

Blomidon Naturalists Society

Spring 2000 - Volume 27 Number 1

Blomidon Naturalists Society

"The primary objective of the Society shall be to encourage and develop in its members an understanding and appreciation of nature. For the purpose of the Society, the word 'nature' will be interpreted broadly and shall include the rocks, plants, animals, water, air, and stars."

(From the BNS constitution.)

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The Blomidon Naturalists Society

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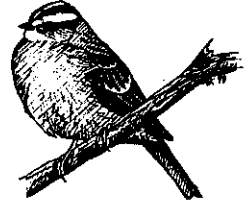
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The End of TRIVIAL TIDBITS



Jim Wolford wishes to thank his faithful contributors over the years, but, like Jean Timpa (p.6), he is ready to move on to other things. He *may* continue compiling very selective observations (from NatureNS e-mails, newspapers, etc.) and is *thinking* about perhaps putting them on a personal website, to be set up at some later date. You all will be informed if such ever comes to pass!

Editor's Note: BNS members will certainly miss Jim's very extensive summaries of nature sightings in King's County and beyond. Given their range and comprehensiveness, one is left to wonder whether he ever goes indoors. While his Tidbits won't appear in this newsletter as such, it is almost certain that his considerable energy will be channeled into other BNS activities. It is not likely that these pages have carried Jim's final contribution.

BLOMIDON NATURALISTS SOCIETY
SPRING 2000
MEETINGS & FIELD TRIPS

Regular BNS meetings begin at 7:30 p.m. in BEVERIDGE ARTS CENTRE, Room 244, Acadia University, Wolfville - (BAC is across Main St. from the Atlantic Theatre Festival parking lot).
All are welcome to all events!

Monday, April 17 - Elaine & Mike Kew will talk about the **Atlantic Raptor Rehabilitation Centre**. The Kews have been operating the Centre at St. Margaret's Bay, with medical help from the Dartmouth Veterinary Hospital, since 1982. They have treated 20 species of birds of prey there, and always aim at re-releasing them back into the wild. Come and hear about the dedication and successes of these volunteers. Illustrated with slides.

Monday, May 15 - Glen Sampson will give a talk on "**Biological control of weeds using exotic insects, with special reference to Purple Loosestrife**". Glen is at N.S. Agricultural College and is an excellent, knowledgeable speaker. Illustrated with slides.

Monday, June 19 - Soren Bondrup-Nielsen: "**A full year of birding in Pukaskwa (puk-a-sah) National Park**". Soren conducted bird surveys in all months (he's especially a winter freak), and will walk us through his highlights with lots of nice slides. So come and find out about this part of the Lake Superior shore in Ontario.

Field Trips

All begin at the Robie Tufts Nature Centre (RTNC), Front St., Wolfville.

Saturday, April 22 - FUNDY SHORE GEOLOGY/MINERALS - Leaders Jack Colwell (542-5333) & Don Osburn (538-3234), who will bring some samples with them. Meet at 9 a.m. at RTNC. We'll visit the Ross Creek area, north of the Lookoff. Bring a lunch, sturdy footwear, warm clothes, hand-lens, etc.

Sunday, April 30 - LOCAL BIRDS, offered by the N.S. Bird Society and BNS. Leader Jim Wolford (542-7650). Meet at 10 a.m. at RTNC. Bring a lunch, boots or old shoes, weather layers, binocs, 'scopes, field guides, etc. We'll tour the local ponds, Grand Pré, etc.

Saturday, May 6 - EARLY FLOWERS ETC. at Smiley's Provincial Park, Hants Co. Leader Jim Wolford? (542-7650). Meet at 10 a.m. at RTNC. Bloodroot should be in bloom along the Meander River. Bring lunch, binoculars, etc.

Saturday, May 13 - NORTH AMERICAN BIRD MIGRATION COUNT - anyone wishing to participate, either as a field observer or yard/feeder-watcher, call Judy Tufts (542-7800). Email: tandove@ns.sympatica.ca

Sunday, May 14 - Trip to the ATLANTIC RAPTOR REHABILITATION CENTRE on the shore of St. Margaret's Bay, to get a tour by Elaine & Mike Kew (see meeting of April 17). Call Jim Wolford (542-7650) for information on meeting place and time.

Sunday, May 21 - INTERTIDAL MUD ("Yummy Muds of Minas") and its biodiversity, offered by Halifax Field Naturalists & BNS. Leader Jim Wolford (542-7650). Meet at 9 a.m. at RTNC, bring rubber boots or very old shoes (that will stay on your feet in sticky mud!) & lunch etc. We plan to visit Kingsport "Beach" first, and then the east end of Evangeline Beach to view fossil tree-stumps of a 4000-year-old forest (plus more mud!).

9:15/10:00 am
Saturday, May 27 - CAPE SPLIT HIKE. Leader Sherman Williams (542-5104). Meet at ~~8:30~~ a.m. at RTNC or ~~9:30~~ at trailhead at Scots' Bay. Round trip of 16km. Bring lunch & drink, binocs, camera, field guides, sturdy shoes that may get muddy, bug-dope, etc. Lots of flowers plus scenic views of tidal currents etc.

Sunday, May 28 - PARKS ARE FOR PEOPLE: NATURE WALK IN BLOMIDON PROVINCIAL PARK. Leader Jim Wolford (542-7650). Meet at 10 a.m. at RTNC or lower Park gate at 10:45. Easy walk on trail along cliff, viewing wild leeks & other plants etc., to the seasonal pond where the rare and beautiful fairy shrimp (cousins of "sea monkeys") live, along with all sorts of other interesting pond life.

Saturday, June 10 - Joint field trip (South Shore Naturalists Club & BNS) for LOCAL AMPHIBIANS & REPTILES. Leader Jim Wolford (542-7650). Meet at 10 a.m. at RTNC, bring lunch & rubber boots/old shoes & field guides or Herpatlassing guides. Rain or shine.

Saturday, June 24 - A WALK ON THE CLEVELAND PROPERTY (N.S. Nature Trust land) on Wolfville Ridge. Probable leaders are Margaret & George Alliston (542-3651) and Tom Herman (678-0383). Meet at 10 a.m. at RTNC. Bring a lunch etc., and perhaps we'll also walk in the Stile (Rotary) Park nearby.

Other meetings of interest

June 2-4 - Annual General Meeting of the Federation of Nova Scotia Naturalists, in Wolfville, hosted by the BNS. - see prospectus of talks, morning & afternoon field trips, registration, etc. in the insert that was mailed with this newsletter, or call Larry Bogan (678-0446).

July 12-16 - The Canadian Nature Federation and the Natural History Society of Newfoundland and Labrador are holding a joint annual general meeting. in Corner Brook, Newfoundland. For more information, contact the host club's organizing committee: CNF 2000, Humber Natural History Society, 2A 4th Avenue, Pasadena, NF A0L 1K0, or e-mail to <hnhs2000@beothuk.swgc.mun.ca>.

