

Blomidon Naturalists Society Newsletter



**Autumn 1995
Volume 22, No. 3**

1995 Late Autumn - Early Winter Programme Monday Evening Meetings

Unless otherwise noted, meetings are held on the third Monday of the month and start at 7:30 p.m. at Acadia University in Room 244 in the Beveridge Arts Centre. All meetings are open to the public and BNS members are encouraged to bring friends and neighbours.

October 16 "Underwater Photography in Rivers of the North Atlantic Coast" Gilbert van Ryckevorsel is a diver with a naturalist's eye who has worked for years to record the freshwater ecosystems of our area and provide a global benchmark of such systems. **Meeting will be held at Acadia University in room 221 in Elliot Hall.**

November 20 "Nature in Your Own Backyard" Merritt Gibson has been a naturalist most of his life, is a long time member of the BNS, an author of many natural history books, and was an editor for the BNS's "The Natural History of Kings County". He lives in Canning with a wonderful backyard full of natural history.

December 11 - To Be Announced (The program for this month is yet to be finalized - Watch for announcements in the local media.)

January 15 "Seaweeds" (Speaker yet to be confirmed)

CHRISTMAS BIRD COUNT: Wolfville: Saturday, Dec.16 If the weather is bad on the 16th, the count will be on Sunday, Dec. 17th. Angus MacLean, is the organizer; 679-5878. The traditional chowder supper and count tally will take place after the count at the Acadia Biology Wildlife Museum in Patterson Hall.

Editorial Board

Chairman:	Susan Montonen
Committee:	Merritt Gibson
Nancy Nickerson	Terry Power
Sherman Williams	George Alliston
Mark Elderkin	
Production:	Larry Bogan
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"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

The *Blomidon Naturalists Society* is a member of the Federation of Nova Scotia Naturalists, the Nova Scotia Trails Federation, the Brier Island Ocean Study (BIOS), and an Affiliated Member of the Canadian Nature Federation.

The *Blomidon Naturalists Society* is a registered charity. Receipts for income tax purposes will be issued for all donations.

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ACADIA BIOLOGY SEMINAR CLUB - 1995

Everyone is welcome to attend. The seminars are usually held in Patterson Hall room 308 at 4:00 p.m. Refreshments and munchies are available!! Any changes to any of the seminars are always posted on the doors of Patterson Hall.

Oct. 19 Dr. Don Nelson, Agriculture Canada, Alberta

Honey bees: beneficial insects and monitors of our environment.

Oct. 26 Dr. Deborah MacLatchy, UNBSJ

Vegetarians beware? Phytoestrogens and sex lives in fish.

Nov. 2 Graduate Student Presentations

Nov. 9 Dr. Jean-Guy Godin, Mount Allison

Risky sex in fishes: mating decisions under predation hazard.

Nov. 16 Dr. Jeffrey Hutchings, Dalhousie University

The collapse of the Atlantic groundfish stocks.

Nov. 23 Dr. Jonathan Wright, Marine Gene Probe Lab, Dalhousie University

DNA fingerprinting: approaches and applications.

NOTES FROM THE EDITOR

The Autumn 1995 newsletter is the first one attributed to me. In June, Mark Elderkin stepped down as editor, and I (foolishly, some might say) volunteered to take on this role. Mark is a hard act to follow. I am new to Nova Scotia. I have been a naturalist and birdwatcher for 15 years, and I look forward to exploring this province. And editing this fine newsletter. With the help of people who know the area well, I hope we can continue the work that Mark has done in coordinating information on the areas, and people unique to this part of the province.

Thank you to everyone who got their articles and notices in, and thanks to Mary Pratt for the drawings completed on rather short notice.

The deadline for submissions to the winter issue of the newsletter is December 15, 1995.

Susan Montonen

HELP NEEDED

Layout and Production of this Newsletter

I have been laying out and producing the BNS Newsletter for quite a few years and now would like to hand the challenge of its assembly to someone else.

If you are interested, please contact me, Larry Bogan 678-0446

(lbogan@ace.acadiau.ca)

or Susan Montone 542-0437

Society Business and Notices

Annual Meeting (October 16) & Elections by Roy Bishop, President

The October 16 meeting of the Blomidon Naturalists Society is the annual meeting. At this meeting we elect the members of the Board of Directors for the coming year: President, Vice-President, Secretary, and Treasurer, plus up to 6 Directors at large. The total number of Directors (minimum 5, maximum 10) is determined by the membership at the annual meeting.

In accordance with By-law 31 (a), the Board of Directors at its meeting of July 13 appointed a Nominating Committee, consisting of Bill Thexton, Lorna Hart, & Tom Herman. Two of the Directors at large are to be nominated and elected by the membership at the annual meeting, but all other nominations are the responsibility of the Nominating Committee. However, as specified in By-law 31(b): "Any two members of the Society who wish to have someone nominated by the Nominating Committee may do so by submitting the name in writing to the Committee at least two weeks before the Annual Meeting."

Notice of a Special Resolution for an addition to the By-Laws of the Blomidon Naturalists Society (to be voted upon at the 1995 Annual Meeting on October 16) by Roy Bishop, President

The proposed addition to the Blomidon Naturalists Society's By-Laws

(below) will make it possible for the BNS to become a "Designated Conservation Organization" under the Conservation Easements Act of the Province of Nova Scotia, which came into effect in 1992. The BNS will then be able to enter into a "Conservation Easement Agreement" with the owner of a piece of land. Such an agreement, the terms of which are determined by the owner and the organization, typically sets restrictions on the use of the land, and is legally binding upon subsequent owners of the land for the length of the agreement, which can be in perpetuity. The intent is to make it possible to conserve parcels of privately-owned land which are of special value because of their natural

state, and the BNS would be in a legal position to enforce the associated conservation agreement against any owner of the land.

