

Blomidon Naturalists Society Newsletter

Summer 1994, Volume 21, Number 2

Special Issue: Cornwallis River Corridor Stewardship and Planning for the Future Pages 14-31

Notes From The Editor by Mark Elderkin Wolfville, N.S.

This issue of the Blomidon Naturalists Society Newsletter is dedicated to the diversity of the Cornwallis River Valley. It goes almost without saying, that those of us who have had the privilege to live in the Annapolis Valley feel great attachment to it's rich and varied landscapes. Beyond the ever shifting boundaries and borders that have been defined and redefined by land owners since the arrival of the first white settlers, we now look upon but an instant in this continuing evolution of change. Inherently, we know that much of this change is the result of patterns of human activities and use of the abundant natural resources that are found here. So too, we also know that with human population growth and technology the magnitude of our

impacts on the environment will likely increase in future.

No single collection of essays could ever hope to address all of the perspectives and values we attach to the Cornwallis River Valley. Given the recent public interest in developing a community based management/planning process for the Cornwallis River corridor however, the editorial board felt that the next two issues of the BNS Newsletter should be dedicated to synthesizing some of the local expertise within and outside the society's membership. While these articles are an incomplete compilation of the human and natural history of the Cornwallis corridor; we feel they will provide a good starting point that should work toward more complete understanding and discussion which will ultimately serve our best interests for maintaining natural resources for future generations. We hope you agree!!

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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, an Affiliated Member of the Canadian Nature Federation and a member of the Nova Scotia Trails Federation.

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

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**NEWSLETTER
PRINTED ON
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Summer Programmes

Monday Evening Meetings

All meetings will start at 7:30 p.m., unless otherwise indicated, will be held in Room 244 of the Beveridge Arts Centre at Acadia University. All meetings are open to the public and BNS members are encouraged to bring friends and neighbours. Any changes in the place, time, or subject are announced on posters, Kings Kable notice board and The Kentville Advertiser and the The Hants Journal.

19 September Life North of the North Pole by **Dr. Olga Kukal**, Acadia University Biology Department (Most of the Canadian High Arctic Archipelago is polar desert, but diverse and abundant animal and plant life thrives in polar oases.)

17 October Coyote Update and/or Dept. of Natural Resources's Wildlife Division Projects. by **Barry Sabean**, DNR, Wildlife Division

Summer Field Trips

Unless otherwise noted, meet at the Roble Tufts Nature Centre on Front Street in Wolfville at the time indicated. Leaders' telephone numbers are included to allow participants to confirm trips in the case of uncertain conditions. Everyone, BNS members or not, is welcome on all field trips.

Saturday, July 2, 8:00 am - A walk up the Gaspereau River from the White Rock Bridge. Enjoy this scenic habitat. Orchids, Breeding birds, etc. (8:30 am at White Rock) Leader: George Alliston 543-3651

Wednesday, July 20, 7:00 pm at the Blomidon Provincial Park - Life in the Muds of Blomidon, A look at the animals that live in the tidal flats around Cape Blomidon. Wear waterproof footwear. Leader: Sherman Boates - Sponsored by the Dept. of Natural Resources.

Friday, August 12, 9:00 pm, at Grand Pre' Parking Lot. The Perseid Meteor Shower and Sky Observing Session. The Moon will be at first quarter and Saturn will be up. Leader: Roy Bishop 542-3992

Saturday, August 13, 9:00 am - A walk along the Cornwallis River between Kentville and New Minas to examine the natural history of the river corridor. Bring a lunch. Leader: Peter Austin-Smith 542-2109

Saturday, August 20, 11:00 am - Shorebirds of the Minas Basin. Enjoy the spectacle of thousands of shorebirds feeding and flying over

the mudflats of the Minas Basin. Bring a lunch. Leader: Judy Tufts 542-7800

Sunday, September 5, 8:00 am - Canoe trip on Cloud Lake. This is the a proposed protected area by the Dept of Natural Resources. Come along and see what is there. It is on the border with Annapolis County. Alternative meeting place: Parking lot of Western Kings Regional High School at 8:45 am. Bring a lunch. If it is too windy for canoeing, we will explore the area by woods roads. Leader: Larry Bogan 678-0446

Other Summer Meetings

A JOURNEY FROM FOREST TO SEA 23rd Canadian Nature Federation Annual Conference

**Mount St. Vincent
University**

Halifax, Nova Scotia

August 4th-7th, 1994

**Hosted by the Halifax
Field Naturalists**

This exciting conference promises such a broad range of activities for various age groups and interests that everyone is sure to enjoy. Lectures and illustrated talks given during the conference proceedings in Halifax will stimulate your ecological intellect and heighten your awareness of Nova Scotia's wealth of natural history. During the conference, short excursions will be undertaken daily around Halifax and outlying areas for birds, flora, and other natural wonders.

**For more information
contact:**

Peter Payzant

CNF Conference Registrar

P.O. Box 2

Waverly, Nova Scotia

B0N 2S0

telephone: 902-861-1607

Two Shades of Green: A Workshop on Economics and the Environment.

Sponsored by

**Kings Environmental
Group and Oxfam
Canada**

**Saturday, June 25th -
Kentville Research
Station.**

Workshop: 9:00a.m. - 12:15 p.m.

Pot-luck lunch: 12:15 - 1:30 p.m.

**Pre-register: Chrystal Fuller
@542-3155**

Society Business and Notices

Conservation Committee Report by Peter Austin-Smith Wolfville, N.S.

There was a flurry of meetings of the BNS Conservation Committee in April and early May. The first of these was called to meet with Christianne Lafferty who has undertaken a study of a section of the Cornwallis River corridor. Christianne gave a progress report on her study and asked for comments or suggestions for the final project report. The committee agreed that her work thus far had brought to light some very interesting information and that the final document which is expected this summer, should prove most valuable.

The second meeting was called for the purpose of meeting Mr. Brian Deloges, a landscape planner, who expressed an interest in organizing a public meeting of groups and individuals to discuss the future of the Cornwallis River. He has tentatively set a date of 2 June for the meeting out of which he hopes will emerge an organizing committee. After some discussion, it was suggested that he contact members of the Kings County Federation of Agriculture and the Kings County Wildlife Association to determine if they

would attend in addition to other recreational departments and groups. It was also suggested that he consider asking Graham Daborn of the Estuarine Centre who has been involved in CARP, to speak at the meeting. There was some reservation concerning the short notice between now and the date of the meeting but the committee agreed that the BNS should support it if other groups such as the farmers and sportsmen would be willing to do likewise.

The third meeting on 10 May was called to hear reports from committee members who had attended conferences of interest to the BNS. George Alliston attended a presentation on proposed parks and protected areas and suggested that the committee should obtain copies from Parks, review the proposals and submit our recommendations. It was agreed that this document would be reviewed by the committee. Larry Bogan reported on a meeting to discuss Linear Parks which, as he noted, seemed to focus mainly on abandoned rail lines but also on other linear features of the landscape. He reported that Bob Suffron had given a presentation on the Cornwallis River. The committee chairman pointed out that there was a notice in the Advertiser indicating that a meeting to

discuss the future of the Cornwallis River had appeared that morning. It is to be held at the Kentville Agriculture Centre on 2 June and is to feature several presenters and then small group sessions. The committee, during further discussions, noted that the Cornwallis River project, if it goes ahead, should eventually be a watershed approach. Also the BNS is interested in cleaning up the river and believes that this is achievable by forming solid partnerships within the community. Further, the CARP model should be the obvious one to look at if this major project is to be successful. It was agreed that the BNS should be formally represented at this inaugural meeting on 2 June.

A final item on the agenda was the announcement of a possible spring black bear hunt and the governments interest in knowing if there was public support for this hunt. This item was left to be discussed at a later date possibly at the executive meeting when Tony Nette, big game biologist, could be asked to provide more

details. It was pointed out that the BNS as an organization, does not take a stand, either for or against, hunting. It was noted that any pros or cons regarding this matter, therefore, must be consider economic, biological and/or social reasons after information on the proposed hunt and present bear populations has been obtained.

Society Receives Grant to Map and Study Use of the Cornwallis River.

Canada Trust's Friends of the Environment Foundation has granted the Society \$4000, to study the Cornwallis River. This will enable the BNS to employ two persons this summer; Christianne Lafferty will assemble a multilayer information map of the river and Andrew Wesgarth will survey the landowners in the river corridor to learn of their concerns about the present status of the river and their visions what might be done to improve the conditions of the river.

The project will be directed by the Conservation Committee.



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Spring Bear Hunting Proposed For Nova Scotia

The Wildlife Division of the Nova Scotia Department of Natural Resources is investigating the feasibility of implementing a spring hunting season for black bear in Nova Scotia. This action came as a result of a motion put forward by the Nova Scotia Wildlife Federation at their spring meeting in 1993. If approved, a spring bear hunt could come into effect as early as 1995. Hunting seasons for all species of game animals in Nova Scotia have traditionally run from mid-September through mid-February. Bear hunting would only be carried out over bait stations that are registered and approved by DNR offices and only after written permission has been granted for this purpose by land owners. The season would tentatively be in either May, June or parts of both months. At the last meeting of the BNS executive,

Big-Game Resources Manager, Mr. Tony Nette attended and presented information on the proposed hunt. Mr. Nette was seeking a position statement from the Blomidon Naturalists Society. It was decided however, that it was not the place of the BNS executive to articulate the diversity of values, attitudes and opinions held by its members on such an issue. Members are therefore being encouraged to make their own views known in writing to the Minister, Mr. Don Downe of Natural Resources and Mr. Tony Nette at the Wildlife Division in writing, or by phone if they wish more information on the proposed hunt.

Address Written Correspondence To:

**Mr. Donald Downe,
Minister, Department of
Natural Resources
Founder's Square
P.O. Box 698
Halifax, Nova Scotia
B3J 2T9**

**Mr. Tony Nette
Manager, Big-Game
Resources
Wildlife Division
Department of Natural
Resources
136 Exhibition Street
Kentville, Nova Scotia
B4N 4E5
Ph:(902)679-6091**

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**How I Became
Interested in Bees**
by Charina Cameron

Wolfville Elementary School

Before I was of the age to go to school, I was walking in the woods around my home with my father, when he stepped in a yellow-jackets nest. His glasses fell on the moss over the nest. He lifted me away from the nest and told me not to move. He got stung, and I, being a kid, did not listen to the instructions to stay still. I went and got my father's glasses. Since then, because I didn't get stung,

I've been interested in all species of bees!

(editor's note: Charina was the 1993 winner of the Robie Tufts young naturalists award. Congratulations Charina.)



“Buzzy Bee Projects”

by Charina Cameron

Wolfville Elementary school

I have been doing science projects about bees, wasps and bumblebees since I was in Grade Primary. The first project I did was about how bees made paper for their nests. Then I studied how and why the bees made hexagon cells in their nests. In Grade 2, I studied how the hair on the bee's bodies helped them pick up pollen from flowers by building models and testing how well they picked up styrofoam balls. In Grade 3, I made models of bee wings and found out that shorter wings can beat at higher frequencies. In Grade 4, I went back to studying the bees' hair and made models to test and to show that the hair on the bees' wings and body while the bee is flying through the air bend back and make the bee more streamlined (like an arrow), and also to show that the hair reduces drag on the bee.