New Birds Correspondent

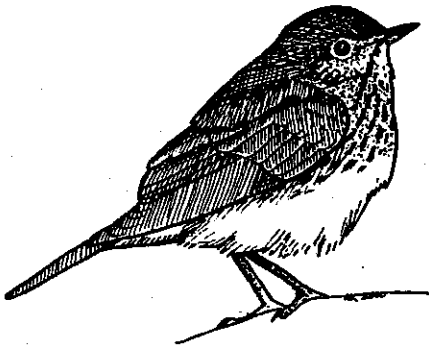
Jean Timpa, who has served BNS members so well as the focal point of bird sightings, and whose enthusiasm has marked her steady contribution so clearly, is also laying aside her pen. Angus MacLean has most generously volunteered to carry on the column. Please report unusual sightings or avian behavior that you think would be of interest to BNS members to Angus at

2992 Lovett Rd.
Coldbrook, Nova Scotia
B4R 1A4
Tel.: (902) 679-5878
Email: angusmcl@sympatico.ns.ca

Birders Needed!

Hello, Nova Scotia birders-

I want to share with you information about a very important bird conservation initiative you can volunteer for. It's called Birds in Forested Landscapes (BFL). BFL is working to determine the effects of disturbance from recreational development and forest fragmentation on the breeding success of Cooper's and Sharp-shinned hawks and on seven species of forest thrushes (Wood, Hermit, Swainson's, Bicknell's, Gray-cheeked, and Varied as well as Veery), several of which are experiencing population declines. You select your own study sites in a forest near you, then census birds on at least two visits. Results from a similar study, Project Tanager, have been written up as a publication now available from the Lab, called "Land Managers Guide to Improving Habitat for Scarlet Tanagers and Other Forest-Interior Birds."



BFL is a great way to gain "in the field" experience; for those of you who are already in the field, it can be easily included in field work you may already be conducting. We send you all research material at no charge. If you can help with either or both of these projects, please contact me at one of the addresses below.

This is the fourth year of the study, and last year we had no participants at all in Nova Scotia, so we could certainly use any help you can provide.

Thanks, as always, for your support of the Lab's work.

Allison Wells,
Cornell Lab of Ornithology,
Ithaca, NY 14850, USA
Email: amw25@cornell.edu
<http://birds.cornell.edu>

Puffin of the Year Award

The Nova Scotia Bird Society's "Puffin of the Year" award is presented annually to a society member who has made substantial contribution to the aims of the society. Members of the Blomidon Naturalists Society will not be surprised that Bernard Forsythe is the 1999 recipient of this award.

In her presentation comments the Society's president, Gisele D'Entremont reviewed some of Bernard's activities:

"One of the more pleasant duties of the President is to award the 'Puffin of the Year.' This award is presented to one of our members in recognition of this person's substantial contribution to the aims of our Society.

This year's recipient vividly remembers as a boy finding a Song Sparrow's nest while out picking wild strawberries. This was the start of many years of finding and recording nests of many different species. His neighbors, Rachel and John Erskine, avid birdwatchers, supported



L to R Ralph MacLean (carver of the award) with Barbara Hinds and Bernard Forsythe



him in this interest and encouraged him to start sending records of his nest finds to the Maritime Nest Records Scheme in Sackville, NB. Since 1975, he has sent over 2,500 nest cards, including records from 118 different species of birds. As you can see, he is also meticulous at keeping notes.

In the mid 70's, this person became interested in putting up artificial nest sites for owls. Since that time, he has put up many nest boxes and platforms.

This past year, Barred Owls laid eggs in 15 of his nest boxes. Over the years, Great Horned Owls, Long-eared Owls, American Kestrels, Wood Ducks, Common and Hooded mergansers, Northern Flickers, Black-capped Chickadees and Tree Swallows have all used his nest sites.

This person has been a member of the Nova Scotia Bird Society and the Blomidon Naturalists Society for over 25 years, and has consistently sent in sightings and records.

He is an annual participant in the Christmas Bird Count, and has been doing Breeding Bird Surveys for 23 years. He is very willing to share his knowledge and love of owls and is frequently invited to give presentations.

This person has tremendous interest in plants as well, and is very knowledgeable on the many orchid species in Nova Scotia. It is my pleasure to present this year's 'Puffin of the Year' Award to **Bernard Forsythe.**"

HELP WANTED - BNS Website

Stan Riggs has toiled as the Society's web site manager since its inception and now wishes to turn his duties over to someone else. Because the press GANG belongs to history, we need a volunteer. Ideally you should be familiar with website operation, but lacking this, if the idea interests you and you are willing to learn, Stan will be happy to introduce you to the mysteries of website operation. If you would like to support the BNS in this way, please contact Merritt Gibson at 582-7569.

North American Migration Count - May 13, 2000

The Spring North American Migration Count (NAMC) will take place on Saturday May 13th throughout North America. Please hold that date open if you would like to participate in the Nova Scotia effort. NO FEE is involved. Should you not know whom to contact in your county, either a county coordinator or an area representative, please contact me by email or by phone. There are always areas that need coverage on this one-day Spring Count. Everyone is welcome whether out in the field or as a feeder watcher. I am always looking for more people to participate and it really is a wonderful excuse to be out on a spring day counting birds.

Judy Tufts

NAMC Provincial Coordinator

Tel.: (902) 542-7800

P.O. Box 1313, Wolfville, Nova Scotia B0P 1X0

Email: tandove@ns.sympatico.ca



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Notes on Swift Behaviour

by Sean Timpa



In and around Wolfville two 'types' of Chimney Swift are seen: mating pairs and yearlings. The mating pairs are often about during daylight hours gathering food for themselves and their broods; they do not use the chimney. The Robie Tufts Nature Centre chimney is the exclusive domain (we think) of yearling swifts - birds not yet ready to breed.

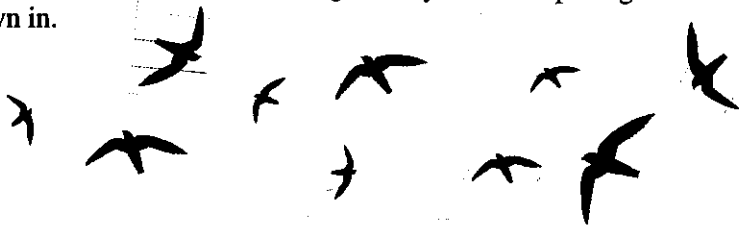
Contrary to popular belief, chimney swifts do not get up with the sun. I had the privilege of seeing their exit on two occasions, once at 8:00 a.m. and once at 10:00 a.m. The swifts all exit at the same time from the chimney, but each takes an individual and highly erratic path probably designed to confuse any waiting predators. This phenomenon is spectacular to watch but nearly impossible to predict. The swifts fly just over the lip of the chimney and then skim down the outside of the chimney and over the top of the RTNC's roof. This allows them to gain speed rapidly and makes them very hard targets for predators. The swifts then make one or two circuits of the Liquor Commission parking lot and for a few moments the air is filled with darting swifts. Then the birds gain speed and altitude and vanish until dusk.

The swifts' return to the chimney is usually about 45 minutes prior to sunset and ends roughly 30 minutes after sunset. The instinct to return is likely regulated by light levels since overcast or stormy weather can cause the swifts to come in up to an hour earlier. This also results in a reduced feeding time and may reduce the numbers that come in the next night as more birds stay out late to feed up. Record low numbers of birds were seen returning to the chimney on both of the nights that followed a heavy rain the previous night. Conversely, cloudy and stormy nights bring in the greatest numbers of birds and are the most spectacular shows.

