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feeding the young while his mate moves to their second nest nearby, to start another family.

The Mallee-fowl, one of the larger species up to two feet in length and weighing about four pounds, build their own incubator for hatching up to thirty or more eggs a season. The temperature is maintained by rotting vegetable matter and heat from the sun.

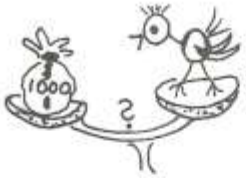
Some species breed all year long. While a few migrate great distances, most stay close to home. If most of the time is spent raising families, obviously little is left to go flying around! Nature provides strong building material for nests that are in constant use; some of the gum trees of the eucalyptus family, valuable commercially, shed their bark – leaving trunks looking like polished marble. Birds select long thin strands of the tough, pliable bark to reinforce their homes.

Conditions are so ideal for wildlife they would seem to perpetuate "nature in balance" but humans have upset this seeming paradise, often unwittingly. Several European rabbits were liberated some years ago and, unhampered by real winter weather, they went on a non-stop breeding rampage. The millions of progeny soon destroyed vast areas of grazing land. The country is slowly recovering, but is still suffering from that invasion. No wonder that harsh sentences await the individual who would even attempt to illegally introduce foreign species of plants, or animals.

There were so many things to see and learn that we could have stayed for months with each day bringing new wonders, but time had run out.

On our way, we dropped down on one of the Fiji Islands, to refuel, enabling us to glimpse a bit of the archipelago where our friend, the late Dr. Stanley Gorham, a colleague at the New Brunswick Museum, had carried out extensive field work in 1966, and then given science its first definitive description of the frogs of the Islands.

Our experiences emphasized that the South Pacific is most certainly a different, fascinating part of the world. Though we had merely skimmed the surface, there will be treasured memories in all the days to come.



HOW MUCH IS A SONGBIRD WORTH?*

Alan Burger

Spring, as usual, brings an influx of migratory songbirds to eastern Canada. Birds that have spent the winter in the southern states, the Caribbean or even South America once again enliven our woods. Spring also brings the news, now equally predictable, that government and paper companies are once again planning to spray insecticides to control the spruce budworm.

Insecticides, forest pests, and birds – two articles recently published in the *Journal of Forestry* link these topics. Both articles analyzed the effects of forest songbirds on spruce budworm.

The first of these scientific articles, by H. S. Crawford and others, reports on research done in Maine and New Hampshire. They showed that birds ate considerable quantities of spruce budworm larvae and pupae and did affect the budworm populations.

Spruce budworms, like most forest pests, are only a problem when their populations rise dramatically to epidemic proportions. For most of the time these insects are actually quite rare, or endemic. Crawford and his team studied bird predation on budworms in epidemic, endemic, and transitional stages. Birds had different impacts on the budworm at different budworm densities.

They found that as budworm densities increased from endemic to epidemic situations, the numbers of budworms eaten by each bird increased. Also more types of bird began to eat budworm, and bird densities increased. As a result the number of budworm eaten by birds increased from 5,000 per hectare (endemic) to 54,000 per hectare (epidemic). [500,000/km^2 endemic, 5,400,000/km^2 epidemic.]

Even though more birds were eating budworms during epidemic outbreaks, the effect of the birds on the pest's population actually declined. Birds were estimated to eat 87 per cent of budworm larvae and pupae in endemic populations, but only 23 per cent in transition populations and 2.4 per cent in epidemic populations. During outbreaks the budworm populations simply swamp their predators, and they "escape" from the controlling effects of predation.

The most important role that the New England songbirds had was to keep endemic populations low and thus reduce the chances of epidemic outbreaks.

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* Originally published in the St. John's *Evening Telegram*, 21 September 1985.

Because birds ate the large larvae and pupae, which had survived the rigors of climate and parasites, their effect was even more important than the numbers suggest.

Birds Effective

The other article in the Journal of Forestry was by J. Y. Takekawa and E. O. Garton, who reported on reasearch done in the Cascade Mountains of Washington State, where outbreaks of spruce budworm are a regular, costly event. They found that Evening Grosbeaks, familiar to anyone who keeps a bird feeder, were the major budworm killers.

Through their research, Takekawa and Garton were able to put a dollar value on the songbirds as controlling agents against budworm. By measuring bird densities, feeding rates, stomach contents, digestive rates, and many other factors, they concluded that each Evening Grosbeak in their area, ate between 13,000 and 26,000 budworms during the 55 days of budworm availability. The whole grosbeak population ate between three and nine million of the pests per square kilometre. When all the species of songbirds were considered, between seven and 13 million budworm were eaten per square kilometre.

The predation by birds caused the budworm populations to decline by 66 per cent in one study site and 72 per cent in another. By contrast the effective mortality caused by chemical insecticides in the same area was about 73 per cent. Since spraying cost $1,820 (U. S.) per square kilometre, the biologists concluded that the predation of budworm by grosbeaks was worth between $790 and $1,270 per square kilometre. Predation by one grosbeak is equivalent to investing between $1.80 and $6.80 in spraying each year.

The value of birds is greatest when pest populations are low or endemic. In Washington, the biologists figured that outbreaks of budworm would occur every three years, if no birds were present, instead of the usual 28-year cycle. To duplicate the action of birds the forests would have to be sprayed once every year and twice a year during outbreaks. This puts the value of birds in the Cascade Mountains at $45,000 per square kilometre every year or about 20 per cent of the total value of the timber.

Management Tool

Could songbirds be used as forest management tools? The Washington biologists speculated that budworm outbreaks could in theory be prevented entirely if bird densities were raised. The New England study suggested that the

highest bird densities occurred when forests contained a mix of tree species with many age classes and many patches of diverse habitat. In many areas, it seems, our forests are becoming just the opposite – virtual monocultures of similarly aged trees maintained by chemical herbicides and insecticides. In addition, studies have shown that at least one insecticide, Fenitrothion, kills songbirds. Given that birds regulate budworm populations, it follows that use of Fenitrothion, could actually increase the frequency of budworm outbreaks or help maintain epidemic populations. We're a long way from integrated pest management.

So an Evening Grosbeak is worth about $6.80. Mind you, that's in the U.S. Given the value of the Canadian dollar and the higher costs of everything,, including insecticides, in Canada I would put a tag of at least $10 on each grosbeak at my winter feeder.

Personally I'd rather have my tax dollars subsidize sunflower seeds and suet than Matacil or Fenitrothion. They're probably equally effective in long-term regulation of budworm or loopers. Besides I've always found the spring song of forest birds far preferable to the drone of spray planes.

THE BEAR AND THE SEVEN HUNTERS[1]

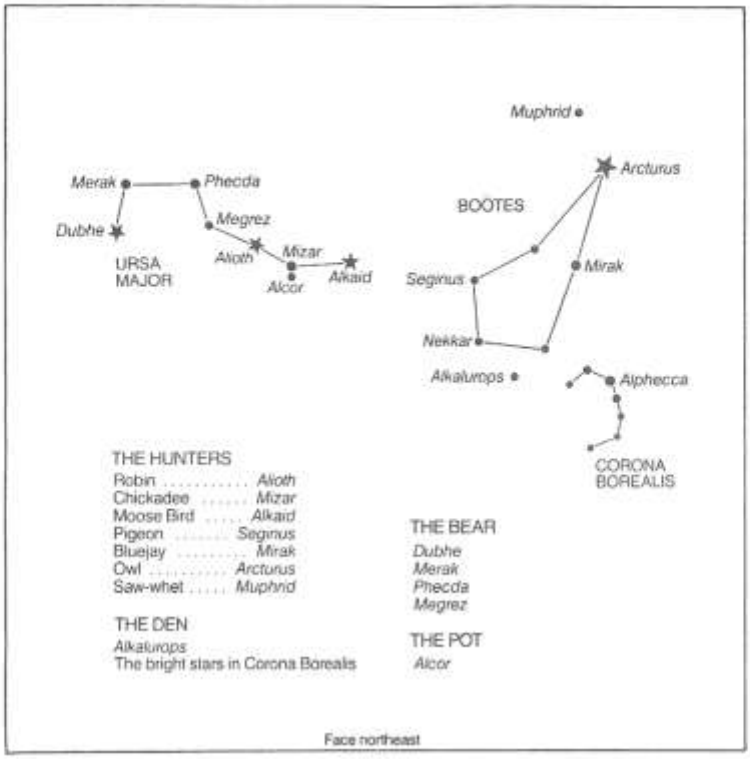
Stars in the constellations Ursa Major, Boötes and Corona Borealis figure as characters in a legend of the Algonquin and Iroquois Indians – a tale of a Bear pursued by seven hunters. The following version of the legend is from *Star Lore of All Ages*, by William Tyler Olcott:

"The first hunter was called 'Robin' because that star has a reddish tinge, the second 'Chickadee' because its star is smaller than the others, the fifth hunter 'Blue Jay' because its star is blue. Arcturus becomes 'Owl' because of its large size, and the star of the seventh hunter becomes 'Saw-whet' because its reddish hue suggests the brilliant feathers which mark the head of that bird.

"Close behind the second hunter is a little star (Alcor), which represents the Pot which he is carrying to cook the bear meat in. Just above the hunters is a group of smaller stars which represent the Bear's den.

"Late in the spring the Bear, waking from her long winter sleep, leaves her rocky hillside den and descends to the ground in search of food. Instantly the

1 Reprinted with permission of the National Museum of Science and Technology, Ottawa, from their "March Sky" newsletter.



sharp-eyed Chickadee perceives her, and being too small to undertake the pursuit alone, calls the other hunters to his aid. Together the seven start after the Bear, and Chickadee with the Pot being placed between two of the larger birds so that he may not lose his way. All the hunters are hungry and pursue eagerly, but throughout the summer the Bear flees across the northern horizon and the pursuit continues. In the autumn one by one the hunters in the rear begin to lose their trail. First of all the Owl, heavier and clumsier of wing than the other birds, disappears from the chase, next the Bluejay and Pigeon lose the trail and drop out. This leaves only the Robin, Chickadee, and Moose Bird. At last about mid-autumn they succeed in overtaking their prey. The Bear at bay rears up and prepares to defend herself, but the Robin pierces her with an arrow and she falls over on her back. The Robin, in haste to feed upon the Bear, leaps upon his victim and becomes covered with blood. Flying to a maple tree near at hand in the land of the sky, he tries to shake off the blood, and succeeds in getting it all off save a spot upon his breast. 'That spot,' says the garrulous Chickadee, 'you will carry as long as your name is Robin.' The blood which the Robin shook off spattered far and wide over

the forests of earth below, and hence we see each autumn the blood-red tints on the foliage. The Chickadee now arrives on the scene and with the Robin cuts up the Bear, builds a fire, and cooks the meat. The Moose Bird now appears; he knew the others would catch the Bear and prepare the meat, and wanted only to be on time to share it. Whenever a bear or a moose or other animal is killed today you will see him appear to demand his share. That is why he is called 'He-who-comes-in at-the last-moment.'

