BIRDS | 4635 | 13430 | 8730 | 3960 | 3907 | 1505 | 8079 | 1779 | 3410 | 6288 | 6182 | 3038 | 2187 | 3824 | 859 | 657 | 805 | 2074 | 75149 | 27170 | 102319 |
| TOTAL SPECIES | 5 | 56 | 50 | 36 | 46 | 34 | 57 | 47 | 48 | 44 | 45 | 45 | 38 | 32 | 26 | 27 | 29 | 33 | 109 | 71 | 117 |
| TOTAL PERIOD | | | | | | | | | | | | | | | | | | | | | |
| Add. Sp. in Period | | | | | | | 2 | 2 | 3 | 3 | 7 | 5 | 40.5 | 25 | 2.75 | 2 | 15 | 5.5 | 13 | 9 | 11 |
| Hrs on foot | 8 | 3.5 | 4 | 4 | 2 | 2 | 42.5 | 47 | 23.75 | 49 | 27.5 | 33.5 | 21.5 | 21 | 21.25 | 30 | 15 | 23.3 | 331.5 | 259.75 | 593.25 |
| Hrs by car | 13 | 44.5 | 8 | 18.5 | 9 | 24.5 | 15.75 | 19.75 | 17.5 | 27.5 | 31.5 | 21 | 12.5 | 21 | 21.25 | 30 | 15 | 23.3 | 356.05 | 268.35 | 624.4 |
| Hrs otherwise | 1.5b | 4a | | 1b | | | 3b | 5c | | 3 | | | 1.5d | | | | | | 16 | 0 | 16 |
| TOTAL HOURS | 1.5 | 25 | 48 | 12 | 21.5 | 11 | 70 | 67.75 | 43.5 | 76.5 | 59 | 54.5 | 54.5 | 46 | 34 | 32 | 30 | 28.8 | 705.55 | 528.1 | 1233.65 |
| Km on foot | 13 | 9.6 | 8 | 5 | 3 | 38 | 91 | 38 | 38 | 66 | 41 | 40 | 95 | 36 | 4.5 | 3 | 26 | 12.4 | 538.5 | 462.4 | 1000.9 |
| Km by car | 210 | 582 | 72 | 337 | 162 | 507 | 262 | 298 | 486 | 486 | 506 | 293 | 262 | 360 | 314 | 260 | 101 | 274.5 | 5286.5 | 3319.5 | 8906 |
| Km otherwise | 28 | 106 | | 8b | | | 106 | 11c | | | | | 15d | | | | | | 82 | 0 | 82 |
| TOTAL KM | 28 | 233 | 592 | 80 | 350 | 165 | 555 | 364 | 336 | 552 | 547 | 342 | 372 | 396 | 318.5 | 263 | 127 | 286.9 | 5907 | 3781.9 | 9688.9 |
| No. of observers | 1 | 7 | 14 | 4 | 4 | 4 | 25 | 20 | 13 | 22 | 22 | 14 | 17 | 17 | 7 | 8 | 8 | 9 | 216 | 228 | 441 |
| No. of parties | 1 | 5 | 7 | 3 | 3 | 1 | 13 | 3 | 6 | 12 | 9 | 11 | 13 | 8 | 3 | 4 | 4 | 4 | 110 | 111 | 221 |
| Gender reports | 4 | | | 12 | 1 | | 18 | 3 | | 1 | 3 | | 2 | 23 | 5 | 2 | | | 74 | 265 | 339 |

(Fredericton area continued) Morris Lemire, David Lounsbury, Sara Lounsbury, Nancy Lutes, Cathy MacLaggan, Scott Makepeace, Beth McEwing, Brian McEwing, Michael McEwing, Doug McLaughlin, Theresa Modigan, Barry Monson, Albert Moria, David Myles, Paul Nicholson, Jean Noble, Jim Noble, Basil O'Hara, Margie Olive, Marven Palmer, Peter Papoulias, Peter Pearce (compiler), Theresa Pearce, Mark Phinney, Vincent Poirier, Lionel Richard, Boyd Richards, Dwayne Sabine, Beverley Schneider, Marc Schneider, Lester Sloat, Muriel Smith, Rudy Stoeck, Rudy Stoeck Jr., Jane Tarn, Tony Thomas, Don Townsend, Glenda Turner, Leon Vietinghoff, Owen Washburn, Gail Whiteside, Ron Wilson.