The Chimney Swifts' return begins with a single bird circling the chimney at high altitude in wide arcs. This bird is almost always heard before it is seen as it emits the distinctive high pitched chitter that distinguishes swifts. This chitter differs from other bird calls by its high pitched, rapid repetition of a single note that, unlike most other bird calls comes from well overhead. This chitter may direct other swifts to the location of the

chimney. The single swift is soon joined by friends and with each circuit of the chimney the size of the flock grows. During this gathering period, the flock remains at high altitude and circles the chimney in wide arcs.

On a normal, clear evening the gathering phase ends and the landing phase begins shortly after sunset. Light levels likely regulate this behaviour. Gradually, the swifts drop lower and circle more tightly around the chimney passing directly over the top of it at some point in their flight. They may then make several teasing dives at the top of the chimney but pull up from their approach at the very last instant and begin another circle around the chimney. A few early birds may go in around this time, but most stay out and circle with the rest of the flock. At some point in this maneuver, some behavioural switch trips; one bird enters the chimney followed by almost the entire flock. Swifts enter the chimney by fanning their wings backward and stalling directly over the opening and fluttering down in.



Timing of this action is difficult to predict and does not have any apparent trigger. Stragglers may arrive and go in over the next half-hour or so depending on how many birds showed up and made it in with the main flock. On one occasion, the dark clouds of an approaching thunderstorm triggered a premature drop in light level, and as a result the main flock went in early and only half formed. More than half of the birds arrived as stragglers over the next 15 minutes. Stragglers exhibit little of the circling that the main flock does and tend to fly straight into the chimney.

As the landing phase is the main spectacle, it is necessary to find a good viewing location. The east side of the parking lot is preferred by some as this silhouettes the swifts against the sunset. It has been my experience, however, that to get an accurate count it is necessary to find a seat where you are facing into the whirling pattern of the landing swifts. This allows easy distinction between a bird that enters the chimney and one that pulls up at the last instant. From the east side of the parking lot this often appears as if the bird has gone in, when really it has gone around the

opposite side of the chimney for another pass. Fortunately the landing direction of the swifts is usually easy to predict. Swifts like all good aviators, land into the wind a tactic that allows them to maintain airspeed while reducing ground speed. Up to a hundred swifts may land vertically on the inside of the chimney in under 15 seconds, a feat not seen in the darkest dreams of modern air force pilots. I recommend counting by tens during this event.

The Merlin is the primary and possibly only predator of the Chimney Swift. I witnessed several attacks by Merlins on flocks of swifts over the summer but only one made a successful kill on a windy, overcast night when the swifts had limited maneuverability. Swifts are simply too fast and agile for even as deadly a hunter as the Merlin. On one occasion, a Merlin, perhaps immature, attacked the swifts with the worst tactics possible. It attacked while the swifts were still at high altitude on a clear, sunny evening. The flock parted, almost contemptuously, just enough to allow the Merlin through and then drove it from the sky. When last seen, the Merlin was beating a hasty retreat with upwards of sixty swifts in hot pursuit. Some of swifts in the leading edge of the flock had already passed the Merlin and were reversing their turn for a second attack.

Attack by a Merlin leads to an unusual landing behaviour. Immediately after the Merlin has left, the whole flock climbs to several hundred feet, forms into a tight ring which circles the chimney once or twice and then dives at high speed into the chimney from hundreds of feet up, each swift taking its own zigzag course. With a dozen swifts doing this simultaneously it is nearly impossible for a predator to lock onto any single bird. It is also very difficult to count but IS a spectacular display of aerobatics.

Swifts may also display abnormal behaviour when the flock is very small at the end of the season; they may enter and exit the chimney many times, enter early or circle but not enter the chimney at all. This behaviour was observed in late August when most of the birds had migrated south. Human activity seems to have no effect at all on the swifts as long as nobody actually does anything as foolish as banging on the chimney! One night the flock casually landed without the slightest deviation despite the dozens of motorbike riders revving their engines in the parking lot.

Brief Encounter with an Alien Landscape by Sherman Bleakney

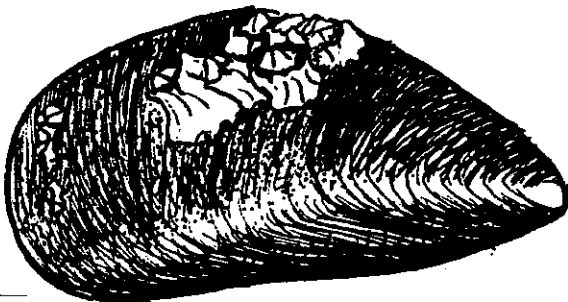
Those fortunate enough to have attended Sherman Williams' BNS lecture and demonstration of May 17, 1999 (in the previous millennium) were transported via computer simulations into diverse alien dimensions of the cosmos. It was a fascinating but totally foreign environment, not at all of our familiar field and forest nature. However, by the greatest of coincidences, that very morning I had strolled through an alien landscape, albeit briefly from 8:30-9:30 a.m., and Sherman Williams actually showed a graph that evening of how I could have had such an experience. On his tidal graph table for the month of May, there was a line at the bottom named Datum which is the average of all the lowest of low tides. Significantly, on May 16 and 17 his tidal line fell *below* that line, a rare phenomenon and technically referred to as a *minus tide*. The effect of such tides over the gently sloping intertidal flats of Minas Basin is that the bottom of the sea is exposed for an additional 100 or even 200 feet beyond the usual, but this condition exists for only an hour or less. There were but three such tides this year, one in April and more recently, two in May. For many years during the 18-year Seros Cycle, there may be none at all. If they occur at night, or in mid-winter, or during a storm, then this optimum opportunity is denied. Thursday, May 17, 1999, was very special; calm waters and bright warm sunlight and a below Datum tide.

What does get exposed, a mile or less from the summer shore cottages, is another world, one of marine communities that are subtidal 365 days of the year, less a few unusual hours. So if you walk this temporal landscape, you literally are strolling across the sea bottom. Your vision is not limited as it would be if scuba diving, you witness the entire extent of the intact habitat, not as a jumble of fragments on a ship's deck, crushed in a dredge and then washed through screens. Since the early 1960's, I have explored the Kingsport area in all seasons, at all temperature extremes, and at night. I parked my car at Kingsport Wharf at 7:30 a.m. and returned to it at 10:30, having walked south from the wharf to the water's edge and then east, following the receding waters until the tide turned. I then explored the intertidal sandstone outcroppings and tide pools to the north, and finally worked my way westward back to the wharf. Six hours later, my footprints in the sands would be beneath

50 feet of turbid ocean water. I walked steadily from wharf to water's edge, avoiding the sticky muds of the upper intertidal by walking in the meandering channels of natural drainage troughs because they usually have firm gravel bottoms. Somewhat unexpectedly, the farther out one walks the firmer the sea bottom becomes. The soft surface muds I bypassed were peppered with holes and I knew these to be from the activities of many species of worms and crustaceans. Years ago, during night excursions with students, I would have them turn off all flashlights and then, with their finger tips, write their initials in the mud, which immediately glowed legibly in the dark. They had disturbed innumerable tiny bioluminescent creatures.