"Through the winter the Bear's skeleton lies upon its back in the sky. But her life spirit has entered into another Bear who also lies upon her back in the den, invisible, sleeping the winter sleep. When the spring comes around, the Bear will again issue forth from the den, to be again pursued by the hunters. And so the drama keeps on eternally."

THE CHRISTMAS BIRD COUNT – A LONG TRADITION

David Christie

No natural history project is as well-known to so many people in North America as is the Christmas Bird Count. A lot of people know only that it's an annual activity of birdwatchers but many thousands are very familiar with what's involved because they have taken part in this 86-year-old project.

In 1900, Frank Chapman, editor of *Bird-Lore* magazine, wrote:

> "It is not many years ago that sportsmen were accustomed to meet on Christmas Day, 'choose sides' and then, as representatives of the two bands resulting, hie them to the fields and woods on the cheerful mission of killing practically everything in fur or feathers that crossed their path – if they could... Now, *Bird-Lore* proposes a new kind of Christmas side hunt, in the form of a Christmas bird-census, and we hope that all our readers who have the opportunity will aid us in making it a success by spending a portion of Christmas Day with the birds and sending a report of their 'hunt' to *Bird-Lore* before they retire that night." (*Bird-Lore* 2:192.)

Thus went the announcement of the first Christmas Bird Census, a project very much in keeping with *Bird-Lore's* motto: "A Bird in the Bush is Worth Two in the Hand." The following issue of the magazine listed 25 censuses, of which one was from New Brunswick. At Scotch Lake, York County, William H. Moore had gone out from 9 to 10 a.m. on Christmas Day 1900, and recorded 36 birds of nine species.

Growth of the Count

From that small beginning, Christmas Bird Counts have become an exceedingly popular activity, involving thousands of persons. Now, over 1500 North American counts are published by the National Audubon Society in *American Birds* (950 Third Avenue, New York, NY 10022; annual subscription in Canada: $30 U.S.), and a good many more appear only in local journals, such as the *N. B. Naturalist / Le Naturaliste du N-B.* As it grew, the Christmas Bird Count became more formalized, with various rules being set, such as 15-mile diameter circles, minimum 8-hour counts, count periods, and tallies of party-hours and party-miles of effort.

The counts now provide not only a sporting pastime for the participants, but a great amount of data about the early winter birdlife of this continent – data which illustrates the changing distribution and abundance of birds and, indirectly, of the health of our environment. A count is a day of fun and exploration outdoors, of enjoying nature, of companionship and sharing with others. It may involve friendly rivalry – competition between friends or between counts – but the principal objective is to cover a standard area, a 24 km (15 miles) diameter circle, as completely as possible, tallying all the birds encountered, on one day during a period set each year by the Audubon Society.

Usually, the circle is divided into sectors, each covered by a party of one or more observers. Often, there are also people reporting the birds they see at their bird feeders or around their home. At the end of the day, sometimes at a potluck supper attended by many of the participants, the results from each party and feeder are combined to give totals for the whole area, taking care to avoid duplication, where the same birds may have been counted by more than one group. When the results are brought together with those of surrounding areas, there is a big enough sample to allow year to year and region to region comparisons for many species.

The Christmas Bird Count in New Brunswick

One might have expected William Moore and others to have followed up the good, early start in New Brunswick, but such was not the case. Although the name Christmas Census was applied to some reports in 1908 and 1924, by involving more than one day they cannot be considered normal counts. The second actual Christmas Count [the first one similar to today's counts] in New Brunswick did not take place until 1937, at Kent Island. From the mid 1940's through the early 1950's there were sporadic counts at a few places in the southern half of the province.

From 1956 through the 1960's, encouraged by the late W. A. Squires through his museum newsletter, *Nature News,* counts were conducted annually in an increasing number of New Brunswick areas. Now, in the mid-1980's, about 600 participants, spend 900 hours afield, travel close to 8000 km and report from over 300 bird feeders in about 30 areas of the province. Usually, they find a total of from 70,000 to 90,000 birds of about 110 species. Over the years, 178 species have been reported on count day by New Brunswick Christmas Counts with an additional 11 found during the count period.

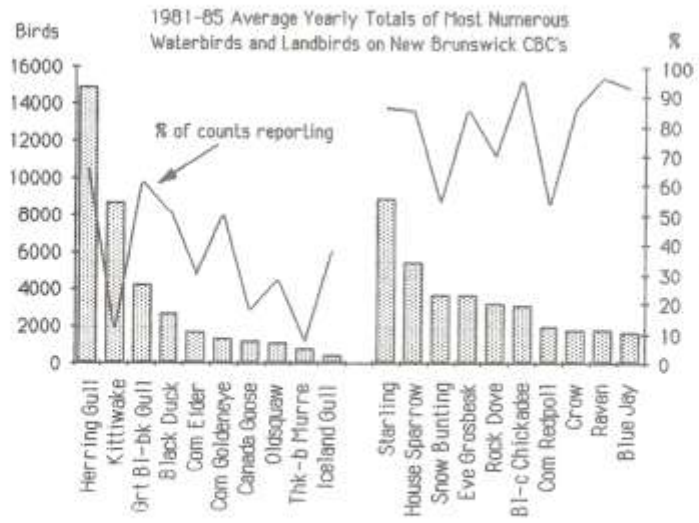
Winter is a difficult time for birds in New Brunswick. The weather is often severe and the food supply limited. Most insect-eating birds and many waterbirds migrate south to milder climates. Those that remain with us or come here from farther north are hardy birds able to withstand cold temperatures, if they can obtain enough food. Our winter birds survive by feeding on fishes, molluscs, seeds, fruits, the dormant stages of insects, or small mammals and birds.

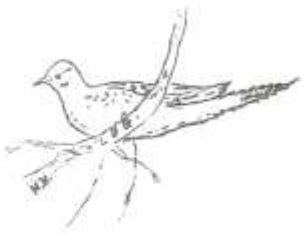
During winter, the variety of birds in most habitats of New Brunswick is small. However, their numbers vary considerably from year to year; if a particular food, for instance spruce seeds, is in good supply certain species may be numerous. Urban/suburban areas with lots of trees, shrubs, and bird feeders, and mixed and coniferous forests offer the best inland birding at this season.

Fresh water and the sea along the northern and eastern coast of the province are mostly frozen except where there are strong currents or warm water discharge from an industrial plant. The Bay of Fundy remains unfrozen, except for loose, shifting ice floes in its upper reaches. The outer bay has varied populations of waterbirds in winter, but elsewhere interesting locations are few and variety and numbers small.

The ten most numerous land birds recorded on Christmas Bird Counts in New Brunswick from 1981 through 1985 were: European Starling, House Sparrow, Snow Bunting, Evening Grosbeak, Rock Dove, Black-capped Chickadee, Common Redpoll, American Crow, Common Raven, and Blue Jay. Numbers of Snow Buntings and especially of Common Redpolls vary greatly from year to year. In fact redpolls often will not be among the ten most common and Tree Sparrow will. Of these birds, only Common Raven, Black-capped Chickadee and Blue Jay are likely to be reported on almost every land-based count.

Among water birds, the ten top species were: Herring Gull, Black-legged Kittiwake, Great Black-backed Gull, Black Duck, Common Eider, Common Goldeneye, Canada Goose, Oldsquaw, Thick-billed Murre, and Iceland Gull. Geese (a late migrant rather than a true wintering bird) and murres, although at times very





numerous, fall far down the list in their "off years", when they are usually replaced among the top ten by Red-breasted or Common Mergansers or Bufflehead.

Over the years, New Brunswick counts have revealed population changes in many species. Mainly there are annual fluctuations of moderate proportions, but some species, especially the finches, exhibit periods of scarcity punctuated by "invasion" years, when they are much more numerous than usual. Long-term increases or declines of certain species may be apparent to birdwatchers. The Christmas Bird Count permits a numerical expression of these changes and suggests less obvious trends that we might otherwise overlook.

On New Brunswick Christmas Counts the most conspicuous changes have been a four-fold increase in Evening Grosbeaks in the past 25 years and the appearance and subsequent considerable increase of Mallards and Mourning Doves since the mid-1960's. On the other side of the coin, a few Gray Partridge were seen regularly 1960-68 but only once since. Smaller changes are indicated for Blue Jay (70% increase 1960-72), Common Raven (50% increase 1960-72, 25% decline 1972-85) and Boreal Chickadee (65% decline 1975-85).

And so it is, that next Christmas season, we will once again follow Frank Chapman's suggestion to "hie [us] to the fields and woods" to "spend a... day with the birds" and report our results. Snow, rain, high winds, or bitter cold won't stop us; buoyed by the birdwatcher's perpetual hope of making a discovery, we'll be continuing a long tradition!

NOMINATIONS FOR A PROVINCIAL TREE FOR NEW BRUNSWICK

Henrik Deichmann

It's too bad Ontario has designated *Pinus strobus* as its provincial tree, for the White Pine is historically very important in New Brunswick – for masting, the timber trade and the great sawmills. The Balsam Fir is very common throughout the province but it is very affected by spruce budworm and is therefore strongly connected with the application of poisonous spray.

As New Brunswick provincial tree candidates, I would like to nominate two species, one softwood and one hardwood:

RED SPRUCE *Picea rubens*. This characteristic species of the Acadian Forest is currently one of the major softwoods of New Brunswick, which is also the center of the species' range in Canada. Red Spruce is important, both for lumber, round timber and pulpwood. Some tall and majestic specimens are found in Charlotte, Saint John and Albert Counties. There are also fine specimens and stands in the interior of the province. Spruces are thrifty trees, and while subject to spruce budworm attack, the Red Spruce is generally a healthy tree.

YELLOW BIRCH *Betula lutea*. While subject to "dieback" and other maladies, this majestic and often dominant hardwood of the New Brunswick forest, has a strong place in our heritage. It has provided excellent lumber and recently veneer. It is often effectively used in fine furniture, in wood turnings, and in many items around the farm and household (handles, whiffletrees, etc.).

Yellow Birch adds to the fall colour show – and the picturesque trunks of larger specimens, with their rough platy bark, are a beauty to behold at all seasons. Its buds and foliage are eaten by a number of wildlife species, including ruffed grouse, white-tailed deer and moose.

Like Red Spruce, Yellow Birch is common in the Acadian Forest and is near the center of its Canadian range in New Brunswick. Large specimens are found in the rich hardwood forests of the mid to upper Saint John Valley and on the hills and ridges of York, Queens, Kings and Albert Counties.

EGG ROCK PUFFINS INCREASE TO 20 PAIRS

Twenty pairs of Atlantic puffins nested at Eastern Egg Rock, Maine, in 1985, the largest number since the colony was re-established in 1981. Puffins disappeared from Eastern Egg Rock and most other Gulf of Maine islands in the late 1880's due to overhunting by local fishermen who shot and trapped the tasty "sea parrots" for food.

The effort to re-establish puffins on 7-acre Eastern Egg Rock began in 1973 and eventually led to the restoration of the colony in 1981. In that year five pairs bred in the same rock crevices where the original population nested approximately 100 years earlier. The colony slowly increased to 14 breeding pairs in 1984 and made a major gain this year as the colony grew to 20 nesting pairs.