Maquac (Mac) 9th year

Jan. 1; 0730-2200. Clear; temp. -20° to -10°C; calm. 20-30 cm snow cover; ice conditions?

Geoff Clayden, Gerry Clayden, Don Gibson, Jim Goltz, Ed Keenan, Leona Keenan, Dave Myles (compiler), Peter Papoulias, Peter Pearce, Alice Smith, Muriel Smith.

Stanley (Sty) 14th year

Dec. 17; 0900-1600. Clear; temp. -20° to -12°C; calm. 10 cm snow cover; water with some open patches.

Mr & Mrs Hugh Cameron, Peter DeMarsh, Juan Dougherty, Guy & Sheila Edney, Steven Everett, Dick & Marg Greenwell, Marion Grant, Nancy MacFarlane, Julie Singleton (compiler), Mr & Mrs Bill Sparks, Joyce & Monte Webster, Robert Whitney.

Woodstock (Wsk) 25th year

Dec. 27; 0900-1600. Clear; temp. -10°C; calm. 4 cm snow cover; water frozen.

Sheldon Anderson, Mrs Blair Avery (compiler), Louis Beatty, Rev. & Mrs T.S. Bellis, Mrs Harold Bonnell, Earle Briggs, Mrs Paul Carmichael, Ann Carr, Mrs. Paul Clark, Gerald Demmings, Mrs Vernon Dewitt, Gerald Donovan, Mrs Blair Findlater, Mrs Nelson Flewelling, Mrs Melvin Fogarty, Mrs David Fry, Ruth B. Godwin, Adam Hadley, Mr & Mrs Eric Hadley, Matthew Hadley, Harold Harley, Ronald Hawkins, Judy Herault, Mr & Mrs Ken Homer, Stephen Homer, Murray Hubbard, Lewis Irving, Charles Matthews, Mrs Charles MacDonald, Vickie Mazerolle, Oliver Monteith, Mrs Peter Morin, Walter Neal, Mrs Donald Nixon, Mrs G.A. Olmstead, Alex Patterson, Wayne Pelkey, Eric Randall, Alma Speer, Karen & Marten Speer, Mr & Mrs Robert John Speer, Mrs Donald St. John, David Stone, W.A. Stone, Mary Underhill, Harry Wilson, Mrs James Yersa.

Hartland (Hrt) 17th year

Dec. 26; 0800-1700. Cloudy with sunny intervals; temp. 6°C; wind NW. Ground snow-covered with some bare spots; some open areas of water.

Dave Ambridge, Bud Belyea, Pearl & Phillip Boyd, Florence Britton, Fred Burnett, Clarice Boyer, Debbie Bulmer, Dell Buxton, Elsie Briggs, Arthur Bryant, Hubert Bryant, Anna Canam, Emery Campbell, Diane Clark (compiler), Nancy Clark, Winnifred Clark, Pauline Clark, Pat Crouse, Marie Davis, Kirk Davis, Doug DeMerchant, Rod DeMerchant, Vera & Paul DeWitt, Cindy Dorskin, Dorothy Ginson, Winfred Glass, Mary Hallett, Gordon Havens, Mark Hunter, Clarence Hill, Jane Hovey, Linda Kearney, Winnifred Lawrence, Lori MacDougall, Freda Orser, Sheila Palmer, Donna Peirson, Lori & Charles Prosser, Earl Pratt, Lorne Jones, Blanche Rideout, Elta Rideout, Kathleen Shaw, Archie Shaw, Edith Schulze, Marjorie Smith, Clayton Swin, Glenna Stephenson, Belle Swin, Jeannie Shaw, Lloyd Trecartin, Geraldine Wallace, Ted Wallace, Walter Downey.