When I arrived at the lower intertidal zone, I was surprised at the change from years ago. Usually there was a fringe zone of low sandy ridges with numerous small shallow pools. The sand ridges are a bioconstruct of countless worm tubes of cemented sand grains, with the tubes in turn cemented together into a continuous carpet, firmly stabilizing the sea bottom. The pools become mini subtidal aquaria. Over the years, during minus tides, we have found 24 species of fish stranded in this zone. They obviously were occupying their usual territories and had probably never previously experienced a minus tide. Many would not live to tell the tale because the opportunistic gulls regularly patrol the receding tide line. On this May day in 1999, the alert gulls had preceded me and were intently wading about in the shallows. I later found they were feasting upon stranded sea ravens, a large sculpin.

That subtidal landscape of yesteryear had changed completely. Gone was the carpet cover of worm tubes, and now the sand grains were loose and had been arranged by tidal currents into large sand ripples, about



Blue Mussel

two feet high with wide pools between. The entire zone of loose sediments had been taken over by large bivalves, surf clams, quahogs and in particular huge razor clams. The openings of their burrows seemed but inches apart, and as I thumped along in my rubber boots, the clams reacted to the vibrations by retreating deeper and expelling columns of water nearly two feet into the air. I was strolling through a garden of miniature fountains, and when I stopped all the fountains would turn off. Preying upon this concentration of large bivalves were large moon snails, fist size, and they were spawning. I must have seen a hundred moon snail sand collar egg masses in the 6 to 8 inch diameter size range. They resemble the high starched collars our great grandfathers wore.

The pools between the "sand dunes" acted as traps (similar to the function of ripples in gold panning sluice boxes) and the concentration of shells of dead molluscs included an abundance of Gould's Pandora clam, which I used to consider an uncommon sea shell. About the size and thickness of a loonie, one valve is absolutely flat and the other nearly so. Many of the empty snail shells in these traps were not empty; they housed hermit crabs. That is not unusual, but what coated those shells was unusual. What appears to be a carpet of minute flowers (the pink ones appropriately are the females) is a colony of stinging hydroid animals. They occur (with rare exception) only on snail shells occupied by hermit crabs. I was hoping to find a specialist sea slug that feeds exclusively on these hydroid coatings on hermit crab houses, but was unsuccessful. However, I did see a few of another specialist sea slug, one that limits its diet to barnacles. It typically spawns in March and April, gradually converting most of its internal organs into spawn and dies a self-destructed husk. All adults die each spring, thus it is an animal that is an annual. But what spectacular spawn it produces, an aesthetic creation of white ribbons, attached along one edge to stones, and arranged in a pattern of multiple rosettes.

With the ebb at its lowest, I waded in the water and finally found an area with six inch long, stiff, amber-coloured "drinking straws" projecting from the sand and emerging from each tube a single large (finger tip size) hydroid animal. They are tinged with pink to orange, with many tentacles, and could be mistaken for upside down jellyfish on a stalk. By now I had worked my way eastward through the "sand dunes" to a rock strewn area south of Longspell Point. Over the centuries, drifting

winter ice blocks have transported rocks all about the Minas Basin. In the bright sunlight, the area was transformed into a colorful rock garden decorated with flamboyant sponges. I had never before seen such a concentration of these six local species. There was a luminous lemon yellow cushion sponge with a mosaic surface pattern. A different crustose species coated overhangs and vertical surfaces and reflected hunter-orange and fire-truck red. Attached to stones *beneath* the sand was a white sponge which revealed its presence by clusters of chimneys thrust above the loose sand and through which it draws in oxygen and nutrients. Most abundant were the large irregular masses of sulphur sponges, usually greenish and reeking of sulphur when broken. Speaking of odors, there is also growing on these subtidal rocks a brown, leafy animal bryozoan colony that regularly washes ashore after storms and is mistaken for dried seaweed. Only during extreme tides can you find living colonies and only then can you break off a "leaf" and experience that surprising aroma of citronella.

Back to the sponges. There were two kinds of standing "perennials" in this garden, clusters of upright branching stalks about a foot high. One species is earthy brown and cylindrical like deer antlers, and the other is a dirty yellowish brown and rather palmate, more like moose antlers.

The tide had turned. The alien landscape was rapidly reverting to an underwater seascape, perhaps not to be exposed for another 4.5 years, if then. I had had the pleasure, if not privilege, of strolling for a few moments along the perimeter of an alien garden of animal forms, a habitat that probably extends for miles across the floor of the Minas Basin.

As I reluctantly retreated up slope towards Longspell Point, I found a direct connection with my most recent of many memorable natural history adventures, for there on the hard sandstone outcroppings were the shattered shells of the giant moon snails, that had been transported by gulls from the zone of shifting sands to this their bombing range. What an intimate knowledge those gulls must have of the Kingsport intertidal. Every tide, every day, and no need for coats nor rubber boots, or even a lunch. I am envious. Now, if there was only some way Of course. The Internet. WWW. Lets try REINCARNATION Directory Scavenger Feathered Sea Shores please download application form, NOW....

1999 WOLFVILLE CHRISTMAS BIRD COUNT

Sunday December 19th, 1999

Compiled by Stan Riggs and Jim Wolford



89 species seen plus one probable escapee + one hybrid + 5 CWs + 9 ACWs, for 103 wild bird species. {CW = Count Week (Dec. 16-22); ACW = After Count Week.}

| Species | Field | Feeder | TOTAL | |
|---------------------------|-----------------|--------|-------|-----|
| Great Blue Heron | 1 | 1 | 2 | |
| Mute Swan (not wild) | (1) | | (1) | |
| Canada Goose | 95 | 36 | 131 | |
| Green-winged Teal | 14 | | 14 | |
| American Black Duck | 2810 | 507 | 3317 | |
| Mallard | 651 | | 651 | |
| Am Black X Mallard Hybrid | (1) | | (1) | |
| <i>Tufted Duck</i> | | | CW | |
| Black Scoter | 17 | | 17 | |
| Surf Scoter | 6 | | 6 | |
| White-winged Scoter | 1 | | 1 | |
| Common Goldeneye | 27 | | 27 | |
| <i>Barrow's Goldeneye</i> | 1 | | 1 | |
| Common Merganser | 36 | | 36 | |
| Red-breasted Merganser | 4 | | 4 | |
| <i>Turkey Vulture</i> | 1 | | 1 | |
| Bald Eagle | TOTAL | | 254 | |
| | <i>Adult</i> | 88 | 10 | 98 |
| | <i>Immature</i> | 113 | 8 | 121 |
| | <i>Unknown</i> | 34 | 1 | 35 |
| Northern Harrier | 12 | | 12 | |
| Sharp-shinned Hawk | 7 | 3 | 10 | |
| Northern Goshawk | 2 | | 2 | |
| Red-tailed Hawk | 127 | 10 | 137 | |
| Rough-legged Hawk | 7 | | 7 | |
| American Kestrel | 2 | | 2 | |