The BNS and the Kings County Wildlife Association have been proposed by A. P. Duke (Manager, Terrestrial Habitat, Nova Scotia Department of Natural Resources) as possible organizations to hold a Conservation Easement Agreement with Nova Scotia Power Incorporated on the company's land between the Hell's Gate power plant and the dam at Gaspereau Lake. This includes the upper Gaspereau River ravine and much of its watershed --- a large natural area that is mostly undeveloped and is a habitat for much flora and fauna, including bald eagles, rare plants, and large old growth trees. If such an agreement can be put in place, the community in the eastern Annapolis valley will have a sense of ownership which will aid in monitoring and protecting this valuable natural area. It is significant that staff of Nova Scotia Power have expressed interest in pursuing such an agreement in order to recognize their property along the Gaspereau River and to provide it with long-term protection.

If the BNS approves the proposed addition to its By-Laws (a 75% majority is required), we can then apply to the Minister of Natural Resources to become a designated conservation organization. We will then be in a position to pursue a Conservation Easement Agreement with Nova Scotia Power.

The operation of the Blomidon Naturalists Society is currently governed by 56 by-laws. The special resolution is for a new By-Law #57:

57. In the event that the Blomidon Naturalists Society shall disband or dissolve, or upon the revocation of the Society's status as a designated conservation organization pursuant to Chapter 2 of the Statutes of Nova Scotia, 1992, the Conservation Easements Act, the Board of Directors shall make all reasonable efforts to have any easement or covenant acquired by the Blomidon Naturalists Society pursuant to the Conservation Easements Act assigned to the Minister of Natural Resources of the Province of Nova Scotia or to another organization designated pursuant to the Conservation Easements

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Field Trip Reports

McGill Lake Proposed Protected Area

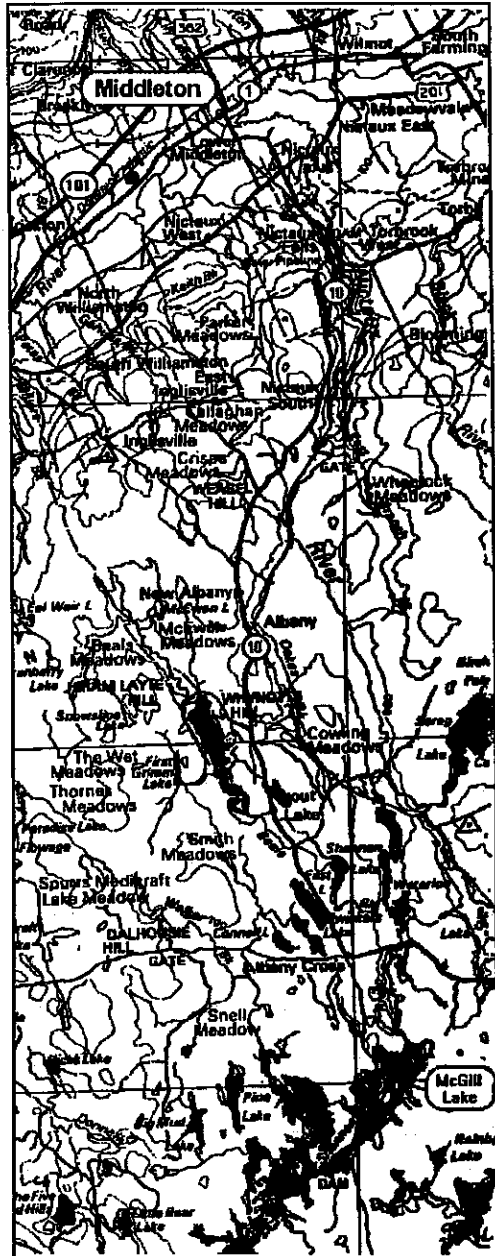
July 22

by Larry Bogan

Cambridge Station, NS

McGill Lake is a medium-sized lake a few kilometres south of Albany Cross in Annapolis County. You can get there by taking Route 10 south from Middleton. (See attached locator map) Just as the road bears sharply eastward at Albany Cross there is an intersection with a gravel road (West Dalhousie Road). Turn off Route 10 here and bear left to take the Old Liverpool Road south; in a few kilometres you will cross over several causeways onto islands in McGill Lake. Eventually you will reach a place where the road forks at a cabin next to the lake. The road to the right would take you to the dam on Big Molly Upsim Lake. Stop at the cabin and walk across the bridge on the left fork. On the other side, the western side of the road is boarded by the 200 hectares of proposed protected area. (See attached site map).

The area of interest sets aside a complex of wetland areas that



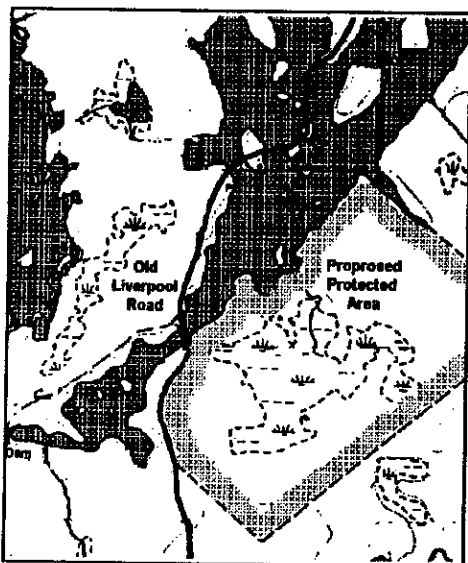
contains dry bog, low wet bog, fen, and treed bogs. The starting point to explore this area is a few metres along the road past the bridge. We followed the trail of an ATV that had left its indelible mark on the vegetation and fragile soils of the bog and surrounding area. After we left the wooded area, we entered the dry bog with its characteristic plants of mostly Kalmia, Labrador Tea, sphagnum, stunted pine, Black Spruce and larch. There were scattered plants of bog goldenrod, cotton grass, pitcher plant and sundew.