Glassville—Juniper (G-J) 6th year

Jan. 3; 0800-1600. Mostly clear; temp. -10° to -15°C; wind N, 0-3 km/h. 30 cm snow cover; brooks frozen with a few small open holes.

Flo Anderson, Wanda DeLong, Boulah Laing, Marjorie Martinson, Avis McBrine, Darlene McIntosh, Elsie McIntosh, Jean McIntosh, Sally McIntosh (compiler), Tammy McIntosh, Marsha Meyer, Marion Pearson, Pewter Puleston, Marion & Gordon Spence, Jessie Welsh.

Perth-Andover (P-A) 20th year

Dec. 20; 0800-1600. Cloudy with snow flurries and drizzle in late p.m.; temp. -7° to +2°C; wind S, 10 km/h. 7.5 cm snow cover; water frozen except rapids.

Mrs Judy McNally, Fred Tribe, M. E. Watters (compiler).

Plaster Rock (PR) 17th year

Jan. 2; 0845-1700. Hazy with light snowfall all day; temp. -22° to -15°C; very little wind. 29 cm snow cover; little open water.

Yvon Beaulieu, Owen Clyde, Doris Crawford, Bob Finnemore, Kate Finnemore, Irene Hollins, Bessie MacDonald, Peter MacDonald, Diane Rabatich, Laverne Rabatich (compiler), Melissa Skinner, Donald Smith.

Nictau—Riley Brook (Nic) 16th year

Dec. 30; 0900-1600. Clear; temp. -28° to -15°C; wind N, 5 km/h. 20 cm snow cover; Tobique open at Nictau, frozen at Riley Brook.

Joan & Alex Fraser, Gladys Howard, Roger Jenkins, LeRoy Johnson, Celia Knowlton, Marion & Erwin Landauer, Leola MacDougall, Dian McAskill, Rose McCallum, Bill Miller, Wilma Miller (compiler), Elizabeth Richter, Rudi Richter, Ursula Schmidt, Margaret Sutherland.

Edmundston (Etn) 21ème année

27 déc.; 0800-1600. Clair; temp. -15°C; vent SE, 15 km/h. Gelée. Daniel Bouchard, Pierrette Bouchard (compilateur), Sara Fournier, Lucie Fournier, Danielle Nadeau, Lou Page, Charlotte Pelletier.

Mount Carleton Provincial Park (MtC) 11th year

Dec. 20; 0800-1530. Overcast, heavy snow after 2 p.m.; temp. -3° to 0°C; wind SW, 5 km/h. 20 cm snow cover; still water frozen, running water open.

Roger Jenkins, Erwin Landauer (compiler), Jeff Landauer, Rudi Richter.

Southeast Upsalquitch (SEU) 7th year

Dec. 28; 1000-1530. Overcast with blowing snow; temp. -7° to -2°C; wind NW, 25 km/h. 45 cm snow cover; river frozen with open springs.

Chris Gauthier, Mary Gauthier, Ron Gauthier (compiler), Garry Goodwin, Allan Gregoire, Jason Gregoire, Edd LeBlanc.

Paquetville (Pag) 11ère année

27 déc.; 0800-1600. Clair; temp. -11° to -5°C; vent N-O, 0-10 km/h. 40 cm de neige.

Denise Benoit, Gérard Benoit, Hilaire Chiasson, Rose-Aline Chiasson, Donald Cormier, Marcel David, Audard Godin (compilateur), Virgile Godin, Jean-Claude Hachey, René Noël, Bernise Robichaud, Roland Robichaud, Gertrude St-Pierre.

Remember,
it's their home too!



Forests... A Shared Resource

Grand Manan Channel (GMC) 13th year

Dec. 31: 1000-1130. Mostly sunny; temp. -15° to -13°C; wind NW, 10-20 km/h. Seas fairly calm.
Brian Dalzell (compiler).