Thirty-three of the breeding puffins wore coloured leg bands identifying them as Newfoundland transplants. These birds had been removed from burrows on Great Island in Witless Bay, Newfoundland, when they were approximately two weeks old. They were then transplanted to Eastern Egg Rock where they were reared on a diet of smelt and vitamin supplements until they fledged when about six weeks old. An additional six of the 1985 breeding puffins were unbanded, suggesting that these are native birds from either Matinicus Rock or Machias Seal Island, the other two Gulf of Maine puffin colonies. The forty breeding puffins represent 89% of the 45 puffins identified at Eastern Egg Rock in 1985. This suggests that most of the puffins which attend the colony are now members of the breeding population.

Many of the puffins at Eastern Egg Rock show faithfulness to the same mate and nest site from one year to the next. This is a feature of puffin social life described from other colonies. For example, three pairs have returned to the same mate and burrow for the past four summers, and nine of the twenty pairs that nested in 1985 had the same mate and burrow for two or more years. However, by carefully watching the color-banded puffins we found that not all pairs are so faithful. For example, two birds which had mated for the first time in 1984, when they were both four years old, had new mates and renested within 20 feet of each other in 1985.

Another interesting trend is the increasing age at which puffins first begin to breed. In 1981, when puffins first nested at Egg Rock, the average age of the six known-age breeding puffins was 4.2 years old. In 1985, the average age for the five known-age first breeding birds was 5.8 years.

Studies of puffin feeding behavior are an important part of the annual

monitoring program at Egg Rock. All of the nests are spot-checked from the time the first fish is delivered until the time feeding stops. The span from first feeding to last is the only way to determine how many chicks fledge, since all of the nests are out of reach in deep rock crevices and the young typically fledge at night. Such studies in 1985 revealed that 80% of the nests produced chicks. Pairs which had bred together at least once previously, fledged 89% of their chicks, while new, inexperienced pairs fledged only 67% of their young.

Dawn to dusk feeding studies are also providing interesting information about the kinds of fish being delivered, frequency of feeding, timing, and amounts of food delivered. In 1985 research assistants watched three neighboring nests from dawn to dusk for three consecutive days. To accomplish this puffin-watching marathon, the assistants took four-hour shifts inside a burlap-covered blind that was positioned within 20 feet of three nests.

From this close view, they found that each chick (puffins have only one chick per nest) received an average of 13 feedings a day, with one nest receiving as many as 21 feedings and another as few as 7 feedings/day. All of the 113 feedings observed consisted of small Atlantic herring. In the Gulf of Maine this is the puffin's principal and most nutritious food. The abundance of herring delivered to the chicks is a good indicator that small herring were in good supply for the puffins.

Re-establishment of puffins on Eastern Egg Rock is a National Audubon Society project, directed by Stephen W. Kress (a former naturalist at Sunbury Shores Arts and Nature Center) of the Laboratory of Ornithology at Cornell University. Donations in support of Dr. Kress' work should be made payable to the National Audubon Society and directed to the Fratercula Fund, 159 Sapsucker Woods Road, Ithaca, N. Y. 14850. (*Egg Rock Update,* 1985.)

THE INSTITUTE FOR FIELD ORNITHOLOGY

The Institute for Field Ornithology of the University of Maine at Machias offers workshops (college credit optional) of interest to amateur and professional ornithologists and birders.

1986 workshops are June 15-20, "Bird Song Recording" with Greg Budney; July 6-12, "Advanced Field Identification," with Susan Allen and Davis Finch; July 13-19, "Bird and Nature Photography," with Michael Hopiak; July 27 - August 2, "Seabirds" with Charles Duncan and Peter Vickery; and August 3-8, "Shorebirds," with Blair Nikula.

For additional information write to Charles D. Duncan, Institute for Field Ornithology, University of Maine at Machias, Machias, ME 04654.

Christmas Bird Counts

1985-86

David Christie

The earlier than usual arrival of cold, snowy weather probably was mainly responsible for the reduced variety of birds, 104 species, seen on Christmas Bird Counts (CBC's) this winter. This occurred even although there were a record number of participants and amount of effort on the 30 counts conducted in the province. On the other hand, the tally of 92,398 individual birds exceeded the previous record by about 4000 birds.

Two species never previously seen on New Brunswick CBC's were reported, a Ruddy Duck at Grand Manan and a Seaside Sparrow at Saint John. Both are rare autumn visitors to the province. On the whole, few of the less hardy species lingering from summer or fall survived until CBC season.

The high total of individual birds resulted from the large amount of effort, from record numbers of Snow Buntings and Tree Sparrows in many areas, of White-winged Scoters at St. Andrews and Thick-billed Murres at Grand Manan, and from generally good numbers of Black-capped Chickadees, Common Redpolls, Evening Grosbeaks and the three most common gulls.

The cold weather flushed Canada Geese south early so that almost none were reported. Lower than usual numbers of Black Duck, Mallard, Oldsquaw and Common Goldeneye also probably resulted from the early cold. On the other hand, higher than usual counts were obtained for Common Mergansers, which were concentrated in the few open areas on rivers and estuaries. Those at Moncton were noted feeding on an abundance of small fish in the Petitcodiac. There were also relatively high counts of Greater Scaup and our two winter grebes.

A total of 12 Barred Owls on seven counts (also during count period in four additional areas) was the most ever recorded. Either we received an influx from outside the province or a shortage of mice in the woods caused the owls to feed in the open, where they were more conspicuous than usual. Mouse numbers were unreported by most compilers, which suggests that they were not especially common, although their populations were reported as high on the Upsalquitch and moderate in Kings and Albert Counties. Snowshoe Hare populations, important to Great Horned Owl and Red-tailed Hawk, ranged from small in the west to moderate in the northern highlands and the southeast. Both of these raptors were found in rather low numbers, as was the Rough-legged Hawk. On the other hand

Sharp-shinned Hawks, probably well-fed on Tree Sparrows and grosbeaks, were above average.

Ten years ago it would have been difficult to imagine that two thirds of New Brunswick CBC's would report Mourning Doves and that one area would have more than 200 of them. The growing popularity of feeding birds must be one of the factors involved. Rock Dove numbers were very low.

Although Black-capped Chickadees were very numerous, Boreal numbers were low. Nuthatch numbers were small but Brown Creeper, Golden-crowned Kinglet, and Downy, Hairy and Pileated Woodpecker populations were above average.

The influx of Bohemian Waxwings was substantial though apparently smaller than the flights of 1977-78 and 1980-81. A single Cedar Waxwing was also observed. It was a good year for Mockingbirds, average for Robins. These species had considerable competition for crabapple fruits from a good number of Pine Grosbeaks.

Although Tree Sparrows were abundant and juncos above average, other sparrows were found in rather small numbers. The record total of Snow Buntings was accompanied by above average counts of Lapland Longspurs and Horned Larks. The high number of Rusty Blackbirds was surprising; counts of the other blackbirds were near average.

Seventeen compilers reported some of the food resources available to birds in their areas. Following the good cone crop on spruce and fir a year ago, most areas had few or none this winter, the exceptions being a moderate crop reported at Stanley and on the upper Tobique and Upsalquitch Rivers. However, there were moderate crops of birch and/or alder cones and moderate to large amounts of grass and weed seeds. Numbers of fleshy fruits varied considerably. With few bayberries this winter, Cape Tormentine, the winter warbler capital of New Brunswick was limited to 12 Yellow-rumped (Myrtle) Warblers, the smallest count in five years.

In celebration of the centennial of national parks, organizers at Kouchibouguac made efforts to get especially good coverage this year. Their CBC included an hour of travel (90.5 km) by plane, a first for New Brunswick counts. Despite the aerial survey and otherwise increased effort, the park count was not a record-breaker. Early freeze-up had severely cut the variety of waterbirds, although one lone Gannet was lingering at Richibucto Gully.

A count was also conducted at Hartland but, unfortunately, field coverage was insufficient to meet the minimum requirement for inclusion in our annual CBC tabulation. The 20 species reported did include a Short-eared Owl and a White-crowned Sparrow, of the western subspecies *gambelii*.

The birds seen and the effort expended on each count are listed in the accompanying two-page table, while dates, weather, ground and water conditions, and observers' names are presented in the following summaries for each area.

1985-86 CHRISTMAS BIRD COUNTS (Dec. 18, 1985 – Jan. 5, 1986)

Abbreviations and Footnotes to the Table

* high count a provincial record
** first time on N. B. counts
* recorded during count period (Dec. 18 to Jan. 5)
a no details submitted or details not fully convincing
b by boat
c 0.5 h, 3 km by snowmobile; 1 h, 90.5 km by plane
d 1 cormorant sp., 1 crossbill sp.
e 1 owl sp., 1 blackbird sp.
f 2 songbird sp.
g 2 hawk sp., 1 gull sp., 4 sparrow sp., 1 blackbird sp., 6 finch sp.
h 38 duck sp., 2 woodpecker sp., 11 songbird sp.
i 1 large owl sp.
j 18 duck sp.
k 6 bird sp.
m 1 woodpecker sp., 19 finch sp., 2 bird sp.
n 6 small finch sp., 3 bird sp.
p 1 large owl sp., 2 woodpecker sp., 8 sparrow sp., 3 finch sp.
q 6 finch sp.

Grand Manan Channel (GMCh) 10th year
Dec. 28; 9:45-11:30. Partly sunny. 1 to 2.5 m swell from SW. 0° C ; wind SW, 16-32 km/h.
Brian Dalzell (compiler), Rob Walker.

Grand Manan (GM) 15th year
Dec. 29; 7:45-17:00. Mostly sunny in a.m., clouding over with flurries in p.m. 0-20 cm snow cover; fresh water frozen, salt water open. -14° to +1° C; Wind SW, 0-10 km./h.
Vernon Bagley, Brian Dalzell (compiler), Virginia Greene, Merle & Margaret Lambert, Verna MacKenzie, Roger & Elaine Maker, Geraldine Nelson, Nancy Small, Alma Tatton, Rob Walker.

Eastport-Campobello (E-C) 19th year
Dec. 26; 8:00-17:30. Clear. Fresh water frozen; salt water open. -10° to +2°C. Wind SW, 10 km/h.
Sid Bahrt, Charles Duncan & friend, Norm Famous, Butch Huntley and two friends, Ellen Johnson, Zack Klyver and his father, Lars Larsen, William Townsend (compiler).

St. Andrews (StA) 25th year
Dec. 22; 7:30-17:30. Clear. 20 cm complete snow cover; virtually all fresh water frozen. -19° to -9° C; wind N, 0-10 km/h.
Hollis Bartlett, David J. Clark (compiler), Elisabeth DeBlois, Jim Gordon, Mrs. Donald Johnson, Mrs. Wilfred Langmaid, Francis & Don McLeese, Lee Ryall, Doreen Scott, Jan Stewart, Maj. David Walker, Dick Wilder, Walter Williamson, Wil & Vladimir Zitko.

