

**N.B. Naturalist**

**Le Naturaliste du N.-B.**

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## N. B. NATURALIST

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*N.B. Naturalist* carries articles and reports pertaining to the natural history of New Brunswick. Articles are invited in either French or English, 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:

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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 reproduits dans la langue d'origine seulement. Les opinions exprimées sont celles de leurs auteurs. Prière d'envoyer vos articles à:

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**Cover Illustration**  
Pine Grosbeak, digitized from a  
painting by Halton Dalzell

**Illustration de la Couverture**  
Le Gros-bec des pins,  
d'une peinture par Halton Dalzell

## From the Editors



Being months behind our planned publishing schedule, we must commence this issue with an apology to all subscribers. That we have been busy with other things is not a valid excuse, for we should have made time to bring the magazine out sooner. We too are unhappy with the long delay. Having endured a long silence, you can now look forward to receiving the *N. B. Naturalist / Le Naturaliste du N.-B.* with increasing frequency as we strive to catch up.

In this issue, we have changed from a dot matrix printer to a laser printer. The clearer, although smaller, type should be easy to read. By allowing us to present the same amount of material in about 25% less space it represents a cost saving for the federation, as well as an improvement in appearance. In conjunction with the new type, we will be experimenting with the layout in forthcoming issues. We would like to have your reaction to those changes.

Our constant plea for articles has been answered to the degree that we now have a reasonable supply (but very few not about birds) on hand (especially since we have been so remiss in bringing out the magazine!) However, we still welcome contributions, especially from new writers and artists. At the same time we would like to thank the "old stalwarts" for their support.

In this issue we welcome a series of articles by Sandy Burnett who has been commissioned by the Canadian Wildlife Service, as a contribution to celebrating Wildlife '87, to write articles on wildlife conservation in Atlantic Canada. We are fortunate to be permitted to use them.

Well, the year is about to run out and the new will be rung in soon. It was a special year for the federation, its 15th. We have been strengthened by the addition of new clubs and affiliates. Also, a new organization, the Nature Trust of New Brunswick, has been formed, with a mandate very close to our hearts — the preservation of critical natural areas. Its work with private landowners will complement the Provincial Government's ecological reserve program. The federation will be working closely with the trust to achieve our mutual aims. Wildlife '87 has seen a number of inspiring ventures throughout the country. Here in New Brunswick, we have had the first Hemispheric Shorebird Reserve in Canada declared. Those who were able to attend the ceremony at Mary's Point took part in a historic event and participated in the federation's annual meeting as well.

It was a busy year for us, the editors as well, with all sorts of unusual, often colourful, avian visitors. I (M.M.) named 1986 "The Year of the Owl" because of all the owls we had the pleasure to encounter. 1987 was "The Year of the Painted Bunting" for just the opposite reason — only one, but what a beauty! You'll hear about it next time.

We wish you all the happiness and joy of Christmas and hope that the New Year will bring more pleasures as you explore and cherish the world of nature.

Mary Majka and David Christie

### Ordering Bird Checklists

Members wishing to purchase copies of *Check-list of New Brunswick Birds* or *Liste d'oiseaux, Nouveau-Brunswick* may do so from The New Brunswick Museum (tel. 658-1842), 277 Douglas Avenue, Saint John, N.B. E2K 1E5 (Attn. Vivian Hachey, bookstore manager). The cost is 25¢ each, \$1.00 postage and handling per mail order.

Federated clubs may purchase checklists, at a reduced price, for resale to their members by contacting the federation treasurer, Harriet Folkins (tel. 433-1801), P.O. Box 12, Sussex, N.B. E0E 1P0.



## From the President

At the changing of the guard, a few words might not seem inappropriate. Firstly, on behalf of the membership, I should like to thank my predecessor, Hal Hinds, for so ably presiding over the affairs of the federation at a time when he had so many other responsibilities. It is to be hoped that the momentum he generated can be maintained. Fortunately, his experience and enthusiasm will not be lost to us since he will continue to serve as past president. We welcome Brian Dalzell as vice-president and applaud Ruth Rogers and Harriet Folkins for agreeing to serve again as secretary and treasurer.

J'aimerais voir une plus grande participation chez les francophones sur ce qui regarde la fédération. Les clubs de naturalistes de la péninsule acadienne et celui-là de Bathurst méritent notre appui dans toutes choses. Des grands efforts sont en marche pour établir un club à Edmundston. La fédération aidera dans tout possible à l'étude de l'histoire naturelle dans le nord du Nouveau-Brunswick.

The annual general meeting weekend in Albert County (reported elsewhere in this issue) was a resounding success, a model for all such occasions to come. Congratulations and thanks go out to the many whose contributions made those three days so enjoyable.

In the last issue, Hal Hinds noted that the board of directors has considered how much energy should be devoted to environmental concerns. Doubtless that topic will occasion ongoing debate. My view is that the federation should strive to serve the natural history interests of its members first but that we should be constantly on guard against threats to the province's natural heritage. Hal was quite right when he said "... if we do not defend our rights to an unpolluted environment and for protected areas for wildlife... we should not be angered when the places we enjoy visiting to observe and study nature are destroyed." But we are a small organization. We cannot afford to expend resources and energy on every environmental issue that comes along. We must be selective. Local clubs might want to focus on pressing problems close to home: the response of the Saint John Naturalists' Club to plans for industrial expansion in Manawagonish marsh is a good example. The federation could address problems of a broader kind. Your suggestions concerning its role in environment conservation would be most welcome.

Ways must be sought to help in the production of *N. B. Naturalist / Le Naturaliste du N.-B.* We cannot thank David Christie and Mary Majka enough for carrying the burden (albeit reportedly a happy one) virtually alone for so long, and if an issue is a bit tardy coming off the press, we should be patient.

But it is your magazine and it would be good to think about how to help out. Notes on observations of nature are always welcome, and can be conveniently submitted on a form available: ask for copies if you don't have them. It will not be possible to cite all records, of course, but be assured that all information will be filed at the New Brunswick Museum for future reference. Written articles are always urgently needed, in English or en français. Hilaire Chiasson est le nouveau directeur des articles français. Why not try putting pen to paper. Members will also be interested in news from the federated clubs, with programs of planned activities. If you have any ideas on what you would like to see in the magazine, communicate them to the editorial committee. Please support *N. B. Naturalist / Le Naturaliste du N.-B.*

I should like to commend the Maritimes Breeding Bird Atlas project to your attention. As you will know, it is an attempt to map the distribution of all the birds that breed in the Maritime Provinces. We are already two-fifths of the way toward completion of field data collection. Atlassers are urgently needed to gather information, particularly in the northern parts of New Brunswick. Each in his own way can make valuable contributions to this important work. Please help.

Finally, perhaps we could ask ourselves not only how we can help the federation, but also how the organization can better serve our interests in the natural history of our "picture province." How about it?

Peter Pearce



## From the Past President

What a beautiful province we have! As I travel throughout New Brunswick on my botanical forays I'm continually impressed by the great variety of plants and animals and the abundance of relatively undeveloped land. We, as naturalists, can truly appreciate this legacy of New Brunswick's abundant wilderness. But what of the future?

In order to guarantee that there will be such natural abundance for future generations to enjoy we must continually be alert to needs for changes in our environmental protection legislation and actively seek means of protecting significant natural areas and living things that are endangered.

All of us who enjoy the outdoors in a natural setting should actively lobby our friends and legislators to support those practices that do not threaten the life support systems of our Province. We must be active guardians, not just passive observers of nature. Your volunteer efforts and/or financial support are urgently needed to help in this effort.

In that regard, it was with great pleasure that we welcomed this year the Nepisiquit Naturalists' Club and the Club de naturalistes de la Péninsule acadienne as federated clubs and the Schoodic Chapter of the Maine Audubon Society and Sunbury Shores Arts and Nature Centre as affiliated organizations.

The Nepisiquit club is centred in Bathurst and their first president is James Meagher. The Acadian Peninsula club is headed by Ernest Ferguson and is centred in the Tracadie—Shippagan—Caraquet area. The Schoodic Chapter is situated along our southwestern border in Washington County, Maine, and has several New Brunswick members. Their president is Sid Bahrt. Sunbury Shores Arts and Nature Centre is in St. Andrews and Tim Beatty is their executive director.

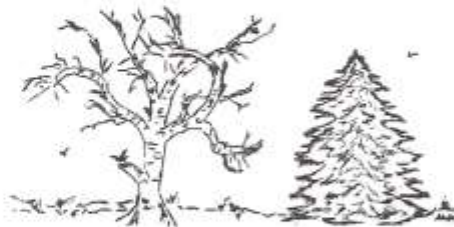
The addition of these new clubs and affiliates brings total membership under the Federation to approximately 1000 individuals. It is my belief that the number of people in our province who are interested in an understanding of nature and the environment and the safeguarding of our precious natural heritage are many more than that number indicates.

One of the best ways to increase our membership is for all of us to talk to our friends about the Federation, its regional clubs and affiliates, the newsletter, field trips, and our work to protect and preserve natural areas and endangered species in the province. The more voices we have supporting our views, the more positive consideration we will receive from government, industry and the media.

A recent national survey indicates an overwhelming majority of Canadians consider the protection of our environment to be of primary importance. We must translate that concern into more grass-roots action here in New Brunswick. We all can help by supporting the celebration of Wildlife '87 (see *N. B. Naturalist / Le Naturaliste du N.-B.* 15 [3], p. 109) and supporting the work of your Federation by reporting your nature observations, joining club and Federation activities and spreading information about our work.