These latter plants became more abundant in the wetter bog closer to the stream that drains the bog into the lake. Here the predominant shrub was Leatherleaf. We also saw more Bog Rosemary and Bog Laurel. Flowering White Fringed Orchid was growing in the track of the ATV as well as scattered throughout the bog. We encountered a few animals in this area; a Leopard Frog and a Garter Snake were beside the trail while an Olive-sided Flycatcher was calling and catching insects on the wing at the edge of the bog.

As we entered the narrow area nearest the stream the vegetation became more luxuriant and included sedges, grasses, Dewberry and Sweet Gale. We pushed through the heavy shrubs and away from the ATV trail up into a treed area of the bog that had Witherrod, Red Maple, Canada Holly. It was here that we found some of the beautiful Rose Pogonia.

The four of us cut back across the bog to the road and our vehicles. Our leader, Graham Fisher, said that he was encouraged concerning the success of the Proposed Parks and Protected Areas Plan. Graham is a planner with the Parks and Recreation Division of the Department of Natural Resources and has been involved in surveying and selecting all of the 31 proposed protected areas throughout the province. Graham explained some of the difficulties of selecting proposed protected areas and said that he would be pleased to talk to the BNS at an evening meeting to introduce us to the Plan.

I have included details on how to get to the McGill Lake bog because only three members of the BNS were able to attend this July field trip and I hope many of you will travel to McGill Lake to explore this beautiful natural area on your own.



SHOREBIRD MIGRATION IN THE MINAS BASIN

August 12, 1995

by Judy Tufts
Wolfville, N.S.

After the initial gathering of participants for this field-trip, at 11:00 a.m. at the Robie Tufts Nature Centre, four cars headed to the Windsor Information Bureau, by the causeway, to join other birding enthusiasts who awaited our arrival. The group included some who had journeyed from Halifax, Pictou and Truro, to join local Valley birders in observing shorebird migration in progress along the shoreline of the Minas Basin, between Windsor and Grand Pré.

We began with a walk along the dyke behind the Information Bureau heading towards the causeway itself, and were met with gusty breezes that hampered viewing shorebirds with spotting scopes. Although the number of 'peeps' seemed to be low out on the mudflats, when we first arrived, small flocks appeared periodically from elsewhere and dispersed to the far side of the mudflats to join in the frenetic feeding that absorbed the other shorebirds. The 'peeps' were predominantly Semipalmated Sandpipers with a generous mix of Semipalmated Plovers, and here and there the odd Least Sandpiper could be picked out in its bright brown tones of feather finery. Around 50 Black-bellied Plovers could be seen in small

groups around and in the marsh grass, a few Double-crested Cormorants and Black Ducks too. My 'guesstimate' of 'peeps' seen was probably 8000 - 10000 birds, spread out across those large mudflats. Not many but a start to the trip.

After lunch, held beside the duck pond at the Information Bureau, a quick look at the mudflats showed a rapidly rising tide (it was one of the highest tides of the year), and it was time to move on to the Avonport beach area. This turned out to be a fascinating and most worthwhile observation area as we watched a long wide sandbar at the edge of the beach gradually being covered by 'peeps' until we thought it could hold no more, and still more flocks kept arriving. It was the incoming tide, however, that finally settled the issue as it was beginning to catch up with our feet and our vehicles parked on the beach - we had to move in a hurry!! Many of these birds appeared to be coming from the Windsor direction following the shoreline of the Avon River. These may well have been some of the birds we had seen earlier in Windsor, now looking for an alternate roosting location downriver; probably 8000 - 9000 'peeps' here. Two good-sized, vocal, flocks of Short-billed Dowitchers passed overhead, totalling 70 birds, adding pleasure to this stop, and as we left the area a Northern Harrier could be seen patrolling an adjoining field.

Our last area was Grand Pré, at high tide. Thanks to Mike Hawkwood's spotting of two shorebird

roosting fields a few days earlier, we headed for them and were rewarded with sights of 40 Black-bellied Plovers in one field and 180 in another, 20 Short-billed Dowitchers, and around 15000 - 18000 'peeps' in a freshly ploughed field. Due to the very high tide, only a handful of shorebirds were found at the east end of Long Island, Grand Pré, so the group proceeded to the Wolfville sewage ponds area to have a final look at one other possible roost site. Two hundred Black-bellied Plovers were resting in a field next to the sewage ponds. Across the dyke very few shorebirds were observed, which was disappointing, but our trek to the back little pond behind the sewage ponds produced Blue- and Green-winged Teal, more Black Ducks, and some excellent close-ups of a row of Ring-billed Gulls sitting on sewage pond pipe structures (such neat little gulls).

The trip ended here with seven cars and seventeen tired but satisfied observers. The shorebirds of the Minas Basin were in good form that day.



LUMSDEN DAM TO HELL'S GATE POWER STATION

August 19, 1995

by Ruth Newell

White Rock, N.S.

This power line walk offers an interesting mix of remnant rich woodland plants, plants of dry open habitats, such as are often found on power line cuts, and plants typical of moist seeps and small streams. Approximately 20 people participated in the walk. The day was sunny and pleasant. Although a couple of participants did continue on to Hell's Gate Power Station, the majority of people (including the leader!) did not complete the whole walk. Time being the deciding factor.

Plants occurring along the tiny streams and on the hillside seeps included the Turtlehead (*Chelone glabra*), Forget-me-nots (*Myosotis* sp.), Marsh Speedwell (*Veronica scutellaria*), Avens (*Geum* sp.), Musk-flower (*Mimulus moschatus*), Boneset (*Eupatorium perfoliatum*), Field Mint (*Mentha arvensis*), willows (*Salix* spp.), Dwarf St. John's-wort (*Hypericum mutilum*), the Small Purple-fringed Orchid (*Habenaria psycodes*) and Spotted Touch-me-not (*Impatiens capensis*).