Pennfield (Penn) 23rd year
Dec. 28; 8:00-16:30. Sunny. Ground snow covered; 3 hrs. before high tide. Temp. ?; wind W, 10 km/h.
Zetta Eldridge, Lena Morehouse (compiler), Mildred Russell.

SPECIES	GHCh	GH	E-C	SIA	Penn	Lep	SJ	FNP	R-A	Seck	Hta	CT	KNP	Mtr	Lam	Sax	Htn	C-H	Jam	Fln	Mac	Stan	Wstk	Flo	G-J	P-A	PR	Nic	Mtc	SEU	TOTAL
Red-thr Loon							1	3	2																						6
Common Loon	1	5	8	9	*	19	5																								47
Horned Grebe		25	10	14		28																									77
Red-neck Grebe #		95	18	12		6																									131
Northern Gannet	*												1																		1
Grt Cormorant	*	20	53	3	5		1																								82
Great Bl Heron										1																					1
Snow Goose		*																													*
Brant		125																													125
Canada Goose													9	*			*			*			3								12
Am Black Duck		108	727	68	4	6	483	14	278	13	182	1			*	11				10	2										1907
Mallard			3				2	3	1	22	23																				54
Greater Scaup		110	13	85	*		22																								230
Common Eider	14	297	40	1473	*	15						8			4																1851
King Eider				1																											1
Harlequin Duck					*										1																*
Oldsquaw		220	130	122	4	52						99	35		4																666
Black Scoter		6																													6
Surf Scoter			3	199		1																									203
Wh-wing Scoter #		57	6	988								4																			1057
Com Goldeneye		286	66	30		80	179	*	5	4		52			1					102	20			93							917
Bufflehead		80	189	87	*	32	86																								474
Hooded Merganser															*																*
Com Merganser			1			19	101		78	22	156	10			11		9			81	39			5		5		37			571
Red-br Mergans	*	193	123	5	2	35	13					76																			450
Ruddy Duck ##		1																													1
Bald Eagle		3	6	1	1	1	1	*	1								1			1	2			1			1	*			20
Northn Harrier							1					1										*	1	*							3
Sharp-Shn Hawk		1		1			2		*	1	3	3		1			1	*	2	1											16
Northn Goshawk							*	*	1	3	1	1					*	*		1				*		*	1				8
Red-tailed Hawk		1	1						*	2		1				1	*			2	*		1	3							12
Rough-leg Hawk		3						1		23		4				*			1	1											33
Golden Eagle		1																													1
Americ Kestrel																		1		1											2
Merlin							1			1																					2
Peregrine Falcn		1																													2
R-nk Pheasant #										203	76					1		*					20	6	*	*	*				305
Spruce Grouse												1																			1
Ruffed Grouse			1	1	*		3	10	3	11	2	6	7	3		4	5	7	6	6	8	1	1	7			3	2	3	5	105
Purple Sandpipr		11		24		26			95																						156
Bonaparte's Gull	1		74			3						3																			78
Ring-billed Gull			5	4			8																								20
Herring Gull	26	7350	2128	1015	312	685	756	6	70	92	2733	59	203	99	20	12	111			82											15739
Thayer's Gull			1 [A]																												1
Iceland Gull	12	*	6			1	66	2	10	4	120	56			6		3			1											286
Glaucous Gull					*		1				*			1	17					3											22
Grt Blk-bk Gull	225	1835	212	170	21	37	186		5	61	664	87	71	88	188	5	83		18	307	1										4486
B-leg Kittiwake	140	7500	381			9																									8030
Common Murre			2																												2
Thick-bl Murre #	440	1560							1																						2001
Razorbill	3	*	391			2																									396
Black Guillemot	2	20	102			4						*																			136
Rock Dove			84	44			329		12	256	255	43	24	218	21	181	52	35	3	300	141		73	463	6	122	22				2684
Mourning Dove #		54	44	84	5		70	1	8	7	32	1	2	7		27	31		3	233	6		15	73		3					706
Grt Horned Owl					*				*	*			*				2		*					*							2
Barred Owl #								2	3		1			*			1		4	1	*			*		*		1			13
Short-ear Owl					*																			*							*
N Saw-whet Owl				*							1																				1
Belted Kingfisher				1																				*							1
Downy Woodpkr #		3	3	4	*		21	6	6	15	15	3	3	14	1	2	15	15	11	41	23	2	30	48	8	7	8	14	6		326
Hairy Woodpkr		8	1	4	*	1	15	4	3	19	9	2	4	11		2	7	15	23	39	21	2	15	34	4	15	12	9	2	*	281
3-toed Woodpkr																												1		1	2
Blk-bk Woodpkr		1			*			1	1	2								1		3	3	1				*	3	5	1	*	22

SPECIES	GHCh	GH	E-C	StA	Penn	Lee	SJ	FNP	R-A	Sack	Hln	CT	KNP	Mir	Lam	Sax	Hln	C-N	Jam	Fln	Mac	Stan	WstA	Fls	G-J	P-A	PR	Nic	MtC	SEU	TOTAL
Pileated Wdpkr				1	*		1	1	1	3	1	1		1			1	*	3	3	1		2	*			*	1	2	*	23
Horned Lark							6		1	16		13			1					28				2							67
Gray Jay				*	*	3	2	2	6	3	6	2	4	3		1	2	5	1	21	3	4		6	4		10	13	11	5	117
Blue Jay		38	1	45	3	4	74	18	20	86	108	48	17	80		57	97	107	148	233	229	47	98	273	79	29	77	41	9	1	2056
American Crow		141	137	84	50	151	137	7	29	183	170	52	18	41	46	20	45	6	17	107	19	3	18	64	*	3	3				1552
Common Raven		132	23	3	6	23	50	5	52	103	54	56	25	151	5	201	92	97	40	150	106	65	36	156	98	60	13	71	11	14	1898
Blk-cap Chickad		129	63	66	5	18	303	91	49	201	190	122	62	159	*	150	238	228	257	649	213	38	268	524	55	50	115	37	28	24	4352
Boreal Chickade		2	2	1			3	7	14	30	7	12	2	4	*		3	1		12	3		4	2	8	2	1	9	17	11	157
Red-br Nuthatch		5		5	*		3			*	8		2	8			2	7	3	11	5		1	3			6	7			76
Wh-br Nuthatch		2		1						2	2						2			2	1			4				6			20
Brown Creeper					*			5	2	3	3	1		*			1	4	6	2			1	1	*			2			31
Gold-cr Kinglet		5	4	1	1	4	4	37	29	41	10	16	2	5		23	11	5	5	32	8	*	2	7			1				253
American Robin		5		1	1		4	3	5	3	2	7	*	2			2	1	1	2			3				3				45
No Mockingbird		3					2				6									1											12
Brown Thrasher																				*											*
Bohem Waxwing				*			1				113			51		*	7	*	*	167	50			*			18				407
Cedar Waxwing																				1											1
Northern Shrike		2	3	*		1	2	1	4	6	2	4		*		1	4	*	1	1	1	1		1			1	1			37
Europn Starling		462	272	272	59	115	1670	53	95	462	1793	245	13	795	43	126	251	56	30	687	23	14	151	140	9	13	47	10			7906
Yel-ru Warbler												12								1											13
Pine Warbler							*										1														1
Northn Cardinal		2		*			1												1	1	2										7
Ruf-sid Towhee							*																								*
A Tree Sparrow ®		68	31	44	21	5	66	25	99	367	285	71	55	41		35	120	250	299	227	174	7	61	117		14	3				2485
Chipping Sparrow																2[a]											*[a]				2
Field Sparrow				1												1[a]															2
Seaside Sparrow[#a]							1																								1
Fox Sparrow														1							2										3
Song Sparrow		2		1			3	4		5	2	4		5		5		1	4	*							2				36
Swamp Sparrow												2																			2
Wh-thr Sparrow		1		6			15	10	2	6	1	1		1		5	9	1		9	2						4				75
Wh-crn Sparrow												1																			1
Dk-eyed Junco		28	12	12	1		42	48	31	108	104	54		8		36	61	31	23	34	16		1	17	10		5	1			664
Lapld Longspur							3			13	14																				30
Snow Bunting #					*	7	71		836	3060	4720	78	65	165	33		2	*	299	109	90		99	253	136	6	51				10040
Red-w Blackbird		1		*			1	*	1	1	3	7									3										17
Eas Meadowlark																*															*
Rusty Blackbird				2					1	13	*	3								1	3				1						24
Common Grackle		6		1	1		1	1		26	12						*		1	7					2		5				63
Brn-hd Cowbird		50		*			13	1	13	22	62					2			18	22											205
Pine Grosbeak		5		15	*		70	1	37	59	220	43	9	105	8	10	16	51	30	170	30	5	62	69	39	14	42	5	4	*	1126
Purple Finch				3							2		*			5	*	6	1	31			5	9		2	5				69
Wh-w Crossbill			4				9	2			3									12											26
Common Redpoll		16	15	6	*		54	3	*	281	762	387	74	313	7	16	22	314	183	295	80	23	28	38	*	25	6	20			2970
Pine Siskin		*		1	*		1	*			3			1		30				31			6				6			2	81
Amer Goldfinch		110	6	36			100	6		4	37					2	25	25	6	44			42	2			2				447
Evening Grosbk		177	2	86	21	30	242	29	20	130	726	15	31	442		83	361	423	159	870	343	11	294	423	19	8	44	12			5010
House Sparrow		165	42	46			99	43	255	875	651	145	10	640	64	161	95	105	211	590	96	1	207	215	48	51	262	81			5036
UNIDENTIFIED						2[d]	2[d]		2[d]	14[g]		51[k]		1[l]	18[j]		6[k]		22[m]	19[n]	14[n]							6[k]				157
TOT. BIRDS	864	21544	5451	5188	523	1428	5387	458	2184	6889	14474	1974	768	3465	498	1220	1787	1600	1840	5803	1783	225	1508	3069	526	429	782	374	94	63	92398
TOT. SPECIES	10	56	47	51	19	34	58	36	42	49	49	49	28	32	19	32	37	27	34	55	37	16	30	32	16	16	32	24	11	8	104
COUNT PER. SPP.	3	4		7	21[o]		3	5	4	2	2	1	3	4	4	3	5	7	2	3	(12)	2		7	3	5	5	1	0	4	6
Hrs on foot		145	2	1	2	3	54	41	14	38.5	34.5	30.5	23.3	13.5	1	1	4.25	7	20.0	69	11	3	12	20.5	4	6	2	4	16	15	467.3
Hrs by car		20	41	6.5	8	5.75	17.3	8	16.5	22.5	25.5	22.3	18.3	21	8	7.5	29	16	17.3	82	16	8	13	17.5	5	5	11	4	4	1	448.4
Hrs otherwise	1.8[p]	1[p]	4[p]										1.5[q]																		8.25
TOTAL HOURS	1.8	38.5	47	9.5	10	8.75	71.3	49	30.5	61	60	52.8	43	34.5	9	8.5	33.3	23	38.1	121	27	11	25	38	9	11	13	8	20	16	923.9
Km on foot		28	8	2	2	2	70	86	23.8	70	49	52	52.5	38	1	5	6.5	11	29.5	143	15	8	18	44	6	3	8	7	28	16	832.5
Km by car		289.5	222	125	38	146	509	121	309	400	466	376	432	350	179	144	548	227	241	541	203	142	189	339	81	120	64	55	46	6	6906
Km otherwise	32[p]	10[p]	32[p]										93.5[q]																		167.5
TOTAL KM	32	327.5	262	127	40	146	579	207	333	470	515	428	578	388	180	149	555	238	270	684	218	150	207	382	87	123	72	62	74	22	7905
No. of observers	2	6	12	2	3	3	26	20	7	14	12	12	23	10	2	6	11	10	16	43	12	6	16	18	5	3	5	2	3	8	318
No. of parties	2	4-5	4	1	2	1	12	8	4	6-13	6-9	5-10	10	6	1	3	6	6	7	24	5	2	5	10	3	1	2	1	3	3	131
Feeder reports		5		11			12	7	1		15		1	27		15	16	16	10	69	17		22	46	6	4	6	5			312

Lepreau (Lep) 22nd year
Jan. 2; 7:45-16:30. Overcast, later sunny with clouds. Much bare ground, 20 cm. snow in woods; most freshwater frozen. -12° to -5° C; wind varying from calm to a stiff breeze at the point.
Scott Gilliland, Donald McAlpine (compiler), Mark Phinney.