If each of us pledges to bring a new member into the Federation directly or through the clubs within the next year, we would be much further towards our goal of province-wide coverage. LET'S ALL TRY!

Hal Hinds





## A Case for History



C. Mary Young

In 1898 the New Brunswick naturalist and botanist George Upham Hay discovered an alpine plant, the alpine bilberry, *Vaccinium uliginosum* L. ssp. *pubescens* (Wormsk.) Young, on Bald Mountain. A pressed, dried and mounted specimen of this plant can be found in the herbarium at the New Brunswick Museum.<sup>1</sup>

The distribution of arctic-alpine plants has long fascinated naturalists. In the mid-nineteenth century European botanists wondered how it was that certain species of plants were found on the mountains of Europe, the Alps and the Pyrenees, and were widespread in the far northern regions of the continent but were not present in the intervening territory. In North America the famous botanist, Asa Gray, noted a similar distribution. Arctic-alpine plants were discovered on the White Mountains of New Hampshire and to the north in Labrador.<sup>2</sup>

A satisfactory explanation of this discontinuous distribution was not found until the geologist Louis Agassiz presented evidence of widespread glaciation over the northern continents, the result of past ice ages. The botanist Edward Forbes then speculated that the movement of ice over the continent in the ice age had been responsible for the pattern of distribution of the arctic and alpine plants which we see today.<sup>3</sup> That theory was readily adopted by Charles Darwin in *The Origin of Species* and the work of Asa Gray in America added further weight to the idea.

As the ice sheets pushed southwards, they theorized, plants of northern origin retreated ahead of the ice to regions south of the Alps and Pyrenees. With the return of a milder climate and the melting of the ice sheets the arctic plants colonized areas just behind the ice sheets and were replaced in temperate regions by other species. In the mountainous areas, however, where conditions were suitable, many arctic plants remained, isolated from their nearest relatives which had followed the ice sheets slowly but inexorably to the far north.

Several nineteenth century New Brunswick naturalists were also intrigued by the distribution of alpine plants. Did alpine plants occur on the high points of New Brunswick they wondered? George F. Mathew, an amateur and distinguished geologist with a wide interest in natural history made a study of plant distribution in the province and wrote a significant paper on the subject.<sup>4</sup>

In 1864 Mathew sent a letter to Dr. Loring Woart Bailey, professor of natural history at the University of New Brunswick. Referring to the Tobique—Nepisiguit region of the province, he wrote, "They seem to have done away with my expectation of finding a truly Alpine vegetation of the mountain summit in that quarter. I could see but one undoubted mountaineer vizt. *Vaccinium uliginosum*..."<sup>5</sup> Mathew had examined the records of New Brunswick plants and compared the species found with those which botanists had previously determined as alpine.

The following year the enthusiastic New Brunswick botanist James Fowler, knowing that L. W. Bailey had canoed along the Tobique and Nepisiguit rivers, wrote asking if Bailey could provide him with certain plants of the region including *Vaccinium uliginosum*.<sup>6</sup> L. W. Bailey had, indeed, found this plant on "Bald Mountain."<sup>7</sup> The alpine bilberry was collected, again on "Bald Mountain", at the end of the century by G. U. Hay and was then not seen again for 89 years.

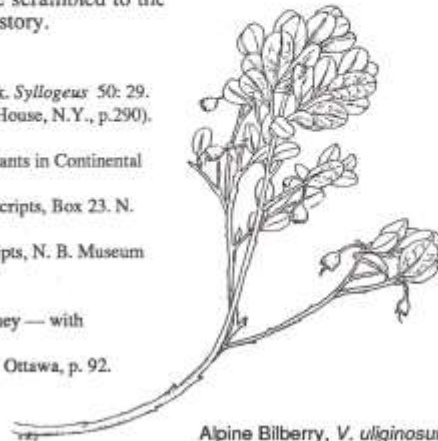
In the spring of 1987, the curator of the University of New Brunswick herbarium, Hal Hinds was wondering what had become of the alpine bilberry and was debating whether to look for it on Little Bald Mountain or Big Bald Mountain. His chance comment led me to re-read G. U. Hay's account of the canoe trip he took along the Nepisiguit and Tobique rivers and of the plants he found.<sup>8</sup> "Bald Mountain" he noted, was 1922 feet and he listed the plants within a radius of 25 yards of the summit — among them *Vaccinium uliginosum*. An examination of the map showed me that both Big Bald Mountain and Little Bald Mountain were some distance from the canoe route along the rivers. Moreover the height of Little Bald Mountain was 2168 feet and of Big Bald Mountain 2205 feet. It seemed improbable that Hay would

have travelled any distance across country from the Nepisiquit river, and would such a careful observer have made such an error on the height of the mountain? Another look at the map showed me that there was one mountain close to the Nepisiquit river — Mount Denys with a height of 1900 feet. A further investigation led to the discovery that Mount Denys was called "Bald Mountain" at the time of Hay's visit and was renamed in 1899 by that wonderful New Brunswick botanist and physiographer William F. Ganong.<sup>9</sup>

I therefore suggested to Hal Hinds that he should look for *Vaccinium uliginosum* on Mount Denys. One day in late June he scrambled to the top of Mount Denys and there... but that is Hal Hinds' story.

#### Notes

1. H.R. Hinds, 1983. The Rare Vascular Plants of New Brunswick. *Sylogus* 50: 29.
2. Charles Darwin, 1859. *The Origin of Species*. (Repr., Random House, N.Y., p.290).
3. *Ibid.*
4. G. F. Matthew, 1869. The Occurrence of Arctic and Western Plants in Continental Acadia. *Can. Nat.* 4: 139.
5. G. F. Matthew to L. W. Bailey, 9th Feb. 1864. Ganong Manuscripts, Box 23. N. B. Museum Archives.
6. James Fowler to L.W. Bailey, June 8, 1865. Ganong Manuscripts, N. B. Museum Archives.
7. See G.F. Matthew, 1869. [4, above]
8. G.U. Hay, 1899. The President's Address: A Wilderness Journey — with suggestions. *Bull. N.B. Nat. Hist. Soc.* 17: 160.
9. Alan Rayburn, 1975. *Geographical Names of New Brunswick*. Ottawa, p. 92.



Alpine Bilberry, *V. uliginosum*,  
drawing: C. Mary Young

## Rare Plants of New Brunswick

### Search for the Alpine Bilberry

#### Hal Hinds

I was beginning to believe it was all a mistake and the plant had not been collected in New Brunswick at all. Perhaps someone mixed up a collection from the mountains of the Gaspé. The specimen in the New Brunswick Museum was unmistakable; *Vaccinium uliginosum* L., collected by George Hay, 16 August, 1898, Bald Mountain, Nepisiquit River, dry hills.

I should have been alerted by the reference to the Nepisiquit River on the label, but since there is no Bald Mountain on that river, I thought there was a mistake.

Big and Little Bald Mountain are south of the Nepisiquit and it was on those highlands that I first searched for the Alpine Bilberry several years ago. Both peaks are relatively inaccessible but with a lot of good luck I was able to drive fairly close to each and carefully search their summits.

Big Bald yielded two new plants for the province, the Alpine Rush (*Juncus trifidus*) and the Alpine Blueberry (*Vaccinium boreale*) and a large population of the rare Dwarf Birch (*Betula glandulosa*). But there was no Alpine Bilberry.



Little Bald Mountain was not very bald anymore and proved uninteresting.

Finally this spring my herbarium assistant, Dr. C. Mary Young, who is very interested in the botanical history of the Province, discovered that the present Mt. Denys was called Bald Mountain in the late 1800's. Mt. Denys borders on the Nepisiquit River and I had remembered the north flank and summit as being open rock.

On June 23 I waded the river and climbed the great boulder field of the north side of Mt. Denys. The climbing was rough near the base with fallen trees blocking the way, but once onto the rocks the ascent went quickly. The rock crevices were very dry and only a few interesting sedges and ferns were collected (*Carex brunnescens* and *Dryopteris fragrans*).

Once on the summit I was disappointed to find that it was not as open as I had imagined being mostly covered with wind-swept spruce and low shrubs. I circled the brush feeling excited and anxious at the same time. Then I noticed a patch of ground cover under some shrubs on the absolute highest part of the summit. I let out a loud whoop as I recognized my long-sought bilberry, about 15 dwarf shrubs sprawling over 3 or 4 meters. Some plants were still in pink blossom but most showed greenish fruit. The leaves were bluish-green, elliptical in outline and with lighter veins.

The Alpine Bilberry in our general area on Mt. Albert and Mt. Jacques Cartier in the Gaspé, on Mt. Katahdin in Maine, and on the high plateau of the Cape Breton Highlands. Its main distribution is in the arctic and subarctic regions of the old and new worlds. On Mt. Denys it represents an arctic relic from a time when our area was dominated by arctic vegetation shortly after the last glaciation.

[I'm looking forward to many plant hunting adventures next summer in my new sea-kayak. I hope to explore many of the Fundy isles as well as those islands and lagoons on the east coast. Watch for news of these explorations in future issues of the *N. B. Naturalist*.]