| Species | Field | Feeder | TOTAL |
|---------------------------------|--------------|---------------|--------------|
| Merlin | 7 | | 7 |
| <i>Peregrine Falcon</i> | 1 | | 1 |
| Ring-necked Pheasant | 191 | 66 | 257 |
| Ruffed Grouse | 5 | | 5 |
| <i>American Coot</i> | 3 | | 3 |
| Killdeer | 6 | | 6 |
| <i>Greater Yellowlegs</i> | 1 | | 1 |
| Ring-billed Gull | 281 | | 281 |
| Herring Gull | 4930 | 51 | 4981 |
| Great Black-backed Gull | 787 | 2 | 789 |
| <i>Lesser Black-backed Gull</i> | 2 | | 2 |
| Iceland Gull | 8 | | 8 |
| Glaucous Gull | | | CW |
| <i>Murre sp.</i> | 4 | | 4 |
| Rock Dove | 889 | 21 | 910 |
| Mourning Dove | 766 | 323 | 1089 |
| Great Horned Owl | 1 | | 1 |
| Barred Owl | 3 | | 3 |
| Short-eared Owl | 1 | | 1 |
| <i>Northern Saw-whet Owl</i> | 1 | | 1 |
| <i>Belted Kingfisher</i> | 2 | | 2 |
| Downy Woodpecker | 59 | 53 | 102 |
| Hairy Woodpecker | 28 | 24 | 52 |
| Northern Flicker | 16 | 13 | 29 |
| Pileated Woodpecker | 3 | 2 | 5 |
| Black-backed Woodpecker | 1 | | 1 |
| Horned Lark | 79 | | 79 |
| Gray Jay | 4 | | 4 |
| Blue Jay | 527 | 304 | 831 |
| American Crow | 19,223 | 570 | 19,793 |
| Common Raven | 360 | 21 | 381 |
| Black-capped Chickadee | 798 | 427 | 1225 |
| Boreal Chickadee | 16 | | 16 |
| Red-breasted Nuthatch | 39 | 23 | 62 |
| White-breasted Nuthatch | 19 | 33 | 52 |
| Brown Creeper | 8 | 3 | 11 |
| Golden-crowned Kinglet | 118 | | 118 |
| <i>Ruby-crowned Kinglet</i> | 1 | | 1 |

| Species | Field | Feeder | TOTAL |
|--------------------------------|--------------|---------------|--------------|
| American Robin | 54 | 11 | 65 |
| Northern Mockingbird | 11 | 6 | 17 |
| Bohemian Waxwing | 1685 | 100 | 1785 |
| Cedar Waxwing | 188 | 7 | 195 |
| Northern Shrike | 4 | | 4 |
| European Starling | 18,506 | 1528 | 20,034 |
| Yellow-rumped Warbler | | | CW |
| <i>Yellow-throated Warbler</i> | | | CW |
| <i>Pine Warbler</i> | 1 | | 1 |
| <i>Warbler sp.*</i> | 1 | | 1 |
| <i>Northern Cardinal</i> | 5 | 3 | 8 |
| <i>Rose-breasted Grosbeak</i> | | | CW |
| Chipping Sparrow | 1 | | 1 |
| American Tree Sparrow | 324 | 7 | 331 |
| Dark-eyed Junco | 1354 | 352 | 1697 |
| Savannah Sparrow | 9 | | 9 |
| <i>Fox Sparrow</i> | | 1 | 1 |
| Song Sparrow | 72 | 9 | 81 |
| Swamp Sparrow | 2 | | 2 |
| White-throated Sparrow | 6 | 16 | 22 |
| <i>White-crowned Sparrow</i> | 1 | | 1 |
| Snow Bunting | 101 | 6 | 107 |
| Red-winged Blackbird | 2 | 10 | 12 |
| Common Grackle | | 2 | 2 |
| Brown-headed Cowbird | 4 | 12 | 16 |
| Pine Grosbeak | 20 | | 20 |
| Purple Finch | 12 | 18 | 30 |
| <i>House Finch</i> | | 3 | 3 |
| Red Crossbill | 4 | 11 | 15 |
| White-winged Crossbill | 10 | | 10 |
| Common Redpoll | 3851 | 660 | 4511 |
| Pine Siskin | 31 | 46 | 77 |
| American Goldfinch | 429 | 345 | 774 |
| Evening Grosbeak | 123 | 103 | 226 |
| House Sparrow | 1058 | 345 | 1403 |

* seen by Peter Smith at old Wolfville Hospital, and was either a Connecticut, Mourning, Kentucky or ??, with yellow underparts and dark back

Total number of birds sighted: 67,207

Species seen during count week (CW) Dec.16-22nd: Tufted Duck, Glaucous Gull, Yellow-rumped Warbler, Yellow-throated Warbler, Rose-breasted Grosbeak

Species seen after count week (ACW) to Jan. 23rd 2000: Northern Pintail, Red Knot, Snowy Owl, Red-bellied Woodpecker, American Pipit, Gray-checked or Bicknell's Thrush, Yellow-breasted Chat, Rusty Blackbird, Lapland Longspur.

Field Observers (Bush Beaters) - 50 birders in 23 field parties.

George Alliston, Patricia Bernier, Char Bishop, Sue Bissix, Sherman Boates, Larry Bogan, Silas Bondrup-Nielsen, Soren Bondrup-Nielsen, Mike Boudreau, Peggy Crawford, Andy Davis, Mark Elderkin, Annie Ferraro, Trina Fitzgerald, George E. Forsyth, Harold Forsyth, Bernard Forsythe, Glenys Gibson, Jamie Gibson, Merritt Gibson, Carina Gjerdrum, Tracy Harsmen, Matt Holder, Mark Johnston, Andrea Kingsley, Meg Krawchuk, Angus MacLean, Terri & Randy Milton, Dawn Miner, Joe Nocera, Mike O'Brien, Mick O'Neill, Ian Paterson, Stan Riggs, Barry Sabeau, Meg Scheid, Peter Smith, Brian Starzomski, Richard Stern, Art Steward, Fran Steward, Phil Taylor, Sonja Teichert, Brenda & Bill Thexton, Gerry Trueman, Sherman Williams, Jim Wolford, Barry Yoell.

Feeder-Watchers (some overlap with above) - 74 feeders, 89 feeder-watchers, 124 hours of watching - 46 species observed: Agar Adamson, Jim Amos, Diana Anderson, Peter Austin-Smith, Diana Bishop, Sherman Bleakney, Sharon Borden, Carol & Ron Buckley, Dick Cain, Mary Ellen Carpenter, Lana Churchill (25 species), Sandy Connelly, Ed Connolly, Susan & Chris Cox (feeder + Starr's Pt.), Debbie & Jim Daigle, Pat Davis, Pat Dix, Ev Eagles, Joan Eaton, Paul Elderkin, Wendy Elliott, Mary Ellis, Bob Flecknell, George F. Forsyth, Mary Sue Goulding, Ed Hancock, Charlotte Harper, Eileen Harris & Ron Margeson, Sharon & Luke & Robert Harris, Lorna Hart, Avril & John Harwood, Blanche Healy, Gail Herbin, Bob Horne, Isobel Horton, Winnie & John Horton, Sandy Kempton, Linda Lusby & Peter Smith, Shirley & Don Marston, Pat & Bill Martell, Jessie Martin, Eleanor & Bernard Mason, Sheila McCurdy (2 feeders), Ruth Murphy, Terry Murphy, Edna Mutch, Gary Ness, Nancy Nickerson, Linda & Terry Pearson, Dorothy Perkin, Janet Pratt, Mary Pratt, Tom Regan, Ladny Richmond & J.P. Huang, Gordon Robart, Benita Rogers, Marg Russell, Linda Sacouman, Gladys Saltzman, Kathy Schaffner, Ruth & Jack Scott, Mabel Sheffield, David Silverberg (2 feeders), Merriam Sullivan, Dianne Thorpe, Jean Timpa, David Tracy, Gerry Trueman, Eva & Deanna & Walter Urban (29 species), Don Wright, Betty Yoell, Sheila & Earl Young.