Grand Manan Island (GM) 18th year

Jan. 3: 0730-1700. Flurries in a.m., partly sunny in p.m.; temp. -1°C; wind WNW, 10-40 km/h. 5-10 cm of new snow cover; freshwater frozen, sea open except some slob ice in Grand Harbour.
Vernon Bagley, Brian Dalzell (compiler), Halton Dalzell, Virginia Greene, Gloria Hobbs, Audrey Ingalls, Frank Longstaff, Verna MacKenzie, Geraldine Nelson, Nancy Small, Alma Taton.

Eastport—Campobello (E-C) 22nd year

Dec. 26: Clear to partly cloudy; temp. 0° to -6°C; wind W-NW, 8-16 km/h. Ground bare; salt water open, some freshwater open.
Bill Townsend (compiler).

St. Andrews (StA) 28th year

Dec. 18: 0830-1730. Light overcast with flurries, becoming clear in p.m.; temp. -7° to -10°C; wind N, 10-25 km/h. No cm snow cover; freshwater frozen, sea open.

Steve Adamowicz, Anne Bardou, David Clark (compiler), Carliota Cummings, Jim Gordon, Mrs D. Johnson, Mrs. Wilfred Langmaid, Frances & Don McLeese, Kathleen Robertson, Lanny & Lee Ryall, Peggy Saunders, Bev & Millie Scott, Major David Walker, Dick Wilder, Walter Williamson, Wil & Vladimir Zitko.

Pennfield (Pen) 26th year

Dec. 30: 0730-1700. Mostly sunny; temp. -16° to -10°C; wind WNW, 10-30 km/h. No snow cover; freshwater frozen except for swiftly moving streams.
Brian Dalzell (compiler), Ralph Eldridge, Zetta Eldridge, Lena & Mendell Morehouse.

Lepreau (Lep) 25th year

Dec. 29: 0815-1615. Cloudy with sunny periods; temp. -11° to -4°C; wind 35 km/h. Little snow cover, scattered patches with crust; still water frozen, moving water and sea open.
Tim Fletcher, Scott Gilliland, Donald McAlpine (compiler), Mark Phinney.

Saint John (SJ) 32nd year

Dec. 31: 0800-1700. Overcast with snow becoming sunny by late p.m.; temp. -4° to -1°C; wind WNW, 15 km/h. Ground frozen with slippery base, up to 15 cm snow cover; river with icy edges.

Mike Bamford, Ruth Brown, Ian Cameron, David Christie, Ken Clark, Chad Coles, Mrs Coughlin, Allen Gorham, Janet Gorham, Kit Graham, Mike Grey, Juliette Hickman, Charlotte Hutchinson, Cecil Johnston, Isobel LeBlanc, Vivian MacDonald, Don McAlpine, Pat McCullough, Doreen McIntosh, Gur Meltzer, Maizie Melvin, John Morrison, Angella Myler, Kevin O'Donnell, Tom Page, Joan Pearce, Ron Pearce, Elizabeth Prescott, Murray Robinson, Allen Sellers, Marion Sherwood, Audrey Sparks, Ann Smith, David Smith (compiler), Don Smith, Evan Smith, Molly Smith, Reg Smith, Graham Webb, Sandy Webb, Jim Wilson, Frank Withers, Mitzi Withers.

Fundy National Park (FNP) 24th year

Dec. 16: 0730-1615. Clear; temp. -10° to -14°C; wind SW, to 30 km/h. 5-12.5 cm snow cover; still water frozen, moving water partly open.

Jim Blewett, David Christie, Lorie Collingwood, Bob Cotsworth, Vincent Crowston, Elaine Eagles, François Grainger, Larry Harbidge, Sharon Harbidge, Shawn Hicks, Anne Holdaway, Rod Lutes, Angus MacLean, Stella MacLean, Marc Majka, Mary Majka,

Paul Perkison, Doreen Rossiter, Sedgewick Sinclair, Brian Townsend, Karen Townsend, Robert Walker (compiler), Donald White.