### Information Wanted on Common Loons

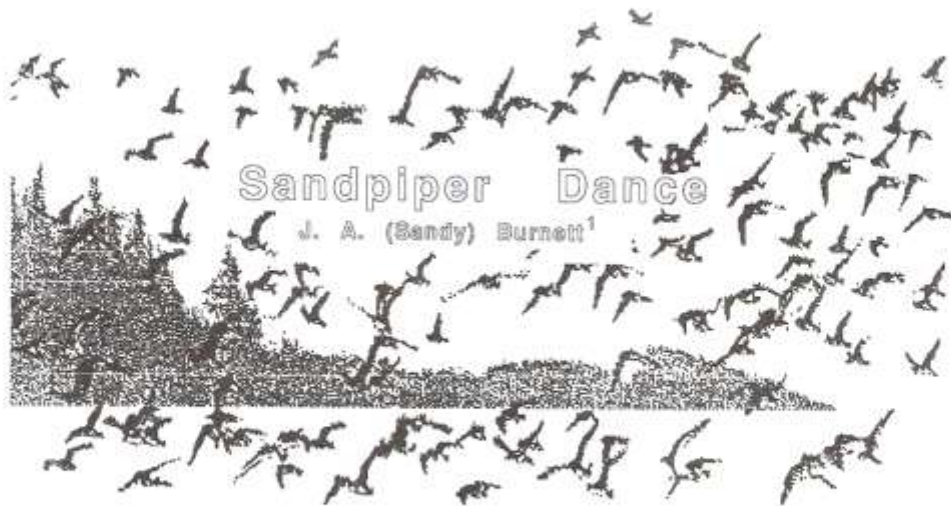
I am conducting research on the Common Loon and would like to ask for assistance. The Common Loon is a bird that we often take for granted — it's always there. Yet we have little past or present information on its life history and reproductive success in the province. There has been concern over the declines of some populations of breeding loons, particularly those in the northeastern United States. Much of this has been attributed to human disturbance especially in the form of recreational use of lakes and lakeside development. Lake and reservoir water level fluctuations, the indirect effect of acid rain and water pollution (pesticides/heavy metal contamination) have all been implicated in reduced loon abundance and reproductive success.

I am collecting information on this bird to determine its current status in New Brunswick. The World Wildlife Fund (Canada) is lending financial support.

Would you please check your logs, notes and memories for past data on loon numbers and nestings? Specifically I require:

- (a) number of loons seen by waterway, month and year,
- (b) number of loon nests by waterway, month and year,
- (c) number of breeding pairs and number of young by waterway, month and year, and
- (d) any information on nest destruction or loon mortality.

R. F. Stoeck, Maritime Forest Ranger School, RR No. 5, Fredericton, N. B. E3B 4X6



It is nearly noon on August 8, 1987. On the Beach at Mary's Point near Riverside-Albert, N. B., close to forty thousand Semipalmated Sandpipers are roosting at the high tide line. They're waiting for the cold Bay of Fundy waters to recede and uncover hundreds of hectares of mud alive with the tiny shrimp and worms on which they feed.

From time to time the flock shifts restlessly. A few thousand birds take wing for a moment, circle in the air with the precision of an aerobatics team and then settle once more on the sand. The sandpipers are no newcomers to this location. For hundreds, probably thousands, of years they have assembled on the selfsame beaches every summer to dance across the mudflats with the rising and falling tides.

The newcomers on this day are the humans who have gathered to celebrate the dedication of Shepody Bay as a reserve for migratory shorebirds and the signing of an international agreement between the governments of Canada and Suriname declaring the twinning of this reserve and a sister location on the coast of the small South American country.

About fifty species of shorebirds breed in North America. They include curlews, plovers, and sandpipers. Some are among the world's greatest migrants, annually traversing the entire length of the western hemisphere, from the Arctic to southern Chile or Argentina and back.

Hundreds of thousands of Semipalmated Sandpipers pass through the Shepody Bay reserve each year. Having nested in northern Canada, they spend a few weeks feeding here before making a three to four day flight to their wintering location in the coastal wetlands of Suriname. Their survival depends on being able to build up adequate reserves of energy before making the non-stop journey. Close to half the world's population of this species depends on the Shepody mud for the energy-rich food which will double their weight in a mere fifteen or twenty days. The sister reserve in Suriname sustains close to two million birds, approximately, 80% of the world's population, for the winter.

It is their dependency on a few, unique sites at critical stages in their yearly cycle which makes these sandpipers and certain other shorebird species terribly vulnerable to environmental change. Although their numbers are great, their periodic concentration in relatively small areas means that the loss of a key

<sup>1</sup> One of 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.

habitat, through pollution or permanent flooding, for example, could threaten entire species with extinction.

Awareness of this danger led to the formation, in 1985, of the Western Hemisphere Shorebird Reserve Network, a voluntary association of government and non-government organizations concerned with the conservation of wildlife. Active support came from the World Wildlife Fund and the International Association of Fish and Wildlife Agencies, among others. The goal of the network is to review seasonal habitats of migratory shorebirds in North and South America, to evaluate them, and to encourage governments to accord protected status to those of crucial importance.

Designated hemispheric sites are defined as locations visited by more than 250,000 shorebirds over the course of a year. The first officially designated site in the Reserve Network was established in the United States at the lower end of Delaware Bay. The second and third, on the shores of Shepody Bay and Suriname respectively, were declared at Mary's Point this month at an event hosted by the Canadian Wildlife Service of Environment Canada.

The presence at the event of VIP's from Canada, Suriname, and the U.S.A. underlined the official prestige attached to this venture in international cooperation for the preservation of wildlife habitat. However, it was the largely spontaneous turnout of over 200 interested birders which indicated the growth of popular support for wildlife conservation. And of course it was the flock of sandpipers dancing up and down the beach, oblivious to the human onlookers, which made it all worthwhile.

## Migration

Halton Dalzell

It was a cool and overcast morning, with a cool northerly wind. The day was September 1, 1987, and I was walking in the road to our summer home on Grand Manan. The air had an eerie feeling of fall. I could see fog on the horizon. Everything seemed to be "dead". I could hear no birds, crickets, or frogs. I knew that the warbler migration had reached its peak a few weeks earlier, and I really didn't expect to see much, but I was hardly prepared for what was about to happen.

As I came out of the woods to a small field near the house, I could hear some chickadees singing and chipping. At first, I thought there were 5 or 6, but I was pretty far off. It was more like hundreds! And not just chickadees. There was a whole flock of warblers, flitting along the tree line. They just kept coming and coming. Since the camera I was carrying only had a standard lens and since it was too dark, I decided to walk up to the trees and bushes and take a look.

The first bird to greet me was a chickadee. They were in such a hurry, they stopped for a few seconds, looked at me, and then flew off. Then I saw a bird land about 2 feet in front of me. It looked like a thrush, but I saw orange on top of its head. Immediately I knew it was an Ovenbird. That was the first time I had seen one, since previously I had only heard its obvious "TEACHER" song. The next bird was a Black-throated Green Warbler. It was eating budworms out of a spruce tree, right in front of me. It took off like the rest did. Then a Yellow Warbler came along, followed by two Magnolia Warblers flashing their white tail patches. Soon the calls of the chickadees faded away, and the birds stopped coming. I went back to the road, continued towards home, and wondered when I would see them again. Perhaps next year.



Magnolia Warbler



## Welcome to the Mary's Point Zoo

Mary Majka



If you have wondered in the past about the sanity of this household and the capacity to which we can accommodate various wild creatures, you needn't wonder much longer. This year, we just about reached the limit. Besides Mike, David, Mary, Smokey the dog, Pussy the cat, and a tank full of fishes, in January we joyfully accepted Timmy, a Purple Gallinule, which by all rights should have been somewhere in the tropics. However, a storm intervened and he landed in a New Brunswick snow bank.

We tried all sorts of heroics to save his frost-bitten leg, but it got gangrenous and our friend the vet removed the leg, a life-saving operation that made Timmy a pet for life. Since then he has settled happily into our greenhouse where he lives in a spacious aviary with three "water holes" for his daily bath and a decorative piece of drift wood to roost on. He eats devilled eggs (if you'd like a recipe, I can supply it), hamburger meat, as well as earth worms, caterpillars, spiders, flies — anything that creeps or crawls.

In October, he surprised us when suddenly, within 24 hours, he lost all his drab brownish-grey flight feathers. After looking like a plucked chicken for two weeks, he grew a new beautifully iridescent, purple and green attire, complete with snowy white undertail feathers. Resplendent in his new outfit he struts around, greeting us loudly when we arrive with some offerings of food. He is a perfect pet.

Summer brought new arrivals. First, I was presented with something that looked almost like a baby rat. Naked, red, blind, and wrapped in a piece of towel, it obviously needed love and care. Peppy was a baby Red Squirrel. I think I will have to write a book about Peppy. The title has already been decided, "There is a Squirrel in my Brassiere". Peppy spent much of his childhood and youth sleeping peacefully in my bra, being fed milk, pablum and egg yolk. His development was much slower than that of the baby birds and hares we have looked after in previous years, but eventually he became the most exuberant, lovable little squirrel in all of Mary's Point.

He charmed not only us with his antics. We took him to Grand Manan, where he became mascot of the nature tour we were leading. He would run all around our mini-bus and even was taken out on a boat for whale-watching.