20th Annual Cyril K. Coldwell Eagles/Raptors Count

February 13, 2000

Compiled by Jim Wolford

Perseverance pays off. We lucked out and had a truly idyllic day weather-wise for this annual event, which was cancelled once (January 23) and then had very windy and cold weather February 6, with a low number of total Bald Eagles (248) being counted. February 13 was cold but relatively windless and sunny, with wonderful visibility and oodles of raptors to be seen in most areas.

The census area is an enlargement of the Wolfville Xmas Bird Count circle, from Avonport north to Blomidon and Scots' Bay, to Sheffield Mills/Centreville, to Kentville and Lumsden Reservoir and Gaspereau.

As usual we sent out 15 field-parties totaling 30 observers to designated areas for just one hour, from 10 to 11 a.m., in hopes of minimizing double-counting, particularly of the very mobile eagles, especially in late morning and through the afternoon.

From 1979 through 1993 all observers met in Cyril Coldwell's kitchen at Gaspereau for coffee & donuts, adding up the numbers, and telling of highlights seen. (The Gaspereau Valley continues to be a good spot to see eagles and hawks.) Since Cyril's death in January 1994, we gather at Acadia Biology for coffee and timbits and tall tales if any.

Our results this year were quite impressive. Bald Eagles totaled 580, including 325 adults, 246 immatures, and 9 of unknown age; the ratio of known-age eagles was 57% adults: 43% immatures. A week ago it was 62:38. This ratio varied in the last seven years from 45:55 to 65:35. There were also 164 Red-tailed Hawks, 7 Rough-legged Hawks (5 in dark colour-phase, 2 light), 1 adult Peregrine Falcon at Grand Pré, 2 Merlins, 2 Sharp-shinned Hawks, no Northern Harriers, and 1 Short-eared Owl (at Grand Pré).

On February 13, the best areas for eagles were Grand Pré/Hortonville (175), Woodside just north of Canning, (100+), west from Port Williams

(90+), Sheffield Mills (70+), and Pereau/Kingsport (65).

A bit of a nice problem happened to Judy Tufts and Jean & Stephie Timpa at Woodside. At about 10:45 to 11 a.m. many eagles were flying in from the south and southwest (some counted earlier by others?), and then dozens of them were on the ground and interacting for access to chicken carcasses. We all envied them for being in the right place just at the right time, but perhaps our total number of eagles for the day is a bit high. This might be balanced by the likely absence of some adults which have migrated back to their nesting territories in Cape Breton and elsewhere.

Our previous seven total counts of Bald Eagles were 483 (in 1999), 395, 525, 300 (probably artificially low), 405, 408 and 442 (in 1993).

This year's very high count of 164 Red-tailed Hawks agreed with the general impression that this winter the red-tails are much more abundant than in recent years. Our previous seven totals were 38 (1999), 43, 60, 83, 51, 84 and approximately 103 (1993). This is a winter concentration area for red-tails just as it is for eagles. Many of the red-tails were obvious at great distances as they basked in the bright Sun with their whitish breasts facing the light.



Dark morph Rough-legged Hawk

Field Trip Report

Eagles/Raptors Field Trip

February 5, 2000

by Jim Wolford

We had an ideal day weather-wise, very cold in the morning but sunny and nearly windless. About 35 people nicely filled the bus, Merritt Gibson and I passed out two maps of eagle hot-spots, and we finally departed RTNC at about 10 a.m. (Dave McCorquodale asked, after I'd hustled back to my car to retrieve my binoculars "Jim, do you do this often?!")

Before we'd even left the Nature Centre, two Red-tailed Hawks, probably our pair that have nested on the Acadia campus for the past three summers, were perched together only 50 metres from two potential prey (i.e. pigeons) on the Public Library chimney.

Merritt Gibson was our entertaining guide with the microphone. After viewing the very large, ten-year-old eagle Bald Eagle nest at Greenwich (just north of Noggins Farm Market), we headed past Port Williams to Church Street, where we started to see Bald Eagles, which were seen perched and flying all along our route. Initially we had a lot of trouble with fogged-up windows and binoculars, but that improved as the drive progressed.

Merritt and I joked about numbers of birds seen, and I don't believe anyone kept an accurate tally, but I heard a figure of about 130+ Bald Eagles in the course of our route (from Port Williams to Sheffield Mills to north of Canning to Pereau to Kingsport). Probably the best show was just north of the Sheffield Mills "eagle corner" (junction of Middle Dyke Rd. and Highway 221), where we saw about 30 eagles plus numerous parked eagle-watchers from one spot, and 17 of the eagles were on the ground feeding on dead chicken carcasses.

Red-tailed Hawks were very numerous all along our drive, and we had close looks at two dark-phase Rough-legged Hawks along the Canard River.

On our way back to Wolfville, at Starr's Point we viewed a year-old Bald Eagle nest in a poplar tree (east King's County now has at least seven eagle nests, mostly in white pine trees). This nest had an adult eagle on it.

We had lunch in the Acadia University Biology building and viewed a 1997 video titled "Saving the Bald Eagle", which is about the very successful reintroduction of fledgling eagles from Cape Breton nests (plus some from Michigan) to Massachusetts in the 1980s. Merritt joked that Dave McCorquodale, the co-producer of the video, had come all the way from Sydney just to see that King's County was treating the eagles from Bras d'Or Lake very well in the winter!

On the very next day, which was very cold & windy & overcast, about 35 people attempted to census the eagles and other raptors in east King's County. We counted 248 eagles (we think there are 400+ overwintering, and our highest count was 525 a few years ago), 75 red-tails, nine rough-legs, two Merlins, and an American Kestrel. Also, a Northern Harrier and two Short-eared Owls were seen on February 5 by Sherman Bleakney and Dave Kristie at Grand Pré and Canard Valley, respectively.