Saint John (SJ) 29th year
Dec. 28; 8:00-17:00 p.m. Sunny with cloudy periods. 16 cm fresh snow on light base; lakes frozen, main river partly open, salt water open. -6° to -3° C; wind W, 4-18 km/hr.
David Christie, Greta Clark, Chad Coles, Henrik Deichmann, Joanne Deichmann, Kirsten Deichmann, Gaye Drescher, Allen Gorham, Janet Gorham, Charles Hickman, Juliet Hickman, Jack Hollway, Mrs. E. Hoyt-Brown, Kit Graham, Cecil Johnston , Mrs. Jean Lambert, Isabel LeBlanc, Vivian MacDonald, Mary Majka, Don McAlpine, John McIntyre, Mrs. M. Melvin, Diana Morris, Tony Morris, John Morrison, Joan Pearce, Ron Pearce, Tom Page, Ernest Sawatzky, Marion Sherwood, David Smith (compiler), Evan Smith, Molly Smith, Reg Smith, Mrs. Neil Sparks, Sandy Webb, Peter Wilshaw, Jim Wilson.

Fundy National Park (FNP) 21st year
Dec. 18; 7:00-17:15. Overcast with heavy snowin a.m., intermittent moderate snow in p.m. stopped at 15:30; new snow for day 18 to 27 cm. Snow depth at start about 15 cm, at end about 51 cm; Freshwater frozen, salt water open. -8° to -4.5 C; wind NE-SE, 8-16 km/h.
Marjorie Bowron, Michael Burzynski, David Christie, Vincent Crowston, Brian Dalzell, Elaine Eagles, Doris Hatt, Mart Johanson, Nancy & Robert Keirstead, Thelma Keirstead, Angus & Stella MacLean, Mary Majka, Anne Marceau, Doreen & Willis Rossiter, George Sinclair, Sedgewick Sinclair, Eugene Taylor, Brian & Karen Townsend, Robert Walker (compiler), Duane West, Stephen Woodley.

Riverside-Albert (R-A) 17th year
Jan. 1; 7:30-17:15. Overcast with a few showers and sunny breaks. 8-20 cm snow cover; fresh water virtually entirely frozen, sea open, some ice buildup on shore. +1° to -1° C; wind SW, 4-25 km/h.
Myrtle Beaman, Mildred Carpan, David Christie (compiler), Brian Dalzell, Halton Dalzell, Jennifer Edwards, Susan Erlich, George Foster, Erin Foster, Mary Majka, Mike Majka, Mrs. Don Milburn, Rob Walker, John Wright.

Sackville (SACK) 26th year
Dec. 21; 7:45-16:45. Cloudy. 25 cm of new snow, drifted in open areas; freshwater frozen, salt water over 80% slush ice and floes. -16° to -11° C; wind NE, 5-8 km/h.
Peter Barkhouse, Paul Bogaard, Brian Dalzell, Tony Erskine, George & Pat Finney, Gary Greer, Hinrich Harries, Randy Hicks, Ron Hounsell, Kathy Popma, Al Smith (compiler), Stu Tingley, Rob Walker.

Moncton (Mtn) 25th year
Dec. 22; 7:40-17:00. Snow flurriesin a.m., sunny in p.m. 15-60 cm snow cover; freshwater frozen, tidal waters open, but filled with chunk ice. -18° to -10° C. wind SW, 0-10 km/h.
Mike & Chris Antle, Brenda Burzynski, David Christie, Albert Cormier, Don Cormier, Brian Dalzell (compiler), Richard Debow, David & Ethel Douglas, Mary Fownes, Edwin Hughes, Ford & Joan Keith, Louis LaPierre, Fred Lloyd, John Loch, Mary & Mike Majka, Gordon Mosher, Nelson Poirier, Winston Prince, Bill Quartermain, Alan Raegele, Murray Wade, Don & Alma White, Doug Whitman, Roy & Ellen Wilkes, Bill Wood, John Wright.

Cape Tormentine (CT) 25th year
Dec. 18; 7:45-16:15. Cloudy, intermittent light snow 10:00-12:30, continuous snow until 15:00, then clearing. 20-40 cm of new snow cover; freshwater frozen, salt water iced over or slushy with a few open leads. -12° to -6° C; wind NE, 8-15 km/h, changing to SE 15 km/h.
Paul Bogaard, Tony Erskine, Gary Greer, Hinrich Harries, Peter Hicklin, Ron Hounsell, John Loch, Colin MacKinnon, Carolyn Peach, Al Smith (compiler), Stu Tingley, Ian Walker.

Kouchibouguac National Park (KNP) 16th year
Dec. 21; 8:00-16:00. Partly cloudy, no precipitation. 20-25 cm snow cover; fresh & salt water frozen. -21.5° to -9° C; wind NE, 5-10 km/h.

Yves Arsenault, Harry Beach, Yves Bossé, Jacques Cormier, Albert Crossman, Allain Daigle, Maurice Daigle, Sophie Bastien Daigle, Gordon Delaney, Guy DesRoches, Noel Fontaine (compiler), Lionel Girouard, Bobby Hébert, Carmel Levesque, Allain Manuel, Vincent Poirier, Pierrette Robichaud, Michel Savoie, Barry F. Spencer, Arnold Vautour, Harry Walker, Ian Walker.

Chatham-Newcastle (MIR) 14th year
Dec. 28; 8:00-16::45. Broken cloud, then clearing, no precipitation. 13 cm snow cover; practically all water frozen. -17° to -4° C; wind WSW, light, max. 22 km/h.
Margaret Adams, Sybil Anderson, Mrs. William Arnoldus, Jeep Bosma, Monica Charnly, Jean Clark, Martha Crocker, Phyllis Crowe, Barbara Digdon, Frank Garrish, Vernon Goodfellow, Gary Greer, Linda Hartlen, Don Hoddinott, Phyllis Jardine, John Keating, Luc Lemieux, Yvette Lewmieux, Robert Lisk, Hazen Lobban, David Lounsbury, Sara Lounsbury, Margaret MacKinnon, Lem McDonald, Theresa Ross, Delta Steeves, Maxime Tozer, David Tracey, Gerry Tweedie, Jean Ullock, Bruce Walker, Harry Walker (compiler), Ian Walker, Stewart Walker, Winnie Walker, Margaret Wheaton, Bert Woulds.

Ile Lamèque (Lam) 13ième année
Dec. 26; 8:3016:40. Ciel clair. Sol couvert de neige, 10-15cm. -15° à -10° C; vent NW, 34-40 km/h.
Hilaire Chiasson (compilateur), Rose-Aline Chiasson.

Sussex (Ssx) 13th year
Dec. 21; 8:00-15:30. Overcast, clearing in p.m. 7 cm snow cover; still water frozen, some running water open. -20° to -14° C; calm.
Tom Anderson, Eleanor & Lawrence Arnold, Florence Arnold, Bob Bezzant, Margaret Broomhead, Barbara Chestnut, Greta Coates, Pearle DeLong, Harriet Folkins (compiler), Gerald & Helen McKenzie, Alice McLeod, Beth McFarlane, Marion Reid, Evelyn Robinson, Carl & Gladys Steeves, Pauline Thibodeau, Kay Thompson, Jean Welton, Tine Upham.

Hammond River-Hampton (Htn) 13th year
Jan. 5; 7:00-15:50. Overcast, snow beginning mid afternoon; 30 cm fresh snow cover; all freshwater frozen; -16° to -10° C; wind N, 10 km/h. Bob Barton, Janet Boyle, Fred Brock, David Christie, Paul Clark, Chad Coles, Shari Coles, John Darling, Phyllis Darling, Rollie Darling, Henrietta Elliott, Harold Harding, Evelyn Hazlett, Hazen Inches, Jean Isaacs, Peggy Kelbaugh, Doug MacAndrews, Win MacAndrews, Mary Majka, Doris Mowry, Alice O'Neill, Tom Page, Mary Ross, Ernie Sawatzki, Geoff Sayre, Alice Strover, Peter Wilshaw, Charles Wilson, Jean Wilson, Jim Wilson (compiler).

Cambridge-Narrows (C-N) 16th year
Jan. 3; 8:00-15:30 p.m. Cloudy, snow in p.m. 20 cm snow in woods, most fields snow-covered; lakes and brooks frozen. -9° to -8° C; wind NE, 5 to E, 20 km/h.
Enid Arbo, Doris Appleby, Marion Belyea, Dilys Carpenter, Jean Carpenter, Lawrence Carpenter, Marie Carpenter, Pauline Chase, James Connell, Thora Connell, Joan and Melanie Fanjoy, Heather Hamm, Enid Inch (compiler), Benjamin Kantor, Debora Kantor, Eileen Kincaide, Dopt McConnachie, Elva McConnachie, Audrey Perry, Nellie Perry, Lillian Pugsley, April Robinson, Helen Robinson, Joyce Robinson, Ernest Sypher, Joyce Thorne, Niven Thorne, Phyllis Thorne.

Jemseg (Jem) 23rd year
Dec. 29; 7:30-16:30. Clear. Fields snow-covered; water surfaces frozen. -22° to -5° C; wind variable, 0-10 km/h.
Mary Colwell, Andy Didyk, Janice Garrity, Nev Garrity (compiler), Don Kimball, Marven Palmer, Peter Pearce, Theresa Pearce, Rudy Stocek Jr. , Rudy Stocek Sr., Owen Washburn, Susan Washburn, Alvin Westgate, Cathy Westgate, Max Wolfe, Blair Wood.

Fredericton (Fta) 30th year
Dec. 22; 7:45-17:00. Clear. 30 cm snow cover; most water surfaces frozen. -27° to -9° C; wind W/NW, 0-14 km/h.