Later, Peppy decided to claim our home as his territory and to banish all competing squirrels and people from his kingdom. He still loves me but I am the only one he does not attack. Mike, David and all others are unwelcome and he doesn't mince words to tell them so. His chatter is vicious and his actions as fast as lightning. His freedom, therefore, had to be restricted. He still occupies my bedroom where, in the closet, he has built an enormous nest of cheese cloth, kleenex and other bits of paper. Surprisingly, he never tries to chew up my clothing which hangs peacefully in the same closet. He leaves and enters my room through the flap of the storm window. Outside, he tries to terrorize the local squirrels. His future is undetermined. Unless the cat decides to have him for supper he may terrorize us for the rest of his life.

Peppy was by no means the only young life that was pressed upon us last summer. Rusty, a Barn Swallow occupied our time by demanding constant feeding. We scoured windows and ceilings to capture enough flies to satisfy his appetite but soon discovered that hamburger would do. A few days later, Rusty got company — Waxy, lone survivor of a family of Cedar Waxwings which had been devoured by a greedy cat (not ours).

Waxy was even noisier — his beak never closed. It was always open wide for anything that you cared to stuff in — mostly berries, but also bits of hamburger. Sometimes Rusty would instinctively stick his beak into Waxy's gaping mouth — or was he just telling him to shut up! Both of those nestlings soon began to fly. One day Rusty flew outside, made a few beautiful swoops around the cottage and disappeared into the wide blue yonder, never to be seen again. Waxy was very different. Even after fledging he felt our cottage was his home. For days he flew all around it, but still came begging and to sleep each night in his stinky, old nest in a peach basket.

Ultimately, we had to leave for Grand Manan and thought that would mean good-bye to Waxy who then was capable of looking after himself. However, he still stayed around, where we had left a plate of blueberries, and visited anyone who happened along — sitting on their heads and shoulders, loudly begging. Eventually, he must have realized it was time to go south. Next summer, we wouldn't be a bit surprised to find a beggar around our cottage.

Right now a Snowy Owl shares the sunporch with us. It was so weak after flying from the north to Albert County that it was unable to catch mice or defend itself against a coyote. Luckily, a passing neighbour chased the coyote away and phoned us for help. After we had brought him home we found that Whooppee was emaciated and anemic— just a bag of bones. Only his fluffy feathers disguised his skinny appearance. After being force-fed for two days, he started to eat by himself. You probably wonder how we knew that he was anemic. At first the inside of his mouth was as snowy white as his feathers but after a week of chicken gizzards and necks and chunks of beef liver, his mouth shows beautiful pink. In a few days he will be ready to resume his normal life.

The year is not over yet. Who knows what December storms might bring! We're ready — there's always room for another creature to share its life with us for awhile, or for a lifetime. Their co-existence with us enriches our lives and teaches us many a lesson.



## Extinct Means Gone Forever<sup>1</sup>

J. A. (Sandy) Burnett

Extinct. No other word conveys a more absolute sense of finality. With extinction, all hope for the preservation of a living plant or animal species vanishes. It is gone forever.

The dinosaurs were the most spectacular victims of extinction. For more than 150 million years the giant reptiles dominated the earth. Now, only fossilized bones remain as mute evidence of their passing.

But extinction isn't just an occurrence of the distant past. In the last 150 years at least five North American birds have been lost: the Great Auk, the Heath Hen, the Labrador Duck, the Carolina Parakeet, and the Passenger Pigeon. In all likelihood, the Eskimo Curlew and the Ivory-billed Woodpecker can be added to the list. And at this moment, across Canada and around the world, hundreds of other wildlife species face the real possibility of extinction.

How does it happen?

The flightless, defenceless Great Auk once populated the storm-swept rocks of Funk Island, Newfoundland, by the tens of thousands. Large size, vast numbers, and trusting nature made the auks easy prey for sailors and fishermen who used the flesh and eggs for food and bait, the feathers for bedding, and the carcasses for oil. The last living Great Auk was seen on June 3, 1844.

The Passenger Pigeon was once the most numerous bird in North America. Single flocks of over a billion birds were reliably reported by observers. It was also the most hunted bird on this continent. In 1861 nearly 15 million were killed and shipped to market from a single nesting site in Michigan. Under such relentless pressure the "endless supply" came to an end. The last Passenger Pigeon on earth died in a Cincinnati zoo in 1914.

Systematic, unrestricted slaughter of wildlife is a rare occurrence in Canada nowadays. But human activities inflict other, equally devastating kinds of damage. Pollution from manufacturing, agriculture, and domestic waste disposal poisons earth, air and water. Irreplaceable wildlife habitats disappear before the onslaught of sprawling urban development and improper forestry practices. In the face of such pressures, preservation of a diverse and healthy natural environment can seem like an uphill struggle.

<sup>1</sup> One of 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.

Still, there are encouraging signs. Popular support for sound environmental and wildlife protection policies has probably never been stronger. Its importance as a public issue was reflected in the establishment, in 1977, of the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) to monitor the welfare of native plants and animals whose survival is considered to be in jeopardy. Committee members include federal, provincial and territorial representatives and national conservation organizations.

At a national meeting, held June 15-19 in Tuktoyaktuk, N.W.T., COSEWIC announced its latest findings. There was some good news; one bird species, the White Pelican, is no longer considered to be at risk in Canada. On the other hand, one species of fish, the Banff Long-nosed Dace, became extinct in the past year. Five species were extirpated (wiped out) within parts of their range. Eight were added to the threatened category (likely to become endangered) bringing the total to 31. Three joined the ranks of the endangered (in immediate danger of extinction) for a total of 37.

Seven endangered species occur in the Atlantic Provinces. They include the Piping Plover, Acadian Whitefish, Right Whale, and Loggerhead Turtle. One of them, the Eastern Cougar, has not been officially recorded in the region since 1938; yet, more than 200 unconfirmed sightings have been reported in New Brunswick and Nova Scotia in the past ten years.



Furbish's Lousewort, an endangered wildflower, is found at only a few sites in the upper Saint John River valley; as recently as 1975 it was thought to be extinct, but diligent searching has uncovered a population of about 1100 specimens in New Brunswick and Maine. Not so long ago, the Peregrine Falcon had been extirpated from its haunts along the Bay of Fundy. An aggressive recovery program under the direction of the Canadian Wildlife Service has raised hopes that this endangered raptor may again soar over its traditional Maritime range. These are encouraging signs that, with care and with effort, at least some of our endangered species may make a comeback.

It is one of the marvels of nature that every living species adds something unique to the world. By the same token, each species lost through extinction diminishes the richness of nature, and with it our store of future knowledge. With that in mind, we really can't afford to lose a single one.

## The Maritimes Breeding Bird Atlas: Getting Primed for Year 2<sup>1</sup>

Judith Kennedy

It's always easier to do something the second time around. On a first attempt, one tends to be a little tentative. Trial and error prevails, and it takes a long time to get results. The next time the same task is at hand everything goes much more quickly and smoothly. Just being able to identify the heart of the problem eliminates most of the experimentation required of the beginner.

This theory certainly applies to atlassing. Atlassing places a whole new perspective on birdwatching, and it is a bit confusing at first. Just figuring out the square number and where the square is has left many a stalwart birder bewildered. By the time one gets really comfortable with the system, the breeding season has drawn to a close.

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<sup>1</sup>This article was prepared for publication at the beginning of the atlas season, not the end. Our apologies to the author and readers for the delay.

But for over 500 people, atlassing is now old hat, and 1987 nesting activity has begun. Imagine the thrill of the first confirmed breeding of the year — what species will it be? If you've already worked in the square, you will know which species you missed last year and which ones need to be "confirmed" this year. With field experience behind you, you will be able to plan your strategy before you set foot in your square. If you haven't recorded a Barred Owl in your square, make a midnight visit on a moonlit night to a densely forested patch near a low wet area. If you recorded every possible warbler but didn't confirm any of them, then you should make July visits to catch them carrying insects to their young. Spotting a bird carrying food is probably the most time-efficient method of obtaining positive breeding evidence.

It's going to be so easy this year. You have the handbook memorized, breeding codes are practically second nature, and any time you have doubts about a bird's inclinations you can consult the Breeding Season Chart. The chart will be particularly helpful in discerning migrants from potential breeders. Regional coordinators are also more experienced and organized, and will be planning meetings and square bashes with military precision.

We will have to draw on every bit of wisdom, experience and enthusiasm this year. While the 1986 results were very encouraging, the work remaining is quite formidable and there is no time to be lost. Anyone who started a square in 1986 should make every attempt to attain adequate coverage in 1987. Your regional coordinator will tell you how many species are expected in your square. If you are close to finishing your 1986 square, take on another one. It will be easier to record species in the new square if you visit it throughout the season, rather than completing your first square and making a last ditch effort late in the season to get the new one started. If you suspect there are species lurking in your square but you can't find them because you're unfamiliar with their song, etc., invite a fellow birder to go birding in your square. Not only will you learn how to identify a new species or two, but you might inspire another birder to take up atlassing. We want everyone to participate.

You don't have to claim responsibility for completion of a square. If you're planning a birding weekend, you can atlas wherever you are. There isn't much more to it than keeping a check-list, providing you can describe as accurately as possible where you were birding. It's a snap! If you haven't done any atlassing yet, you really should try it. Why wait until there are only 3 years left to enjoy? If you start now, you can join the ranks of the initiated and contribute greatly to the knowledge of our birds. Besides, there are 500 proficient observers to help you get started.

For more information, please contact Judith Kennedy, Maritimes Breeding Bird Atlas, c/o Nova Scotia Museum, 1747 Summer Street, Halifax, N. S. B3H 3A6, telephone (902) 429-4610.