Those plants remaining from pre-power-line days are indicative of a rich hardwood habitat. These include both the true and the False Solomon's Seals. At one site these two



species are
c o n -
veniently
located
nearly side-
by-side and
adjacent to
the trail.
This cer-
t a i n l y
allowed for
a good

comparison of the two. Some Red Baneberry (*Actaea rubra*) has also survived. Many clumps of Christmas Fern (*Polystichum acrostichoides*) still populate the power line, although having a somewhat bleached appearance. In Spring a fair number of Purple Trilliums can be seen scattered here and there, but were not in evidence during this walk.

Those plants more typical of power line cuts included the common Blackberry which was at the beginning of a phenomenal season, in terms of berry production, when this walk took place. Various species of Goldenrods (*Solidago* spp.), e.g. Canada Goldenrod, Narrow-leaved Goldenrod, Rough Goldenrod were in evidence at different points. Asters, including Tall White Aster (*Aster umbellatus*) and Starved Aster (*A. lateriflorus*), were vying for attention amongst the goldenrods. Knapweed (*Centaurea nigra*) as usual was in great abundance, as was Pearly Everlasting (*Anaphalis margaritacea*). Fireweed (*Epilobium angustifolium*) occurs here and there along this walk as does Common Mullein (*Verbasc-*

um thapsus) and Common Speedwell (*V. officinalis*). The Hay-scented Fern (*Dennstaedtia punctilobula*) is found in typical form, i.e., in large patches.

The walk was enriched by an exchange of folkloric and medicinal information amongst the various hikers.

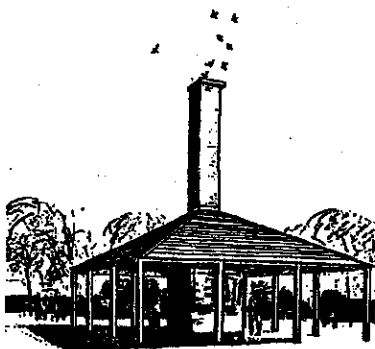
STAR GAZING SESSION

August 26, 1995
by Larry Bogan
Cambridge Station

At 9 pm the Grand Pre parking lot was just getting dark. A couple of us had brought our binoculars and telescopes to view the several planets and other objects in the sky. A half a dozen members jointed us under clear skies. Saturn was visible in the southeast. At that time its rings were nearly edge-on from our point of view and appeared almost as a needle piercing the planet. Uranus and Neptune were to the south but hidden among the multitude of other dim stars of the area. We found Uranus and were able to discern its small greenish-blue disk.

We identified constellations and observed many popular objects such as the Andromeda Galaxy, the ring and the swan nebulae. After about an hour under the sparkling and cool skies, several of the observers left for their warm homes. A few of us stayed another hour observing before heading for warmer quarters.

Natural History Articles and Reports



ROBIE TUFTS NATURE CENTRE

My Summer with the Swifts

by Monica Young

I began work for the BNS on June 19, 1995. The first week was maintenance and orientation. I painted and cleaned up around the Nature Centre and familiarized myself with the chimney swifts. In the evenings at the Nature Centre, I met lots of interesting people from many different places. Of the people who signed the guest book 37.1% were from Nova Scotia, 36.6% were from other provinces with the greatest number coming from Ontario, then B.C., New Brunswick, Newfoundland, Québec, P.E.I., Alberta, and Saskatchewan. 6.4% of the people came from Europe with most coming from England and Scotland, followed by Holland, Germany, and Wales. The remaining 18.8% were from various

states with the most coming from Massachusetts, New York, Florida, and California.

When I began work, there were between 70 and 100 people coming to see the swifts every night. As word got around that the swifts were roosting elsewhere, the numbers of viewers dropped to 6 or fewer. The number of swifts around in mid-June was very low (around 6 at first) and numbers fluctuated the rest of the summer with between 20 and 80 birds. Then, around the first of August, the birds ceased using the chimney. Flocks were seen on several occasions flying in a southerly or southeasterly direction toward Willow Park. A few birds returned to the Nature Centre about three weeks later. It had, however, been cold most of that week and the ten birds were noted to be flying very low and very slowly. (The birds at one point flew a mere meter and a half above my head.) Of the ten birds, only four went into the chimney, the other six flew off. The next night there were 14 swifts. The first four were quick-flying and went into the chimney first. The other ten were displaying the same slow, low-flying behaviour as the birds the previous night and only four went into the chimney.

One of the reasons the birds stopped using the Nature Centre chimney may have been that they had been disturbed after they were inside. I had opened the door to the Nature

Centre to return some items and some of the birds flew out. On one occasion it was observed that a small child kicked the wall of the Centre and almost all of the sixty or more birds flew out. The following night the number of birds that went down the chimney was very low and remained low thereafter.

Several suggestions were made about what should be done to keep the birds from being disturbed once they were inside the chimney. One suggestion was to put a nice fence around the Centre with a gate, that could be closed and locked once the swifts arrived, to prevent people from approaching the walls of the Centre. (This runs the risk of looking uninviting.) Another suggestion was to put up signs such as : "Please do not disturb sleeping swifts". Probably the best idea would be to put a layer of insulation on the inside of the walls to help reduce noise.

Another possible reason the swifts stopped using the chimney could have been the presence of the merlin. It was sighted and recorded on two occasions.

Although my talks, on their own, were not large crowd-drawers, I did get to work on my public speaking. The slide shows, on the other hand, drew larger crowds. The slide shows gave people something to do while waiting for the swifts. I think that if the walk to the wharf was replaced with a slide show on tides and Fundy ecology, it would draw a crowd. Also, giving a slide show and talk on one or two afternoons a week might

be a consideration. Many people said they learned about the swifts and the talks from the sandwich-board and tourist bureaus.