Riverside-Albert (R-A) 20th year

Jan. 1: 0720-2359. A few clouds; temp. -20° to -12°C; wind N, 0-10 km/h. Icy with 8-12 snow cover; almost all freshwater frozen, a moderate amount of ice floes on sea.

Chris Antle, David Christie (compiler), Halton Dalzell, Angus MacLean, Marc Majka, Mary Majka, Miocyszlaw Majka, Bob Thiel, Stuart Tingley, Rob Walker, Alma White, Don White, Bill Wood.

Sackville (Sck) 29th year

Dec. 17: 0715-1715. Clear; temp. -18° to -10°C; wind W-NW, 15 km/h. Very little snow cover; little open water (fresh or salt).

Paul Bogaard, Kate Bredin, Sandy Burnett, Lee Calkins, Roger Calkins, Carol Currie, Richard Elliott, Janet Erskine, Tony Erskine, George Finney, Hinrich Harries, Stewart Harris, Peter Hicklin (compiler), Ron Hounsell, Bill Murphy, Kathy Popma, Sue Purdy, Fernand Robichaud, Al Smith, Stuart Tingley, Rhianna Watt, Bill Wood.

Moncton (Mtn) 27th year

Dec. 18: 0730-1700. Overcast with snow flurries; temp. -8° to -5°C; wind NW, 20-30 km/h. 5 cm snow cover; still water frozen.

Chris Antle, Sandy Campbell, Sharon Campbell, David Christie, Donald Cormier, Yves Cormier, Bob Cotsworth, Cheryl Davis, Richard DeBow, Shirley Hunt, Ford Keish, Ron Leger, John Loch, Ron Pellerin, Nelson Poirier, Carol Proctor, Sandy Wagner, Rob Walker, Alma White, Don White, Bill Wood, John Wright (compiler).

Cape Tormentine (CT) 27th year

Dec. 19: 0745-1645. Mostly sunny; temp. -14° to -6°C; wind W, 5-10 km/h in a.m., NW 10-15 in p.m. 20-25 cm fresh snow cover; freshwater frozen salt water with large open areas between slushy ice and ice floes.

Paul Bogaard, Sandy Burnett, Roger & Andrew Calkins, Carol Currie, Richard Elliott, Tony Erskine, Hinrich Harries, Peter Hicklin, Ron Hounsell, Bill Murphy, Nelson Poirier, Al Smith (compiler), Stuart Tingley.

Kouchibouguac National Park (KNP) 19th year

Dec. 21: 0830-1700. Mostly sunny; temp. +5° to +8°C; wind SW, 10 km/h. Ground frozen with some snow patches; river and lagoons frozen, offshore open.

Diane Babinneau, Sophie Bastien-Daigle, Harry Beach, Harry Collins, Bert Crossman, J. Edouard Daigle, Maurice Daigle, Ursain Daigle, Gordon Delaney (compiler), Noël Fontaine, Monique R. LeBlanc, Pierrette Robichaud, Michel Savoie, Harold Sock, Barry Spencer, Michel Theriault, Arnold Vautour, Camilla Vautour.

Chatham—Newcastle (Mir) 17th year

Dec. 28: 0800-1710. Overcast; temp. 0.4° to 1.5°C; wind SW, 11-19 km/h. 25 cm snow cover; all water frozen.

Margaret Adams, Barbara Archibald, Mrs William Arnoldus, Jeep Bosma, Mrs Robert Bransfield, Heather Brewster, Monica Charnley, Phyllis Crowe, Barbara Digdon, Anne Goodfellow, Janet Goodfellow, Vernon Goodfellow, Tom Greathouse, Phil Hachey, Linda Hartlen, Clinton Haywood, Don Hoddinott, Bill Hogan, Ida Holland, Earlene Hunter, Jack Hunter, Phyllis Jardine, John Keating, Luc Lemieux, Robert Lisk, Lem McDonald, Clarence McKibbin, Ed Rawlinson, Mary Rawlinson, Walter Ross, Delta Steeves, Maxine Tozer, Jean Ulloch, Doug Underhill, Bruce Walker, Harry Walker (compiler), Ian Walker, Lyle Walker, Winnie Walker, Marg Wheaton.