## From the Pages of the Journals

### Swainson's What?

Christopher Majka



Just imagine that it's a spring morning. The sun isn't up yet but you're out of bed pulling on your hiking boots. Time to take an early morning bird walk — to shake the dust from your memory of bird songs. Outside it's still cold — bit of frost on the grass as you start out towards the woods. Rub your hands together and breathe on them — there, that feels better. A few Robins are bouncing on the lawn — in the distance a group of crows is calling — but wait; what's that? Ah, yes — there's a familiar call — no trouble recognizing that one — the Swainson's Thrush — always one of your favourites. That gentle flute-like song; you hear it everywhere you go in New Brunswick forests. Almost seems like the spirit of the woods itself. Funny though, Swainson's Thrush. Swainson who? How come it's his thrush?

Perhaps you are spending a winter holiday in southern Florida. Driving to the beach in the morning you happen to look up through the windshield and a large buteo shape soars over the car. Putting on the brakes you swerve to side of the road. Grappling for your binoculars under the seat you leap out and,

focusing, you notice the dark breastband — ah ha! — a Swainson's Hawk. That's a new one! But wait a minute — whose hawk? Swainson's Hawk?

Another trip to the south. It's a hot day in Georgia's Okefenokee Swamp. You've got your hip waders on and are wading among the cypresses, always mindful of the alligators. Suddenly a small bird darts out of the thicket and perches on a branch in front of you. Through the binoculars you can see the dark crown and the light stripe through the eye. Incredible! A Swainson's Warbler! Suddenly a noise startles the bird. You turn — oh no! — an alligator...

Yes, Swainson — William Swainson to whit — English naturalist, author and illustrator. This month in "From the Pages of the Journals" I inaugurate the first in what I hope will be an intermittent series of articles about the history of science and some of the famous men whose names may be familiar but about whom we might know little. I am inspired to that task because of an article by David M. Knight: "William Swainson: naturalist, author and illustrator" (*Archives of Natural History* (1986) 13(3): 275-290).

William Swainson was born in 1789 in Liverpool. After a short army career in Malta and Sicily, he retired in 1815 at half pay to pursue his real interest — natural history. He promptly left on an expedition to Brazil where he collected plants and animals. On his return to England he was made a Fellow of the Royal Society. Swainson was a talented illustrator and draughtsman and a passionate believer that zoological illustration ought to be as high and noble an art as any other. In his introduction to the illustrations of *Exotic Conchology* (1821-22) he presented his 'manifesto' which stated in part:

"while the perfection to which the Fine Arts have attained in this country, is so great, as to be obvious in the embellishments of the minor pamphlets which daily issue from the press, the delineations of Zoological subjects in general remain uninfluenced by this universal improvement; and with few exceptions, present lamentable deficiencies in design, drawing, perspective and the most common principles of light and shade; any one of which would not be tolerated, even in the frontispiece to the most humble of our periodical publications".

He scorned the custom of merely copying museum specimens in minute detail and he likewise stated that people forget:

"that, in Birds particularly, every family has a decided peculiarity of form and habit, and that all originally possessed the gracefulness of life and action, which does not remain with the preserved skin; and, that, to delineate a shell with a proper degree of accuracy, as complete a knowledge of design, colouring, and chiaro-scuro<sup>1</sup>, is requisite, as in painting a cabinet picture of still life."

Swainson made his mark on the world of zoological illustration with a number of publications. These included *Zoological Illustrations*, *Exotic Conchology*, *The Geography and Classification of Animals*, *Birds of Western Africa*, *Flycatchers*, *Animals in Menageries*, *Taxidermy*, *A Treatise on Malacology, or Shells and Shellfish*, *The Natural History and Classification of Quadrupeds*, and the volume which most contributed to his reputation as an illustrator in North America, *Fauna Boreali-Americana*<sup>2</sup>. It was on that basis that Nuttall's *Catharus ustulatus* became known as Swainson's Thrush; Bonaparte named his new hawk *Buteo swainsoni*, Swainson's Hawk; and Audubon described, in his honour, *Limnothlypis swainsonii*, Swainson's Warbler. Audubon in fact tried to interest Swainson in helping him with his *Ornithological Biography* but Swainson refused because his name would not have appeared on the title page. Their friendship subsequently cooled.

Thus far it might appear that Swainson was yet another devoted, but otherwise quite typical and ordinary, figure on the great road of natural history, but far from it. Swainson was also one of the chief exponents of a rather bizarre dead-end offshoot of systematics and classification called the Quinary System. Never heard of it? Well neither have most people in this century, but back in the 1820's and 30's in England it was an issue much discussed. Remember that it was before the publication of Darwin's *Origin of Species* in 1859 and that the idea of how animals and plants might be related was a topic of much conjecture and argument. A certain W. S. MacLeay devised a peculiar circular symbolic system to explain both affinities and analogies between animals. He immediately won over fellow zoologists N. A.

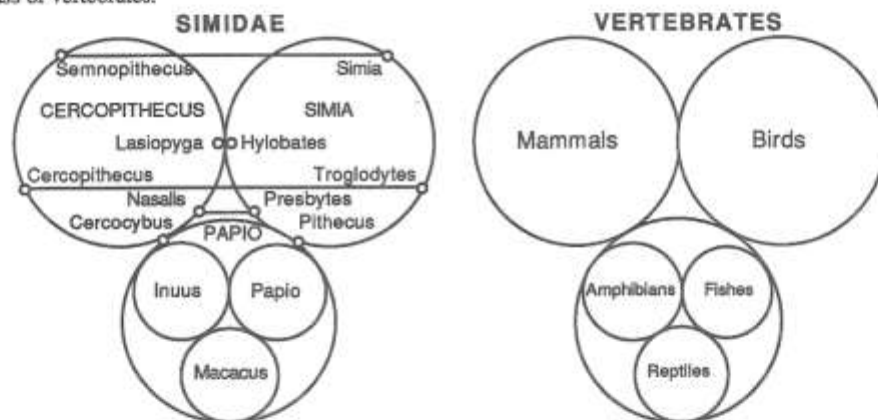


Vigors and William Swainson to his ideas and the three of them spent much of their lives trying to convince a skeptical world of the validity of their findings.

In a nutshell, the Quinary System sees all taxonomic relations — of species within genera, of genera within families, of families within orders, of orders within classes and of classes within phyla — as based upon groups which did not have a *linear* arrangement (or a *branching* tree-type of relationship as taxonomists these days believe) but a *circular* arrangement in which the opposite extremes meet. Further, each group was divided into three circles one of which represented the 'typical' members, the second the 'subtypical' members and the final one the 'aberrant' members. The aberrant circle in turn was divided into three smaller sub-circles encompassing three groups. Those circles touched one another and the species were distributed around them, with affinities expressed through the proximity of species on the circle and analogies through mirror image reflections on other circles. It was called the Quinary System because it saw all things as being arranged in fives and this belief in the primacy of numbers was adhered to with almost mystical fervor.

Sound complicated and strange? Well in all fairness to MacLeay and Swainson it was, in some respects, as good an idea as any other at that time when there was as yet no conception of a driving force behind relationships. It was not until Darwin, and the idea of evolution, that a dynamic sense of taxonomy would start to be created. The following example is one of Swainson's, illustrating the relationship of monkeys according to the Quinary system. The straight lines indicate 'analogies', that is, animals which are in some way representative of the same qualities although they are in separate circles.

A quick transformation of names and, lo and behold, we have the relationship of orders within the class of vertebrates.



In truth, though, the Quinary System, although in some instances corresponding to intuition, strained credulity in many others. For example, Knight (1986)<sup>3</sup> says:

"The modern reader may not feel that the parallels are compelling, or be struck with the observation that long noses and small eyes go together in nature or in man, or agree (with Swainson) that nothing 'can be more perfect than the analogy between the Bengal tiger and the African zebra', both being striped and impossible to tame".

In any event, history was not kind to the Quinary System. While zoologists in the 1820's and 30's had at least to take MacLeay and Swainson's proposals seriously, by the 1840's there were few who even paid attention to them. When *Origin of Species* was published in 1859 all possibility of its validity disappeared. Swainson, disillusioned with the lack of acceptance of his ideas, frustrated at yet another failure to get a post in the British Museum, and by the death of his wife, emigrated to New Zealand and was little heard of again. According to Knight (1986):

"An American visiting Australasia in the 1850's heard to his surprise that both MacLeay and Swainson were living there, and imagined that they had been exiled to the Antipodes 'for the great crime of burdening zoology with a false though much laboured theory which has thrown so much confusion into the subject of its classification and philosophical study'.<sup>3</sup>

So the next time you hear a Swainson's Thrush singing in the woods perhaps you'll remember its namesake, William Swainson, and the peculiar legacy which he left to the sciences of classification and taxonomy. We often think of science as a kind of linear progression moving forward but there are many curious twists and turns and many blind alleys and dead-ends on the path of knowledge.

#### Notes

1 *chiaro-scuro* = the treatment of light and shadow

2 Written with J. Richardson.

3 D. Knight (1986) *Ordering the World: A History of Classifying Man*. Burnett Books. London. 215 pp.



## Nouvelles des clubs

### Le Club de la Péninsule acadienne

Le Club de naturalistes de la péninsule fonctionne à merveille, les membres sont enthousiastes et participent avec entrain aux activités organisées.