Short-eared Owl

Lucky Eagle - Not So Lucky Rabbit

by Jean Timpa

While out on the dyke recently I met my friend Brie Sawier who is here at Acadia for a year studying and she related an event which occurred on February 24 at approximately 11:30 a.m. on the TransCanada near Bible Hill going towards Pictou. As she and all the other vehicles were zooming along she became aware of something up ahead on the shoulder of the road. It turned out to be an adult Bald Eagle which had just grabbed a hapless brown bunny rabbit, and by this time the eagle was tearing it apart and there was blood spurting everywhere! As she said, "Nature at its finest!" She'd been tempted to take her camera but didn't, but I don't know how anyone in that traffic situation could have stopped or gotten back to that spot in time anyway. What truly amazed Brie was the eagle sitting there so close to the constant passing of all sorts of vehicles just as though it was sitting in a quiet secluded wilderness spot instead. Could it have been that hungry? Or afraid to fly with such a wiggily load that it might have lost it?

The Way We Were

Heather Watts of Wolfville recently came across the following item in the December 3rd, 1873 issue of the *Acadian Recorder*. Heather notes the considerable difference between our interest in and behaviour towards eagles - particularly during our own eagle season, and that which was prevalent in 1873.

"About two miles from Dartmouth John Wilson lives. Near his residence a carcass of a dead horse has been lying for some days, and has attracted great numbers of birds of prey. Among them were four large eagles. Mr. Wilson determined if possible to secure one of them and set several traps for them, but they were always sprung by crows. When he tried to approach, the eagles retired to the top of trees too high for his shot to reach them, and as he expressed it "laughed at his efforts" to secure them. He then procured a large and heavy trap that the crows could not spring, and on visiting the spot this morning found a large eagle caught in it by the feet. On approaching the bird it showed fight, but after a severe battle he succeeded in choking it to death. It measured six feet from tip to tip of its wings."



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| Oregon Grape | Privet |
| Daphne | Bayberry |
| Elderberry | Highbush Cranberry |

What's in the Sky?

by Roy Bishop

New Moon: Apr. 4, May 4, June 2, July 1 & 30, August 29

Full Moon: Apr. 18, May 18, June 16, July 16, August 15

Summer begins on Tuesday, June 20 at 22:48 (ADT)

Galaxies

The arrival of song sparrows and robins coincides with the Milky Way lying near the horizon during the late evening. i.e. At that time of night in the spring, Kings County is facing out of one side of our galaxy. As a consequence there are relatively few bright stars to be seen, but the obscuring dust in the plane of our galaxy is out of the way. Thus many other galaxies, far beyond our Milky Way Galaxy, are accessible. It is one thing to be told that there are galaxies; it is quite another thing to stumble upon them, alone in the dark. I recall spring nights 34 years ago when I first had a telescope with sufficient light grasp to reach millions of light-years into space. The views it gave of other galaxies, ghostly fluffs of light scattered across the night, were a revelation. No glossy photograph or internet image can begin to equal the magic of actually seeing a galaxy. When that light began its journey, human beings had not yet appeared on Earth. What web of evolution and circumstance resulted in it ending its voyage on my retina.

Planets

When this newsletter arrives, Saturn, Jupiter and Mars may still be visible low in the west, in the evening twilight sky. Jupiter is brightest, with Saturn above it, slightly to the left. Mars is nearby, and faintest of the three. On April 6 the crescent Moon joins the three planets, making an attractive display. By mid-April all three planets become lost in the glare of the Sun.

Early May is an unusual time for viewing the Moon and naked-eye planets: on the evenings of May 2, 3 and 4, NONE are visible! The Moon and all five naked-eye planets are then located in nearly the same direction in the sky as the Sun. Thus they are hidden by the Sun's glare. Such alignments are uncommon; the last time no solar system bodies (except the Sun and Earth) were visible to the naked eye was in 1962. Doubtless there will be predictions of earthquakes or other disasters

resulting from the May planetary alignment. People making such claims either are unable to understand quantitative reasoning, or they see a chance to make a dollar by selling such stories to credulous readers.

Mercury, the fastest moving of the planets, is the first to emerge from hiding behind the Sun. During the last week of May and into early June, Mercury is visible as evening twilight fades, low in the northwestern sky near where the Sun set. On June 3 the crescent Moon lies below Mercury, but look before 10 p.m., before the Moon sets.

During the summer, Jupiter and Saturn slowly become better positioned for viewing in the after-midnight sky. It is worth getting up by 4 a.m. on the morning of July 26 to see a nice grouping of Jupiter, Saturn, the Moon, and the Pleiades and Hyades star clusters low in the eastern sky. If the 26th is cloudy, the grouping on the morning of the 27th is almost as attractive.

Jupiter and Saturn will not be well positioned in the evening sky until autumn. Neither Mars nor Venus is well placed for viewing until late autumn.

Meteors

The annual Perseid meteor shower peaks on the night of August 11/12. Choose a viewing site out in the country, well away from streetlights and yardlights, with a clear view of the eastern half of the sky. A reclining lawn chair, warm coat and blanket, and thermos of hot chocolate are recommended. Unfortunately, this year bright moonlight will interfere until 3:30 a.m. when the Moon sets. The dark-sky viewing period is short - an hour after moonset dawn begins. As an added incentive to get up about 3:30 a.m. on August 12 for a good view of the Perseid meteors, the planets Jupiter and Saturn will be nicely positioned in the eastern sky between the star clusters, the Pleiades (upper) and the Hyades (lower).

Tides

Near the beginning of each of the next several months, the Moon is new within a day or two of when it passes its perigee, the point in its orbit closest to Earth. This produces extra high tides in Minas Basin on May 5 & 6, June 3 & 4, July 2, 3 & 4, August 1 & 2, and August 30 & 31. See the BNS Natural History Calendar for tide ranges and times of high tide. If you do not already have a copy of this unique Kings County publication, it is available at Herbin's, Wolfville, and at the Shur-Gain

store in Port Williams. The calendar includes an integrated tide table for Minas Basin, thirteen colour photographs taken in Nova Scotia, plus historical and natural history notes.

Nova East

"Nova East" is an annual star party held by the Halifax Centre of The Royal Astronomical Society of Canada. This year it will be at Smiley's Provincial Park near Windsor on August 5. The events that day are open to the public and include observing the Sun and the night sky (weather permitting), talks on astronomical topics, and other activities. If you or someone you know is interested in astronomy, come to Smiley's Provincial Park on the first Saturday in August.

MAG

The Minas Astronomy Group (MAG) meets monthly (except July and August), usually on the second Saturday at seven (SSS) on the second floor of Huggins Science Hall at Acadia. Like the meetings of the Blomidon Naturalists Society, MAG meetings are open to anyone and MAG members are of all ages and backgrounds. Call Roy Bishop (542-3992).