When I was in grade 5, a scientist suggested that I use a stroboscope to study the frequency of bee wing beats. With the help of an electronics technician, I was able to build an LED strobe and learned how to calibrate with a wheelstrobe and use an oscilloscope to check the calibration. However, I found out that it was hard to “zap” a bee in flight.

This year, I built a much improved 96-LED electric stroboscope

in a large flight-room box that I also built. I calibrated the strobe with an oscilloscope and checked it with a photodiode and tuning forks. I also did light experiments to see what light the bees would be most active in. I found out that the honey bees (*Apis mellifera*) have different behaviours in different kinds of light. I experimented with colour filters that I made to fit over a florescent lamp. I also used two UV (ultraviolet) lamps which I built from different circuits. I learned that bees do not fly in the dark, and because they do not see pure red LED light, they do not fly in red light. My LEDs are red so I should not be disturbing them when I try to “zap” them with my strobe. Their activities increased when I exposed them to other light frequencies. They were most active in white and UV light. I did my “zapping” with my red LEDs and UV light. My bees in the flight-room box had an average of 17 Hz when they fluttered their wings while they were crawling. When the bees were flying and hovering near my brighter UV lamp their wings had an average of 89 Hz.

I want to continue my experiments on bees and I am thinking about a project for next year. I had a lot of fun doing experiments in these projects. Many people helped me over the last few years. I would like to thank them all because I would not have been able to do my projects without their generous support.

Monitoring the Health of Loons, Eagles, Ospreys, Herons and Gannets in Atlantic Canada

**Canadian Wildlife Service,
Atlantic Region
Sackville, New Brunswick**



and

**Canadian Cooperative
Wildlife Health Centre
Charlottetown, Prince
Edward Island**



Most ecosystems are so complex that it is difficult to select a single indicator species to adequately monitor overall environmental quality. However, the health of wildlife species at higher levels of the food chain often provides the best available measure of environmental quality. Whether local populations of these species are healthy can be assessed by looking at the number of young produced each year

or the number of deaths caused by infectious diseases, accidents, toxic chemicals, predators, etc. Investigating these causes of mortality is an unobtrusive way of studying populations of wild animals, but it depends on the willingness of people in the field to collect wildlife carcasses and submit them to the proper agencies or laboratories for examination. In the Atlantic provinces, the Canadian Cooperative Wildlife Health Centre at the Atlantic Veterinary College (AVC), University of Prince Edward Island, specializes in necropsy of wild animals.

In practice, fish-eating birds are frequently used as indicators of ecosystem health. In 1993, examination of common loon carcasses submitted by the Canadian Wildlife Service (CWS) and the Nova Scotia Department of Natural Resources (via the Provincial Veterinary Diagnostic Laboratory in Truro) revealed that a substantial proportion of the deaths were associated with contamination by lead or mercury. Similar observations have been made on common loons examined in New England. Furthermore, CWS has found that some loon eggs, which were collected after they had failed to hatch, contained high levels of DDE (the breakdown product of DDT, an insecticide no longer used in Canada or the USA).

In response to these findings, AVC and CWS are working

together to assess the threat of toxic chemicals to common loons. The veterinary pathologists at AVC would like to examine any common loon found dead in the field or dying in the course of a rehabilitation attempt. The carcasses will be examined in detail for the presence of infectious or other diseases, and their tissues will be analyzed for the presence of heavy metals and other toxic chemicals, in cooperation with CWS. Similarly, loon eggs that have failed to hatch will be analyzed for toxic chemicals. **AVC and CWS request that anyone encountering a dead loon or finding loon eggs that have failed to hatch and have been abandoned by the parents, please, submit the carcass or eggs to AVC for examination.** Submission of carcasses of birds that appear to have died from obvious causes, such as trauma, is also very important, since these birds can provide information on "normal" values for this species.

Although similar toxic chemical problems have not been observed so far in bald eagles, ospreys, great blue herons, and northern gannets in the Atlantic region, more information is needed to assess the health of these fish eating species. **AVC and CWS request that anyone finding a dead eagle, osprey, great blue heron or gannet, please, submit the carcass to AVC for examination.** As with loons, carcasses of birds that have died

from obvious causes are also requested.

The help of the public, naturalists, wildlife rehabilitators, veterinarians and provincial wildlife agencies will be greatly appreciated. For further information on this project, or for submission of a carcass or egg, please, contact **Pierre-Yves Daoust at (902)566-0667 or Scott McBurney at (902)628-4322.** Carcasses or eggs which cannot be submitted to AVC within 36 hours of being found should be kept frozen.

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Field Trip Reports

Spring Amphibians

- April 25, 1994

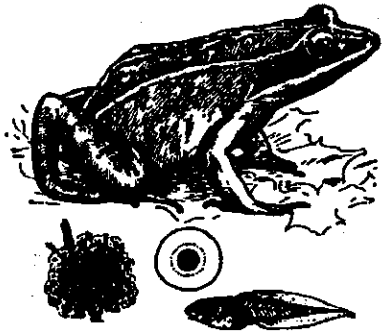
by Jim Wolford

Wolfville, N.S.

Our night was clear-skied and too cool for good amphibian activity. The beautiful full moon was esthetic, but actually made viewing with flashlights more difficult. Only seven participants showed up, despite extra advertising via Nature Notes in the Advertiser.

After I played some taped calls of frogs and toads, we drove to Gaspereau and visited a man-made dugout pond. A few spring peepers were calling weakly. We saw lots of large overwintered tadpoles of green frogs. A few sweeps of a dip-net yielded lots of adult water boatmen, two adult backswimmers, several small diving beetles, a whirligig beetle, a few planarian flatworms, and three snails.

Next we went west from Gaspereau to what I call "Bleakney's Pond," a spring-fed cold-water pond. Again there were lots of large tadpoles of green frogs, and many batches of developing eggs of wood frogs. I was surprised that we couldn't find any adult yellow-spotted salamanders; however, several masses of their fresh eggs were attached to cattails, and it was encouraging to see at least



three overwintered larvae from last year. The dip-net revealed lots of mayfly nymphs and several adult backswimmers.

Lastly, we tried a very shallow roadside ditch west of Gaspereau. Sherman Boates joined us there and spotted one batch of yellow-spotted salamander eggs that had "gone bad," probably from having been frozen.

NSBS/BNS Trip For Spring Birds

- April 24, 1994

by Jim Wolford

Wolfville, N.S.

Our day began with heavy overcast and steady light rain. Later the rain stopped and became an intermittent drizzle. Six cars formed our pond-to-pond caravan - perhaps 20 people included 6-7 youths. We were very honoured that Joan Czapalay brought Charlie Allen of Tusket.

We drove first to Greenwich, to

a very full church parking lot, where a 'scope showed a presumably incubating' bald eagle on her nest. A female grackle landed near us with nest-material.

Port Williams sewage ponds were next. We saw a single tree swallow, 2 male mallards, and a pair of lesser scaup. The latter were controversial regarding lesser vs. greater, but viewing conditions were awful (they had been present there for quite a while and seen by others).

Then we drove via Starr's Point and Wellington Dyke to Canard Pond, where there were 3 Canada geese, 5 male ring-necked ducks, 3 common mergansers, uncoun- ted black ducks and green-winged teal, a great blue heron, a few tree swallows, and 2-3 downy wood- peckers. I was humbled when a "calling leopard frog" turned out to be a drumming downy wood- pecker!

At the Canning Aboiteau(Habi- tant River) we saw 60 Canada geese, a pair of American widgeons, and 2 double-crested cormorants.

After a "pit-stop" at a Canning service station, we went to Harris' Pond (In Canning). The weather prevented our usual idyllic lunch- spot there (most ate in their cars), but birds there included a pair of red-breasted mergansers, a pair of blue-winged teal, 2 more Ameri- can widgeons, a kingfisher, crow- ing pheasants, red-winged black- birds and grackles, 30 tree swal- lows, etc.

Three more pond-checks yiel- ded no birds at all.



Red-breasted Merganser

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The Cornwallis River Corridor

The Importance Of Tidal Marshes and Intertidal Flats

by J. Sherman Bleakney
Wolfville, N.S.

How important are the local tidal marshes, drainage creeks and mud flats? What if Minas Basin became a minus, would anyone really miss it? Why not ask the locals and the tourists, the ones that really should know, the ones who have lived here for thousands of years. Consult the four hundred or so species of marine animals that live here year round. Interview the million or so summer visitors that fly in here from South America via the Canadian arctic. Organize an under water census centre off Evangeline Beach and determine how many millions of visitors swim here from Quebec, from off-shore, from Florida and Georgia and points between. Then calculate how many millions of millions of hungry offspring they leave behind in this piscine nursery we call Minas Basin.

Yes, the local non-human residents, and all those regular visitors from far away, certainly would miss this honeymoon haven and its estuarine fast food outlets. Factory effluent outlets and raw sewage outlets they would not miss, nor any other present environmental abuses. For centuries, with thoughtless aban-

don, the hoards of hairless apes living along the Cornwallis River shoreline have dammed, dyked and dumped all over that watershed. Remarkably the area is still unusually nutrient productive and still exerts an extensive hemispheric attraction. And what is the scientific explanation? Quite simply, they love what we do to our Minas Basin compost - we keep turning it!

At this point, a semantic digression and clarification is appropriate if not imperative. The Cornwallis river does not flow into the sea - the sea flows into the Cornwallis River, twice daily. In fact, it isn't even a proper river; a stream or brook, perhaps. Have a look sometime where it flows past Port Williams at ebb tide. Estuarine rivers, in fact rivers in general, may experience fluctuating water levels seasonally or after storms, but a regular daily fluctuation of 11 to 14 metres (30 to 40 feet) is in no way a river! The salty sea, its plankton, its fishes, even its porpoises, extend tidally as far as Kentville. Thus, there can be no argument, from Wolfville to Kentville, there exists a Cornwallis Seashore, and Coastline, and Bay, and Estuary, and Tidal marsh, yes, all of the above, but no way was there ever a "River". The marine fish and plankton at Greenwich at flood tide were probably off Kingsport six hours previously. Some "River". So, as we return to the topic of composting, keep this vital new concept uppermost in your mind.

Local garden nurseries sell bags of P.E.I mussel mud dredged from bays where rivers flow into the sea. Such estuarine silts are rich in nutrients because gravity pulls all the dead and yukky stuff to the sea bottom where bacteria work it over and essentially form a layer of nutritious compost. For those nutrients to be recycled, they must either be spread over our garden beds, or more naturally, be stirred up and thoroughly mixed throughout that aqueous marine garden of microscopic plankton technically termed "the water column". Wherever organic mixing of bottom muds and surface waters does occur on a grand scale, there are located the worlds greatest fishing grounds, such as off Newfoundland and off Chile. River estuaries are typically sites of active mixing of composted sediments, which is the reason why so many marine fish use coastal estuaries as nurseries and why filter feeding shellfish, worms and crustaceans abound, in fact may be commercially abundant.