En décembre, les membres ont fait 3 recensements, soit celui de Tracadie, de Caraquet et celui de Lamèque—Shippegan. Les participants ont tellement aimé leur expérience, que l'exécutif a décidé d'offrir une sortie semblable pour janvier. On tira au sort et la région de Lamèque fut favorisée.

Dimanche matin, 8:00 hre, sous un froid de -23°C avec un vent d'environ 60 km/hre, les participants se font un chemin à travers les bancs de neige car les chasse-neige n'ont pas encore ouvert la route. On se divise en 4 équipes et en avant.

J'étais dans un groupe qui devait observer le bord du golfe. Le vent nous transperçait, une bruine s'élevait sur l'eau et diminuait de 75% la visibilité. La poudrière nous gênait et les ramblais de neige de 2 mètres à certains endroits de la route, entravaient notre observation.

À 16 heure, retour de toutes les équipes, même Jean-Raymond Gallien et Jean-Claude Doiron avec 2 copains, qui ont fait Pokesudie le matin et ensuite Shippegan, nous ont rejoint malgré les conditions routières. On fait la somme de nos observations et découvre que nous avons vu 21 espèces, soit 10 de moins qu'en décembre et un total de 696 individus comparé à 2413 à Noël. Les grosses différences sont dans les oiseaux côtiers car certaines parties de la côte sont maintenant prisonnières des glaces. Au recensement de Noël, on avait observé 492 Canards kakawi contre 52 cette fois, 269 Guillemots noirs contre 40. Les Sizerins flammés ont aussi beaucoup diminué, de 384 à 145 et fait à remarquer, ils étaient tous en petits groupes de 2 à 10 individus comparé à plusieurs groupes d'environ 50 au recensement. Le nombre des Bruants des neiges est descendu de 610 à 148, même le Geai bleu se fit rare ce jour-là aux mangeoires.

Pour clore cette journée, un bouillon fut servi aux participants et puisque c'était l'anniversaire de notre directeur des observations, Hilaire Chiasson, un gâteau lui fut offert. Au souper, plusieurs avaient des anecdotes à raconter, comme arrêté par la police comme rôdeurs, ils s'en tirent aisément en lui présentant leur carte "officiel" pour le "Maritimes Breeding Bird Atlas".

Tout le monde était enchanté de leur journée. Même notre jeune participant, Jonathan, âgé de 9 ans, a suivi toute la journée avec beaucoup d'intérêt.

On espère que cette journée deviendra pour nous un évènement annuel.

Rose-Aline Chiasson

## Nature News

Winter 1986-7

David Christie



Heavy snowfalls and a lack of thaws to create crusts made the winter a difficult one for **White-tailed Deer**. In such conditions travelling was difficult and often they ate all the good browse in areas to which they were confined. In Fundy National Park hungry deer were standing on roadside snowbanks to feed on tree branches normally out of reach (Rob Walker). In Alma they made night-time raids on villagers' trees and shrubs (v.o.). Elsewhere along the Bay of Fundy, such as at Musuqash (David Thompson) and Waterside (Ron Rossiter) herds of deer were coming out of the woods in search of food in late winter.

A **Gray Squirrel** at Tanya Madden's feeder at Tide Head Dec. 27 was the first Alan Madden had seen in Restigouche County, and also the first I can recall being reported there.

A late flight of **Canada Geese**, 300 birds in 3 flocks, passed over Fredericton Jan. 21 (Paul Fallon, *vide* Nev Garrity). There were no more reports until March. The **Snow Goose** seen at Hartland Dec. 29 (Jeff & Lori Ann Home, *vide* Diane Clark) seems to have stayed in the valley a while. At any rate, one was seen at Bath January 11 or 18 (Pearl McNair).

**King Eiders** again appeared with the **Common Eiders** which winter abundantly at St. Andrews. Two adult males were at Indian Point about the end of January (David Clark) and one on Mar. 13 or 15 (Brian Dalzell). A first year male **Harlequin Duck** in the Upper Salmon River estuary from about Jan. 13 through Feb. 4 (Doris Hatt, R. Walker *et al.*) was the first record of that species in Fundy National Park. Harlequins are regular though uncommon in the outer bay. A pair of **Hooded Mergansers**, discovered in December in the strip of water kept open by the Westfield ferry, were still there March 8 (Jim Wilson).

As usual, **Barrow's Goldeneyes** were at their traditional winter gathering spot, open water by the Route 134 bridge at Cocagne. Brian Dalzell estimated 25 to 30 there, along with 250+ **Common Goldeneyes**, Jan. 18 and Feb. 23. Two **Barrow's** were also seen in Courtenay Bay, Saint John, Jan. 2 (Wilson) and three at St. Andrews, during January (David Clark).

Late in the winter a half dozen dead ducks were reported on the edge of the ice at Cocagne, but the cause of death is not known to me. David Smith was told by the operator of the Westfield ferry that a dead **Common Merganser** he saw on the ice there had been killed by **Great Black-backed Gulls**.

**Sharp-shinned Hawks** were seen frequently at feeders. At Moncton, Brian and Halton Dalzell had both an adult and an immature and observed at least 25 kills. Brian estimates the two hawks caught at least 250 redpolls and siskins at their feeder from December through February.

In mid-February an adult **Bald Eagle** was patrolling Trout Creek at Sussex (Harriet Folkins), the only area additional to those reporting eagles during the CBC's. At Millidgeville, Saint John, an adult and two immatures were picking up fish near the ice shacks early in January (Hugh Cunningham), while two adults and an immature were visiting Partridge Island in Saint John Harbour (Ralph Eldredge).

A gray-backed **Gyr Falcon** hurried westwards along the shore at Mary's Point, Feb. 8 (DSC) and a very white one was seen at Hillsborough March 6 ("Mike" Majka).

Far off course was an immature **Purple Gallinule** carried north from the subtropics or tropics by the intense storm Jan. 23. Mrs. Alcide Boudreau's son found it the next morning, in the snow at College Bridge. The Boudreaus passed it on to Reid McManus who turned it over to experienced gallinule keeper Mary Majka. The bird, now one-legged because of an injured leg that would not heal, is still in her care.

Seven **Dunlin** apparently spent the winter at St. Andrews, where Peter Pearce saw 7 on Feb. 26. David Clark had reported about the same number there early in December. A very late **Red Knot** at Mary's Point Dec. 31 (DSC & Mary Majka) was not seen again, despite careful checking of the **Purple Sandpiper** flocks.

Two **Little Gulls** were at Campobello Island as late as Dec. 2 (Norman Famous; *Guillemot* 15:55). An adult **Common Black-headed Gull** at Courtenay Bay, Saint John, Jan. 2 (Jim Wilson) was the only one reported during the winter.

**Snowy Owls** were spotted frequently in various areas during the winter. Three hunted fields along the Trans-Canada Highway between McGowans Corner and Jemseg, Jan. 23 to March 8 (Glen Niles *et al.*) A **Northern Hawk-Owl**, first reported by Cheryl Davis at Middlesex, south of Salisbury, offered excellent opportunities for observation from mid-December well into February. **Short-eared Owls**, not found on any of the CBC's, were present on the marsh at Aulac, where Stuart Tingley saw 7, along with 3 **Snowies**, in a limited area below Fort Beauséjour Feb. 4. On Mar. 14, 3 Short-ears and one **Snowy** were still there.

Harry Walker, responding to my question about what plants and animals reappear first after forest fires, wrote that 3 of 4 **Black-backed Woodpeckers** he saw in summer 1986 were in an area that had burned two months earlier, and that the fourth was found on the edge of another burn. In addition, both the **Black-backs** seen on the Chatham-Newcastle CBC were found in 1986 burns. Those woodpeckers are known to prefer feeding in recently dead trees, which usually have high populations of bark beetles. A **Black-back** was seen Jan. 30 at Wicklow, near Florenceville (Jeannette Greene), where the species was not reported on the CBC. Mrs. Greene also saw one of the rarer **Three-toed** [formerly **Northern 3-toed**] **Woodpeckers** near Arthurette Dec. 5.

A **Scissor-tailed Flycatcher** that appeared at Grand Manan in November survived at Seal Cove until at least Dec. 6(!), according to Geraldine Nelson (*vide* Dalzell). [Why, oh why did I give up the idea of going to the island after the bird had apparently vanished in -13° temperatures Nov. 14?] Two **Horned Larks** were seen near Hartland Feb. 8 and 9 (Ford Alward).

Although no **Gray Jays** were seen on the Woodstock, Hartland and Florenceville CBC's, some were reported in those areas: 3 seen daily at Charleston (Vera Dewitt) and 2 at Lakeville (Carol Paget).

**Black-capped Chickadees** were singing their first "fee-bee" songs at Fredericton Feb. 2 (Dorothy Sleep) and 3 (Pearce). One was joyfully vocal at Mary's Point as early as Jan. 20 (DSC). A Mrs. Wolstenholme, at Fredericton, was puzzled by the behaviour of a chickadee which late in February began to flutter repeatedly around the perimeter of one of the windows of her home. Mary Majka, after talking to her, thinks that the bird was probably engaged in picking insects or their eggs off the window frame.