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Winter Weather 1999-2000

by Larry Bogan

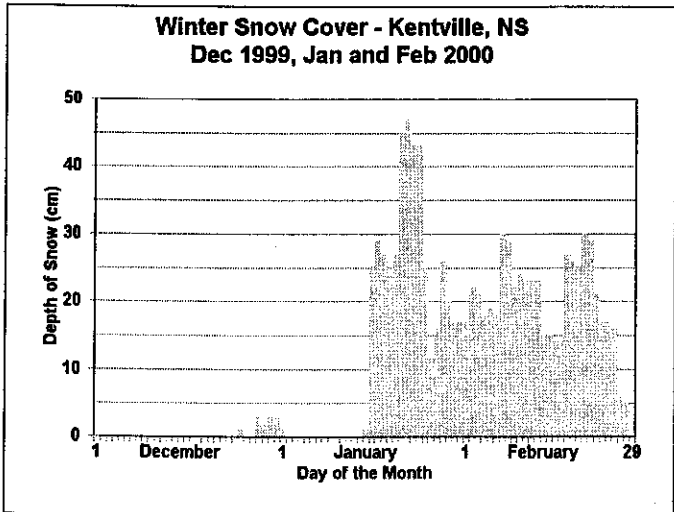
*from Kentville
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| | Mean Temp. (°C) | Snowfall (cm) | Total Precip (mm) | Bright Sunshine (hours) |
|--------------------------------|-----------------------|------------------|-------------------------|-------------------------------|
| December (38 yr avg) | -0.2 (-2.3) | 9 (57) | 120 (130) | 62 (58) |
| January (38 yr avg) | -4.7 (-5.3) | 90 (68) | 213 (120) | 74 (77) |
| February (38 yr avg) | -4.8 (-5.2) | 94 (60) | 78 (101) | 127 (101) |
| Season (38 yr avg) | -3.2 (-4.2) | 193 (185) | 411 (351) | 263 236 |

The graphs that I chose to include this issue are the snow cover and temperatures. The snow cover is the most dramatic because it clearly shows the lack of snow until mid-January then continuous cover until the end of February. If I had included the graph of precipitation for this period,

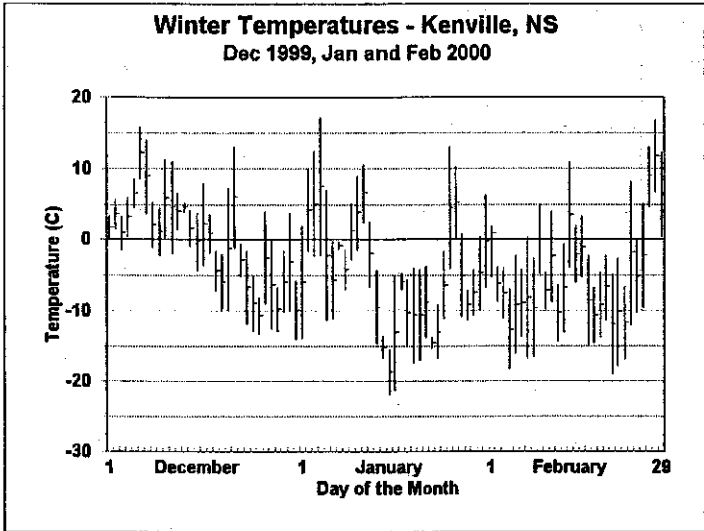
you would have noted a fairly even distribution over the three months.

The variation of temperature made the most important difference



in our winter weather. In early December we seldom got below freezing and it was not until after Christmas that the air cooled and a little snow fell. Early January had two warm periods and then at mid-

January the thermometer dropped to give the coldest period of the season



(-22°C). We also had our first heavy snow at that time (39 cm). The temperature generally stayed down until the last week

in February when a warm period melted all the snow and produced unusually high temperatures. The high temperature on 28 February (17°C) was the warmest of the season. That last week in February was also the sunniest period of the winter and my home was toasty warm the whole time without having to burn any wood.

| | Fraction of Season Snowfall | Storms (more than 10cm) |
|-----------|-----------------------------|---------------------------|
| Sunday | 14.5% | Jan. 16 |
| Monday | 28.3% | Jan. 17, Feb. 7, Feb. 21 |
| Tuesday | 5.3% | - |
| Wednesday | 8.8% | Feb. 2 |
| Thursday | 9.4% | - |
| Friday | 21.2% | Jan. 21, Jan. 28, Feb. 18 |
| Saturday | 12.5% | - |

The table on page 31 shows the monthly mean values of the important weather parameters and compares them to the averages for the previous 38 years. Our warm December was a full 2°C above average and had a lot less snow than expected (9 cm versus 57). Snowfall in January and February made up for December giving us nearly 50% more than usual

in those months. As a result our snow fall for the year is just about average. (I think if we were to add March's the snow fall would be far above average.) We had plenty of rain during the season and the total precipitation was 17% above average for the season. December had normal rains, while January had heavy rain and snow. February had as much snow as January but very little rain and ended up with a deficit in precipitation. The sunny week that ended February added to a normal sunshine for the rest of the winter to make the period sunnier than average by 11 percent.

As I am writing this on Friday, March 17 (St.Patrick's Day) with wind blowing the heavy snow around outside, I remember other Fridays this winter when we have had snow storms. The statistics for snowfall on days of the week are shown in the table to the left.

Actually, Mondays got the most snow of the season but, together, Mondays and Fridays had half of the snowfall of the winter. Six of the eight heavier snowfalls occurred on Monday or Friday. During this winter, the best time to plan a meeting was on Tuesday (lightest snowfall).

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Each member receives four issues yearly of the BNS Newsletter. The Blomidon Naturalists Society is a registered charity. Receipts for income tax purposes will be issued for all donations. The membership fee itself is not tax-deductible. Members may also join the Federation of Nova Scotia Naturalists through the BNS and will receive their quarterly newsletter; the membership is not tax-deductible.

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Memberships are due January 1st, 2000

Sources of Local Natural History
(compiled by Blomidon Naturalists Society)

| Information | Source | Office | Home | |
|-----------------------------------|----------------------------------|-----------------|----------|----------|
| Rocks & Fossils | Geology Dept. Acadia U. | 542-2201 | | |
| Fish | NS Dept. of Natural Resources | 679-6091 | | |
| Flora - General | Ruth Newell | 585-1355 | 542-2095 | |
| | Fungi | Darryl Grund | 585-1252 | 542-9214 |
| | | Nancy Nickerson | 679-5333 | 542-9332 |
| | Lichens | Karen Casselman | 424-7370 | 633-2837 |
| | Seaweeds | Darryl Grund | 585-1252 | 542-9214 |
| Mosses & Ferns | John Pickwell | | 681-8281 | |
| Birds - General | Bernard Forsythe | | 542-2427 | |
| | Richard Stern | 678-4742 | 678-1975 | |
| | Gordon & Judy Tufts | | 542-7800 | |
| | Jim Wolford | 585-1684 | 542-7650 | |
| | Jean Timpa | | 542-5678 | |
| Hawks & Owls | Bernard Forsythe | | 542-2427 | |
| Falcons & Eagles | Peter Austin-Smith | | 542-2109 | |
| Mammals | Tom Herman | 585-1469 | 678-0383 | |
| Amphibians & Reptiles | Sherman Bleakney | | 542-3604 | |
| | Jim Wolford | 585-1684 | 542-7650 | |
| Seashore & Marine Life | Sherman Bleakney | | 542-3604 | |
| | Jim Wolford | 585-1684 | 542-7650 | |
| | Michael Brylinsky | 585-1509 | 582-7954 | |
| Indian Prehistory & Archeology | Ellis Gertridge | | 542-2816 | |
| | James Legge | | 542-3530 | |
| Astronomy | Roy Bishop | | 542-3992 | |
| | Sherman Williams | 542-3598 | 542-5104 | |
| | Larry Bogan | | 678-0446 | |