I thoroughly enjoyed my summer working for the BNS. I am grateful for the experience and would like to thank the BNS for giving me the opportunity to do summer work related to my current biology studies. I would like to extend a special thanks to Tom Herman, Peter Austin-Smith and Harold Forsyth for their guidance, time and patience in answering all of my many questions.

A COMET IS COMING!

by Roy Bishop

Comets are mountain-sized chunks of ice and dust which usually orbit around the Sun far beyond the planets. They are the remnants of material from which the planets and people were formed, and exist in untold millions in the far, dark reaches of our Solar System. Occasionally one of these bodies, drawn by the Sun's gravity, hurtles into the inner Solar System. Here the Sun's heat boils off a cloud of gas and dust which may be swept back into an immense glowing tail.

A few times each century a bright comet appears in the night sky. The last "Great Comet" with a spectacular flowing tail was Comet West which decorated the pre-dawn sky for a few weeks in 1976. Before that was Comet Bennett in 1970, Comet

Ikeya-Seki in 1965, and Comets Mrkos and Arend-Roland, both in 1957. We are due --- indeed, overdue --- for another Great Comet!

On July 22 this year amateur astronomers Alan Hale in New Mexico and Thomas Bopp in Arizona independently saw a new, dim comet in their telescopes. By early August enough observations were available to ascertain that Comet Hale-Bopp orbits the Sun in an immense elongated orbit once approximately every 2000 years. Because it is already visible in small telescopes despite being further from the Sun than is the planet Jupiter, astronomers are expecting Comet Hale-Bopp to put on a good show when it rounds the Sun and is closest to Earth in March and April of 1997.

Readers may recall Comet Kohoutek which was predicted to put on a dazzling display in 1974. The news media played it up, but this comet did not become nearly as bright as some astronomers optimistically predicted. The news media were so exasperated by this flop that two years later they did not mention Comet West which

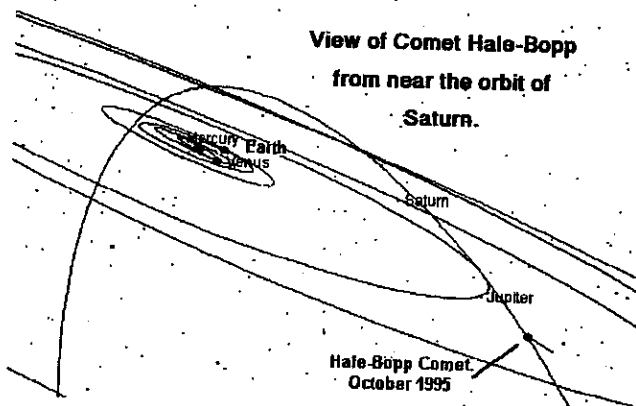
turned out to be one of the brightest comets of this century. This lack of publicity plus Comet West's location in the pre-dawn sky meant that, unfortunately, few people saw Comet West.

Another comet which was predicted to put on a strong show was Comet Austin of 1990 (see the BNS Newsletter for March 1990, page 30). Like Kohoutek, it did not come up to the more optimistic predictions!

The problem with comets Kohoutek and Austin was that they were probably making their first visits to the Sun, and as the Sun began to warm them, their fresh outer layers ejected a large cloud of vapor and dust, producing a dim but impressive display while they were still relatively far from the Sun. As they drew closer however, this fresh material dissipated and thus Kohoutek and Austin were much dimmer than predicted as they rounded the Sun. Hale-Bopp, on the other hand, has passed near the Sun many times in the past so it no longer has an easily-volatized, transient layer of ices and dust. The fact that it is already glowing brightly (as

viewed in telescopes) indicates that Hale-Bopp is likely a big comet and will probably continue to brighten as it approaches the inner Solar System.

You will likely hear much more about Comet Hale-Bopp!





HYBRIDS OF THE FERN GENUS *DRYOPTERIS*

by John A. Pickwell,
New Minas, N.S.

Those people who know me will not be surprised that I am again writing about ferns. My interest in ferns goes back some twenty years; the last 15 with a interest in the genus *Dryopteris*. I started out, like most people, with Boughton Cobb's excellent field guide in the Peterson Series. I soon acquired other books on ferns, such as the works of Dr. D.M. Britton and Dr. J.D. Montgo-

mery, which seemed to take a different view of *Dryopteris*. I set out to see how this new view of *Dryopteris* translated at the local level. While sorting out the new alignment of species I ran into 'hybrids'. Boughton Cobb's guide mentions only one, *D. bootii*, which is incorrectly called a fertile hybrid. This hybrid, a cross between *D. cristata* and *D. intermedia*, is very common. Like *D. cristata* it likes wet ground.

The first hybrid that I was able to record as a first for out part of the country is *D. slosonae*, a hybrid between *D. cristata* and *D. marginalis*. This uncommon hybrid is usually found at the edges of wet ground, close to rocky outcrops, where *D. marginalis* likes to grow. I usually find these plants growing in groups that are vegetative clones of the original hybrid plant,

The next hybrid I was able to record was *D. triploidea*, a hybrid between *D. cathusiana* and *D. intermedia*. Now this is a hard one to spot, as its parents are so variable and somewhat close in appearance. Dr. Britton considers this the commonest hybrid in Canada. Then came my

first big surprise; *D. intermedia* X *D. marginalis* (Note that this one does not as yet have a special name.) This is a handsome plant. Strong and robust like *D. marginalis* yet with the lighter, lacy touch of *D. intermedia*. This hybrid is considered rare anywhere in North America, yet I have been lucky enough to find four, two of them in the Kentville Ravine.

Then I found *D. uliginosa*, hybrid between *D. cristata* and *D. cauthusiana*. Once again, a tricky one. It looks so much like *D. boottii* with small pinhead glands on the indusium (the little flap that covers the groups of spore cases) on the back of fertile fronds. These details can only be seen with a hand lens.