The **Brown Creeper**, rather scarce all winter, was seen at Sussex (Folkins) and near Florenceville (Greene) in addition to the localities where the species was found on the CBC's. The general scarcity of **Golden-crowned Kinglets** during the winter was particularly pronounced in the upper Saint John valley where Jeannette Greene reported none at locations where they are usually present in that area. In last issue's Christmas Bird Count table, I inadvertently listed **Ruby-crowned Kinglet** as being seen during CBC period at Sackville. In fact, the asterisk should have been on the following line, for **Hermit Thrush**, one of which visited Sandy Burnett's feeder there on Dec. 24. **Single Hermits** were also seen on the Saint John and Fredericton CBC's.

A few **American Robins** were reported throughout the winter, including individuals at Bathurst January 1 and 30 (Fred Cormier & Eddy Hall). A flock of 13 at St. Andrews Feb. 26 (Pearce), where none were reported at Christmas, possibly might represent a very early group of migrants (Pearce). In late February it was discovered that a **Varied Thrush** — a visitor from the far west — had been visiting Maurice and Olga Smith's feeder at Mactaquac since late November. It was seen till about March 21, vanished, but re-appeared again April 4 (*vide* Pearce).

Following a record CBC total, **Bohemian Waxwings** continued to be widely reported. Observations included 25 at Tide Head Jan. 18 (Madden), 75-100 at Hopewell Hill, near Riverside-Albert, Jan. 29 (Diana Bogle), 75 at East Riverside Feb. 14 (Mary Ross), 15-25 at Bathurst Feb. 18 & 21 (Roger Arseneau; Cormier), 25 at Harvey, York Co., Feb. 26 (Pearce), 100 at Hampton Mar. 14-15 (Wilson), and flocks in the Miramichi area throughout the winter (H. Walker). Often a flock would take only a couple of days to strip an apple tree of fruit.

Two **Pine Warblers** appeared sporadically during late December and January at Stewart and Helen Willis' feeder in Fredericton. Possibly it was the same two that visited Harold Hatheway's, on the opposite side of the river, January 31.

The only reported **Northern Cardinal** not found by the CBC was one at a feeder in Northampton, near Woodstock (Andrew Bull, *vide* Frank Withers). A male **Rufous-sided Towhee** survived at the Allaby's feeder at Nauwigewauk from early December until mid-winter (*vide* Wilson)

It is not known whether the **Northern (Baltimore) Oriole** at Grace Lee's feeder at South Bay, Saint John, Jan. 8 could have been the same one seen in West Saint John on the CBC.

**Pine Siskins** and **Common Redpolls** continued to be conspicuous throughout the winter but **American Goldfinches** were scarce in most areas. Siskins were the most numerous bird at many feeders in January but declined somewhat as redpolls increased during February. Largest numbers reported were at the Dalzells' feeder in Moncton, where siskins peaked at 350 in mid and late January and redpolls at perhaps 400 in the first week of February.

A few **Hoary Redpolls** accompanied the Commons. Harry Walker, who saw "the odd one" at Newcastle, mentions a Hoary reported at John Keating's in Chatham and a telephone report from another feeder. At Sisson Ridge Erwin Landauer noted up to 4 Hoaries at once in late winter, while there was one at New Maryland Jan. 18 (Reg & Margot Hayes, Hatheway), another at Losier Settlement Feb. 23 (Hilaire and Rose-Aline Chiasson), and a "90% Hoary" at Moncton Feb. 7 (Dalzells). An individual that gave rise to some reports of Hoaries in Fredericton was actually a partially albino **Common Redpoll**, mostly white with a pink forehead and traces of dark on the face. It visited Peter Pearce's and other feeders from Jan. 31 through February.

As winter progressed, **Evening Grosbeak** numbers declined from their record levels at Christmas, at least in Carleton County and the southeast. The travels of one particular grosbeak were widely noted in Carleton County, because of its unusual coloration. Almost entirely bright, clear yellow, except for its white wing patches, it appears to have been an incomplete albino, lacking virtually all of its dark pigment. It was seen frequently in Oakland, Florenceville, Bristol and Glassville (V.N.). The same bird, or a very similar one, was seen at Arthurette, Victoria County (*vide* Laverne Rabatich).

#### Abbreviations

CBC — Christmas Bird Count  
DSC — David Christie  
*et al.* — and others

V.N. — Valley Naturalists  
v.o. — various observers



## Notes on Tree Swallow Breeding Biology

### II - Ageing Nestlings

Rudy Stoczek



Nestling Tree Swallows change dramatically during the time they spend in the nest. Those physical changes can be related to the age of the birds and hence provide a means of ageing the nestlings. The purpose of this note is to document some of the more obvious changes in the external body features of

nestling Tree Swallows and relate them to their age. This method does not require extensive handling of the birds or detailed measurements and may be useful to banders or others who have occasion to monitor the breeding of this ubiquitous species.

Observations of young in 20 nests were made during a 12-year study of breeding Tree Swallows at a small nest box colony in Fredericton, N.B. The features recorded were those easiest to see with a minimum of handling. The measurements shown for body and feather length are approximate. Having been converted from the Imperial to the metric system, they now seem more precise than they actually were. Table 1 shows the feature changes in the nestling through day 8, day 0 being the day of hatching. Table 2 lists changes in feathering and activity which mark the development of the young bird from that time until it fledges on day 18.



Table 1. Changes in external body features in nestling Tree Swallows from hatching to day 8 at a colony in Fredericton, N. B.

Day	Eyes	Culmen	Feather Tracts	Follicles	Body Length (mm)
0	closed	pink or colorless			13
1	closed	pink			13-25
2	closed	pink	barely showing as blue bands		25
3	closed	pink to pink-blue	barely showing as blue, also showing as narrow band on wings		32-38
4	closed	pink-blue	barely to very evident		38
5	closed	pink-blue	blue		51
6	closed	blue	prominent	barely breaking through skin	51
7	closed	blue-black	well-developed	1.5-3.0 mm	51-64
8	open	blue-black to black	feathering	feathering	51-64

Table 2. Development in nestling Tree Swallows from Day 8 to fledging, at Fredericton, N.B.

Day	Characteristics
8	tail, wing, back and rump feathers almost 2 mm long; gray down between feather tracts.
9	other feather tracts have longer feathers than the wings and tail.
10	wing and tail feathers 3-6 mm; nape appears feathered; rump, head, back and shoulders feathered or feathering with small feathers; gray down persists between tracts.
11	wings may appear fully feathered although feathers only 6-13 mm; tail feathers 6-10 mm long.
12	upper tail coverts cover base of tail feathers, then about 13 mm long; other tracts may appear fully feathered; wing feathers about 13 mm long.
13-14	feathers increase in length and most tracts appear fully feathered.
15	nestlings appear sleek, dark charcoal gray or black and fully feathered, even though feathers still growing and a bit of down may be on back or wings.
16-17	increased vocalization and movement in the nest, to the extent of peering out the nest box hole; adults may feed young without entering box.
18	first flight.

## Federation News

### 1987 Annual Meeting Weekend



The Annual General Meeting was held August 7-8 at Mary's Point. The weekend was extremely well attended with a total of 98 registrants.

A highlight of the weekend was the dedication of the Shepody Hemispheric Shorebird Reserve on Saturday, August 8. As many of us are aware, Mary's Point is a key component of the Shepody National Wildlife Area and thus it was fitting to hold the dedication there.

In addition to being recognized as a critical shorebird staging area, Mary's Point had been declared a "wetland of international importance" under the Ramsar Convention and officially listed, on 24 May, 1982. The Ramsar Convention was initiated in 1971 when 18 countries signed the Convention on the Conservation of Wetlands of International Importance at Ramsar, Iran. (Imagine holding such a gathering in that country today!)

It is interesting to note that since Canada became a signatory to the Convention in 1981, this country has designated 17 wetland areas. Their combined area exceeds the total area of all the sites designated by the other signatories... quite an achievement! In fact Canada will soon designate another, Oak Hammock Marsh in Manitoba.

Obviously there is little point in protecting Canada's wetlands if the sites in the Caribbean, Central and South America that support migrants for a major part of the year, are lost. Thus it was particularly interesting and encouraging to learn that two wetland sites along the coast of Suriname (formerly Dutch Guiana), South America, are protected. Those two nature reserves, Coppename and Wia Wia, considered sister reserves to Mary's Point, are the feeding grounds for nearly two thirds of the world's population of Semipalmated Sandpipers.

The dedication ceremony was attended by approximately 250. Jim Vollmershausen, Director General, Conservation and Protection, Atlantic Region, Environment Canada, emceed the event. Speakers included Mrs. Pauline Browes, M.P. for Scarborough Centre and Parliamentary Secretary to Tom McMillan, Minister of the Environment; Malcolm MacLeod, (then) N.B. Minister of Natural Resources and Energy; Stanley Malone, Head, Suriname Forest Service; and Dr. Peter Myers, Chairman of the Western Hemisphere Shorebird Reserve Council and Senior Vice-President, Science, National Audubon Society.

Mrs. Browes, bringing greetings from the Minister, spoke in general terms about the importance of wetland sites such as Mary's Point. Malcolm MacLeod mentioned camping at Mary's Point for many years and marveling at the incredible spectacle of the Semipalmated Sandpipers roosting at high tide. Dr. Pete Myers outlined the international effort underway towards identifying and protecting shorebird reserves. Stanley Malone stole the show explaining in some detail the two wetland sites that his country protects to a degree equivalent to our national parks. He then gave the gathering an entertaining and absorbing account of the problems facing wildlife today. Certainly, few were prepared for such an eloquent speech by the Suriname representative.