Because the pulsing action of strong tidal currents can turn over sediments and suspend particles, the

Bay of Fundy - Minas Basin Marine system, with its worlds highest tides, is truly special. In Minas Basin, the twice daily mixing is so thorough that the oxygen, temperature and salinity (and probably pollution) are the same from top to bottom, and suspended food particles are available throughout the year. Most northern and temperate latitude marine systems shut down or slow down in winter, but not here in the Cornwallis Estuary. A plankton net hung in tidal currents off Port Williams bridge in July or January will quickly fill with planktonic creatures. In winter, these animals are living off nutrients built up in the tissues of marsh grasses, marsh algae and mud diatoms over the previous spring, summer and autumn, nutrients released by perpetual bacterial action upon compost particles (You are enacting that tidal stirring function whenever you rotate your garden compost barrel.). When you next walk along the dyke walls or along the railway tracks, imagine the situation some 300 years ago when all that expanse of dyked fields was open tidal marsh - producing that much more additional nutrients!



The entire Grand Pre agricultural area was once a productive tidal marsh, and rather interestingly, since last October marine clam and snail shells from (probably) 300-600 years ago have been evident in the neat piles of excavated earth beside each of the new power pole replacements. To actually witness densities of soft shelled clams that were achieved in those good old days when there was a surfeit of nutrients, examine the river bank to the east of the Wolfville Harbour entrance. About twenty feet down is a neat band of shoulder to shoulder (valve to valve?) clam shells that were buried live 750 years ago by an unusual quantity of silts washed down Gaspereau Avenue brook (via what is now Centennial Park). It is an entire clam bed buried intact, *in situ*. The layers and layers of sediments and the band of clam shells are evident now because the Cornwallis "River" channel is changing course and rapidly eroding the Wolfville river bank, creating a steep 12 metre (40 foot) cross section of some 1500 years of sedimentation.

In spite of the loss of thousands of hectares of tidal marshes, nutrient production today is such that the periodic tidal mixing generates a nutritious soup that annually, in summer and autumn, attracts countless thousands of fish from as far away as Florida to the south and the Gulf of St. Lawrence to the north. They spawn and/or feed here, and the smaller fish attract schools of larger fish which also spawn and/or feed. Thus as you walk the railway or the dyke walls at high tide, hidden within

those murky waters are schools of "minnows", squid, smelt, Tom cod, shad, gaspereau, herring, striped bass, salmon, eels, sturgeon, rare sunfish, and others, as well as various sharks, seals, porpoises, toothed whales and baleen whales. We usually only see those individuals that die and wash ashore, or get stranded in creeks as porpoises occasionally do, even as far "upstream" as Kentville.

If the tide is out as you walk the Cornwallis Corridor Trail, examine the marshes for hidden beneath those marsh grasses are algae, insects, spiders, beetles, bugs, snails, shrimps, worms, clams and in the small pools are even more species including crabs, eels and other fish, and algae, and flowering plants, and such wondrous things as green photosynthetic sea slugs (If you have read *A Natural History of Kings County*, then you already know about such things.). All that uninteresting mud on the slopes of the drainage creeks and river banks has, upon close examination, perforations in the surface, the tiny burrow entrances of innumerable worms and crustaceans and clams. These are the flourishing permanent residents upon which those tens of thousands of migrating shorebirds feed from early July into October.

Our local tidal marshes and tidal flats may appear to be monotonous habitats but in actual fact there are many distinct little sub-habitats and sub-sub-habitats, to which equally distinct species are adapted. There are so many different ways of "making a living" (ie. finding enough food)

along the Cornwallis sea coast in the Wolfville area, that total species counts for some well known groups currently read like this: 91 crustacean species; 58 snail species; 34 clam species; and over 40 fish species, 18 of which actually use the marshes and marsh creeks during the flood tide. The largest live female dogfish I have ever seen, was observed swimming in a marsh pool near Lower Canard, temporarily trapped by an ebb tide.

There is absolutely no other coastline like it. Twice daily for six hours, the ocean rushes past Wolfville to seven miles further inland to Kentville, and in doing so rises some 12 metres (40 feet). What a marvellous location for a "rails to trails" project. But such a development should also embrace a concomitant pollution abatement program. Although the Cornwallis is still alive and kicking, were it a true river flowing steadily in one direction past each human community, the cumulative industrial effluent, sewage out-flow and field run-off would long ago have suffocated its waters. The current solution to all our local pollution has been tidal dilution, a welcome fortuitous phenomenon for industry and municipalities. The Cornwallis Estuary feeds into the Minas Basin, its nutrients and its pollutants become part of that larger ecosystem. Any toxins, many of which have very subtle effects, not only recycle and accumulate locally, but they also become incorporated into the tissues of birds and fish transported to Quebec, Florida, South America, the Arctic and off-shore.

The Cornwallis River Corridor Conservation Plan presents an opportunity to reverse this terrible lethal legacy.

Rare Flora of the Cornwallis River Area

by Nancy Nickerson
Port Williams, N.S.

For many years the intervalles and woods along the Cornwallis River at Cambridge Station, Kings County, have been a botanist's paradise. Some years ago I explored this area and was fortunate to find two plants considered by Roland and Smith (1969) to be rare in Nova Scotia.

Half a dozen stems of Blue Cohosh (*Caulophyllum thalictroides*) were growing in a small stand of hardwoods at the edge of an intervalle. Roland and Smith described this member of the barberry family as



"rare but distinctive". Blue Cohosh grows about 30-80 cm tall and bears greenish-purple flowers, about 1 cm wide, in a cluster on a central stalk. The pea-sized, dark blue seeds look like berries. The fertile stem has one large triangular leaf, divided into many leaflets, part way up the stem, and a smaller leaf just below the flower cluster. The young leaves are bluish-green with an attractive grayish "bloom". The roots of Blue Cohosh have been used in folk medicine, but the plant is now considered potentially unsafe for herbal use because it contains bitter-tasting alkaloids and glycosides that can cause stomach cramps if eaten.

A dozen plants of Blue Vervain (*Verbena hastata*) were scattered along ditches and streams draining into the river. This species has slender, four-sided, branched stems that grow 1-2 m tall and are topped by compact clusters of pointed flowering spikes. From mid-summer to early fall the spikes bear large numbers of small, five-petaled, violet-blue flowers, although only a few flowers are likely to be open at one time. Pink and white-flowered plants have been reported but all those at Cambridge had blue flowers. The leaves are usually spear-shaped with toothed edges, but sometimes the lower ones are hastate (arrow-shaped), giving rise to the species name *hastata*. Blue Vervain has been used as a folk medicine or "simple" (an herbal remedy), and is sometimes known as *Simpler's Joy*.

Some of the other plants I found

in the same area were not rarities but they caught my eye because of their interesting flowers, fruits or growth habit. These included Jack-in-the-Pulpit (*Arisaema stewardsonii*), Indian Cucumber-Root (*Medeola virginiana*), Nodding Trillium (*Trillium cernuum*), Wood Buttercup (*Ranunculus abortivus* var. *acrolasius*), Virgin's-Bower (*Clematis virginiana*), White Baneberry (*Actaea pachypoda*), Dutchman's-Breeches (*Dicentra cucullaria*), Pink Corydalis (*Corydalis sempervirens*), Agrimony (*Agrimonia gryposepala*), Yellow Violet (*Viola eriocarpa* var. *leiocarpa*), and Monkey-Flower (*Mimulus ringens*).

Much of the area I explored has now been cleared for agricultural use, but it is possible that pockets of the original flora still exist, waiting to be rediscovered.

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Birdlife of the Cornwallis River Valley by Peter Austin-Smith Wolfville, N.S.

" In the forests were ... partridge in great numbers, and wild geese, duck, teal, plover, and other marsh birds were numerous; in certain seasons wild pigeons came in immense flocks" This brief account of birds during colonial times in Minas offers us a glimpse of past bird populations in the area dominated by the Cornwallis River. Although the wild (passenger) pigeons are gone, and there are far fewer ducks and geese to test the hunter's skills, other birds including red-winged blackbirds, cowbirds, mourning doves, killdeer and more recently mockingbirds, have found their way here as forests were cleared to make way for farms, villages and towns. These avian immigrants now add to the remarkable mix of bird species in the valley of the Cornwallis.

The origin of the Cornwallis River lies between Aylesford and Berwick in a huge peat deposit, the Caribou

Bog. Now the site of a peat moss extraction industry, it is difficult to believe that woodland caribou once travelled over sphagnum trails here on their periodic migrations. Although the cool, wet nature of bogs restricts birdlife, in summer, swamp and Lincoln's sparrows together with palm warblers, yellow warblers and common yellowthroats may be found in the open wetter areas amongst scattered small shrubs or in the thickets and small trees surrounding undisturbed bogs. You would be fortunate however, to hear or see many of these species in what now remains of this bog.

Now come along with me and we'll follow this infant river, here barely more than a brook, eastward and watch it become transformed into a mature tidal waterway to meet the turbid Minas Basin less than 35 km downstream from this bog as the crow flies. And yes, we'll take note of the birds along the way.

Soon after leaving its source, the narrow stream of the young Cornwallis River which you can jump across with little effort in several places, is joined by another small branch having its origins in vaults on the southfacing slopes of North Mountain. Just above, and for a considerable distance below, the confluence of these streams, the slowly growing river loops back and forth through a gently rolling landscape of wetlands, farmlands and woods. Here in late winter as the days begin to lengthen and the sun pock-marks the snow, the resident starlings and house sparrows

call loudly from the roof peaks and under the eaves of farmhouses and outbuildings.

With the river's release from the ice and snow by the warm rains, river levels begin to rise to spill out over the low-lying lands and so replenish the soils. Some landowners respect the river's right to reclaim its ancient flood-plains, others, to their sorrow, do not! As the floods subside, woodcock appear in the wet alder covers of the valley. Under the rising moon, courting males strut about, then suddenly hurl themselves into the air. With aerobic abandon so surprising for such pudgy birds, they climb skyward then wildly pitch down with enthusiastic ardor. In wet fields, snipe, or "meadow-hens", also perform their "winnowing" nuptial displays to attract an admiring mate but do so more often during daytime. The low streamside meadows with their scattered shrubs and small islands of trees, also are the haunts of killdeer, red-winged blackbirds, robins, grackles, rusty blackbirds and purple finches, some of which stay to nest while others move on following the river's contours northeastward.