Then came one of those plants that seems to sit there and defy you. I had lots of guesses, but each time I could not believe the conclusion I reached. It was not a very robust plant, was growing in poor soil, and would not produce spores for me. There were a number of clones. Logging of the area in which I found the plant forced me to remove some of the clones for my fern garden. There they grew and produced fertile fronds with sporangia (spore cases). What I had was a rare hybrid, *D. campyloptera* X *D. marginalis*. Only three have been reported in North America.

To understand fern hybrids it is necessary to have some understanding of the fern life cycle. The spore, the size of a speck of dust, is carried by the wind and lands somewhere damp, where it can germinate into a very small leaf-like growth known as

a prothallus (plural, prothallia). This is known as the gametophyte stage. On the underside of the prothallus the sexual organs develop; the antheridia which produce sperm and the archegonia which produce the egg. When conditions are right the sperm are released. The archegonia give off a chemical which attracts the sperm, and fertilization takes place. If two prothallia of different species within the same genus are growing close to each other, and the timing and conditions are right, cross-fertilization can occur and a hybrid is produced.

You would think that the place to look for hybrids is where two species grow together. This, however, does not seem to be the case. In general, most of the hybrids that I have found were growing with only one parent growing very close by, or without either of the parents being close at hand. Spores are like dust and can be carried quite a distance from the parent plant. I have speculated that if a prothallus develops close to a mixed community, it is always able to detect the chemical attraction of its own species. Thus it breeds true to its own species. Should a spore, however, land close to prothalli of other species, with no prothallus of its own species within range, it will go the next closest species. This seems to suggest that each species has its own chemical attraction, but not too different from other species of the same genus. This is just speculation on my part, and cannot be proved as far as I know. In correspondence with Dr. J.M. Montgomery, he seems to think this most likely.

So, how do you tell a hybrid if you come across one. First, any fern that looks different to you is a good place to start, especially if you think you recognize features that occur in two different species. Then you must find a fertile frond. That is, a frond with sori on the indusium. When the sporangia are ripe they spring open and shed their spores, usually in late-July or August in *Dryopteris*. If the sporangia are sprung they will look like little worms. If they have not, they will look like a bunch of beads. This can only be seen with a good hand lens. If the plants all around have shed their spores, and the one being looked at has not, then it is possibly a hybrid. To know for sure, the spores have to be examined under a microscope. Good spores look like roughly-shaped little beans. Those from hybrids will look like broken bits and pieces, or large broken lumps of spore material.

The fern genus *Dryopteris* has given me many happy hours, and their hybrids are the icing on the cake. They have caused me to walk in the woods, expand my mind, and have given me lots of healthy exercise. But the story is not over yet for there are many variations within the different species not covered by hybridization, and many more genera to explore.



D. Spinulosa



D. Marginalis



D. Cristata

B.N.S. BIRD NEWS

SUMMER 1995 BIRD REPORT

by Richard Stern
Kentville, N.S.

AAM, JCT, GWT and RBS did a "Big Day" in King's Co. on June 6, and found 110 species between dawn and dusk; nothing particularly unexpected, but a few of most species expected in early Summer in the various habitats in the county.

All sorts of exciting birds, e.g. Townsend's warblers, Mississippi kite, Philadelphia vireo, have been seen around the province this fall by members of the BNS, but for the newsletter column I have, as usual, only included sightings from W. Hants, King's, and E. Annapolis Counties.

I have only received a few reports from field observers all summer, so if this report seems rather sparse, it reflects the number of reports, not necessarily the number of birds!

RED-NECKED GREBE - 1 at Wolfville Reservoir in breeding plumage, 8 - 24 June (BLF). This is a most unusual date and location for this species, normally a winter visitor to our coasts.

WATERFOWL - BLF had a Hooded merganser nest with 6 young at Bishop's Pond July 6, and several Wood ducks seen on small lakes in the Greenfield/Black River area. As usual,

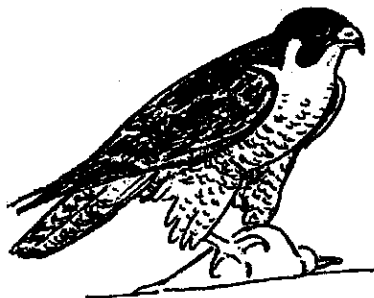
Green-winged teal were abundant, with smaller numbers of Blue-winged teal, Mallards, and Black duck at the local ponds and sewage plants by early Fall, and there were 10+ American wigeon at Harris's Pond by mid-Sept. (RBS).

SPRUCE GROUSE - BLF found a female with young at Methals bog on June 25.

BALD EAGLE - The pair nesting at Walbrook fledged 2 young (JWW), as did the pair at Greenwich (SW, BY).

MERLIN - This summer there has been evidence of active nests, with adults bringing food, or newly fledged young, close to Wolfville School, close to Kentville Hospital, and close to the entrance to the Kentville ravine (RBS etc.). This delightful (if you're not a Chimney swift addict) raptor seems to be becoming well-established and almost common in our area.

PEREGRINE FALCON - An immature bird was chasing shorebirds at



Avonport Beach 16 Sept. (NSBS).

SHOREBIRDS - There were 31 Greater yellowlegs at Harris's Pond, Canning 22 August and 45 there 10 Sept. (RBS). JCT estimated maxima at Grand Pre of 100,000 Semipalmated sandpipers 29 July, and 200 Least sandpipers August 3. She saw 70 Short-billed dowitchers flying over Avonport Beach, and 20 more at Grand Pre Aug.12. Some of the rarer shorebirds were represented by a Stilt sandpiper with the Yellowlegs at Harris's pond, a Pectoral sandpiper at the Wolfville sewage plant on 10 Sept., and a Wilson's phalarope spinning around and swimming with some Green-winged teal at the New Minas sewage plant the next day (RBS). There was a Whimbrel at the Guzzle on the 10th, too (BLF). However, this year it has been particularly noticeable that the larger shorebirds in particular have almost deserted Grand Pre in Sept., in favour of Avonport Beach, the Windsor Causeway, Cheverie etc.