Margie Blais, Don Busby, Gerry Clayden, Stephan Clayden, Susan Clayden, Rod Currie, Andy Didyk, Lucy Dyer, Don Fowler, Janice & Nev Garrity, Douglas Gibson, Donald Gibson, Scott Gilliland, Lionel Girouard, Angelique Glass, James Goltz, Harold Hatheway, Barry Hunter, Henry Holland, Donald Kimball, Nancy Lutes, Vincent Martin, Albert Morais, Paul Nicholson, Jean & Jim Noble, Steve Oliver, Robert Palmer, Mark Phinney, Christopher Pearce, Peter Pearce (compiler), Theresa Pearce, Vincent Poirier, Bev & Marc Schneider, Allan Spurrell, Herbert Steeves, Rudy Stocek, Rudy Stocek Jr., Owen & Susan Washburn, Blair Wood.

Mactaquac (Mac) 6th year
Jan. 5; 8:15–15:15. Overcast, snow beginning 13:45. 56 cm snow cover, increasing in p.m. to 58 cm; most water surfaces frozen. -18° to -11° C; wind NE, 20–40 km/h.
Gerry Clayden, Jean Cunningham, Joanne Davis, Andy Didyk, Donald Gibson, James Goltz, Hal Hinds, G. Moore, Daniel Myles, David Myles, Peter Pearce (compiler), Owen Washburn.

Stanley (Stan) 11th year
Jan. 2; 10:00–16:30. 5–15% scattered cloud in a.m., 20–80% in p.m. Ground frozen, about 30 cm. light snow cover, roads open and icy/gravelled; river 95% frozen. -5° to 0° C; wind W, 0–5 km/h.
Yvon Beaulieu, Benjamin Luke Burgess deMarsh, Peter deMarsh (co-organizer), Harold Hatheway (compiler), Darleen Singleton, Julie Singleton.

Woodstock (Wstk) 22nd year
Dec. 26; 9:00–16:00. Clear. 11 cm snow cover; water frozen. -15° C; wind NW, 20–30 km/h.
Mrs.Blair Avery (compiler), Fred Beatty, Louis Beatty, Rev. & Mrs. T. S. Bellis, Mrs. Harold Bonnell, Earle Briggs, Mrs. Paul Clark, Gerald Donovan, Mrs. Blair Findlater, Mrs. Nelson Flewelling, Mrs. David Fry, Adam & Matthew Hadley, Eric & Jane Hadley, Harold Hadley, Mrs. Keith Helmuth, Mr. & Mrs. Kenneth Homer, Murray Hubbard, Mrs. W. M. Jones, Charles Matthewsa, Mrs. Charles MacDonald, Walter Neal, Mrs. & Mrs. Donald Nixon, Mrs. G. A. Olmstead, Eric Randall, Karen & Marten Speer, Robert & Donna Speer, Mrs. Robert Speer, Mrs. Donald St. John, Mrs. Kenneth Taylor.

Florenceville (Flo) 5th year
Dec. 28; 8:00–17:00. Clear, with some cloudy patches. About 7.5 cm snow cover; water largely frozen, except fast running areas, river open from Beechwood dam to Bristol. -10° C; wind very light.
Ford Alward (compiler), Ansel Campbell, David Campbell, Jean Carmichael, Ronald Greene, Jeanette Greene, David Hatt, Betty Hatt, Holland Kearney, James Kearney, Charles McNair, Melody McNair, Lloyd McNair, Pearl McNair, John Patterson, Marie Sappier, Kenneth Taylor, Brian Wortman.

Glassville–Juniper (G-J) 3rd year
Jan. 5; Overcast a.m., heavy snowfall p.m. Ground snow-covered; water frozen. -12° C; wind 15 to 30 km/h.
Ben Gray, Brian McIntosh, Sally McIntosh (compiler), Elsie McIntosh, Brenda Pearson.

Perth-Andover (P-A) 17th year
Dec. 26; 8:00–16:30. Clear. 15 cm. average snow cover; rapids open. -18° to -12° C; wind SW, 15 km/h. Scotty Drost, Bernice Hafner, Mrs. George McLaughlin, Fred Tribe, Murray Watters (compiler), Judy Wheeler.

Plaster Rock (PR) 14th year
Jan. 5; 9:00–16:00. Sunny periods in a.m., clouding over with heavy snowfall by mid-afternoon. 60 to 90 cm snow cover, making side trips difficult; some small open patches on river, all ponds frozen. -22° to -14° C; wind NW, 10 km/h, gusts to 65 km/h.
Grace Comeau, Doris Crawford, Mr. & Mrs. Ray Doody, Kate Finnamore, Mr. & Mrs. Roger Jenkins, Glen Holt, Bessie MacDonald, Donald MacDonald, Peter MacDonald, Laverne Rabatich (compiler), Emmie Reed,

Nictau–Riley Brook (Nic) 13th year
Dec. 30; 8:00–17:00. Clear. 20 cm. snow cover; river open at Nictau, frozen elsewhere. -18° C; calm.
Alex & Joan Fraser, Roger Jenkins, Celia Knowlton, Erwin Landauer, Glenna McAskill, Bill Miller, Wilma Miller (compiler), Elizabeth & Rudi Richter, Margaret Sutherland.

Mount Carleton Provincial Park (MtC) 8th year
Dec. 21; 8:00-15:30. Clear. 15-20 cm. snow cover. -22° to -13° C; calm.
Rudi Richter, Roger Jenkins, Erwin Landauer (compiler).

Southeast Upsalquitch (SEU) 4th year
Dec. 30; 9:00-16:00. Clear, with periods of snow. 15 cm light snow cover; river frozen with open spring holes. -12° to -16° C; wind NE, 8 km/h.
Chris Gauthier, Mary Gauthier, Ron Gauthier (compiler), Elian Jonstonc, Ken Johnston, Léa Legere, Charles McAleenan, Ida McAleenan.

Club News

SEWAGE LAGOON EXPANSION THREATENS SAINTS REST TIDAL SALTMARSH

The City of Saint John plans to expand the Lancaster sewage treatment plant from its present capacity of 1.2 million gallons per day to 3.6 million gallons per day. As proposed the new lagoons would extend substantially into the Saints Rest tidal saltmarsh and ultimately cover nearly all of a large area of one of the best natural saltmarsh habitats in the Saint John region.

Many naturalists and nature lovers may have enjoyed the great variety of animal and plant life present in the Saints Rest marsh and taken for granted that it will always be there for they and their children and grandchildren to enjoy. Open, green spaces like it are very important for big cities.

A delicately balanced ecosystem, Saints Rest marsh has developed over a period of thousands of years and reached a state where human interruption could cause irreparable damage to its animal and plant life.

Around the Bay of Fundy, an estimated 35,000 hectares of marshland once existed. Today only 5,000 hectares remain intact, of which 1,500 hectares are in New Brunswick.

In the Saint John area, the Great Marsh no longer exists, and Musquash is threatened with dredging. Saints Rest marsh must be preserved as much as possible in its natural state for present and future generations to enjoy.

The Saint John Naturalists' Club is working to ensure that the natural values of Saints Rest Marsh are fully considered in any decisions about the sewage

treatment plant. On January 30, the club expressed its concerns in a letter to City Council:

"Recent discussion over the expansion of the Lancaster Sewage Lagoon has raised certain concerns among membership of the Saint John Naturalists' Club. Specifically, we would like to bring the following to your attention:

"1. Wetland habitat, and salt marshes in particular, is threatened and disappearing throughout North America.

"2. Salt marsh ecosystems are among the most productive in the world and Saints Rest marsh is undoubtedly important to the local fishery.

"3. The tourist potential of the Saints Rest salt marsh should not be overlooked. Birdwatchers spend millions of dollars in North America every year, and travel widely in pursuit of this pastime. The Saints Rest salt marsh is one of the prime birding areas in southern New Brunswick, if not eastern Canada. Members of the Saint John Naturalists' Club have recorded 230 species of birds at the marsh. This represents 65% of the provincial bird fauna.

"We understand the expansion of the Lancaster Sewage Lagoon has been proposed as a two-phase project. We recognize that the first phase of this project is probably inevitable. However, we would encourage Council to follow the least marsh-consumptive plan possible. We are opposed to the second phase of this project as it now stands, because it would see almost the entire marsh become a sewage lagoon. We would welcome the opportunity to meet with Members of Council, or the City Planning Commission, to examine the problem in greater detail, and perhaps suggest some compromise that might see the need for explanded sewage treatment facilities met, as well as to preserve as much of this valuable marsh as possible."

The club, which has been encouraging protection of the marsh for at least 13 years, is seeking support from like-minded individuals and organizations. Please address letters of support to Cecil Johnston, co-chairman of the club's Environmental Issues Committee, 29 Coronation Avenue, Saint John West, N. B. E2M 3Y9.

Book Reviews

Wild Seasons Daybook – Aleta Karstad's Canadian Sketches. By Aleta Karstad, 1985. Methuen Press. Hard back (5 1/2 x 7 1/4"), blue marker ribbon attached, $12.95.

Reviewed by Lynne McAlpine

Aleta Karstad's *Wild Seasons Daybook* will inevitably be compared to *The Country Diary of an Edwardian Lady* by Edith Holden, but while they undoubtedly share a fascination with the natural world, recorded in a collection of delightful watercolour illustrations, the similarity between the two ends there. Ms. Karstad's *Daybook* is intended as a diary, but for the reader, not the author, and although many of her illustrations are accompanied by simply-written snippets of natural history information from her own journals, these are brief, leaving ample space for the reader's personal entries. The *Daybook* is not a calendar; the days are marked by numerals only, and it is thus left free for use in any year. This gives the book a pleasing timelessness that accords well with the unchanging cycle of the seasons so beautifully captured in Ms. Karstad's ink and watercolour illustrations. Indeed, these are so lovely that one is almost afraid to write in the *Daybook* for fear of spoiling it. Of course, the book could be used instead to introduce the uninitiated to some of the wonders of the Canadian natural world: the illustrations are accompanied in most cases by both common and scientific names, and frequently by more extensive information. The watercolour sketches, often finely detailed, speak volumes by themselves, and at the back of the book is a helpful list of names and localities for all illustrations. The text is so straightforward as to be for the most part, within the comprehension of children. The *Daybook* would make a wonderful present for the budding naturalist of any age, while those already knowledgable can only appreciate the accuracy and skill of Ms. Karstad's observations.

Wildflower, Canada's National Magazine of Wild Flora. A quarterly publication of the Canadian Wildflower Society, 35 Bauer Crescent, Unionville, Ontario L3R 4H3. Annual subscription $15 (ca. 44 pages an issue)

Reviewed by Molly Smith

Aimed primarily at the wildflower enthusiast who wants to create a garden with wild flora, the Canadian Wildflower Society is little more than a year old and has already attracted more than 1200 members from Newfoundland to British Columbia. This is hardly surprising, for most naturalists who do any gardening at

all have, at some time, attempted to include a few native species. A comparison of nursery catalogues over the last 20 years shows a significant increase in the availability of native seeds and plants.