Just as the first flush of leaves appear, a kaleidoscope of warblers floods the woods along the widening river valley, yellow, yellow-rumped and parulas closely followed by ovenbirds, solitary vireos and black-throated green warblers. Swallows, first the tree, then bank and barn swallows, and later, an occasional cliff swallow, appear over the deeper pools and nearby ponds and ribbons

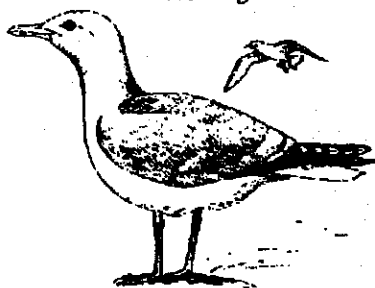
of marshlands to feed on emerging aquatic insects. When we pass by, catbirds "mew" as they steal through the brushy shrubs while above them alder flycatchers sally out to capture aerial prey.

Mixed and coniferous stands near the river offer nesting habitat for ruby-crowned kinglets, red-breasted nuthatches, hermit thrushes, black-throated green warblers, juncos and other woodland birds. In early spring, red-tailed hawks retreat to their nesting areas in the wooded thickets above the river floodplain so we may not see them unless it's a windy day and they are soaring over their territories. But here in the early dawn of late spring, the songs of thrushes, ovenbirds, redstarts, vireos, and dozens of other dawn choristers signal that the nesting season is once again underway. On the pasture lands and meadows below, male cowbirds bow and "squeak" while early nesting bluewinged teal and black ducks warily guard their broods in the shallow ponds and pools of old oxbows formed by the constantly eroding waters of the river. Savannah sparrows are common along the grassy plains of the river, almost as common as the busy song sparrows that dash about nearly every thicket while aggressive kingbirds chase other birds away from their nesting territories in the open lands of the river valley. While an occasional belted kingfisher "rattles" its way downriver to search for small fish in the deeper pools, spotted sandpipers "teeter" along banks of the narrow river hunting aquatic larvae in the

shallow margins of the water.

We have now reached a point about 1 kilometer below the bridge at Lovett's Road where the "Kentville sanctuary" begins and perhaps we should continue down to Kentville by canoe. Drifting downstream past a sagging fence and blue-painted signs that mark the western edge of the sanctuary, the grassy banks and shrubs slowly give way to reed canary grass which forms a wide belt along the banks of river. In midsummer, this barrier of vegetation shields the river from the sounds and sights of our frantic human world. But there is a more diverse plant life in the marshes, pools and wetter areas bordering the tracts of canary grass. Here the river is nearly inaccessible, since its broad guarding marshlands permit only limited foot traffic throughout much of the year. Floodplains and shrub swamps also add to the patchwork of habitats for birds. Marshlands along the upper reaches of the river and within the sanctuary, attract great blue herons, bitterns, sora rails and other wetland birds. Breeding double-crested cormorants from Boot Island visit the river in spring to fish its waters. Swamp sparrows, yellow warblers and yellowthroats nest in the streamside vegetation while other typical woodland birds, nesting in the deciduous forests to the south, include ovenbird, eastern wood pewee, Swainson's thrush, chestnut-sided warbler and red-eyed vireo. Vesper sparrows once sang each spring in the fields just north and west of the sanctuary but none have been heard here in recent

Herring Gull



years. Also to the north are pine and heathlands belonging to the defence department which presently protect the sanctuary's northern border from development. Other woodlands close to the sanctuary are inhabited by rose-breasted grosbeaks, cedar waxwings, blue jays and white-throated sparrows. Hundred's of great-black backed gulls and herring gulls loaf on the river then visit the municipal garbage dump, a dependable food source throughout the year for scavenging birds. Common nighthawks were once nightly visitors to the marshlands where they nimbly pursued flying insects but their numbers for unknown reasons, are now much reduced.

Broods of black ducks, blue-winged teal and green-winged teal are reared each year in the shallow ponds and in late summer and fall, these shallow marshes and ponds with their thick stands of pondweeds and bur-reeds supply food for hundreds of migrating waterfowl. Black ducks, blue-winged teal and sora rails also congregate in the old oxbows of the river before migrating southward while flocks of blackbirds roost in the marsh grasses each autumn.

Kentville marks the southeastern edge of a huge sand area that, to the north, includes the barrens of red pine and heath vegetation which lack the rich birdlife of the adjacent wetlands. Of much interest both next to the sanctuary and below the town are tree-topped mounds of glacial debris, called kames, that rise abruptly from the valley floor. These striking legacies of the last ice age are in danger of disappearing along with the birds and other animals of their rich woods as the gravel they contain is steadily removed for roads and buildings.

At the eastern edge of the sanctuary, just above the railway bridge in Kentville where the high tides on the Cornwallis first meet the fresh river waters flowing from the west, we must scramble out of our canoe over the muddy banks to finish our journey to the Minas Basin on foot. Crossing the highway bridge in Kentville, we meet for the first time, the dykes that follow the twisting river channel to the sea. Where once undulating meadows of saltmarsh grasses grew between the muddy river and the uplands, there are now dyked lands of pastures, croplands and hayfields, home to savannah sparrows, bobolinks and other open country birds. The mixed woods extending up the slopes above the valley floor reflect again the bird communities of such areas we encountered upstream. As we pass by, redstarts, chestnut-sided warblers and juncos call from along the forest edges which are often hunted by sharp-shinned hawks.

The small Ducks Unlimited impoundment next to the 101 Highway bypass that crosses the river, although small by most standards, attracts an occasional grebe and great blue herons that stalk frogs and fish. In the fall, migrating teal stop to loaf and feed in its rich waters.

Below this road we meet the first of three sewage lagoon systems situated on the dykelands; the others are at Port Williams and Wolfville. These nutrient-loaded basins, swarming with invertebrates, offer protein-rich feasts for waterfowl broods and other insect eating birds, especially swallows.

The high banks guarding the river valley are becoming steeper now so watch your step. On the escarpment above, clogged roads, houses, apartments, malls, shops and small industries, crowd to its edges while orchards and farm fields spill down the northern slopes and onto the dykelands. Yet the nearby frenetic pace of human life, has not deterred one of the largest birds in the province from setting up housekeeping on a busy farm near the river. And so at Greenwich, within a stand of tall white pine, there is a huge, ragged bald eagle nest, the discovery of which was a revelation to local naturalists who now watch over it with paternalistic pride. As we pass below, you might catch a glimpse of one of the adults or the dark outline of the eaglets now ready to fledge.

Closer to the Minas Basin, willets and boblinks nest just beyond the tidal marshes that narrowly fringe the

dykelands while harriers during the day and at night, short-eared owls and perhaps long-eared owls hunt the rough pastureland and old fields along the river valley for incautious rodents. Sharp-tailed sparrows breed in the saltmarshes, timing their nesting duties to the monthly tidal cycles and rails, great blue herons, black ducks and other birds often visit the saltmarshes to feed or seek cover.

We are now nearing the end of our journey as we come upon the mudflats at the mouth of the river and which extend out far beyond into the Minas Basin. Here, enormous flocks of shorebirds appear in mid-summer to put on fat before resuming their southward migration. The smaller ones, including least sandpipers, semi-palmated sandpipers and semi-palmated plovers chase the receding tides over the muds in search of "corophium", the small fat amphipods that provide shorebird fuel for the long overwater flight to South America. The larger shorebirds, such as dowitchers, "stitch" their way like mechanical toys across the tidal flats, probing the soft muds for worms. At high tide, tens of thousands of shorebirds roost just above the water's edge or on short grassy or plowed fields from where they can readily scan their surroundings for any potential danger. When chased by peregrine falcons and merlins, flashing clouds of these birds wheel and dive as one, frantically twisting and turning to outmanoeuvre their pursuers.

Although our journey has ended

by the turbid waters of the basin, this recounting of the birdlife of the Cornwallis River is not complete unless I note the seasonal changes in bird communities in late autumn and winter. As we know, the autumn movement of migratory birds tends to be along such topographical features as hills, river valleys and coastlines so it is no surprise that flocks of eider ducks will fly a short distance up the Cornwallis before wheeling about in apparent confusion. Calling noisily like excited tourists, V-shaped flocks of Canada geese appear overhead on their way to cornfields, then retire to the mouth of the Cornwallis at night, until they finally move on to their wintering quarters along the Atlantic coastal shores. Small rafts of eiders and scoters also appear near the mouth of the river, bobbing about like corks on the tidal ebb and flow of the basin waters.

As winter crawls down through the valley, and the waters of the Cornwallis become sluggish with the cold, most small birds, the warblers, fly-catchers, and many others, have disappeared, leaving the snow-covered land to permanent resident birds and winter visitors. Rough-legged hawks, an occasional snowy owl searching for easy prey, snow buntings, boisterous flocks of evening grosbeaks, among others, spend the winter here. Fields with all but the tallest weed stems covered by snow, attract tree sparrows, redpolls, snow buntings and other winter visitors while ring-necked pheasants, now confined on blustery days to sheltered gullies, are watched by patient

red-tailed hawks, Northern shrikes or "butcher-birds" so-named because of their habit of impaling their prey on thorns or small sharp twigs, may also occasionally visit the valley in winter.

Within the woods edging the Cornwallis, small mixed flocks of resident birds tend to their daily rounds. Chickadees, brown creepers, perhaps a nuthatch or two and a downy woodpecker diligently make their way from tree to tree, hunting for insect eggs and pupae. Raucous blue jays search for their food caches while foraging siskins hang from seeds and buds of alders and birches. Barred owls, permanent residents where suitably large tree cavities or nest boxes are present, prey on whatever is most available and that includes rats, and pigeons, those ubiquitous human companions..

As winter cold deepens, ice creeps downriver into the sanctuary, pushing wintering black ducks and goldeneyes into the tidal waters. Bald eagles often follow the river into the sanctuary to perch silently in tall trees from where they watch patiently for the chance to seize one of these unwary ducks. Downstream, the outfall from food processing plants attracts clamorous crowds of gulls, crows and ravens, a red-tailed hawk or two and sometimes hungry bald eagles. On the dykelands, horned larks, snow buntings, an occasional longspur or pipit, race over the fields, seemingly blown by the gusting winds, gleaning seeds from the exposed heads of grassland plants. A

few coveys of gray partridge, descendants of birds introduced many years ago, feed on dykeland fields swept bare by these same winds. Above them, in late afternoons, wavering streams of crows, follow the river valley westward to their roost, while ravens cartwheel and roll as a prelude to yet another breeding season.

Although this rich birdlife adds immeasurably to the diversity of the Cornwallis river valley, encroaching developments, residential and industrial on the south, farmlands and more recently suburban housing on the north, threaten to further erode its remarkable nature. For centuries, dykes have confined its brown waters to a rapidly narrowing ribbon rushing up the river to meet the freshwaters flowing down from the forests and farmlands. Only near the mouth of this closely confined river, does the nourishing salt water creep into the tidal creeks, and thread its way along the winding channels, to overflow their banks and sweep across the remaining saltmarshes. Are the shrinking forests and wetlands destined to continue disappearing as did the saltmarshes to accomodate purely economic goals? Or can we agree that this river valley has values beyond those, such as social, biological, ecological, recreational and spiritual? If so, it is not worth planning now to conserve the extraordinary landscapes with all of the plants and animals of this uncommon place as part of our heritage and that of our children's children?



Neary Pines

by George Forsythe
Port Williams, N.S.