GULLS - PT saw a small gull with prominent wing "mirrors" and a plain unmarked bill, near Canning on 8 Sept. that answers the description of a possible Mew gull, a European vagrant closely related to the Ring-billed. The usual hordes of Herring and Great Black-backed seem unremarkable.

COMMON NIGHTHAWK - Seemed common at dusk on several evenings in July and early August over woods near Black River and Ayleford Lakes (RBS). There were 18 over Rte 101 near Kingston Aug.

9 (JWW), and 40+ over Coldbrook heading SW on 28 Aug. (RBS).

RUBY-THROATED HUMMING-BIRD - Good numbers were seen in most areas, and one resident of the Greenfield area managed to attract 30+ at a time to his feeder complex (fide BLF).

CHIMNEY SWIFT - The first birds seen at the Robie Tufts Nature Centre this year were on May 10. By the 20th there were 251+, and the highest single count was 360+ on June 1. Numbers then rapidly diminished, and the birds almost stopped coming altogether by August 3rd. However, at this time, large numbers were appearing at the chimney at Middleton Regional High School with ca. 440 on July 27 and 225+ on Aug. 9. Who knows whether these were the same birds?

The reasons are not clear, but predation by Merlins may have been a factor. Birds were seen chasing swifts on several occasions, and a successful catch was observed on May 16, at the chimney, at 8:20 p.m. The bird was seen eating it, along the road, about 30 minutes later. A second successful catch was watched on June 4th. (all info. - JWW).

GREAT-CRESTED FLYCATCHER - 1 appeared and called, to some of the assembled picnickers at the Kentville Research Station during the FNSN meeting, and a pair was outside the Valley Professional Center on 9 June (RBS).

RED-BREASTED NUTHATCH - Large numbers in Kentville woods 17- 20 Aug. (3500+ at N.Pt., Brier

Island in the 2 hours after dawn on the 18th). By mid - Sept, the species was still abundant in all the local woods, and I think 1995 must have been an exceptionally productive year for them.

WHITE-BREASTED NUTHATCH - 5 (a family ?) were together on the Acadia campus Aug.11 (JWW).

BLUE-GRAY GNATCATCHER - A real rarity for our area, but a "regular vagrant" at the Province's migrant hot-spots. 1 appeared at the tip of Longspell Road, Kingsport, for the NSBS field trip on Sept. 16, in the middle of the afternoon.

EASTERN BLUEBIRD - ETS saw a small flock (?6) on the Kingston golf course on 16 Sept.

NORTHERN CARDINAL - A pair coming to a feeder in Kentville late May (JB), a pair in west Kentville mid-July (RC), and a male

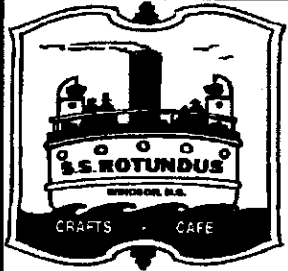
singing in Kentville early August (RSM) - very likely all the same birds.

LARK SPARROW - AAM saw one, very rare for our area, with hundreds of Song sparrows

along the railway tracks at the New Minas sewage pond on 16 Sept.


PURPLE FINCH - Numerous (mostly juvenile birds) around RBS's yard in Kentville all summer.

- JB Janet Bent
- RC Richard Cain
- BLF Bernard Forsythe
- RSM Ray and Sally MacCallum
- AAM Angus Maclean
- NSBS Nova Scotia Bird Society
- ETS Elizabeth Stern
- RBS Richard Stern
- PT Philip Taylor
- GWT Gordon Tufts
- JCT Judy Tufts
- SW Sherman Williams
- JWW Jim Wolford



S.S. ROTUNDUS
 101 Gerrish Street
 Windsor, N.S.
 798-0450

Cafe' Crafts



*From my little kitchen to your cozy nook -
 A special hello and a hug for the cook.*

Weather Statistics for Summer 1995

by Larry Bogan Cambridge Station, NS

Monthly Weather Statistics

Kentville Agriculture Research Centre

June 1995 through August 1995

Month	Mean Temp C	Grow Days >5 C	Rain Fall (mm)	Bright Sunshine hours
June	17.3	368.2	103.9	220.4
30 year ave.	(15.9)	(328.4)	(81.6)	(218.5)
July	20.3	475.7	123.5	192.5
30 year ave.	(19.3)	(443.8)	(81.9)	(232.0)
August	18.3	413.5	80.6	252.6
30 year ave.	(18.7)	(424.5)	(90.7)	(227.4)
SUMMER	18.6	1257.4	308	665.5
30 year ave.	(17.9)	(1196.70)	(254.2)	(677.9)

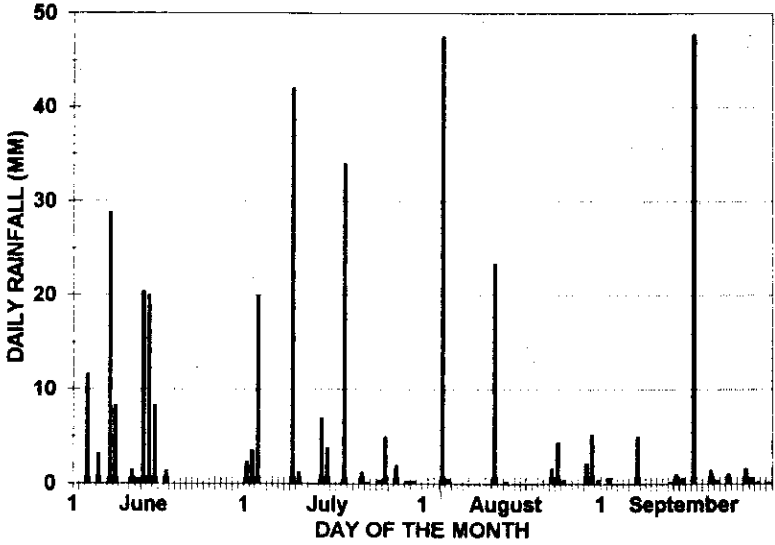
Temperature: Overall, we had a warm summer with an average temperature 0.7 C above the 30 year averages. June was the most unusual by being 1.4 C above normal while August was actually 0.5 C cooler than normal.