Apart from those who are already attempting to establish wildflower gardens, the society's magazine will appeal to all those who wait eagerly for the first spring flowers and keep field guides close at hand even in winter.

The editorial staff has attracted contributors from across the country, including botanists, horticulturists, biologists and artists. Articles ranging from "Botanizing on Twillingate Island" to "Wildflowers on a Balcony" and from "The Symbiosis of Ants and Wildflowers" to "Wildflowers in the World's Gardens" (the story of plant collector David Douglas, 1799-1834).

Regular features include "Plant of the Season", which highlights one particular species. A botanical description is given and favoured habitat and soil requirements outlined. Propagation methods are considered and helpful references listed. Another regular feature is "Conservation Commentary", which includes reprints of Canadian and foreign press items on such relevant themes as international trade in rare plants and natural landscaping in cities.

A seed exchange programme has been initiated and to emphasize the dangers of overcollecting a "code of ethics" has been drawn up. Most of the 13 items seem self-evident but it should be a good thing to have them spelled out. As coastal marshes disappear, bogs are drained and woodlands cut, our native plants need all the help they can get to survive.

Wildflower is an attractive magazine, printed on good quality paper and well-illustrated with black-and-white photographs and many excellent line drawings. Monotony is avoided by the use of green ink for some graphics. The Canadian Wildflower Society, and its magazine, not only provide a link between botanists and other professionals dealing with environmental issues, and enthusiastic amateurs, but also a forum for exchange of ideas and expertise. They deserve to succeed.

Exhibit of Natural History Illustration

In collaboration with the Huntsman Marine Science Symposium, Sunbury Shores Arts and Nature Centre is soliciting entries to an exhibition of natural history illustration, to be held June 2-30, 1986. Photographic prints [but not colour slides], paintings, drawings and articles of sculpture or craft portraying natural history subjects will be accepted (maximum four entries per person). The selection committee will select from works received up to May 23. For further information contact Sunbury Shores Arts & Nature Centre, P.O. Box 100, St. Andrews, N. B. E0G 2X0; telephone 529-3386.

Nature News

Autumn 1985

David Christie

I will open this installment of "Nature News" with a plea for people to contribute information. Birds with their great mobility and seasonal coming and going are more likely to be "newsmakers" than many other forms of life. Stray Opossums or Spotted Skunks don't turn up unexpectedly in New Brunswick the way southern and western birds do, but we **are** interested in news of mammals, other animals, and plants. So please send in information of interesting observations – reports of species rare in your area, of the effects of unusual weather conditions, of a fascinating wildlife drama you have seen, and so on.

In the *Guillemot* is news that Brian Dalzell apparently saw some Big Brown Bats at Grand Manan this fall, with the last observation on Oct. 27. It is a rare bat here, with only a few definite records from the southwestern part of the province.

The Saint John Naturalists' Club had "a whale of time", as their November *Bulletin* reported it, at Grand Manan Sept. 13-15. Seventeen club members visited the island to look for whales. They saw Humpback, Finback and Minke Whales from the ferry and on their boat trip south of the island found many White-sided Dolphins and a lot of seabirds.

Birds

The two new species of birds added to the provincial list received special treatment in the last issue. In summary, an adult male Brewer's Blackbird, discovered at North Head Sept. 15, was seen until Oct. 30 and an Ash-throated Flycatcher was seen in the very same area Nov. 10-12 (v.o.). Interestingly, there were two other reports of Brewer's Blackbirds, one in company with grackles on the Kingston Peninsula in early November (Allen Gorham) and a male visiting a feeder sporadically at New Horton, near Riverside-Albert, Nov. 14-18 (John Inman). Neither was confirmed by additional observers.

The next most interesting occurrences were two birds evidently swept up from the American coast by the passage of Hurricane Gloria Sept. 27. An American Oystercatcher frequented the harbour at White Head Island, Grand Manan, from Sept. 29 to Oct. 14 (Juddie Small *et al., fide* Nancy Small) and a Black Skimmer spent considerable time resting on a wharf and on mud flats at Courtenay Bay, Saint John, Oct. 3 (Jim Wilson, Cecil Johnston *et al.*)

Stuart Tingley was surprised to find 410 Red-throated Loons in Northumberland Strait off Cape Jourimain National Wildlife Area, near Bayfield, Oct. 23, a lot more than he had seen before in that area; 40 more were at Cape Tormentine.

Pelagic birds reported in the Grand Manan area include 200 to 250 Greater and 25 to 35 Sooty Shearwaters, 12 Wilson's Storm-Petrels and a Great Skua near the Murr Ledges Sept. 14 (S.J.N.C.); 300+ Greaters, 3 Sooties, 8 Wilson's and a Pomarine Jaeger about 16 km SE of White Head Oct. 4 (BDD); and a few Northern Fulmars in the Grand Manan Channel Nov. 11-12 (v.o.). One or two other skuas, one possibly a South Polar Skua (J. Finne), were seen on the Sept. 14 trip.

One of the Snowy Egrets at Castalia Marsh during the summer remained till Sept. 30 (BDD) and another remained till Sept. 28 at Saints Rest Marsh, Saint John, where there was still a Glossy Ibis Sept. 2 (JGW). There were still three Great Blue Herons at Cape Jourimain Nov. 24 (C.N.C.) and one at Napan River, near Chatham, Nov. 30 (Luc Lemieux).

A report not heard about when I prepared the summer "Nature News" was of Canada Geese nesting for the first time in Mill Cove, near Crystal Beach, on the Long Reach of the Saint John River. Two young were successfully raised and the birds disappeared early in September (Win & Doug MacAndrews). Brian Dalzell reports 750+ Am. Black Ducks at Long Pond Oct. 5 as the biggest flock of them he had ever seen on Grand Manan.

For the scarcer waterfowl, Stuart Tingley reports that Port Elgin sewage lagoon is a reliable spot for Lesser Scaup and Barrow's Goldeneye from mid-October until freeze-up. Stu saw 15+ Lessers (also 6 Greaters) and 2+ Barrow's there Oct.23, when there were also 6 Lesser Scaup near Cape Jourimain. One and two Gadwall were at Long Pond, G.M., Sept. 22 and Oct. 5, respectively (v.o.), three Ruddy Ducks at Grand Manan Oct.29 (BDD) and two at Pocologan Nov. 11 (JGW, Cecil Johnston & Tingley).

A Turkey Vulture, reportedly by the keeper of The Whistle lighthouse, at the northern tip of Grand Manan, in late September was probably the same one seen at the Swallowtail, near North Head, Oct. 8 (BDD). Jim Wilson was able to study an immature accipiter carefully enough at Saints Rest Sept. 7 to be satisfied it was a Cooper's Hawk, a rare species in New Brunswick. A Red-shouldered Hawk was unusal at Memramcook Sept. 21 (Peter Pearce) while two about 5 km south of St. Croix (Dan Busby) were in the area of the province where they are of regular occurrence. The first of a good number of Rough-legged Hawks was a dark bird at Aulac Oct. 23 (Tingley); 23 were seen between Jemseg and Fredericton Nov. 27 (Joyce & Niven Thorne).

There were several reports of Peregrine Falcons at Grand Manan and around Saint John in September and October (v.o.) The latest was found with an injured wing at Deep Cove, G.M., Nov. 4 (Rodger & Elaine Maker). The starving bird was sent to Fredericton for care by veterinarian Sandy McAllister, after which it was banded and released at Fundy National Park Nov. 29. This young female, of the subspecies *anatum,* must have been raised by wild Peregrines, an indication that the re-establishment program for the eastern North American Peregrine population is beginning to work (Rob Walker & Stephen Woodley).

A great variety of shorebirds were reported during the fall. Besides the oystercatcher already mentioned, there was an American Avocet at Castalia from Oct. 27 to Nov. 12 (v.o.), a Marbled Godwit at Waterside Sep. 29 (R. Walker *et al*), perhaps the same one at New Horton Oct. 1 (BDD), and a Willet of the western subspecies *inornatus* at Castalia Sept. 15 to Oct. 5 (v.o.) More regular yet scarce species were an Upland Sandpiper at Castalia Sept. 15 (BDD) and one near Deep Cove, G.M., Sept. 22 (JGW *et al*); a juvenile Baird's Sandpiper at Castalia 20-21 and two there Oct. 13 (BDD *et al*); a juvenile Stilt Sandpiper at Castalia Sept. 15 to Oct. 5 and an adult and a juvenile at Waterside Oct. 4 (R. Walker; Angus & Stella MacLean); three Long-billed Dowitchers, diminishing to one, at Castalia Sept 13 to Oct. 31 (v.o.) and 13 juveniles at the Tantramar River dam Oct. 25-27 (good photos obtained; Tingley); and a very late Wilson's Phalarope at Dorchester sewage pond Oct. 16 (Tingley).

A good flight of Pectoral Sandpipers was indicated by a peak of about 100 at Saints Rest Oct. 13 (Jaakko Finne) and by 128 and 160, respectively, at Tantramar River Dam Oct. 9 and 25 (Tingley). Luc Lemieux' report of 60 Short-billed Dowichers at Maisonnette Oct. 13, was an unusually large number of that common species so late in the season.

A moulting adult Common Black-headed Gull was seen at Pocologan Oct. 28 (Tingley *et al*) The third provincial record of Forster's Tern, in August at Castalia, was followed by another, perhaps the same "first winter" bird, there Sept. 23-24 (Tingley *et al*) Two Caspian Terns were there Oct. 4 (Pearce).

Another White-winged Dove, at Castalia Nov. 11-15 (v.o.), augmented the growing list of occurrence of this vagrant species in New Brunswick. Three Yellow-billed Cuckoos were reported at Grand Manan Sept. 16-26 (BDD *et al*) Single Red-headed Woodpeckers were seen at The Whistle, G.M., Oct. 2 (Pearce), near Musquash about the beginning of November (Med LeBlanc) and at Derby Junction, near Newcastle, Nov. 11 and 13 (Penny Creamer and Harry Walker). A Western Kingbird at Harvey, Albert County, Nov. 7 (R. Walker *et al*) was the only one reported this fall.

Our last issue highlighted a congregation of Purple Martins that built up in Ross Cameron's Fredericton backyard Aug. 21-27. Reaching a peak of about 5000 birds Aug. 26 (Nev Garrity *et al*), they were mostly gone on the 28th, when a similar flock, perhaps many of the same birds, was observed 55 km away, at Cambridge-Narrows. Conservatively estimating 5000, Joyce and Niven Thorne felt there might have been as many as 10,000 birds. On Sept. 3-4 there were at least 1000 martins a bit farther down Washademoak Lake (Enid Inch and Frank Webb).

Single Marsh Wrens (formerly Long-billed M. W.) were seen at Saints Rest Sept. 7 (JGW), Whale Cove, G.M., Oct. 3 (Pearce & BDD) and at Alma Beach, F.N.P, Oct. 19 (R. Walker). Peter Pearce finally crossed paths with a Blue-gray Gnatcatcher at North Head Oct. 3. A Brown Thrasher was around Peggy Hetherington's home in the Millidgeville area of Saint John in October or November.