The Neary Pines provide a small glimpse of what the original Appalachian Forest may have looked like to the original settlers of Greenwich, and Eastern Kings County. Neary Brook has carved a deep hollow as it runs north toward the Cornwallis River. Before reaching the river, however, it meets a kame (a glacial deposit) that forces it to change direction to the east.

When the Mi' Kmaq followed their seasonal foods, this area might have been a spring or fall encampment, providing fish from the river. When the Acadians settled this area a dyke was built that prevented tidal water entering the brook and created a meadow for farming. Two cellars are still visible as testament to their hard work.

During the Expulsion of the Acadian people in 1755, some escaped to an encampment to the south above

the Deep Hollow Road, during later years descendants of these people continued to come to the fields about the Neary Pines to search for family belongings.

When the New England Planters claimed

these lands in 1760 a portion of this area was deeded to the Bishop family, who have, in recent years, purchased all of what is the Neary Pines. On the brook dyked by the Acadians, John Bishop in the 1760's erected a mill, possibly on the site of a previous Acadian mill dam. This was operated by three generations of the family.

About 1779, James Neary, a fifteen year old Irish Catholic alter boy, arrived in North America. He subsequently settled and led a secular life as a farmer and purchased land in Greenwich. At the north of his property were the Pines. Until the 1970's the Neary family owned this wood and allowed it to remain as time desired. The Bishops have allowed this to continue.

Upon entering the small, less than ten acres, remains of the "forest primeval", one notices the fallen hulks of pine and hemlock, proof of a long undisturbed existence. Those trees still standing exceed all others for many miles in both height and

diameter. The Neary Pines reminds one of the medieval cathedrals of Europe, rising to great height, dark, supported by huge pillars, and the hint of heavenly light, as if through some great rose window.

From the D.A.R. tracks the trees look like many others in our area, until you realize how far into the hollow you must descend to reach the bases of these monuments to time. These trees provide nest sites for bald eagle, barred owl, and raven, all in the same season, all within meters of each other. Warbler watching is frustrating, even locating them is difficult, most binoculars are not strong enough to magnify such a small target so far away.

When you walk through the wood your human belief of superiority is soon tempered. You become calmed by the quiet, by the darkness, by the looming height, and by the feeling of time, unhurried that the landscape exudes.

A recent publication, "Proposed Systems Plan for Parks and Protected Areas in Nova Scotia", has identified "only a few small, scattered stands of virgin, old growth forests remain in Nova Scotia", less than one percent of our forest is over one hundred years old. We have as a province only protected just less than three percent of our land base, ranking eight of twelve provinces and territories.

Through stewardship, sites such as the Neary Pines could become part of our protected and respected landscape. The Nearys and Bishops have

through two centuries provided a small glimpse of the original Kings County, a glimpse into a time long past. Forest and woodland like this can be created only with undisturbed time. Words will never fully convey the awe inspiring feeling of entering this ancient world. But words can be used to protect sites such as this and the watershed to which it belongs.

Peopling The Cornwallis River Valley by Barry Moody Wolfville, N.S.

For thousands of years, humans have occupied the area now known as the Cornwallis River Valley, or sometimes merely as part of the Annapolis Valley. The passage of time and ethnic or national origin have often dictated different perceptions and uses of the land and its resources. During that long period of human occupation, the geography, climate and appearance of the region have changed significantly, and continue to do so during our own experience of the area, although at perhaps a somewhat slower pace.

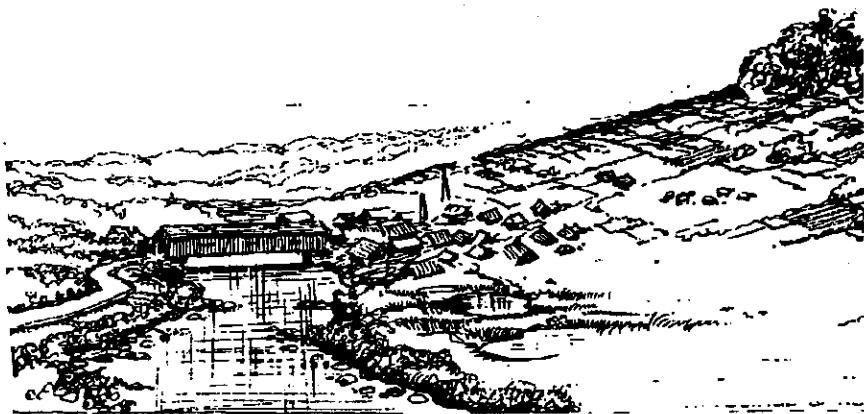
The record of the earliest association of humans with the Cornwallis River Valley has been long lost in the midsts of time. The Native peoples were present here perhaps as early as 11,000 years ago, but we know little of their way of life, or the ways in

which they utilized the landscape of that era. There were almost certainly hunters and gatherers, not agriculturalists. In fact, the rich soil of the region has been farmed for only a tiny portion of its long relationship with human beings. Here the Native peoples hunted, fished and gathered edible roots and berries, and here too they developed their perceptions of their gods, and their interconnections with nature.

The sole occupation of the region by the Native peoples was disrupted sometime in the sixteenth century, with the first tentative thrust of the Europeans into this area. Persistent stories of early European contact, perhaps in the thirteenth or fourteenth centuries, have thus far lacked conclusive proof. Early white intrusion into the region was sporadic, and tentative, as explorers and entrepreneurs sought exclusive minerals and the limited supply of beaver pelts. As yet, the land itself held no

attraction for the invaders, and the rich marshlands and tree-covered uplands remained uninhabited.

It was not until the 1680s that the first permanent white settlements were made in this area. French farm families, already acquiring the name Acadians, had settled first the region of the Annapolis River, and then the Isthmus of Chignecto. Attracted to the low-lying salt marshes found in certain places around the Bay of Fundy, and developing great expertise in dyking, some of these families were drawn to the vast marshlands surrounding the Minas Basin. Slowly settlement spread from Grand Pre along the nearby rivers, as Acadians occupied and brought under their control the land which would be so important in defining their future. If the Acadians left their imprint on the land, no less did the land help to mould and shape the emerging character of the Acadians themselves.



As the struggle for control of the North American continent intensified, the conflict between the French and English empires intruded into even the peaceful Minas region. For several decades in the early 1700s, this area experienced the tramp of soldiers' feet and on occasion heard the exchange of fire between the two forces. The Acadians, concerned primarily with their dykelands and their families, were not to be left in peace. Finally, after decades of attempting to force the Acadians to take sides in the conflict, the English decided on expulsion. Throughout the late summer and fall of 1755, the residents were rounded up and forcibly deported; most would never see their beloved marshlands again. For weeks the smoke of burning houses, barns and crops hung like a pall over the valley.

Five years later, the region saw activity again, this time with settlers arriving from New England. The Planters, so-called because they were planting, or establishing, new settlements, founded, among others, the township of Horton and Cornwallis, utilizing the dykelands of the former residents, but also paying much more attention to the uplands as well. The New Englanders brought with them their religious views, their interest in politics and education, and their distinctive architecture. All of these would help to reshape the Cornwallis River Valley, changing its appearance from the days of the Native or Acadian occupations.

The Planters were followed by smaller groups in the years to follow. Some of the Loyalists, both white and black, settled here immediately after the American Revolution, while Scots, Irish and English arrived in small numbers in the early decades of the 19th century. Each made his or her own contribution to the evolving landscape of the valley.

In more recent years, people have come from many parts of the world, drawn by the land or the job opportunities of the area. In the 1950s, a significant number of Dutch farm families settled in the region, making a significant contribution to the cultural mix of the Cornwallis River Valley.

For over 230 years there has been an uninterrupted settlement, and the slow but steady evolution of communities. Industries have risen and fall, the uses (and abuses) of the land have changed considerably over the years, and the population figures have slowly edged upwards. However, the way of life of those who have chosen to live in the Cornwallis Valley has changed more gradually than in many parts of the country, and some of the qualities of life have remained fairly constant. And over all, Blomidon still presides serenely, as it has for all those thousands of years of human existence.

Agriculture and the Cornwallis River

by Harold Forsyth
Wolfville, N.S.

When the first Acadians arrived in the Minas Basin from Port Royal about 1682, they found the soil rich and easily tilled. These first settlers were farmers and they brought their knowledge of dyked lands from the coast of France. They constructed excellent dykes and grew wheat, rye, oats, peas, flax and hay and raised horses, cattle, sheep and swine. They also brought fruit trees from France and planted orchards of apples, plums, cherries and pears.

These fertile farm lands made the area the most prosperous part of the whole Acadian country and they supplied many other parts of the province with food. So, with the expulsion of the Acadians in 1755, Governor Lawrence discovered he was faced with the problem of a great scarcity of food. This prompted the offering of free grants of land to New England settlers.

Agents were sent to see the area and they arrived to find the fruit trees in first bud, the dyke lands turning green and the rich uplands waiting for the plow. They were quick to see the value of the area and in 1760 the first Planters arrived in Horton Township which consisted of 100,000 acres of land between the Township of Falmouth and what would later become the Township of Aylesford. The land was divided so each settler would receive plots con-

sisting of upland, dyke land, marsh land and a woodlot. With the help of Acadians who escaped the expulsion the New Englanders learned how to repair and build new dykes. They cleared the upland for most of their crops, but always valued the dyke-land for hay and pasture and used marsh mud as an upland fertilizer.

For many years the farmers depended mostly on their cattle and swine, hay and grain. The Halifax market was easily filled, but transportation was a problem. Then wharves began to spring up in the many inlets of the Minas Basin, making exports to the United States and the West Indies possible and by 1855 the production of potatoes had become a major enterprise. However, a tariff was imposed on potatoes by the government of the United States making them uneconomical, so much of the land was changed over to the growing of apples. With the availability of shipping from Port Williams, which became a major shipping port, apples became the major crop in the area and by 1938, half a million barrels of apples were shipped overseas. This market was lost during the Second World War, devastating the once great apple industry. New varieties have since been planted and new markets found to maintain an industry for which the Annapolis Valley is still famous. However, much of the land that was once trees now consists of cultivated fields of vegetables, grains and forage crops.

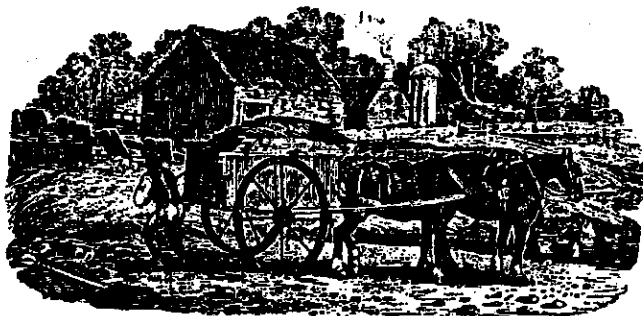
At the headwaters of the Cornwallis, near Berwick, the mining of peat

moss is an important industry today. Crops such as onions and lettuce are grown on the peat bogs. Further down river, potatoes are grown for Hostess potato chips and rotated with crops of peas, beans and carrots. Hog production is important and hay and pasture land support beef and dairy. Some tobacco is grown but much of that has been replaced with baking beans, as well as strawberries and rhubarb used for Sarsfield's pies. Apples are grown, both for the fresh market and for processing, as well as pears, cherries, plums and peaches. Mixed vegetables such as sweet corn, tomatoes, squash, cucumbers, cabbage, broccoli, peppers, melons and many more are grown and support a flourishing roadside market industry. At the mouth of the river the tidal land supports the production of hay, dairy products, beef, hogs, grain, corn, oats, wheat, rye, barley, soybeans and a growing acreage of sod. As a whole, this area has a greater diversity of agriculture, with a balance between livestock and horticulture, than anywhere else in the province.