Tracadie (Tra) 31ème année

30 déc.; 0800-1600. Ensoleillé; temp. -20° to -8°C; vent O, 20 km/h. Enneigée et eau gelée mais partiellement dégagée.

Denise Benoit, Gérard Benoit, Hilaire Chiasson, Rose-Aline Chiasson, Donald Cormier, Léandre Doiron, Ernest Ferguson (compilateur), Émile Ferron, Roger Godin, Marie Paulin, Yolande Paulin, Donald Robichaud, Suzanne Robichaud, Gertrude St-Pierre.

Ile Lamèque (Lam) 161ème année

29 déc.; 0800-1600. Ciel clair; temp. -12° to -7°C; wind N-O, 40-50 km/h. 35 cm de neige; rive nord gelée, rive est à l'eau clair.

Denise Benoit, Gérard Benoit, Hilaire Chiasson (compilateur), Rose-Aline Chiasson, Donald Cormier, Lucille DeGrace, Jean-Claude Doiron, Ernest Ferguson, Audard Godin, Mme Basile Noël.

Ile Miscou (Mis) 21ème année

17 déc.; 0830-1600. Ciel clair, légère précipitation par moment; temp. -12° to -10°C; vent O, 0-3 km/h. Terre couverte de 10 cm de neige; eau gelée à 80 % autour de l'île.

Denise Benoit, Gérard Benoit, Hilaire Chiasson, Rose-Aline Chiasson (compilateur), Donald Cormier, Marcel David, Gertrude St-Pierre, Danny Ward.

Caraquet (Car) 41ème année

21 déc.; 0800-1600. Ciel couvert; temp. -4° to +8°C; wind N-O, 10-20 km/h. Terre couverte de 10 cm de neige; eau libre de glace.

Denise Benoit, Gérard Benoit, Hilaire Chiasson, Jean-Claude Doiron (compilateur), Audard Godin, Virgil Godin, Anicet Paulin, Roland Robichaud, Gertrude St-Pierre.

Daley Point Marsh to be Protected

Daley Point Marsh, a salt marsh on the east side of Bathurst Harbour, is to be protected under an agreement between Brunswick Mining and Smelting, the provincial Department of Natural Resources and Energy, Ducks Unlimited Canada, and Wildlife Habitat Canada.

Daley Point will be developed as a wildlife interpretation area with a nature trail, board walk, and observation platforms so that school groups, local citizens and tourists can observe, learn about and appreciate a coastal wetland habitat. In a later phase of the project, observation platforms will also be placed at nearby Carron Point Marsh.

The Nepisiquit Naturalists' Club is excited to see recognition of the importance of these saltwater marshes and the planned educational facilities.

— Ron Gauthier.

Campobello Ravaged?

"Most [Christmas Bird Count] party members were appalled at condition of the forest in the Campobello development area. New vistas of the ocean have been opened but the land habitat is ravaged. Saw many cats along the dirt roadways, piles of burned brush, many locals with pickup trucks all with rifles and shotguns in back windows." — Bill Townsend.

W. A. Squires Memorial

Distinguished New Brunswick naturalist, teacher, historian, museologist and author, W. Austin Squires (1905-1978), was remembered by the Fredericton Nature Club on Arbor Day, May 18. The club planted a fine red oak to honour the memory of Dr. Squires and to help beautify the grounds of the Dr. Everett Chalmers Hospital in Fredericton. — Info from Peter Pearce.



Coming from Behind

H. L. McAlary

Have we done our very best
For those who are behind,
Have we left them lots of water
And tall trees of every kind?
Will the trees in all our forests
Be in neat and even rows,
Or will it all burn up and leave
A land where nothing grows?
Will we leave behind a bit of land
So they can get away,
What will they say of our group
When we have had our day?
Have you no kids, who dump and slash,
Is the future out of mind?
Do you feel we need not think at all
Of those who are behind?