During the ceremony David Christie, Mary Majka and Reid McManus were honoured for their unstinting efforts to ensure the preservation of the shorebird habitat and population of the Bay. Readers of this publication are aware, I am sure, of David's and Mary's accomplishments but I believe it is worthwhile to detail the contributions of Reid McManus. He is a retired teacher living in Memramcook and has been active in ornithology for over 50 years. Reid has been conducting shorebird counts at Grand Anse (near Dorchester Cape and a shorebird feeding and roosting area about equal to Mary's Point) since the mid-seventies. His observations have contributed in no small way to the identification of critical flyway stops of which the shorebird reserves are a direct result.

Two early morning outings to the Germantown and New Horton marshes yielded the usual assortment of birds including Common Moorhen, Marsh Wren, Virginia and Sora Rails. Another to Fundy National Park saw a good movement of warblers, lots of crossbills flying overhead and the highlight of seeing 4 Peregrine Falcons at the same time, the latter at the Herring Cove hack site. A botany trip to the Wilson Brook gypsum area resulted in a group of 15 finding Miniature Goldenrod, Mountain Avens and Buffaloberry among others. This was followed by a visit to a nearby fossil site where fossil fish scales were a highlight for many.

Following Saturday night's delicious lobster supper, the federation's annual business meeting was held, and there were presentations on resource conservation policies and programs in the provincial field by Pat Kehoe, Wetland Habitat Biologist, with the Dept. of Natural Resources and Energy, and in National Parks, by André Savoie, of Parks Canada's Resource Conservation division.

Angus MacLean

### Annual General Meeting

At the federation's annual general meeting, reports were presented by the president, treasurer, editors, and representatives of federated clubs. Current bank balances were \$5370 in the general fund, and \$1096 in the scholarship fund. Jim Wilson was re-appointed as auditor. L. Keith Ingersoll of Fredericton was announced as winner of the George M. Stirrett Award for the best article in Volume 15 of the *N. B. Naturalist / Le Naturaliste du N.-B.*, "Two Cases of Mephitis", which appeared in issue number 3.

It was with great sadness that news was received of the passing of honorary life member Arthur Callaghan, of Musquash. "Cal" had been a longtime active member of the federation and the Saint John Naturalists' Club and a dedicated volunteer par excellence for the Natural Science Department at the New Brunswick Museum.

Nominated and elected by acclamation as federation executive were Peter Pearce, president; Brian Dalzell, vice-president; Ruth Rogers, secretary; and Harriet Folkins, treasurer.

Paul Griss, executive director of the Canadian Nature Federation, was introduced to the meeting. He spoke of changes in organization and staff at CNF and of the forthcoming move of its office and bookstore to 453 Sussex Drive in Ottawa. He announced that CNF would become a full partner with World Wildlife Fund Canada, as sponsors of the Operation Lifeline project, an educational program on endangered species. He expressed satisfaction at the successful outcome of the campaign for designation of the South Moresby area as a national park, pledged that CNF would be taking a more active role on key issues, and extended an invitation to the next CNF annual meeting, to be held in Yellowknife, N.W.T. in July 1988. He concluded by stating that conservation is not just an individual, provincial, or national issue, but a global concern.

### A Trapping Policy?

The subject of trapping has come up at two meetings of the federation's board of directors over the last year and a half. Each time we could reach no consensus about what policy the federation should adopt. Should the federation support closely regulated trapping practices, oppose trapping altogether, or take some other position?

The Conservation Council of New Brunswick, having had similar discussions, put the question to its members in the winter 1987 issue of its newsletter, *Eco-Alert*. We reprint here, for your comments and feedback, a policy that was proposed for adoption by the council. What's your opinion?

"In accordance with Article II, 1(c) of the Conservation Council by-laws stating that 'The objectives... shall be... to promote the formulation and practice of environmentally sound policies and programs to achieve and sustain an optimum balance of social and economic benefits derived from the natural resource base.'



"the position of the Conservation Council in regard to trapping in New Brunswick shall emphasize long-term management and conservation of furbearers in order to assure continued populations. At the same time, fur-harvesting management should not favour more valued species at the expense of other animals who may be equally important in the ecological scheme of things. It should also be recognized that wild animals have an intrinsic value to many far beyond the economic value of their pelt. In addition, concerns over inhumane trapping practices must be addressed. As such, the following principles are proposed:

"General

1) While the existence of trapping as a traditional and economic activity in New Brunswick is recognized, trapping must be carried out within a strict regulatory framework.

"Conservation

2) In order to determine long-term population trends, complete information on annual harvests on a regional basis is required. To this end, CCNB proposes annual registration of all trap lines and completion of fur-harvest success reports by all trappers, such reports to include location of line, number of sets, and species and number of animals caught.

"3) Recently introduced provincial regulations concerning the closure of the bobcat season are supported.

"Checking of traplines

4) Recent provincial requirements to check all traps every 48 hours are supported. If possible traps should be checked daily, particularly where they are close to human habitation. The effect of this requirement should be the elimination of 'weekend' trappers.

"Inhumane traps

5) Banning of toothed traps, hooks, deadfalls or leghold traps having a jaw spread greater than 20 centimeters, as required under new provincial regulations, are supported.

"Education

6) Compulsory universal trapper education programs should be introduced. These programs should be administered by the New Brunswick Trapper's Association under the supervision of the Department of Natural Resources and Energy, or directly by the department, and should stress the need for the most humane trapping procedures practicable.

"Enforcement and Facilitation

7) Mandatory membership in the New Brunswick Trapper's Association or an affiliated trapper's organization should be required of all persons obtaining trapper's licence.

"8) All traps must be identified by means of a stamp or affixed metal tag with the owner's name or trap registration number.

### Sharp-shinned Hawk Specimens Requested



The Canadian Wildlife Service, Atlantic Region, is continuing an attempt to assess the potential of the Sharp-shinned Hawk as a biomonitor of toxic chemical contamination of the terrestrial environment. Sharpies occasionally collide with window panes near winter bird feeding operations. As a result of a request for specimens last winter, ten carcasses were received — not a bad start. More are needed. Specimens should be labelled, placed in plastic bags, and frozen as soon after death as possible. CWS should then be called collect at (506) 452-3086 for shipment instructions. Potential contributors are thanked in advance for their support of this investigation. When requested, every attempt will be made to return specimens to contributors after removal of tissues for analysis.

Peter Pearce, CWS, Box 400, Fredericton, N.B. E3B 4Z9



## Awards

Mary Majka



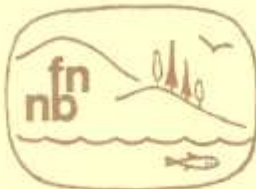
At a Heritage Day ceremony in Ottawa February 16, Mary Majka was one of five persons receiving Heritage Awards from Environment Minister Tom McMillan. The awards recognize nationally important achievements in the field of heritage conservation and interpretation. While honoured, Mary received the award with mixed feelings since she feels that such formal recognition of one's achievements is a sign you are getting old. Furthermore, she had to alter southern vacation plans to endure -27° temperatures in Ottawa! Later, in April, the New Brunswick chapter of the Canadian College of Teachers presented Mary with their Friends of Education Award for her efforts in support of outdoor and environmental education in New Brunswick.

Through her activities, Mary has got to know many New Brunswickers and most federation members, but for the benefit of newcomers I will itemize some of her service. For seven years she hosted a TV nature program for children, has written a book about Fundy National Park, developed and operated a children's nature program at Fundy and an outdoor education program for schools in Centennial Park, Moncton, has led countless class outings and teacher workshops in various parts of the province, co-edited an outdoor education newsletter for teachers. She is a founding member and former president of the Moncton Naturalists' Club and of our federation, and served on the boards of the National and Provincial Parks Association of Canada, the Canadian Nature Federation and the Conservation Council of New Brunswick. As president of the Albert County Heritage Trust she has been instrumental in preserving covered bridges and historic buildings. — DSC

### Tropical Forests Threatened

Moist tropical forests are the most biologically rich and diverse habitats in the world but they are also the most threatened. Although they are the natural habitat for 50% of all plant species on earth, they have been reduced in area by 40%. Recent annual losses of 5.6 to 27 million hectares result from ever mounting development pressures. Exponential growth of populations accompanied by increasing demand for food and energy resources are the major internal causes for forest degradation. Two billion rural people depend on trees for food, fodder, fuelwood, fertilizers, medicines and a host of other products. Externally, the industrialized world looks to tropical countries for raw materials needed to maintain and continue economic growth.

Although the prospects seem bleak, some steps are being taken to prevent the situation from becoming worse and, it is hoped, to improve it in the long run. Among those efforts are the Food and Agriculture Organization's "Tropical Forest Action Plan", which details a forest conservation strategy to be implemented through projects on a country by country basis. However, its five-year budget of \$8 billion (U.S.) is estimated to be only about one fifth of what is needed.



## NEW BRUNSWICK FEDERATION OF NATURALISTS

277 Douglas Avenue, Saint John, N. B., Canada E2K 1E5 Tel.: (506) 658-1842

## LA FÉDÉRATION DES NATURALISTES DU NOUVEAU-BRUNSWICK

277, avenue Douglas, Saint-Jean, N.-B., Canada E2K 1E5 Tél.: (506) 658-1842

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.

La fédération est une organisation sans buts lucratifs 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 la nature et de l'environnement naturel, et pour éveiller le souci pour le patrimoine naturel du Nouveau-Brunswick.

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