Rainfall: The most recent weather conditions are what most of us remember and I think of this summer as dry. That was only true of late August and early September. In actuality, the summer (especially July) was wetter than usual. Overall we had 20% more rain than average for the summer, and July had 50% more than an average July.

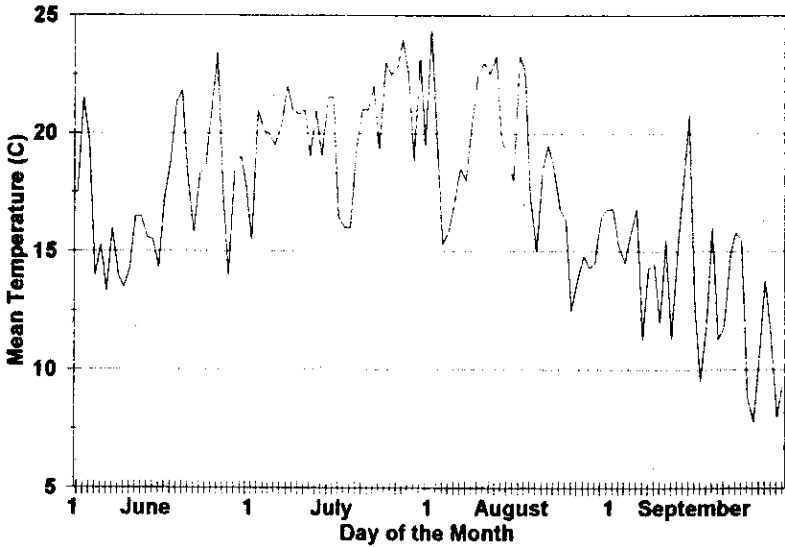
Sunshine: As one might expect from the rainfall statistics, July was cloudier than average and had below average bright sunshine. August was dry and hence sunnier than usual. Overall the summer was just about average in the sunshine category.



RAINFALL DISTRIBUTION SUMMER 1995



Average Daily Temperature Summer 1995



OCTOBER 1995						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1	2	3	4	5	6	7
8	9	10	11	12	13	14 MAG Meeting
15	16 Evening Meeting	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

NOVEMBER 1995						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
			1	2	3	4
5	6	7	8	9	10	11 MAG Meeting
12	13	14	15	16	17	18
19 Venus near Jupiter	20 Evening Meeting	21	22	23	24	25
26	27	28	29	30		

DECEMBER 1995						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
					1	2
3	4	5	6	7	8	9 MAG Meeting
10	11 Evening Meeting	12	13	14 Geminid Meteors	15	16 XMAS BIRD COUNT
17	18	19	20	21	22	23
24	25 Christmas	26	27	28	29	30
31						

A PROGRAMME FOR YOUNG NATURALISTS?

It has been suggested that the BNS is not doing enough to encourage young naturalists. Although BNS does offer a prize each year to a young person for outstanding achievement in the field of natural history, and young persons are always welcome to join our field trips, our monthly meetings are not really suitable for Elementary and Junior High school students. To alter the time or the well-established format of the monthly meetings to suit children could probably be unacceptable for many, if not most, adult members. How should we approach the problem?

A solution is to offer a separate young

naturalists' programme. Special sessions could be held with suitable subject matter. Day-of-the-week, time, location, and frequency of sessions would need to be decided. There might be conflict with other activities such as hockey, swimming lessons, etc.. There could be extra cost for rental of suitable space. Should BNS pay or should there be a charge to those taking part?

To provide guidance to the Board of Directors and the Programme Committee, please fill in the form and bring it to the next meeting or mail it to :

JOHN HARWOOD
RR 5, CANNING, N.S.
BOP 1H0
(582-3320)

YOUNG NATURALISTS' PROGRAMME QUESTIONNAIRE

NAME _____ PHONE _____

1. Do we need a special programme for young people?

YES _____ NO _____

2. What age group should be targeted?

ELEMENTARY _____ JR HIGH _____

3. How frequent should the sessions be?

MONTHLY _____ EVERY TWO MONTHS _____
SPRING AND FALL _____ OTHER _____

4. When should the sessions be scheduled?

SAT AM _____ SAT PM _____ OTHER _____
SUN AM _____ SUN PM _____

5. Where should sessions be held?

WINDSOR _____ WOLFVILLE _____ KENTVILLE _____
CANNING _____ BERWICK _____ OTHER _____

6. How should any extra costs be borne?

By BNS _____ By the participants _____

7. Other

remarks: _____

BLOMIDON NATURALISTS SOCIETY

1995 Membership Fees

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.

Please enclose a cheque or money order payable to "Blomidon Naturalists Society" and forward to:

Harold Forsyth
R.R. 2 Wolfville, N.S. B0P 1X0

Number	Membership Classification	Price	Total
_____	Individual Adult	\$12.00	\$ _____
_____	Family	\$15.00	\$ _____
_____	Individual Junior (less than 16 years old)	\$1.00	\$ _____
_____	Federation of Nova Scotia Naturalists membership	\$5.00	\$ _____
	Tax-deductible Donation		\$ _____
TOTAL			\$ _____

MyName _____
 Address _____
 Postal Code _____
 Phone Number(s): Home _____ Office: _____
 Membership Type (please check one):
 Ind. Adult__ / Ind. Jr.__ / Family__ (# of family members__)
 Subscription to *FNSN News!* Yes__ No__

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