Although ships no longer dock at Port Williams, the availability of shipping on the Cornwallis River helped determine the type of crops grown in the area and also had a great influence on the development of industries associated with agriculture, many of

which remain today as the backbone of a strong economic base. Fertilizer was brought in bulk to Port Williams and in 1936 a fertilizer mixing plant was put into operation. Chemicals for insecticides were imported and an evaporator and juice plant were built in 1939. A feed mill was constructed in 1940 to handle grain and other livestock feed imported from the Great Lakes. Other apple processing plants were established in Kentville, Coldbrook, Aylesford and Berwick.

The Cornwallis River has proven to be a great benefit to agriculture and the local economy but if care is not taken, agricultural practices can be harmful to the river. Runoff from fertilizer and animal waste spread on fields can create a problem by polluting the river. Soil erosion can result in sedimentation of waterways. This may reduce areas of fish spawning grounds and increase the risks of flooding watershed areas. Livestock entering the waterways to drink or cross over can add to erosion and pollution. Wind erosion can also be a problem especially on the open dyke lands, where modern machinery makes larger fields more practical and eliminates hedge rows as wind



breaks.

Soil and water conservation practices are essential to maintain a healthy watercourse. The idea of a watershed conservation scheme is not new: in 1939, it was already suggested as essential for conservation in the United States. In Canada, O.M. McConkey, then a professor at the University of Guelph, wrote in 1952: "The fundamental principal is that the whole river watershed must be considered as a unit... The main control methods are reforestation, grass cover, farming methods which control runoff,...that is, preventative measures". Today, the Nova Scotia Departments of Agriculture and Natural Resources work together with farmers and farm organizations to promote soil conservation and manure management. Along the Cornwallis Corridor farmers actively rotate horticultural crops with rye and other cover crops to help control erosion and improve soil structure.

Modern machinery has replaced the crude tools and oxen of the early settlers, but agriculture still remains a way of life for many in this choice bit of Canadian soil.

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Articles and Reports of Natural History

Wiley Coyote Visits The Town Of Wolfville

by Jean Timpa
Wolfville, N.S.

April 15 this year dawned about as beautiful as it ever has in Wolfville. As usual, I was out there to greet the dawn on my paper route along Hillside Avenue, Fairfield, Highland Place, and Bay Street. I stopped at Trudel and Mohammed Waseem's house about mid-way along Bay Street for my usual cup of coffee and a bit of chit chat. At approximately 8:45, I walked down their east entry driveway to head home. About half way down, I noticed a dog-like animal trotting towards me from the neighbour's driveway and about 15 feet to the left. The animal continued on to the west of their house, not breaking stride, but only turned its head to look as it came opposite me, and then quickly vanished. The long early morning rays of sun revealed a burnished undercoat through the darker guard hairs of grey and black. Its tail, which was held out straight signalled a confident, healthy animal with a definite 'catch me-if-you-can' attitude.

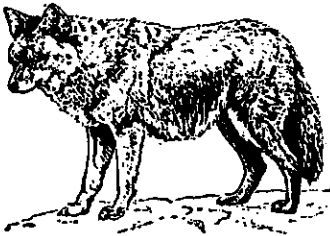
I immediately stopped a group of 6 or 7 students travelling west on Bay Street, going off to write morning exams. I asked if any of

them had just seen the animal that had run across in front of them. Remarkably, four of them hadn't seen it! I wondered how they'd ever pass their exams! One boy then piped up and said, "Oh, yeah, it was a dog." The last boy and I looked at one another and simultaneously said, "Coyote!" I hope he got his A+

Seconds later, two Acadia students, Paul Brookings, a biology major and his friend, Bruce Spares came running through the driveway through which the coyote had just exited and gasped to me, "Coyote?" I quickly confirmed their sighting and was glad of their affirmation at what my nearly disbelieving eyes had just seen. They decided not to pursue it further. Besides, they were definitely no match for the coyote, who wasn't even panting.

According to their part of the story of Wiley E. Coyote, they were walking somewhere on the Acadia University campus when they heard two girls cry, "Wolf!" Well, at least they knew it wasn't a dog! And then they saw it! The two boys pursued it by Wheelock Dining Hall, chased it along Highland Avenue, and along Highland Place until it veered at right angles through back yards to emerge on Bay Street to give me the thrill of a lifetime.

The only regret about the situation was that I had not been armed with a good camera. On the other hand, the coyote moved through so silently and swiftly, I'm sure I could not have reacted fast enough to get a picture. You may now be asking, how did I know it was a coyote and not a dog, or a wolf? It was too small for a wolf, but it had just the right look for a dog - a funny coloured German Shepherd perhaps. It was however, its gait that really gave away its true identity, for no dog runs the way the coyote does. I wish you all could have been there to witness this unique sighting.



Nocturnes

by Mark Elderkin
Wolfville, N.S.

Back in 1978, I was staying for a weekend at the family cottage at Lumsden Dam on the Black River system. It was a Friday evening during the second week of June and as the shades of night began to fall, I turned on a spotlight outdoors to pierce through the impending blackness. Seated leisurely beneath the spotlight in the stillness, I watched and listened

for nature's familiar shadow dwellers. I heard a woodcock, and watched a nighthawk snatching flying ants in company with little brown bats over the lake against the waning skyline. From a nearby brook, a veery filled my ears with flute like music. The air fairly vibrated with the hum of thousands of mosquitoes accompanied by a chorus of woodfrogs and toads. Every now and then, a moth would fly erratically into the spotlight above me, only to fall dazed in my lap. As time passed, the light became swarmed with moths of many shapes, sizes and colours. A few of them were huge, but the larger ones seemed to elude me, steering clear from a collision course with the light. Smaller moths were less fortunate however, and I soon became engrossed examining dozens of these beautiful insects fluttering all over my body. The diversity of forms was amazing. My naturalist's curiosity was peaked and over the next three nights I camped under the outdoor spotlight into the wee morning hours on a moth marathon. A sort of giant "funnel trap" was hastily improvised under the light using a white linen bed sheet conscripted for this purpose from the master bedroom.

That June weekend in 1978, I "discovered" about thirty or more species of moths. It was another awakening for me in my life. I was really "seeing" moths for the first time - fully conscious of another

dimension to the natural world, after years of scraping moth corpses off my car headlights, and walking past them on doors at night without paying attention - having taken them and their existence for granted. Despite the knowledge that there were people and literature that could expedite my understanding and identification skills with technical expertise on the biology, natural history and the evolution of moths under the guise of science - that weekend I didn't care about entomology. I felt renewed, like a kid once again, consumed by a sense of the sheer wonder - ignorant and yet happily content to learn on my own, isolated from tradition; like some slumbering pioneer who had just awakened in a strange new land.

Sixteen years have passed and I still know comparatively few details about moths and their unique life histories. Yet my sense of wonder and respect for them remains undiminished. In the warm night skies of the spring, summer and fall of the year, I find that no longer do I walk past lights in doorways without taking a few minutes to look at the moths congregated there. Admittedly, I do not remember the names of many of even the most common species that I now regularly encounter. For some professional biologists and naturalists, being unable to identify species by name amounts to a senseless pastime, worthless knowledge, or

complete lack of it.

Earth is but one small planet in a seemingly infinite cosmos. The diversity of our planet's landscapes are made up of unique organic and inorganic assemblages that give communities their distinctive character. Frequently, the richness of species and the complexity of interactions between them on our little planet overwhelms us. So too, we are overwhelmed by the tremendous beauty. This is a time of growing global awareness and increasing concern for the welfare of species and the effects of human population growth and man's impact(s) on the environment. Now more than ever before in human history, we must be clear that if positive change is to occur, this will need to happen at the "grass roots" level from the ground on up, starting with each of us - as individuals. No longer can we expect science and our governments to absolve us entirely from our own personal role and responsibility. We cannot all be experts, nor do we need to be in order to make a difference. If this change is to occur however, we must become more conscious, and mindful of our individual actions through a recognition and respect for all living and non-living components of the planet Earth.

Albert Einstein understood the cause and the cure for the human condition and our transitory relationship with the natural world

when he wrote: "A human being is part of the whole called by us universe, a part limited in time and space. One experiences oneself, one's thoughts and feelings as something separated from the rest, a kind of optical delusion of one's consciousness. This delusion is a kind of prison for us, restricting us to our personal desires and to affection for a few persons nearest to us. Our task must be to free ourselves from this prison by widening our circle of compassion to embrace all living creatures and the whole of nature in its beauty."



Cecropia Moth

North American Migration Count (N.A.M.C.)

by Judy Tufts
Wolfville, N.S.

Saturday, May 14, 1994, was N.A.M.C. Day. Unfortunately in Kings County, the weather played a major part in the outcome and was far from ideal. Temperatures were around 2° to 6°C with light to moderate westerly winds, and the weather ran the gamut from heavy

rains to showers/drizzle for most of the day depending on where one was bird-counting. It was rather discouraging for it drove birds into cover, few were singing and it hindered accurate tallies. However, fifty-one people participated: twenty-nine covered as much of Kings County by car, on foot, as possible, while twenty-seven bird-feeders were also being tallied during the day. In 1993 we had only thirty-six participants and thirteen bird-feeders, so this was a most welcome addition.

I wish to thank everyone who participated in this year's effort, especially those who persevered even under adverse conditions for many long and wet hours of 'field-work'--your enthusiasm paid off as you will see by the results below. I hope that these results may persuade more people to join us in the 1995 N.A.M.C. Day's efforts in Kings County--it gives one an excuse to be outdoors enjoying nature and the local bird life, while helping to provide a clearer picture of migration of birds in the spring in North America which has become of serious concern to all of us.

Species seen in Kings County in 1994

Species	
Common Loon.....	6
Northern Gannet.....	7
Double-crested Cormorant...	152
Great Blue Heron	41
Canada Goose	2
Wood Duck.....	3

Green-winged Teal	6
American Black Duck.....	60
Mallard	16
Blue-winged Teal.....	9
American Widgeon.....	2
Ring-necked Duck.....	5
Lesser Scaup	2
Common Eider.....	99
Bl. Scoter	3
Surf Scoter.....	2
Bufflehead.....	1
Common Merganser	1
Bald Eagle (ad).....	2
Bald Eagle (imm).....	2
Northern Harrier	6
Sharp-shinned Hawk.....	3
Northern Goshawk.....	2
Red-tailed Hawk.....	11
Osprey	1
American Kestrel.....	5
Merlin	2
Ring-necked Pheasant	73
Ruffed Grouse	6
Sora.....	3
Black-bellied Plover.....	175
Killdeer	27
Greater Yellowlegs.....	4
E. Willet.....	8
Spotted Sandpiper.....	8
Common Snipe.....	4
Ring-billed Gull.....	6
Herring Gull	1040
Great Black-backed Gull.....	609
Gull Sp.	363
Black Guillemot.....	13
Great Horned Owl	1
Barred Owl.....	12
Chimney Swift.....	100

Ruby-throated Hummingbird	9
Belted Kingfisher	4
Yellow-bellied Sapsucker.....	1
Downy Woodpecker.....	33
Hairy Woodpecker	7
Yellow-shafted Flicker.....	42
Pileated Woodpecker.....	9
Yellow-bellied Flycatcher.....	1
Alder Flycatcher	1
Least Flycatcher.....	7
Eastern Phoebe.....	2
Tree Swallow	391
Bank Swallow	27
Barn Swallow.....	169
Blue Jay	134
American Crow.....	539
Common Raven	103
Black-capped Chickadee.....	202
Boreal Chickadee.....	1
Red-breasted Nuthatch.....	48
White-breasted Nuthatch	11
Brown Creeper	1
Winter Wren.....	4
Golden-crowned Kinglet	4
Ruby-crowned Kinglet.....	22
Veery.....	5
Swainson's Thrush.....	7
Hermit Thrush.....	11
American Robin.....	489
Gray Catbird	4
European Starling.....	700
Solitary Vireo	20
Nashville Warbler.....	6
Northern Parula	31
Yellow Warbler	18
Chestnut-sided Warbler	1
Magnolia Warbler	6
Cape May Warbler	1

Black-throated Blue Warbler.....	2
Yellow Rump. Warbler	72
Black-throated Green Warbler	31
Palm Warbler.....	1
Black-and-white Warbler.....	25
American Redstart	6
Ovenbird	30
Northern Waterthrush	8
Common Yellowthroat.....	5
Rose-breasted Grosbeak	18
American Tree Sparrow.....	6
Chipping Sparrow.....	33
Savannah Sparrow.....	44
Song Sparrow.....	246
Swamp Sparrow	5
White-throated Sparrow.....	78
White-crowned Sparrow	1
Dark-eyed Junco.....	106
Bobolink	12
Red-winged Blackbird	160
Rusty Blackbird	6
Common Grackle	285
Brown-headed Cowbird	29
Northern Oriole.....	2
Purple Finch	171
Northern Cardinal.....	1
Red Crossbill	1
Pine Siskin.....	55
American Goldfinch.....	222
Evening Grosbeak.....	172
House Sparrow.....	155
Rock Dove	82
Mourning Dove	86
Thrush Sp.	1
Vireo Sp.	1

Total Species.....	113

Natural History Trivia

TRIVIAL TIDBITS of Local Natural History mid-March

to end of May 1994
selected and compiled
by Jim Wolford
Wolfville, N.S.

Skies

April 12 - close conjunction of
Venus and the Moon
(QQ,MM,SW, et al.).

May 10 - annular solar eclipse - in
Wolfville, the weather cooperated
nicely for the period of annularity
(JW, SW, et al.).

May 25 - partial lunar eclipse (SW,
JW).

Fungi

April 6 - bunch of oyster mush-
rooms on a stump in Wolfville
(DG, JW).

May 2 - false morel found at New
Minas (JP).

May 7 - at Cheverie, a tiny real
morel found among mosses on
the ground (AC, NSWFS).

May 17 - Several clumps of inky-
cap mushrooms around a stump
in Wolfville (JW).

Ferns

April 11 - cinnamon fern just showing above ground at New Minas (JP).

April 27 - green form of lady fern just showing above ground at New Minas (JP).

May 1 - red form of lady fern just noticeable at New Minas (JP).

- interrupted fern just showing at New Minas (JP).

May 4 - 2 rattlesnake ferns (*Botrychium virginianum*) just barely up at New Minas (JP).

Flowering Plants

April 5 - a few open flower-heads of coltsfoot near Gaspereau (about a week behind "normal" schedule)(JW).

April 6 - common dandelions in bloom on Acadia University campus (JW).

April 8 - alder catkins open near Gaspereau (JW).

April 11(approx.) - *Daphne* in bloom at Gaspereau and Woodside (EG, JH).



Purple Trillium

April 19 - fly-honeysuckle flowers open at Acadia University campus (SVK, JW).

April 23 - leaves of lady's-slipper orchid just showing at New Minas (JP).

April 28 - purple trilliums in flower at New Minas (JP).

- leaves of Hooker's orchid just pushed through the ground at New Minas (JP).

May 3 - lots of wild strawberry in bloom at nw. Grand Pre (BBT).

May 4 - paper birch and sugar maple in bloom in Wolfville (JW).

May 8 - shadbush in bloom at Gaspereau (BBT).

May 10 - a few blueberry flowers open along Wolfville RR tracks (JW).

Invertebrates

April 13 - a red admiral butterfly seen in Wolfville (JT).

April 14 - *Lymnaea* pond snails, water striders, backswimmers (one pair in pre-mating embrace), whirligig beetles, a diving beetle, and caddisfly larvae in cases in a pond west of Gaspereau (JW).

April 15 - a mourning cloak butterfly seen at New Minas (JP).

April 19 - several mating swarms of male midges seen at Harris' Pond in Canning (JW).

May 4 - a probable spring azure butterfly (a blue) seen at New Minas (JP).

May 11 - like last year, 2 kinds of solitary bees, and beeflies, active at burrows in lawn at Highland

and Prospect in Wolfville (JW).

May 25 - an adult dog tick found in a home in Wolfville (possibly from Atlantic Shore?) (DT).

May 27 - another adult dog tick appeared on my hand as I was driving from Wolfville to Berwick (JW).

* (Are there any other reports of ticks this year? If so, please call JW).

Fishes

April 16 - first running smelts caught at Melanson (KR).

April 19 - first gaspereaux caught at Gaspereau (very early - earliest date in recent history was April 22)(KR).

Amphibians

April 14 - one area of lots of spermatophores (sperm-packets) and one tiny bunch of eggs of yellow-spotted salamander west of Gaspereau (JW).

April 27 and May 1 - red efts (of red-spotted newt) seen on roads of Gaspereau Mountain (JF).

April 14 - at least 4 batches of eggs of wood frogs west of Gaspereau (JW).

April 27 - night choruses of wood frogs heard on Gaspereau Mountain (JF).

May 1 - on a warm night, on a road near Lumsden Reservoir, a green frog was seen to eat a spring peeper! (JF).

April 19 - several leopard frogs calling in Harris' Pond, Canning (JW).

March 24, 26, 27, 29, 30 - dates of early spring peepers calling in Halifax County (NSM).

April 4 - spring peepers calling at Yarmouth (MAD).

April 7 - spring peepers heard in Gaspereau Valley (ZC).

April 16 - several American toads calling and one pair in amplexus at Port Williams skating pond (JF).

April 27 - choruses of American toads heard at Greenwich, on Gaspereau Mountain, and at Port Williams (JF).

Reptiles

April 6 - at least 3 painted turtles at Greenwich (JW).

April 19 - 20+ painted turtles basking at Canning (JW).

Mid May - 65+ painted turtles basking and swimming at Hennigar's Market-pond at Greenwich (JW).

Mammals

December to at least March 21 - a deer mouse had a nest of shredded bark in a barbecue in residential Wolfville (JSB).

March 29 - at n. Grand Pre, a large Norway rat was a victim of



a great black-backed gull, whose swallowing efforts had attracted 8-9 hopeful crows (ME).

April 16 - a mink curiously approached a tractor at Gaspereau (EG).

March 11 - a skunk was seen "grubbing" along the highway at Greenwich in very early morning (DGT).

April 12 - report in Advertiser of skunks digging dens under a barn at Sheffield Mills (GE).

March 24 - a black fox (red fox) seen at Avonport, where normal red-coloured foxes are seen regularly (EDU).

April 16 - at Grand Pre a red fox ran at 8 snow geese (unsuccessfully)(RS).

April 18 - a red fox seen at Woodside and had attracted several interested ravens (JH).

April 23 - a red fox seen on seaward side of main dyke at ne. Grand Pre (JW).

May 1 - 2 very small red fox pups and both parents seen at a den in Grand Pre area (BLF, JGT).

Mid March - a coyote seen along White Rock Road west of Gaspereau (fide EG).

April 15 - at 8:30 a.m., an approachable coyote was seen at the Acadia University Library in Wolfville; then it travelled uphill to Bay Street and was last seen heading south (PB, BS, JT, et al.).

March - observations and a video of wolves at Shubenacadie

showed ravens pulling the wolves' tails (both for food and for fun?)(PK).

April 12 - a harbour seal seen struggling in mud at the Windsor Causeway - it eventually made it to the water (JGT).

April 24 - a "gray seal" photographed in a channel of the Wolfville Harbour (WE) - the photo looks to me (JW) like a harbour seal.

Contributors to TRIVIAL TIDBITS

JSB - Sherman Bleakney

PB - Paul Brooking

AC - Art Crowell

ZC - Zelda Coldwell

MAD - Mar Ann Doucet

GE - Glenn Ells

ME - Mark Elderkin

WE - Wendy Elliott

BLF - Bernard Forsythe

JF - Jeff Franklin

DG - Darryl Grund

EG - Ells Gertridge

JH - John Harwood

PK - Peter Krizan

SVK - Sam VanderKloet

MM - Mary Miles

NSM - N.S. Museum (Frogwatch '94 display)

JP - John Pickwell

QQ - Quirks & Quarks (CBC Radio)

KR - Kevin Reid

BS - Bruce Spares

NSWFS - N.S. Wild Flora Society

RS - Richard Stern

BBT - Brenda & Bill Thexton

DGT - Gordon & Dianne Thorpe

JT - Jean Timpa

JGT - Judy & Gordon Tufts

EDU - Eva & Deanna Urban

JW - Jim Wolford

SW - Sherman Williams

BNS BIRD NEWS

**March 15 - May 15,
1994**

**by Richard Stern
Kentville, N.S.**

Canada Goose

Small flocks seen in mid- late March around Pt. Williams, Grand Pre, Habitant River etc. (BBT etc.). 19 still present April 19 (JWW).

Snow Goose

BLF found 8, mostly imm. birds, in a field on the E. end of the Grand Pre Dyke, on April 13. They were chased away by a marauding Red fox! They (and possibly more) were also present in the same area April 23 (JCT). I wonder if they were the same birds I saw in the same location in the Fall?

Green-winged Teal

Up to 30 at Canard Pond by late April. AAM identified a male of the Eurasian race ("Common teal") by the absence of a vertical white bar on the breast, the presence of a horizontal white bar on the flank, and white edging to the green on the face. Formerly considered a separate species, this is a rare but regular visitor to our area.

Lesser Scaup

JWW et al saw a pair at Wolfville Sewage pond 24 April. This is a rarity in our area, and is more partial to fresh water than the much more common Greater

scaup, a sea-duck. GF saw a female of the latter species with this pair for a couple of days. The Lesser has a less rounded, more peaked head than the latter species. The male has a more purple gloss to the head, and on the outstretched wing, the white on the trailing edge is confined to the inner secondaries, and does not extend to the primaries as in the Greater. They are still around as of late May.

Ring-necked Duck

Up to 7 males were at Canard Pond the 3rd week in April (RBS, JWW etc.). A pair was on Boylen's Farm Pond near Rockwell Mtn. Rd. 14 May (RBS).

Bufflehead

A female bird spent the end of April at Canard Pond. This is a species that breeds well to our west, and is a common wintering species in the Annapolis Basin and along the South Shore.

Sharp-shinned Hawk

CR reports 1 at her feeder in Aaldersville the first weekend in April, and still present most of the month. This is one of the few reports this winter, and fits with the apparent serious decline of this species in N.E. North America, evidenced by declining counts on migration at Cape May etc., as well as with local naturalists impressions.

Bald Eagle

4 ad. and 5 imm. birds were still at E. Grand Pre on the late date of

April 20. ? local breeders. (JT etc.). The Greenwich pair were once again nest building by March, and JWW saw an adult sitting on the nest at Wallbrook (same as last year) April 21.

Broad-winged Hawk

An adult was soaring over the woods around RBS's in Kentville, its usual summering (?breeding) location May 3, and was joined by a partner on May 20.

Merlin

KLC has a male resident near her house (Cheverie), and on April 23 got great close looks at it attacking a Starling. RKO had one attacking a Junco and other feeder birds at Bigelow Cove (Fundy Shore) for several days in mid-April. 1 was at N. Grand Pre May 1 (JWW).

Spruce Grouse

CR saw one of these fairly common but rarely seen birds of the deep woods along Hwy 12 on April 15.

Ruffed Grouse

BLF had found 2 separate nests with eggs by May 1.

Gray Partridge

MAG saw 3-4 near Starr's Point March 28.

Piping Plover

2 were running along the shore at E.Grand Pre April 23 (BBT). This rare and vulnerable species is well known in the Province, but mostly along sandy beaches along the South Shore, where their nesting areas are "posted"

every year to try and protect the nest sites from human interference. They are pretty unusual in the Valley.

Black-bellied Plover

SW saw the unusually large (for Spring) number of 150+ at Avonport Beach May 14-16.



American Woodcock

"Abundant" in the Cheverie area on the Hants Co. "Owl prow!" in April.(KLC). One was in GT's backyard (!) in Wolfville, among dead leaves, on April 3.

Iceland Gull

RBS continued to see this species regularly along the Cornwallis River between Kentville and Port Williams till late April, and JWW saw 3 adults at Wolfville sewage lagoon April 23.

Caspian Tern

GF saw one of these rather rare large terns over the Pt. Williams sewage plant April 25. They are the largest tern, with a huge bright red bill. They breed in small num-

bers in many parts of the world, and are occasional but regular visitors to many parts of N.S. They are regular and common along the North shore of P.E.I.

Great Horned Owl

Although one of the most widespread owls in North America, they seem to be less common around here than several years ago. JCT saw one on 14 May in woods to the west of Kentville, being mobbed in flight by a Robin, a Blue Jay and a Parula warbler.

Barred Owl

BLF had a pair nesting and egg-laying in the box behind his house by late March, and 10 other pairs around the S. Mountain by late April. A pair was hooting regularly behind RBS's house in Kentville mid-April, but not using the box that BLF put up.

KLC has also commented that activity of this species has been prominent all Spring in the Cheverie area.

Short-eared Owl

RJ saw 3 at N.E.Point, Grand Pre March 19.

Saw-whet Owl

BLF managed to whistle one up, and was able to see it bobbing its head in a tree, at Lumsden, in late March. This is a time when numbers of these attractive small owls are passing through our area, but very few if any stay to breed. They are highly nocturnal, but curious, and will often respond well to imitations of their repeated

whistle, by flying in close to investigate. They are still difficult to pick out with a flashlight, however, because they can "throw" their voice like a ventriloquist, and tend to stay in the thickest conifers.

KLC reports that more of this species have been heard by herself and other reporters in the Cheverie area than last year.

Ruby-throated Hummingbird

The first reported this Spring was by FM at W. Brooklyn on May 8. Thereafter they have been seen regularly, as usual.

Chimney Swift

May 9, the Summer vanguard (hopefully!) of 20 were seen entering the Robie Tufts Nature Centre in Wolfville (JWW et al).

Pileated Woodpecker

A flurry of activity around Palmetter's subdivision, Kentville, the first week in April, with individuals, pairs, and calling from tree snags all observed on several occasions (RBS) -? the same pair setting up territory. DT had one in her backyard in Wolfville April 6.

Common Flicker

Becoming common by the 3rd week in April.

Tree Swallow

April 15 seems to have been the first date for this species in our area (v. obs.).

American Robin

A mainly white partial albino was present in Lockhartville mid-April (KSM).



Saw-whet Owl

Hermit Thrush

Several were singing on the Sth. Mtn. (White Rock etc.) on May 14 (AAM).

Warblers

The true harbingers of the avian summer, sadly the sight and sounds of the woods full of warblers of yester-year will never again be apparent, due to tropical deforestation and breeding habitat destruction and fragmentation. As expected warblers were trickling back into our area by the middle of May, with several species being seen and/ or heard for the first time around the 14, 15 and 16 - e.g. Yellow-rumped (first as usual), Black-throated Green, Northern Parula, Yellow, Nashville, Black-and-white and Ovenbird all making significant appearances around these dates (RBS, JCT, AAM etc.).

Orchard Oriole

A breeding plumaged adult male was seen in EU's yard in Avonport on April 30, and subsequently seen and videoed by SW etc. This is a more southerly breeding bird, with distinctive imm. and adult male plumages, and a rather Purple finch-like song. Most of the Nova Scotia sightings are in Spring, but of 1st year males, and on the outer islands such as Brier, Seal etc. This is a "first" for King's Co.

Common Grackle

A partial albino individual (with a few white feathers) was at IR's feeder in Aldersville 31 March. By the beginning of April, small flocks were arriving in full force.

Rose-breasted Grosbeak

May 7 seems to have ben the first date for this species (JM), perhaps a little early this year.

Northern Cardinal

A male was seen in a backyard in the E. end of Kentville 14 April, presumably left over from the Xmas influx. (JF).

Chipping Sparrow

There seemed to be an influx of this common summer visitor, whose breeding plumage is so much brighter than the occasionally seen winter plumage, around May 14 (RBS etc.). Its rather short trill is of a dryer, harsher quality than that of the more familiar N.Junco.

Common Redpoll

Still plentiful till mid- Spring. E.g.

still 133 at CR's feeder (Aaldersville) on 2 April, and a few at RBS's (Kentville) even on 26 April.

Hoary Redpoll

BBY had one visit his feeder at Lumsden Lake March 26-7. He noticed it was paler, larger and more aggressive than the Common redpolls it was with. Other sightings have been mentioned in Avonport and Falmouth.

Red Crossbill

3 were at Cambridge Station 23 March (LN), and AAM has seen and heard small flocks flying over Coldbrook. EU saw 1 March 19 at Avonport.

Purple Finch

Starting to influx to feeders etc. in the area by the 3rd week in April (sev.obs.), and still around in large numbers mid- May.

Fox Sparrow

RBS had one coming to the feeder on 1 April, and for several days after. A sure sign of Spring, although not singing yet.

Contributors to Bird News

KLC Karen Casselman
BLF Bernard Forsyth
GF George Forsythe
MAG Merritt Gibson
JF Joan Forsythe
RJ Roy John
AAM Angus MacLean
JM Jane McConnell
FM Frances McDougall
LN Lillian Nickerson
RKO Roleen & Kelvin Ogilvie
CR Christine Ross
KSM Keith & Shirley Smith

RBS Richard Stern
BBT Brenda and Bill Thexton
DT Diane Thorpe
JT Jean Timpa
GT Gerry Trueman
JCT Judy Tufts
EU Eva Urban
SW Sherman Williams
JWW Jim Wolford
BBY Barry Yoell

Please Note: Contributions for the next issue of BNS Bird News should be mailed to:

Dr. Richard Stern
40 Macdonald Park Rd.
Kentville, N.S.
B4N 5C7

APRIL and MAY Weather 1994

Larry Bogan
Cambridge Station NS

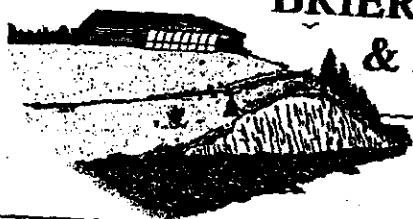
I report here some simple observations for the two recent months, whose weather records are available

April was exceptionally sunny and warm (2.7 C above average, and 42% more sunshine than usual) while May was very wet (70% more rain than normal).

Total Snow fall for April and May was only 1.0 cm whereas the 30 year average snow fall for the two months is 19 cm (17.1 of it in April). This is consistent with the warm April Temperatures.

	Mean Temperature (C)	Rain Fall (mm)	Total Sunshine (hours)
APRIL	7.2	80	214
(30yr ave.)	4.5	72	151
MAY	10.2	149	178
(30yr ave.)	10.5	88	198

Data from Agriculture Canada Research Station, Kentville, NS



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

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Sources for Local Natural History Information

(compiled by Blomidon Naturalists Society)

<i>Information</i>	<i>Source</i>	<i>Office</i>	<i>Home</i>
Rocks & Fossils	Geol. Dept., Acadia Univ.	542-2201	
Fish	N.S. Dept. of Natural Resources	679-6091	
Flora - General	Ruth Newell	542-2201	542-2095
Flora - Fungi	Darryl Grund	542-2201	542-9214
	Nancy Nickerson	679-5333	542-9332
Flora - Lichens	Karen Casselman	424-7370	633-2837
Flora - Seaweeds	Darryl Grund	542-2201	542-9214
Flora - 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	542-2201	542-7650
	Jean Timpa		542-5678
Birds - Hawks & Owls	Bernard Forsythe		542-2427
Birds - Falcons & Eagles	Peter Austin-Smith		542-2109
Mammals	Tom Herman	542-2201	678-0383
Amphibians & Reptiles	Sherman Bleakney	542-2201	542-3604
	Jim Wolford	542-2201	542-7650
Seashore & Marine Life	Sherman Bleakney	542-2201	542-3604
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	Graham Daborn	542-2201	542-5373
	Michael Brylinsky	542-2201	582-7954
Indian Prehistory	Ellis Gertridge		542-2816
& Archaeological Sites	James Legge		542-3530
Astronomy	Roy Bishop		542-3992
	Sherman Williams	542-3598	542-5104
	Larry Bogan		678-0446