N.B.F.N. Annual General Meeting/ Réunion annuelle de la F.N.N.-B.

The federation's annual meeting weekend will be held in Sackville Sept. 1-3, hosted by the Chignecto Naturalists' Club.

New Brunswick Museum Exhibits

Herbert Habeeb (1917-87) July 2 - January 5

A tribute to a little-known, but outstanding New Brunswick naturalist. Habeeb was a native of Grand Falls and a physics teacher by profession. In his spare time, he was a keen collector—first of mosses and algae and later of water mites—and the author of more than 100 scientific papers on the taxonomy and distribution of these groups. Following his death at his retirement home in California in 1987, his collections and library were purchased by the New Brunswick Museum with the aid of a generous grant from the Government of Canada.

Orchid Biology July 2 - August 28

A scientific and photographic look at one of the most exotic flowering plant families. This is a travelling exhibit from the New York Botanical Garden. It deals with the ecology, naming, cultivation, inter-relationships, selection and destruction of these beautiful and often rare plants.

Come Rain... Come Shine—Canada's Changing Climate September 12 - October 24

A travelling exhibit from the National Museum of Natural Sciences. Using a wide range of materials and media—fossils, mounted specimens, weather instruments, photos, paintings, maps, cartoons, historic documents, videos and computers—this exhibit will allow the visitor to experience first-hand the fascinating study of climates and climatic change.

Coastal Cleanup, Sept. 23-30

New Brunswick and Nova Scotia will participate this year in a Coastal Cleanup project which has been run in New England for a number of years. 8000 volunteers are expected to turn out to collect shoreline garbage from Cape Cod Bay to the Bay of Fundy. As they collect trash from beaches and marshes, they will record the types and amounts found. The Coastal Cleanup raises public awareness of marine debris, and provides concrete data on which to base policies and further research.

This year's cleanup is focussed on the Bay of Fundy; hopefully it will be expanded soon to the rest of the Maritimes. Clubs, families and individuals are urged to help. For more information and to register your participation, receive a report form, and possibly garbage bags, contact the provincial coordinator, Kim Saunders, at the New Brunswick Museum (tel. 658-1842). Help rid our beaches of unsightly garbage!

Project FeederWatch

Project FeederWatch, the continent-wide survey of birds at feeders, needs more volunteer observers. In 1988-89, 26 New Brunswickers were registered but only 13 provided observations for all ten reporting periods. Evening Grosbeak was the most numerous bird at New Brunswick feeders but only Black-capped Chickadee and Blue Jay visited all feeders.

FeederWatch participants are asked to report the weather and the numbers of each species of bird coming to their feeders during a 2-day period every two weeks from mid-November till the end of March. Details are also wanted on the habitat around your home and the kinds of feeders and foods provided.

It's an interesting and worthwhile project but be forewarned: your observations have to be reported on computer-readable forms. If you're not intimidated by pencilling-in little boxes on a form, then FeederWatch could be for you.

A participation fee covers the cost of producing and distributing instructions, forms and newsletters. If you would like to join, send \$9 to Project FeederWatch, Long Point Bird Observatory, P.O. Box 160, Port Rowan, Ontario N0E 1M0. Demandez les formulaires en français, si vous les préférez.

Florence M. Christie Research Grants

The N. B. Museum offers a \$1000 fellowship (open to scientists, graduate students and serious amateurs) and a \$250 scholarship (open to university students) to support natural science research projects carried out in New Brunswick. For further information write the Natural Sciences Division, N. B. Museum, 277 Douglas Avenue, Saint John, N.B. E2K 1E5. Deadline is Dec. 31.

DEDICATED TO THOSE
BUDWORMS WHO HAVE
FOUGHT AND DIED IN THE
BATTLE AGAINST SCIENCE

Supreme Budworm

2/7/57

Sign posted on one of the buildings of the Canadian Forestry Service's former Green River Laboratory, Summit Depot, Restigouche County.