The first of a good flight of Bohemian Waxwings were 13 at Cape Jourimain Oct. 23 (Tingley). During November there were reports from Gagetown and Oromocto (Inch), Fredericton (Pearce), Lewisville (Donald Cormier), Alma (Doreen Rossiter) and Mary's Point (DSC and Mary Majka). Stuart Tingley also reported the earliest Northern Shrike, a juvenile at Point de Bute Oct. 21.

Most unusual warblers were an Orange-crowned and a Prairie at Bancroft Point, near Castalia, Sept. 3 (BDD) and a probable Connecticut at North Head Sept. 17 ("pretty sure of it" – Pearce). A very dull warbler photographed during a brief visit to Michael Burzynski and Anne Marceau's Alma feeder at Alma Nov. 22 was eventually identified as an immature female Cape May, quite a late record for that species. However, the identity of a "rusty orange tanager with double white wingbars" with other migrants (including a late Philadelphia Vireo) at McLaren Pond, F.N.P., Oct. 14, remains unknown (R. Walker).

A couple of immature or female Blue Grosbeaks appeared at Grand Manan, one at Grand Harbour Sept. 20 (BDD) and one at North Head Oct. 3 (Pearce). A Dickcissel was at Bancroft Point Oct. 2-6 (BDD) and another at Mary's Point Oct. 26 to Nov. 6 (Majkas & DSC). Rufous-sided Towhees were at North Head Oct. 3 (Pearce) and Bancroft Point Oct. 19-20 (BDD). An adult and an immature Lark Sparrow were at Woodwards Cove, G.M., Sept. 3 (BDD), an "Ipswich Sparrow" at Castalia Nov. 12 (DSC & Mary Majka), an adult Seaside Sparrow at Alma Beach, F.N.P., Sept. 14 (R. Walker) and a White-crowned Sparrow of the western subspecies *gambelii* at Hartland from Nov. 19 into the winter (Florence Britton).

Among finches, the numbers of Pine Grosbeaks and Common Redpolls were most noteworthy. Enid Inch saw her first Pine Grosbeak Oct. 26 and in early November they were conspicuous in the Newcastle area (H. Walker *et al*) and in Albert County

(DSC). Common Redpolls appeared at Grand Manan Oct. 18 (15, BDD). There were about 400 At Cape Jourimain Oct. 23, when several small flocks were observed flying across the strait towards Prince Edward Island (Tingley). A female American Goldfinch was still feeding young at Chatham Sept. 1 (Lemieux). This species nests late to take advantage of thistle seeds as food for the young.

Besides being a good area for vagrants, Grand Manan is also a great place in which to see concentrations of our common migrants. Some of the peaks reported there this fall by Brian Dalzell were 100+ Red-breasted Nuthatches at The Whistle Sept. 22, 120 Water Pipits at Castalia Oct. 20, an estimated about 5000+ Yellow-rumped (Myrtle) Warblers on the island Oct.19, 250+ Palm Warblers Oct. 21, 500+ Dark-eyed Juncos Sept. 22. Alao there were hundreds of Ruby-crowned Kinglets at the Swallowtail Oct. 4 (Pearce).

Abbreviations

BDD	Brian Dalzell	G.M.	Grand Manan
C.N.C.	Chignecto Naturalists' Club	JGW	Jim Wilson
DSC	David Christie	v.o.	various observers
et al.	and others	S.J.N.C.	Saint John Naturalists' Club

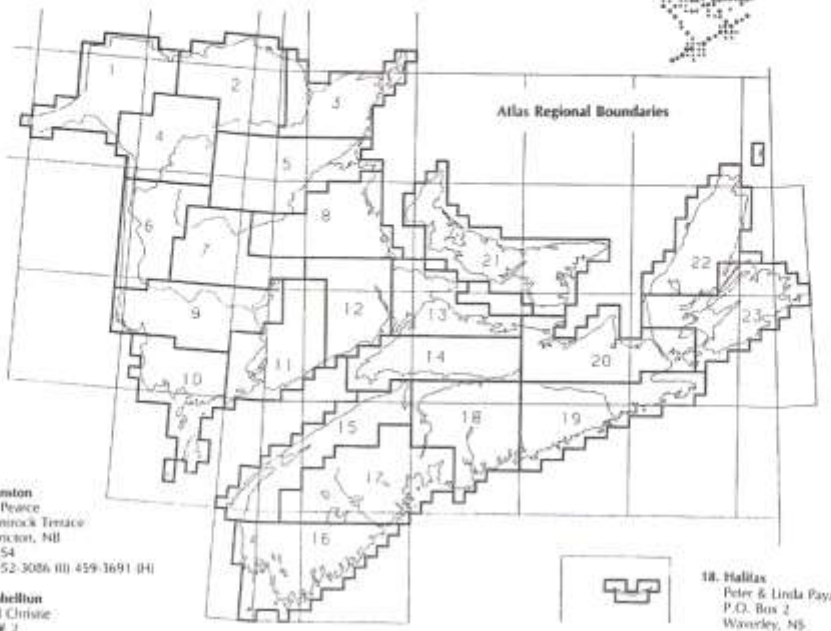
SOUTH MORESBY CARAVAN PASSES THROUGH NEW BRUNSWICK

The "Save South Moresby Caravan", a trans-continental journey to rally support for preservation of the South Moresby area of the Queen Charlotte Islands passed through New Brunswick on March 8. During a half hour whistle stop at Moncton, about 50 New Brunswickers met the train to demonstrate their interest.

Thom Henley and Gregg Sheehy were travelling from St. John's to Victoria, where they will present "Save South Moresby" petitions to the British Columbia. Along the way there were six major rallies and many whistle-stop gatherings. As the train progressed, the group was joined by other people travelling part or all of the way to Victoria.

At Moncton, standing beneath a large thunderbird kite flapping in the strong, cold wind, the caravaners spoke briefly to assembled supporters and received petitions gathered in southeastern New Brunswick. On behalf of the N. B. Federation of Naturalists, Mary Majka presented gifts of maple syrup and New Brunswick emblems for the Haida Indians of the Queen Charlottes. DSC.

Atlas Update



1. Edmunston
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506-452-3086 (B) 459-3691 (H)

2. Campbellton
David Christie
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Albert, NB
E0A 1A0
506-882-2100

3. Bathurst

4. Tobique
Erwin Landauer
R.R. # 2
Plaster Rock, NB
E0J 1W0
506-356-8570

5. Miramichi
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8. Kent
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9. Fredericton South
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16. Yarmouth
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West Pubnico
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B0W 1S0
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17. Keji

18. Halifax
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20. Antigonish
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21. P.E.I.
Rosemary Curley
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22. Highlands
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Chief Park Warden
Cape Breton Highlands Nat'l Park
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902-285-2691 (O)

23. Sydney
Dave Harris
N.S. Dept. of Lands and Forests
R.R. # 6
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Regional Coordinators Announced

The Maritimes have been divided into 23 regions for the Maritimes Breeding Bird Atlas. Each region will be administered by a volunteer regional coordinator, who will assign squares and provide supplies, knowledge of local birds, and atlassing advice to the volunteer observers.

Keeping track of a region's breeding bird records can be a big job. If you're interested in this project please give your regional coordinator a call and offer your assistance. If your area doesn't yet have a coordinator contact the atlas office, c/o Nova Scotia Museum, 1747 Summer Street, Halifax, N. S. B3H 3A6.

Federation News

Forest Education Cards

The federation has been asked to assist a new educational project. The Dept. of Forests, Mines and Energy and its counterparts from Nova Scotia and Prince Edward Island are trying to develop more interesting material for use in the classroom and we have been asked to help produce a set of cards depicting forest wildlife and plants (trees, shrubs, wildflowers, amphibians, insects, birds, mammals) and forest management practices (tree planting, fire fighting, harvesting, etc.) A short description in English and French will be printed on the back of each card.

A student will be able to earn cards by completing a forest-related project, such as identifying trees, drawing a picture of a bird, or growing a seedling. Hopefully, the idea will become as successful here as it is in Manitoba. Children are collectors by nature. Through collecting, they will soon also learn about nature – the easy way.

Anyone interested in providing good slides of the above mentioned subjects, please contact Mary Majka, RR 2, Albert, N.B. E0A 1A0. Photos will be returned and any used will acknowledged on the card.

St. Croix River Brochure

The federation is also participating in preparation of a brochure on the natural history of the St. Croix River. Members willing to loan plant and animal photos for reproduction, please contact Hal Hinds, Biology Dept., U.N.B., Bag Service 45111, Fredericton, N. B. E3B 6E1.

WORLD COMMISSION ON ENVIRONMENT AND DEVELOPMENT

From May 22, to May 31, 1986, Canada will host the World Commission on Environment and Devcelopment. The Commission will visit sites in several provinces and meet with environmental groups, universities, industry and government, as well as concerned individuals from all across Canada.

The public is invited to participate in these discussions and express their views on a variety of environmental issues. The commission hopes to hear from all sectors of Canadian society. For further information on the Canadian meeting contact N. F. Lynch, Director, International Programs Branch, Environment Canada, Ottawa, Canada K1A 0H3.

The Commision has been established at a time of unprecedented growth in pressures on the environmental and ecological basis for global development. Measures developed and taken as a result of the landmark conferences of the 1970s have proven inadequate. Most developing countries have seen a steady increase in environmental degradation added to historic pressures on resources. Many of the newly industrializing countries have experienced a massive deterioration in their environment, with problems associated with sudden industrialization and explosive urbanization being added to those associated with underdevelopment and poverty. While some industrialized countries have seen significant improvements in environmental quality over the past decade, their battle against conventional pollution is far from won, and in many areas resource deterioration has accelerated. At the same time, a new generation of increasingly complex environment and development issues has emerged, of concern to developing and developed countries alike.

In her address to the organizational session, the Commission's chairman, Dr. Gro Harlem Brundtland, former prime minister of Norway, said,

"I have already suggested the title of our final report. "Common Future". That is really what we have to consider. The world is shrinking rapidly. We share a world economy; a world environment, which is the basis for the present and future world economy; and a stake in world development and a decent and dignified human condition of life. We must learn to think globally and in a long-term perspective. No single region or nation can isolate itself from the rest of the world. They share the responsibility for a common future."

The Commission's address is Palais Wilson, 52 rue des Pâquis, CH-1201 Geneva, Switzerland.

NEW BRUNSWICK FEDERATION OF NATURALISTS
277 Douglas Avenue, Saint John, N. B., Canada E2K 1E5 Tel.: (506)693-1196

LA FEDERATION DES NATURALISTES DU NOUVEAU-BRUNSWICK
277, avenue Douglas, Saint-Jean, N.-B., Canada E2K 1E5 Tél.(506)693-1196

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 safeguard the natural heritage of New Brunswick.

La fédération est une organization 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 la nature et de l'environnement naturel, et pour sauvegarder le patrimoine naturel du Nouveau-Brunswick.

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Miramichi Naturalists' Club	276 Heath Court, Newcastle, E1V 2Y5
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To / À: