# Blomidon Naturalists Society

SUMMER 2010 NEWSLETTER

Volume 37 · Number 2

*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

JACK MCMASTER

# *The Blomidon Naturalists Society*



The Blomidon Naturalists Society is a member of the Sable Island Preservation Trust and the Federation of Nova Scotia Naturalists (Nature Nova Scotia) and is an affiliate member of the Canadian Nature Federation (Nature Canada). The Blomidon Naturalists Society is a registered charity. Receipts (for income-tax purposes) will be issued for all donations.

THE BLOMIDON NATURALISTS SOCIETY
P.O. BOX 2350
WOLFVILLE, NS B4P 2N5

*www.blomidonnaturalists.ca*

**BNS Newsletter**

The Blomidon Naturalists Society Newsletter is published quarterly (March, June, October, & December) by The Blomidon Naturalists Society.





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VOLUME 37 NUMBER 2

BNS members are encouraged to share unusual or pleasurable nature stories through the pages of the *BNS Newsletter*. If you have a particular area of interest, relevant articles and stories are always welcome. Send them to Jean Timpa:

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WOLFVILLE, NS B4P 2C5
*jtimpa@ns.sympatico.ca*

Digital photographs should be submitted to *doug@fundymud.com*

**Submission deadline for Autumn: September 6, 2010**

# *Out and About*

Jean Timpa, editor

Recently I have attempted to do some bird nest atlas counts, which are in their final throes, and some butterfly atlassing, which is just beginning its five-year residency here in the Maritimes. This means being out and about, which I really cannot do, as arthritis and various falls have somewhat crippled me up. By sitting on my front stoop in Wolfville in the morning, especially when it is shady and cooler, or on my open back porch in Bear River any time of day, I have had some interesting sightings by letting the creatures come to me, instead. Previously, I chased miles all over the countryside, on the dikes in Wolfville, up and down the woods roads along the East Branch of the Bear River, and up to my cousin's airport runway, hanger, and artifical pond from which he flies his pontoon-equipped planes.

Among the birding highlights in Bear River so far in 2010 have been a Golden Eagle and a Common Nighthawk, which has been seen and heard on several occasions, feeding in the evening. I have been able to identify 16 species of butterflies in or very close to the back yard since May. Several large Monarchs have visited the yard recently and gave me at least five-minute close-up visits as they carefully worked their way around the wildflowers. Cardinals call here in my Wolfville backyard, and I just heard a Merlin calling from my living room this morning. All great sightings made in a very lazy way of "capturing" them, mostly sitting! I highly recommend this very real way of vacationing. I realized how much I was missing by hurrying.

Have a great summer and early fall. Please keep your eyes and ears open for interesting stories or photographs for the BNS Newsletter. Marian Munro and Ruth Newell are still looking for wildflower pho-

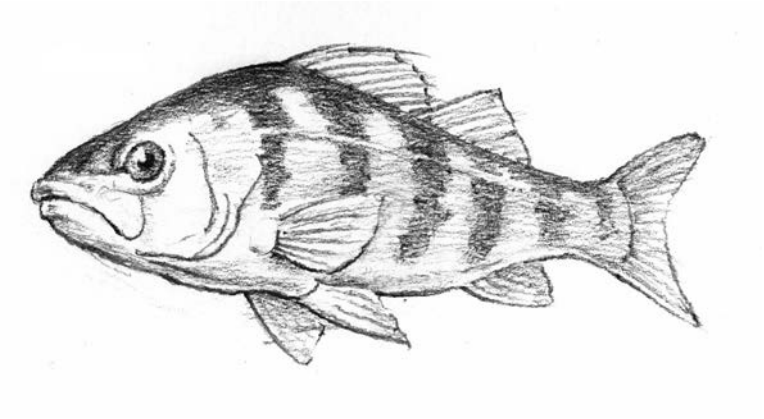
tos (p. 8 in the spring Newsletter) for the new *Flora of Nova Scotia*, and of course Roy Bishop needs photos for our 2011 calendar (see details in this issue). We can always use new authors, and the club needs people to lead field trips and give presentations.

## ACKNOWLEDGEMENTS AND REQUESTS

A great many thanks to a great many BNS members for continued support of the Newsletter in so many ways, for agreeing to give talks or lead field trips, and for taking on the many other tasks that keep us vibrant. If you've written an article for the Newsletter and it doesn't appear in the current issue, rest assured that it will show up (we occasionally run into a postage weight limit and have to cut material).

We do still need an archivist. It is not a demanding job, but it would be wonderful to know that someone is being responsible for making sure our newsletters and other important papers make it to the archives at Acadia.

We also encourage members to introduce BNS to new potential members. Before talks and field trips, try to think of someone to invite along who might be interested in our mandate. Be sure to make introductions, especially at the field trips, so that everybody knows everyone else.



JACK MCMASTER

# *Board of Directors Report*

by Rick Whitman, BNS president

Your board had a regular meeting on June 3. We had updates on projects such as the bylaws revision (which should be ready for a members' vote in the fall), the Annapolis Valley Regional Science Fair prizes awarded by BNS (see John Belbin's article in this issue), and website resources for Latin names. We also heard that the Green Dragon program, led by Harold Forsyth and committee, has obtained funding for a full four-day-a-week program this summer (see Harold's report in this issue).

Our financial position is good, but we are concerned about memberships. We are currently down about 24 members from the same time last year. We are not losing long-term members but are not keeping new memberships. We had good discussion on this, without any obvious answers. Larry Bogan has agreed to develop a quick version of a BNS brochure to pass out to parents of children in the Green Dragon program and at the Great Canadian Backyard Campout. This brochure will likely be further developed in the fall. We also hope to restart the BNS articles in the local paper.

The Great Canadian Backyard Campout on July 17 is a project between the Town of Wolfville and the Trail Shop, and BNS is a significant contributor. We will have an information display with members present for discussion on natural history. We will lead two walks on the Wolfville Dike with four knowledgeable leaders and provide an astronomy session with two of our keen astronomers. The overall aim of the campout is to introduce young families to camping and the outdoors. Jim Wolford and I represent BNS on the program committee.

Lastly, we've heard from the town of Wolfville that some degree of

repair is required for the chimney at the Robie Tufts Nature Centre. We are in contact with the town to ensure that nothing is done at the wrong season or to a degree that would affect the Chimney Swifts.



# *Upcoming Events*

## MEETINGS

*Unless otherwise noted, all meetings are held at 7:30 p.m., usually on the third Monday of each month, in the auditorium of The K.C. Irving Environmental Science Centre on University Avenue, Wolfville. Parking is available at Wheelock Dining Hall, along Crowell Drive immediately east of the Irving Centre, at the Acadia Arena, Festival Theatre, the Student Union Building, or on Westwood Avenue. Everyone is welcome. Updates will be posted on the* BNS *website: www.blomidon naturalists.ca*

**Monday, September 20, 2010** – *Floodplain Hotspots for Southern Hardwood Herbs,* by Nick Hill, a plant ecologist. A more detailed description is to follow.

**Monday, October 18, 2010** – *Climate Change – Yea or Nay*, by Rob Raeside.

**Monday, November 15, 2010** – *Project UFO: Not all aliens come from outer space!* Project UFO's special agent Martha Jones will describe some of the close encounters her team has had with invasive aliens. Martha is an associate professor at Cape Breton University, where she and Dr. Timothy Rawlings have been leading outreach activities and scientific surveys on invasive alien species in our region. Join us to learn more about the notorious and exotic creatures that team

Project UFO is following, including European Green Crab, Japanese Skeleton Shrimp, invasive sea squirts, Rock Snot, and Oyster Thief (see www.ProjectUFO.ca).

**Monday, December 13, 2010** – *Mystery topic* (see fall BNS Newsletter for details)

Dr. Hugh Broders of the St. Mary's University department of biology will be our December speaker. Hugh is a population ecologist with specific interests in bats and the biology of small populations. Originally from Tilting, Newfoundland, he earned his Ph.D. from the University of New Brunswick. Since 2003, he has been a faculty member at Saint Mary's, where he teaches courses in ecology, evolution, and conservation biology. Together with keen and enthusiastic students he does research on a variety of species and subjects, most notably the social and population structure of bats, and more recently on various aspects of the biology of moose.

**Monday, January 17, 2011** – *TBA*

**Monday, February 21, 2011** – *Annual Show and Tell Night.* Open to all. Come to view or bring along slides, pictures, specimens, collections, fossils, videos, computer stuff, favourite books and magazines, or anything that might be of interest to fellow naturalists.

## FIELD TRIPS

*Unless otherwise indicated, all field trips will begin at the Wolfville waterfront. Everyone is welcome. Although we don't have space here to list a number of interesting field trips being offered in the Kings/Hants area by other organizations (Bird Society, Parks, etc.) and often led by BNS members, we will post them on the website (www.blomidon naturalists.ca).*

**Summer Tuesday evenings** – *Acadia University Woodland Trail Biodiversity List.* Look for flowering plants, nesting birds, fungi, butter-

flies, dragonflies, etc. Everyone is invited to participate. You don't have to be an expert – we just need lots of people to show up to help spot and identify the different forms of natural history. If you would like to lead a walk or be on one with a particular emphasis, call Melanie at 585-1916. Meet at 6:30 p.m., any summer Tuesday evening, at the main entrance to the Harriet Irving Botanical Gardens on University Avenue.

**Sunday, July 25, 2010** – *Moon Over the Water.* The view from The Lookoff on the North Mountain is something that many society members are likely familiar with. But how many have watched the Sun set and the Full Moon rise from that vantage point? Tonight, the Moon will rise around 8:30 p.m., about half an hour before the Sun sets and about two hours from being full. The tide will be coming in, although if you want to see the moonlight with the tide in all the way you will have to stay until after 1:30 a.m.! Arrive for around 8 p.m. and enjoy the evening. We will likely hear lots of nature sounds as it darkens, and the brighter constellations will come into view. Weather permitting, of course.

**Saturday August 7, 2010** – *Beginning Birders Trip, Windsor, Hants County.* Leader: Patrick Kelly (494-3294 (w), 472-2322 (h), patrick.kelly@dal.ca). Limited registration – pre-registration is required. These trips are geared for those who have always had an interest in birdwatching but are not sure how it is actually done. Bring binoculars and field guides, if you have them. Meet at 9 a.m. at the parking lot for the Windsor Tourist Bureau, which is just north of Exit 6 (Water Street) on Highway 101. We should be 1–2 hours and will visit a few different types of habitat in the town of Windsor. No storm date for this trip.

**Saturday, August 7, 2010** – *Maritimes Butterfly Atlas Training Workshop,* hosted by the Nova Scotia Nature Trust. At this workshop you'll receive specific instruction on how to participate in the upcoming Maritimes Butterfly Atlas project. You'll learn how to prepare vouch-

er specimens and document butterfly occurrence through photography, and how to collect and submit data for the atlas. All participants will receive an atlas kit, including a butterfly net and a participants' manual. The workshop is open to anyone interested in participating in the atlas. No prior knowledge of butterflies is required, and there is no charge, though donations will be accepted for the butterfly kits. If it is a warm, sunny day we can proceed outside, where hopefully we will be able to document some flying species and fill out some atlas datasheets. The workshop will last approximately three hours.

To sign up for the workshop, please contact Shannon MacDonald (shannon@nsnt.ca). Meet in the lower-level auditorium of the K.C. Irving Environmental Centre at Acadia University at 1 p.m.

**Saturday, August 21, 2010** – *Cornwallis River Greenway.* Murray Colbo and Bernard Forsythe will lead this walk, which will start behind the Foodland in Coldbrook, located along Highway 1 at South Bishop Road, about 3 km west of Exit 14 on Highway 101. The trail is on the old rail bed, which is now resurfaced and restricted to walking and bicycling. The trail is flat with two rest sites with benches and tables and is designed to be wheelchair accessible, so all are welcome. This section runs through mixed forest with two stream crossings and parallels the Cornwallis River with its broad floodplain. There is also an interesting fen. To carpool, meet at the Wolfville waterfront at 9:15 a.m., or meet Murray and Bernard behind the Foodland in Coldbrook at 10 a.m.

**Friday, September 3 – Sunday, September 5, 2010** – *NOVA EAST 2010.* Atlantic Canada's longest-running star party will be held at Smileys Provincial Park near Brooklyn in Hants County. Some of the presentations and workshops as well as the Saturday evening observing session are open to the public. NOVA EAST is hosted jointly by the Halifax Centre of the Royal Astronomical Society of Canada and the Minas Astronomy Group. More information can be found at http://halifax.rasc.ca/ne.

**Saturday, September 11, 2010** – *Four-Mile and Two-Mile Lakes Canoe Trip.* Larry Bogan (678-0446, larry@bogan.ca) will lead a trip to this beautiful area of the southwest end of the Gaspereau Lake flooded complex. It has many interesting islands and a beautiful inlet stillwater to explore for wildlife. This will be a half-day paddle, so bring a lunch and we will find a nice spot to eat.

Meet at the Park and Ride lot at Exit 13 off Highway 101 (Route 12 exit) at 8:30 a.m. Access is via a woods road running south between Aylesford and Gaspereau Lake. The road has some uneven areas but is passable with care by regular vehicle. There is abundant parking at the put-in spot (carry in about 75 m). The access point is shown on the BNS website (see Local Trails/Waterways, then Lakes and Stillwater Access). If there is rain or heavy wind the trip will be take place on Sunday, September 12.

**Friday, November 12, 2010** – *Astronomy Observing Session.* Join Roy Bishop (542–3992), Patrick Kelly (472-2322), and members of the Minas Astronomy Group to observe the night sky. We will identify constellations, Jupiter will be well-placed, the Moon is at first quarter, and there is a minor meteor shower (the North Taurids). Meet at 7 p.m. at the old parking lot at Grand Pré National Historic Site. Bring binoculars (or telescopes), and be sure to dress warmly.

MARY PRATT

# *Green Dragon 2010: Leave No Kids Indoors*

The Green Dragon Young Naturalist Program is underway for the sixth year this summer. Victoria Postlethwaite and Naomi Crisp have been hired to carry out the program. Darrell Slauenwhite and Murray Colbo (BNS directors and Green Dragon committee members) are working closely with the students to oversee our most ambitious season yet. Young people from seven different community groups will be bussed to Blomidon and Smileys Provincial Parks, Blue Beach Fossil Area, and the Harriet Irving Botanical Gardens. This will provide the future guardians of our natural environment a direct exposure to nature in a fun and informative way.

Generous funding has been provided by the federal Summer Career Placement Program, TD Friends of the Environment, Municipality of the County of Kings, NS Health Promotion and Protection, and the Blomidon Naturalists Society.

## 2010 SCHEDULE

The program is designed for children aged 5 to 12. To participate, you can apply to any of our partners for a specific week:

| | | |
|---|---|---|
| July 5 | New Minas Day Care | 681-4236 |
| July 12 | New Minas Recreation | 681-2399 |
| July 19 | Wolfville Recreation | 542-3019 |
| July 26 | Kentville Recreation | 679-2514 |
| August 2 | Aldershot Recreation | 538-4748 |
| August 9 | Hantsport Recreation | 684-3200 |
| August 16 | Canning, Apple Tree Landing | 582-3086 |

NOTICE

# *A Call for Photos: 2011 BNS Natural History Calendar*

Photo submissions are invited for possible use in the 14th edition of our society's Natural History Calendar. Submissions should be in electronic form: jpeg format, with file size between 300 KB and 2 MB.

Photos should be of natural history interest, preferably taken in Nova Scotia. Please submit no more than ten of what you consider to be your most suitable photos. Suitability involves technical quality (sharp focus, not under- or over-exposed), composition (object of interest nicely positioned, no distracting background), and content (a photo that calendar users will enjoy looking at for a month).

Send submissions to Roy Bishop (roy@xcountry.tv; RR 1, Avonport, NS, B0P 1B0; 542-3992). Deadline for submissions: Labour Day, September 6.

*Calendar committee: Sherman Williams, Merritt Gibson, Roy Bishop*

NOTICE

# *Nova Scotia Nature Trust Annual Dinner & Auction*

The Nature Trust's 13th annual dinner and auction will take place October 28, 2010, at the World Trade & Convention Centre in Halifax. We are pleased to be joined this year by native Nova Scotian

Dr. George Archibald, co-founder of the International Crane Foundation and long-time supporter and volunteer of the Nature Trust.

To purchase tickets, call Nicole or Robin at 425-5263, e-mail robin@nsnt.ca, or fill out the ticket order form available on our website at www.nsnt.ca. Early-bird prices of $150 for Patron tickets and $100 for regular tickets expire on August 1.

We hope you will join us to celebrate the Nature Trust's success in protecting Nova Scotia's natural legacy.

FIELD TRIP REPORT

# *Birds of Eastern Kings County*

by Jim Wolford

April 25, 2010 – Our day started out not so good, with early-morning showers for this Bird Society / BNS field trip. But we stayed dry, the day gradually brightening and by mid-afternoon becoming sunny and clear and fairly warm.

We had about 25 people for the first part at the home of Bernard Forsythe on Wolfville Ridge. Bernard thinks the female Barred Owl of his back-yard pair is a relatively new replacement for a road-killed owl about three years ago. For the past two years this pair laid no eggs, but this year they have produced two, the first of which came on March 24.

We located the perched male in a tall spruce, and everyone got good looks at him. Then Bernard put on his crash-helmet and used a ladder to get up to the nestbox. When he tapped gently on the box, the female emerged, paused very briefly in the entrance hole, and flew off a short distance to perch in a deciduous tree.

Bernard reached into the box and pulled out a very tiny hatchling owl covered in whitish down. He held it up for us to see and said the

hatchling was only one day old, making the incubation period for that first egg about 31 days. He told us that prey items in the nestbox were two Meadow Voles and a Song Sparrow. He later told us about how opportunistic Barred Owls are in their dietary choices (which vary from small Snowshoe Hares and other smaller mammals through various birds, salamanders, frogs, fish, beetles, earthworms, etc.)

Bernard had a road-killed Red Squirrel as a food offering for the owls, but this time they did not take it from his feeding platform. They are used to being fed in the evening, from winter to when the baby owls fledge in mid-summer.

We heard the owls calling a bit when we left the back yard, as well as a crow that was possibly harassing the male.

Bernard told us the story of one of his nestboxes being very old and having rotted to the point that it fell to the ground. That same day Bernard checked it and found a single unbroken egg plus several Barred Owl feathers, so he thinks the owl was in the box with the egg when it fell. He saved the egg, then went home and built a new box and put it up where the old one fell. A later check revealed two more eggs plus the one he saved, and incubation continues there.

In Bernard's yard we saw bright goldfinches, chickadees, and mourning doves, and someone heard or saw a purple finch.

After the owl show, about 20 of us caravanned through Port Williams out to Starrs Point to Van Nostrands Pond, where we all did a walk around the ponds. We were pleased to see about five Yellow-rumped Warblers actively fly-catching in the flowering willows along the south edge of the ponds,. Waterfowl were mostly absent (2 Green-winged Teal, 1 Mallard), but highlights included two Great Blue Herons, a Merlin, a female Red-winged Blackbird, a Swamp Sparrow, a kingfisher, and a male Bullfrog. Finally, on the northernmost dike there was an extensive carpet of low leaves of stinging nettle.

When we drove across the Wellington Dike dikelands, we flushed a group of 12 ravens (probably yearlings and non-breeders) from a

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manure pile. They flew east to the main dike, where there was a Bald Eagle, and we could see to the southeast a distant big eagle nest on the bank of the mouth of the Canard River.

Along Canard Street, we saw a medium-sized residential wind turbine, an active raven nest in a Red Maple along the road, and an active Bald Eagle nest in a deciduous tree (with two adults on it). When we made a lunch-stop at the home of Helen and Fred Archibald just east of Jawbone Corner, we detected nest-building House Sparrows and robins.

At Canard Pond, there were some good ducks, which flew from the south shore to the north edge, but then they all flushed and flew away as soon as a few people got out of their cars. So we stood around and gawked at almost nothing. About four of us saw perhaps 20 Green-winged Teal, seven American Wigeon, one male Gadwall, several Black Ducks, and a few Mallards.

Next we drove north on Fred Thomas Road and encountered three large flocks of gulls, in one of which was at least one Lesser Black-backed Gull. There were also ravens and an immature Bald Eagle there.

At the Canning Aboiteau, there were ten Canada Geese in the Habitant River (and 20 more along the river in Canning). We saw

one singing Savannah Sparrow. In Canning along the river at the Legion we saw a single Greater Yellowlegs and about five Cedar Waxwings plus House Sparrows in nest cavities in buildings.

Our final group stop was at Harris Pond behind the Baptist church in Canning. We saw at least 12 basking Painted Turtles, a single Yellow-rumped Warbler, a flicker (which may have been creating a cavity in a dead stump), a single unidentified swallow, and only a few of us saw a lovely male Wood Duck fly in and land on the far side of the pond and quickly disappear into shoreline plants. Finally, one of the group spotted a perched and basking Milbert's Tortoiseshell butterfly.

Thanks very much to Bernard Forsythe for his generous sharing of the Barred Owls with us, and to Helen and Fred Archibald for the donation of their home for our lunch and rest stop.

FIELD TRIP REPORT

# *The Fairy Shrimp of Blomidon Provincial Park*

by Jim Wolford

May 23, 2010 – It was sunny and warm for this joint trip with the Nova Scotia Department of Natural Resources, but with a very strong, cool wind from the west in open areas. However, in the woods we still heard a lot of bird songs. There were 25 or more participants, including a few enthusiastic kids. Biting flies were thankfully very few.

The spring of 2010 has been unusually dry, and spring phenological phenomena (flowering and bird-arrival dates) have been very early this year, setting long-term date records.

Flowers noted: Red Trillium (relatively very few, since many flowered very early), Blue-bead Lily (*Clintonia*), White Baneberry, Bunchberry, Wild Lily-of-the-valley, Dewberry (trailing raspberry), Hobblebush, Red-berried Elder, Strawberry, and Blue Violet. Fly-honeysuckle had young fruits, and downy Solomon's Seal had flower buds.

Birds heard or seen: Eastern Wood Pewee, Least Flycatcher, Blue Jay, American Robin, Blue-headed Vireo, Red-eyed Vireo, Ovenbird, American Redstart, Black-throated Green Warbler, Magnolia Warbler, Northern Parula Warbler, Yellow-rumped Warbler, Song Sparrow, and Dark-eyed Juncos very upset at our presence (having youngsters, no doubt).

Mammals: besides numerous signs of Red Squirrels, at the vernal pond we saw a bat foraging by flying erratically back and forth over the forest opening, and later in the adjacent forest. I guessed that it was most likely a Little Brown Bat recently aroused in its winter hibernaculum and migrating to its summer habitat.

The purpose of this annual walk is partly to check on a habitat that is poorly documented in Nova Scotia and elsewhere – namely a vernal, or temporary, pond in the forest. Vernal ponds have no inlets or outlets and thus depend on runoff and precipitation for water. Such wetlands are expected to vary hugely from year to year in amounts of water and what sorts of life are present. This year provided an extreme example in this very dry spring. The pond was reduced to a kitchen-sized, very-shallow water body, but there was enough water, perhaps 15–20 cm, for some sweeps of my dip net.

I should have visited the pond earlier in the spring to see if the unique and very rare (for Nova Scotia) fairy shrimps had grown and produced their eggs sooner than usual. There were probably many more of them than the very few that we found. We did see a couple of males and one female with an egg-sac at the base of her tail. In any case, the eggs of these critters from previous years will probably last for at least a few years at various levels where the water had been, so I'm not worried about their being present next year, even if they had not laid any eggs this year. For those not familiar, try Googling "fairy

shrimp" or "brine shrimp" (the latter is a close relative that lives in brine lakes and ponds).

We did find other forms of life in the pond: oodles of tiny water fleas (relatives of Daphnia crustaceans), lots of black gliding flatworms, or planarians, abundant snails, a dragonfly larva, an adult backswimmer, a few water boatmen, water striders or "skippers," abundant caddisfly larvae in cases made from pieces of vegetation, abundant mosquito pupae ("tumblers") and a few "skins" of emerged adults, large larvae of phantom midges, a single medium-sized tadpole (probably Wood Frog), and two or three batches of Yellow-spotted Salamander eggs. We saw no damselfly larvae or beetles, but one participant reported having seen lots of tadpoles earlier in the spring when the pond was bigger.

One surprising batch of salamander eggs was freshly laid, but the others showed egg-envelopes that were bright green with mutually symbiotic green algae, which are apparently found nowhere else than in such amphibian egg-envelopes. Who can think of how the algae help the developing salamanders, and how do the latter help the former? One green bunch of eggs that were at the hatching stage (into salamander tadpoles) was totally out of the water but still wet from the mucous surrounding the eggs.

If we had had a microscope, or looked at a water sample back in a lab, we would have seen other algae and tiny critters such as roundworms, segmented worms, mites, rotifers, and filamentous and single-celled algae.

The amphibians and invertebrates obviously badly needed some heavy rain in order to possibly complete their life cycles from eggs to some dispersal stage. Is our dry spring traceable to climate change? Environment Canada meteorologist David Phillips says El Nino was involved this year, and apparently El Nino events are becoming more frequent over time.

In any case, nature will adjust to whatever changes. Some of the pond organisms will experience drops in numbers or possibly local extirpation, but most organisms have either resistant stages, such as

cysts, or can simply recolonize in later years by whatever dispersal mechanisms they have.

It might be tempting to try to help such organisms that are at risk from drying out (it perhaps seems cruel not to intervene). On the other hand, when humans try to "improve" or "enhance" habitats or organisms, the outcomes are often worse than what the problem seemed to be.

Finally, for a terrific introduction to the natural history and ecology of ponds, pick up a copy of the Golden Guide series called *Pond Life*. It is widely available in bookstores and very affordable.

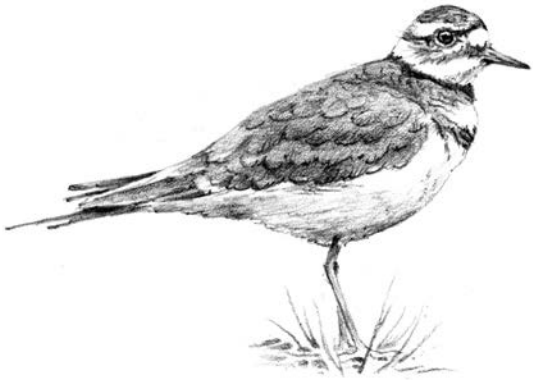
FIELD TRIP REPORT

# *Fundy Shore / Valley Birds*

by Wayne Neily, Tremont, Kings County

Saturday, March 20 – It was a beautiful day for this annual outing. With the ground bare except on the mountain and temperatures getting to 20 °C in the Valley, 28 naturalists met at Aylesford at 9 a.m., and many stayed through the exploration of the French Basin marsh at Annapolis, finishing about 5:30 p.m. Most of us observed about 50 species of birds, with another 5+ seen by a few observers.

There was nothing exceptionally rare, but lots of highlights and great views. For me, one was at the meeting point, where a Killdeer flew by calling! This was not only the earliest that I have seen in Nova Scotia, but a species that has been almost absent in our area for the past two years. A quick visit to Audrey Wellwood's bird haven gave us many of the usual winter residents, and songs of some early migrants, including American Robin, Red-winged Blackbird, and Song Sparrow. A few Cedar Waxwings were also notable here. As we



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were leaving for Morden, a small V of Canada Geese flew over low, anticipating spring's arrival by a few hours.

The tides were lower than we would have liked, but there was little wind or wave action, so we were able to see birds well out into the bay. Special thanks go to the half-dozen or so people with spotting scopes who shared them with the others, allowing even beginners to get good looks. Common Eiders, White-winged Scoters, Long-tailed Ducks, Red-breasted Mergansers, Common Loons, Red-throated Loons, Red-necked Grebes, Purple Sandpipers, Herring Gulls, and Black Guillemots were all present at both Morden and Margaretsville, in low numbers except for the eiders, sandpipers, and gulls (15–25 of each of these at each location). Most surprising were the other alcids, usually rare this far up the bay. Two small flocks (6–10) were seen off Morden, actively diving; one consisted of Common Murres, the other of Razorbills. At least one observer saw a Dovekie clearly as well.

At Margaretsville, we added Horned Grebe, Surf Scoter, and Great Black-backed Gull, and at the marsh, two pairs of Hooded Mergansers (that had arrived on the 19th). At Port George, the main addition was the site's specialty, the Harlequin Duck. Although I had seen 23 of them while scouting near high tide on the 19th, there were none when we arrived, so we waited until a pair flew in and gave us a good look.

Next it was back to Middleton, where the first bird we heard after

the arrival of spring at 14:33 was a singing Northern Cardinal that remained hidden. Then it was on west, where the highlights were the Belleisle and French Basin marshes. These were open and filled with ducks, as we might expect in mid-April. Scores of Buffleheads, American Black Ducks, and Ring-necks were present, and smaller numbers of Mallards, Northern Pintail, Gadwall, Green-winged Teal, Northern Shovelers, and American Wigeon. Thanks to Sharon Hawboldt for alerting us to these early arrivals.

All in all, a very enjoyable but long day. Perhaps we should consider dividing it into two trips on consecutive days, as has been done with the Antigonish and Guysborough County ones.

*There is a pleasure in the pathless woods,*
*There is a rapture on the lonely shore,*
*There is society, where none intrudes,*
*By the deep sea, and music in its roar:*
*I love not man the less, but Nature more.*
GEORGE GORDON, LORD BYRON, 1812
[*CHILDE HAROLD'S PILGRIMAGE*, CANTO IV]

FIELD TRIP REPORT

# *Palmeters Woods*

by Rick Whitman and Nancy Nickerson

JUNE 5, 2010 – Nine of us enjoyed a fine morning exploring these woodlands, starting at the parking lot behind the Evergreen Home for Special Care at the west end of Kentville. Before we left the parking area we were hearing a Rose-breasted Grosbeak, Veery, Yellow Warbler, and American Redstart. At the former railroad path, a male Redstart was singing in full view while perched on a sign. Not much

later, a one-year male, coloured much like a female, was singing on territory. Other warblers heard included Northern Parula, Black-throated Green, Blackburnian, Chestnut-sided, Common Yellowthroat, Ovenbird, and Northern Waterthrush. Everyone had a close view of the Chestnut-sided Warbler and most also had a good view of the Blackburnian. The flycatchers were represented by Least, Alder, and Eastern Wood-Pewee, all singing at several locations. More Veerys and one Hermit Thrush were heard. Other birds seen or heard included Red-eyed Vireo, Red-breasted Nuthatch, Golden-crowned Kinglet, Dark-eyed Junco, Swamp Sparrow, and Song Sparrow. Everyone admired a Red-eyed Vireo nest, high over our heads, with the female sitting tight throughout.

Some of the plants in flower near the parking lot were Forget-me-not (*Myosotis* sp.), Black Cherry (*Prunus serotina*), Chokecherry (*Prunus virginiana*), Hawthorn (*Crataegus* sp.), Wild Lily-of-the-valley (*Maianthemum canadense*), Common Blackberry (*Rubus allegheniensis*), and Blunt-leaved Sandwort (*Arenaria lateriflora*). Male and female plants of Bayberry (*Myrica pensylvanica*) were in bloom, giving us an opportunity to observe both types of flowers. In the woods we noted flowering Wild Sarsaparilla (*Aralia nudicaulis*), Starflower (*Trientalis borealis*), Bunchberry (*Cornus canadensis*), Yellow Clintonia or Bluebead (*Clintonia borealis*), and False Solomon's Seal (*Smilacina racemosa*). We were especially pleased to find small groups of Pink Lady's-slipper (*Cypripedium acaule*) with flower colors ranging from deep pink to nearly white.

Other plants of interest were Daphne (*Daphne mezereum*) and American Fly Honeysuckle (*Lonicera canadensis*) with developing fruit, Partridgeberry (*Mitchella repens*) with last year's red berries still present, Pinesap (*Monotropa hypopithys*) stalks just beginning to emerge from the ground, Spreading Dogbane (*Apocynum androsaemifolium*), Broom Crowberry (*Corema conradii*), Pipsissewa or Prince's Pine (*Chimaphila umbellata*), Bracken (*Pteridium aquilinum*), Cinnamon Fern (*Osmunda cinnamomea*), and Sensitive Fern (*Onoclea sensibilis*).

There were few macrofungi in evidence other than polypores

(bracket fungi) from previous years. Orange Jelly (*Dacrymyces palmatus*) was growing on a conifer trunk, and Candlesnuff or Carbon Antlers (*Xylaria hypoxylon*) was just beginning to develop from buried wood near the edge of the trail. In addition, we saw Black Knot, caused by *Apiosporina morbosa*, on many of the Black Cherry trees along the trail, and witches' brooms caused by Fir Broom Rust (*Melampsorella caryophyllacearum*) on Balsam Fir (*Abies balsamea*).

Whether you are an experienced or a novice naturalist, Palmeters Woods are well worth a visit.

NATURAL HISTORY

# *Smell That Sea! Everything you didn't want to know about one of the world's most popular odours*

by John Belbin

I grew up by the sea in southern England and enjoyed it. I was always sorry for those that didn't, and I couldn't understand how they were happy in a life that was clearly deficient. We couldn't actually see or smell the sea from where I lived, but you could walk to it if you were a little ambitious, and we did that often. The town was on a peninsula with salt water on three sides. My English grammar school was housed in four different buildings in various parts of the town; from three of them you could see the sea from the windows. From the doorway of the fourth you could see a passing aircraft carrier towering over the houses as it sailed up nearby Portsmouth Harbour, so you always knew where the sea was. The pervading identity of the sea was the distinctive smell and we came to consider it as the symbol

of clean and fresh. That was clearly not actually true! Much of our particular piece of the ocean was filled by warships and contraptions of the Royal Navy, not noted for their respect for the environment. However, despite local imperfections we were still in an area that was clearly far superior to that of those poor wretches living inland.

When I left school and went to work in London at the peak of its "foggy London" infamy, it was always a relief to come home and inhale those breezes again. Friends and relatives thought we lived in a wonderful environment. That invigorating smell hit you the moment you stepped off the train and you felt immediate relief from the city's huge problems. I moved to Canada and got a job in Toronto, about as far from the sea as you can get. Those freshwater lakes always smelt, tasted, and felt dirty to me, and I never adjusted to them. It provided the major impetus to move again to Nova Scotia. I always wanted to live right by the sea, but still haven't made it. However, from my new Hantsport home I can at least see mostly salt water in the Avon estuary even though I can't actually smell it. That's probably as close as I will get.

Nobody ever asked what was in that smell that we found so important. Mostly people would say it was the smell of the salt in the brine. Deep thinkers claimed it was the "ozone" the sea released, obviously a quite different substance from the type that causes all the smog. Troublemakers would claim it was the smell of rotting seaweed; no one ever believed that. Other stories are that it is the iodine in seaweed that is responsible. These were conventional and comfortable explanations to cover the fact that we really didn't know. I was quite shocked recently to discover that British scientists had analyzed the chemistry and pronounced us all wrong. The rotting seaweed people were closest to the truth, but let's not tell them!

As you might fear, the explanation turned out to be both much more complex and far less palatable than we had hoped. Even worse, it turned out to be a major factor in global warming (groan!) and climate cycle theories (those things we tried to avoid at school). While one factor of the smell of the sea turns out to be the pheromones of algae (called dictyopterenes), by far the most important element is a

highly disagreeable chemical called dimethyl sulphide, or DMS. You are certainly familiar with it – it is the smell of cooked cabbage, and it is also given off in lesser doses by cooking corn, beetroot, and some seafoods. It is also often given off by the brewing industry. Small amounts are deliberately added to many foods to improve their flavour and savoury nature. It is one of the most obnoxious components of the smell emitted by many paper mills.

So what is this important industrial chemical doing in seawater? One of the biggest ecosystems on the planet is the sunlit surface of our oceans, which cover about two-thirds of the earth's surface area. Within this zone are incredible volumes of phytoplankton, a crucial resource for life elsewhere. It can easily be shown that where there are high concentrations of phytoplankton such as occur in "blooms," coral reefs, and mud flats, there is a corresponding increase in DMS. These concentrations are such a distinct factor that wildlife have adapted to detecting it. Where you get these plankton you get fish and other creatures that feed on them, and then a whole chain of predators feeding on each other. When Andrew Johnson of the University of East Anglia released a bottle of DMS-producing bacteria, he was promptly bombarded by flocks of hungry gulls. Don't let anyone tell you that birds can't smell – it is obviously a major factor in the feeding success of marine birds.

DMS is thus a vitally important, naturally produced, biogenic gas. It is essential for the earth's biogeochemical cycles and is a critical component in many food chains and global climatic processes. This sulphurous compound is released to the atmosphere by the action of bacteria on injured or dying plankton. Here it undergoes many transformations, some of which are to sulphate aerosols, which attract molecules of water and act to create clouds of water vapour. These in turn affect the radiation balance of the earth and vary the weather patterns we receive and the temperature fluctuations of the area beneath the clouds. This is an excellent example of how biota works to regulate or modify the climate we receive.

I don't know about you, but I think I liked it better when the smell of the sea was just salt!

# *2010 BNS Regional Science Fair Awards*

by John Belbin, BNS science fair judge

March 30–31, 2010 – The three-county-wide Annapolis Valley Regional Science Fair was once again held at the Kingstec campus in Kentville, a far more modern location than it was just a few years ago. In fact, it seems as if every time you go there it has changed significantly. One of the advantages of such a location is that food and drink are supplied through the catering program just down the hall, to the benefit of all the judges. Many of them missed it, however, as they left before lunch.

This year I was joined by Barry Yoell of the BNS executive, and he proved a great help in steering me toward some excellent candidates. He also saved my gimpy knee quite a bit of walking about that large campus.

It is quite obvious that the semester system imposed on the high schools has had the effect of killing science-fair participation at the senior (grades 10–12) levels. The numbers of entrants is still dropping. Apart from an academic revolt, there doesn't seem to be much we can do about it. The people responsible continue to pay lip service to the importance of science in our society but do very little to encourage it. It is therefore all the more satisfying to see that a few students have produced truly excellent projects despite a lack of official support in the school system. They are to be highly commended for their efforts in what must be a stressful situation. Perhaps university recruiters should concentrate on the science fairs; these are obviously superior students in general.

Some students put in a year-round effort that is considerable and noteworthy. Macall Robinson, winner of the BNS 2007 junior and 2008 senior awards, and winner of handfuls of awards at the provin-

cial and national levels, was back with yet another stunning project. Once again it was based on his series of huge tropical seawater aquariums that contain coral reefs in a balanced ecosystem. All his considerable winnings and the income from his job are put right back into the "hobby." As he will graduate from grade 12 this year, some university should snap him up! That would also be a relief to his parents, who stand a chance of being pushed out onto the street if the tank expansion continues.

Last year I mentioned but did not name a young lady who stunned me by conclusively showing that the bacteria levels in washed mini-carrots purchased at the supermarket were many times higher than those of local carrots that had simply been pulled out of the ground. This year, Ellen Song was back with a far more complex and impressive project. She can use the Latin biological names better than most of us can speak English. She is only in grade 10. This time she had done multiple tests on a whole range of bagged salad items and again subjected them to detailed examination using equipment available in her mother's lab. The conclusion: no matter what temperature you keep them at in a fridge, by the time of the expiry date, the bacterial levels are through the roof. Once again, carrots were the worst offenders. Look in your fridge immediately and dispose of everything that could be a problem – then thank Ellen.

### BNS PRIZE WINNERS
### (*$50 AND A SPECIAL BNS CERTIFICATE*)

*Project # 401 – The Disappearing Bag,*
*by Lauren Clark, grade 11, Central Kings*

A very scientific and detailed study coupled with a clear and attractive display and a very knowledgeable and enthusiastic student. She impressed everyone who spoke to her. She tested several items in a composting environment to see if and how they broke down. The inescapable conclusion was that there is absolutely no difference between normal plastic garbage bags and those that are sold

as biodegradable. Nothing she tried had any effect on either, including greatly increased light, oxygen, and temperature levels, or filling them with highly degradable materials. Paper and cloth bags would degrade, but not the plastic, even over a considerable time period. Given the fact that most bags are simply dumped, covered over and then compacted, there is little chance of composting ever occurring.

Don't waste your money on these plastic products; both are simply cluttering up our landfills. She said she was shocked to find there was absolutely no basis for the advertising claims of the manufacturers. Ah! We have produced yet another cynical consumer.

*Project # 302 – The Spill of the Dawn, by Roman Koszucki, grade 7, Wolfville School*

I came close to ignoring this project despite the excellent display because the topic is essentially the same as last year's winner, Robert Connell's Save the Birds, which was also concerned with the use of Dawn [a brand of detergent] to remove oil from soiled birds. I was looking for something clearly different and clearly biological. I am very glad that I eventually stopped to chat with this astounding young man.

The interview started normally enough. He obtained a large number of virtually identical feathers in good condition from the Aylesford zoo and proceeded to apply oils to them consistently and then wash them with one of six detergents, including the much ballyhooed Dawn. He had done lots of research and found out that it took at least 300 gallons of water to wash a soiled seabird properly. He had photos and diagrams of feather details and problems. Each feather was examined closely with a strong microscope to see if it was useable or damaged or unclean. As expected, Dawn was the best, but it was closely challenged by President's Choice. Nothing else came close.

The real surprise came when he had done a great deal of testing and became worried by his results. He wandered over to Acadia University and asked for help on how to analyze his results and validate

his testing. As a result I was treated to an incredible lecture on error factors, confidence intervals, sample sizes, standard deviations, and significance levels to name only a few. This by a grade 7 student who was far better than several of my old professors! All this was backed up by an extensive binder showing the various tests and the conclusions and interpretations. He obviously had mega help in all this, but he clearly knew and appreciated it all. He could explain anything you asked. I had to leave before I got totally embarrassed.

Keep an eye on this one; he has quite a future!

NATURAL HISTORY

# *Go Natural*

by Jamie Simpson

There is an interesting study recently released on carbon storage of tree plantations versus natural forests.

The authors compared results from 86 studies from around the world and found that plantations reduce carbon storage relative to natural forests (total carbon stock in plantations is 28 percent lower than comparable natural forests). This result was similar across geographic regions and between tropical and temperate forests.

Professor Liqi Luo, one of the authors, states, "This study challenges the idea that planting non-native or native-improved growth species on historical forest land yields greater carbon accumulations rates. They [the results of the study] argue against the replacement of natural forests by reforestation, also known as plantations, to help stave off climate change."

The journal reference for the paper is: Chengzhang Liao, Yiqi Luo, Changming Fang, Bo Li, Andy Hector. *Ecosystem Carbon Stock*

*Influenced by Plantation Practice: Implications for Planting Forests as a Measure of Climate Change Mitigation.* PLoS ONE, 2010; 5 (5): e10867 DOI: 10.1371/journal.pone.0010867

REFERENCE: University of Oklahoma (2010, May 31). "Reforestation may lower the climate change mitigation potential of forests." *ScienceDaily.* [Online] http://www.sciencedaily.com /releases/2010/05/100528211152.htm (accessed June 2010).

SEEN IN THE WILD

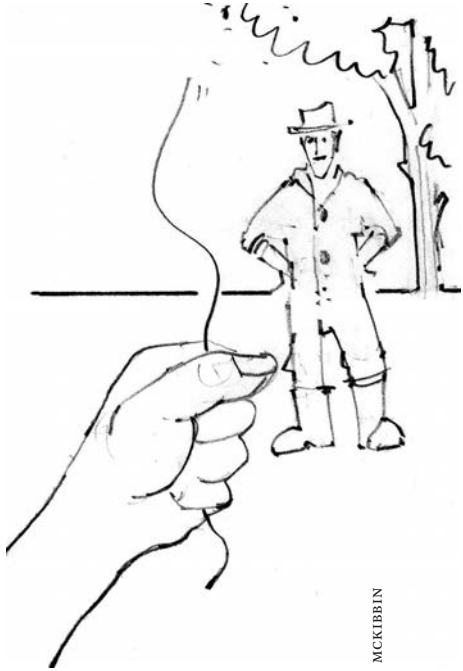
# *Horsehair Nematode*

by Barry Yoell

My bucolic, peaceful garden is hardly the obvious site to discover fearsome monsters. One could hardly imagine finding previously unknown beasts, but this is the reality, the truth: while I was scratching in the soil following a heavy rain, a 20-cm-long, extremely thin, highly motile, metallic-grey, evil-looking, snake-like animal reared up in front of me. Quite honestly, I was scared! It looked toxic, it appeared aggressive, but I was fascinated, never having seen such a thing before. I wasn't prepared to handle it, but observed carefully and retired to my library and computer. There, the existence of the Horsehair Nematode was revealed to me. I had no need to be frightened; it was harmless to me, but deadly for lots of insects on which it preys.

My 20-cm specimen was quite small; evidently they can reach 1.2 m, still only about 1–2 mm wide. There are 11 species in North America and are really quite common but rarely seen. I was fortunate enough to find another one several days later and, armed with my new knowledge, fearlessly picked it up and had a better look at

it. The front, mouth end, of this creature is tapered from the 1–2 mm shaft of the body to a pointed end rather like a sharpened pencil or hypodermic needle. The long body seems featureless – no bristles, hairs, or appendages are apparent, and the rear end is slightly enlarged. It appears almost metallic, with a hard skin, not slimy and with no obvious patterns. It seems strong for its minuscule diameter and can rise up like a cobra, swinging the anterior third of its body to and fro, but mostly it seemed inclined to coil up like a Slinky toy. Altogether a fascinating new find in our garden.




Of course this little episode led to further reading on the nematode world. What a fascinating and unexpected fund of information there is:

- Evidently there is a greater mass of nematodes in our world than of any other multicellular creatures.
- A square metre of soil will usually house more than a million microscopic nematodes.
- They live all over the world, from Arctic to tropic, mountains to sea and fresh water.
- Some 180,000 varieties have been catalogued, and it is thought that probably there are another 300,000 to be identified!

My Horsehair Nematode (*Gordidea*) is evidently the giant of the tribe and, amazingly, is found in our garden. So my gardening continues to be fascinating, and new things never fail to appear.

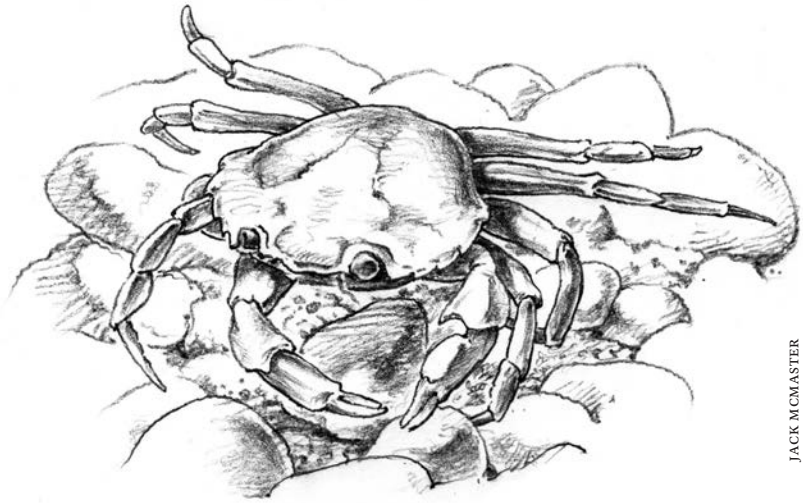
# *Introduced Species in the Sea*

by Martin L. H. Thomas

If one looks at the proportion of species introduced by man that turn up in various ecosystems, it is immediately obvious that there are comparatively more in terrestrial systems, fewer in freshwater, and least in the sea. This is not really surprising, as man is a terrestrial creature. But why are there so few in marine habitats?

The reason is obvious if you think about the sea. It is the largest ecosystem on earth, and it has very well-developed surface currents such as the Gulf Stream that can naturally transfer organisms from one area to another. By this mechanism many plants and animals have been moved naturally from one area to another. Additionally, ocean current transfer of organisms also applies to coastal animals and plants. Mangrove trees, for example, found along tropical and subtropical shores, evolved in the west Pacific but have been transported by ocean currents around the world. Many of our local marine species such as the Blue Mussel (*Mytilus edulis*) and the Bladder Wrack (*Fucus vesiculosus*) are common both here and along European coasts. The Knotted Wrack (*Ascophyllum nodosum*) is quite frequently washed up on Bermuda beaches even though it does not survive temperatures there.

Many species are not tough enough to survive a long period of transport on, or in, the ocean, particularly if it involves large temperature changes. However, such species can be introduced by man either on purpose or accidentally. As an example of a planned marine introduction, the Atlantic Salmon (*Salmo salar*) was moved to the west coast of North America for aquaculture, but escaped ones have survived. It has now been more widely introduced to other locations.



JACK MCMASTER

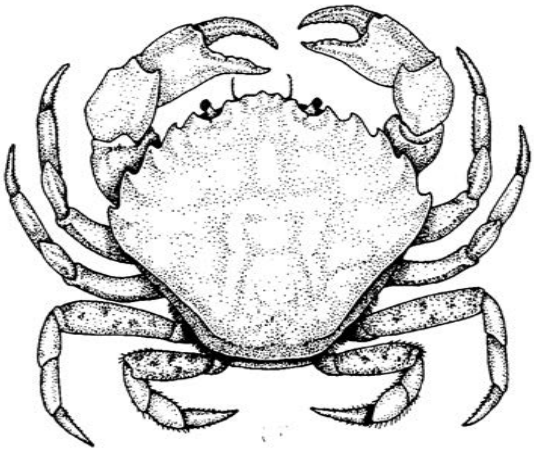
This fish is doing better elsewhere than in its native home, where wild stocks are now endangered in Nova Scotia.

Common methods of accidental transport across the Atlantic Ocean have included ship ballast, or simply attachment to ship hulls. Lightly loaded sailing ships often used to use beach rock as ballast when they sailed from England, Scotland, and Ireland to the Maritimes. Such rock sometimes had adhering seaweeds and other organisms that survived the journey. On our own coast, a variety of species have come from Britain and Ireland. Two of the most interesting ones are the Serrated Wrack (*Fucus serratus*) and the Common or Edible Periwinkle (*Littorina littorea*). Both species appeared in the Pictou area. Pictou was a favoured port for a period starting in 1773, and a lot of rock ballast was dumped in Pictou Harbour. The Serrated Wrack was first recorded some distance both to the east and west from Pictou in 1861, but looking back, information on its rate of spread puts its arrival around 1840. Interestingly, modern techniques of gene analysis have shown that there were two introductions, the Pictou one from Galway, Ireland, and another from Greenock, Scotland, to Western Cape Breton. It has subsequently spread all around PEI and around Cape Breton to the Nova Scotia outer coast.

The Common Periwinkle spread more rapidly; from a start at Pugwash in about 1840, it had reached Chesapeake Bay by1978. An example of an animal moving in the opposite direction to the Common Periwinkle was the Green Crab (*Carcinides maenas*), first noticed at Cape Cod in 1817. It reached the Minas Basin in 1958 and a short time later was recorded from Prince Edward Island. The same species has invaded the West Coast. The Green Crab has been called one of the world's 100 worst introductions, as it disrupts shallow-water communities and reduces populations of useful shellfish such as the Soft-shell Clam (*Mya arenaria*).

Two more recent introductions to our coastal waters are a green seaweed (*Codium fragile*), picturesquely called Dead Man's Fingers, which is actually quite attractive, and a moss animal, or bryozoan, called *Membranipora membranacea.* When present together, these two appear to prevent the re-establishment of kelp (*Laminaria* spp) beds after they have been ravaged by the Purple Sea Urchin (*Strongylocentrotus purpuratus*).

There are probably many other examples that have not been noticed or were not recorded prior to their arrival. We can expect more transatlantic introductions in the future.



# *A Century of Achievement: Acadia's Biology Department – The Early Years*

by Merritt Gibson

Acadia's biology department is 100 years old! While courses such as hygiene and natural history were taught periodically during the second half of the 1800s, it was not until 1910, when Professor Perry joined the faculty, that a biology department was organized. It has been a remarkable 100 years. The early professors established an outstanding academic reputation. In 1960, U.S. scientists, reviewing the American Men of Science, reported that "twice as many scientists took their first degree at Acadia under Dr. Perry as under any other professor in North America."

The department of biology was established through the work of Prof. Perry (Head), Dr. DeWitt, Dr. Roscoe, and Prof. Bayne. Perry started the department in the basement of Carnegie Hall, with one laboratory, one microscope, and a small museum. He remained at Acadia as professor and head of biology for 37 years, teaching courses in both botany and zoology. He was an outstanding teacher. When Dr. Perry died in 1953, Dr. C.B. Huggins, one of Perry's students and later Nobel Laureate and Chancellor of Acadia, wrote that "several generations of students have reason to be grateful to Professor H.G. Perry for their first insight into the beauties of nature."

Dr. Raymond Parker was another of Perry's students. Parker was instrumental in developing the techniques of tissue culture, providing a vaccine against typhoid fever, and developing the cultures used to produce polio vaccine. In 1955, he unveiled a plaque honour-

ing Dr. Perry in the entrance to Patterson Hall, home of the biology department from 1927 to 2008. The plaque reads, "Professor and Head of the Biology Department of this University for thirty-seven years, these laboratories bear his name and countless students the imprint of his teaching." Thenceforth, the laboratories were known as the "H.G. Perry Biological Laboratories of Acadia University."

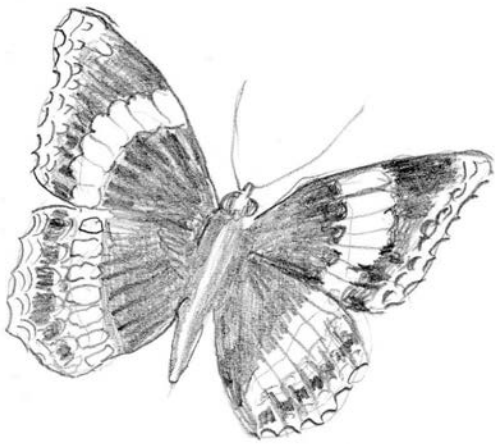
Dr. C.E. Avery DeWitt, M.D., joined the staff at Acadia in 1919 as the university physician. He was also appointed to the staff of the Nova Scotia Sanatorium in Kentville at the same time. DeWitt joined Perry in the biology department, initially teaching a course in hygiene and later courses in physiology and osteology. He also served as advisor to the pre-medical students. Dr. DeWitt retired in 1955 after 36 years of service.

Dr. Muriel Roscoe from Centreville, a graduate of Acadia, was appointed to the faculty at Acadia in 1926 after completing her Ph.D. studies at Radcliffe College (Harvard). She organized courses in botany, was described as a "stimulating teacher," and encouraged many students to enter research and teaching. In 1940, Dr. Roscoe was appointed to the botany department at McGill University, becoming chair in 1945. She was also appointed Warden of Royal Victoria College (McGill). While at McGill, she continued her research on plant cells that she started at Acadia. Also, she served as vice-president of the 3000-member IX International Botanical Congress, held in Montreal in 1959. On retiring from McGill in 1964, Dr. Roscoe returned to Wolfville and Acadia where she again taught botany. While an undergraduate at Acadia, Muriel Roscoe became good friends with another botany student, Lily Perry. In later years they undertook fieldwork together, spending one summer botanizing St. Paul's Island (off northern Nova Scotia). They collected 2,360 specimens and in 1930 published *The Vascular Flora of St. Paul's Island.* Dr. Lily Perry joined the faculty at Harvard in 1932 and was associated with the Arnold Arboretum and the well-known Grey Herbarium.

Professor P.M. Bayne came to Acadia in 1928 and offered courses in introductory biology, microbiology, and physiology. He served as department head from 1947 to 1955. In 1964 Dr. Bayne was named

an honorary life member of the Canadian Society of Zoologists, becoming one of the first Canadians to receive this honour. Dr. Bayne started his career in biology as a missionary in China, teaching biology at Western China Union University. While there he wrote one of the first biology textbooks in Chinese (there is a copy in the Acadia archives.). When Bayne returned to Canada he brought seeds for Ginkgo and Black Pine trees and planted them on the hill immediately south of Patterson Hall. Today, 80 years later, they are tall, healthy trees. In 2007, in recognition of the many Chinese students at Acadia, students, faculty, and friends gathered at the Gingko tree to commemorate the work of Dr. Bayne. The ceremony was attended by Wei Mo representing the Chinese students and Gordon Bayne, former director of Acadia's Physical Plant, and Dr Bayne's son, who was born in China.

The Perry-DeWitt-Roscoe-Bayne team was a remarkable one. These professors taught many students who continued to become researchers and teachers of national and international reputations. Remember, Acadia at that time had a total enrollment of only a few hundred students. The impact of these professors, through their students, on biology and medicine across North America and beyond is out of all proportion to the size of the university.



MARY PRATT

# *Leg Bands for Birds?*

by Roy Bishop

Several years ago I had a canary. (I rationalize having a caged bird with the thought that if a market for such a purchase did not exist, that commercially bred canary would never have lived. I view chickens in the same light, although their brief lives seem far less pleasant than that of a canary.)

One day, when my canary was in the middle years of his decade-long, song-filled life, I noticed that he was having trouble perching. It was quickly apparent that the difficulty was associated with one leg, the leg with the numbered, metal band that had been placed there by the breeder. I cradled the canary in my hand and had a look. As a bird ages, its legs, like people's, become thicker. In this instance the band had become tight on its thickening, scaly leg, constricting blood flow to its foot.

The metal band could not be pulled off over its foot, and it was a solid cylinder, not a split design that could be pried open. It must have been slipped on over its foot when the bird was young.

What to do? There was no room to use metal side cutters. The band was tight around the tiny, fragile leg. One slip with side cutters could break or amputate the leg.

Over many years I have built up a versatile workshop, and in it there was one tool that might work: Dremel, a high-speed motor that has a miniature grinding disk as an attachment. With the canary in my wife's hands and the leg with the offending metal band held out where I could get at it, I switched on the noisy motor and eased the spinning grinding disk onto the metal band. Going slowly to avoid cooking the leg by generating too much heat, and ever so carefully so as not to sever the leg, several minutes later the band was cut. I

pried it apart, and off it fell. The canary quickly recovered full use of the leg.

That experience made me wonder about the fate of birds in the wild that are given leg bands. Presumably their legs also become thicker as they age. Also, might not a leg band get snagged on a twig, string, or wire in the bird's travels?

Many years later, on April 3, 2008, I came across a CBC News item that reminded me of my canary's plight. The headline read, "Scientists to remove harmful bands from plovers." The plovers were Piping Plovers, and nearly 1,100 of the birds had been banded between 1998 and 2003. One line especially caught my attention: "The Canadian Wildlife Service filed notice that it wants to remove the bands, saying they may potentially constrict the bird's leg and lead to loss of mobility or loss of the extremity." Of 140 banded plovers recovered and examined, 10 had serious injuries and 4 had lost an entire foot. Others had swollen legs. "The scientists said more may have died from injuries that they didn't know about."

Obviously, despite the best of intentions, in our determination to get data we sometimes do not adequately consider the harm we may do in the process. How does one weigh birds killed by leg bands against the value of data obtained thereby? In the case of Piping Plover nesting sites, I can see a sign: "NO DOGS, ATVS, OR BIOLOGISTS ALLOWED ON THIS BEACH."

JACK MCMASTER

# *Spring 2010 – Eastern Annapolis Valley*

by Larry Bogan

The spring weather in Nova Scotia this year was unusually delightful. It was warm, sunny, and dry. The result is that the growing season is advanced, some say, by as much as two weeks. The table below quantitatively shows what happened.

Compare the mean temperatures in March, April, and May with the long-term averages, and you will see that they were 3.2, 4.1, and 1.4 °C above the averages. The whole season was very much above

| | Temperature | | | Precipitation | Sun |
|---|---|---|---|---|---|
| | Max (°C) | Min (°C) | Mean (°C) | Total (mm) | (h) |
| **March** | 7.2 | –2.6 | 2.3 | 71 | 168 |
| (30 yr. average) | (3.4) | (–5.2) | (–0.9) | (111) | (133) |
| **April** | 13.0 | 2.9 | 8.0 | 35 | 174 |
| (30 yr. average) | (9.5) | (0.4) | (4.9) | (90) | (154) |
| **May** | 18.4 | 6.3 | 12.3 | 27 | * |
| (30 yr. average) | (16.3) | (5.4) | (10.9) | (97) | (183) |
| **Season** | 12.9 | 2.2 | 7.5 | 133 | * |
| (30 yr. average) | (9.7) | (0.2) | (5.0) | (298) | (470) |

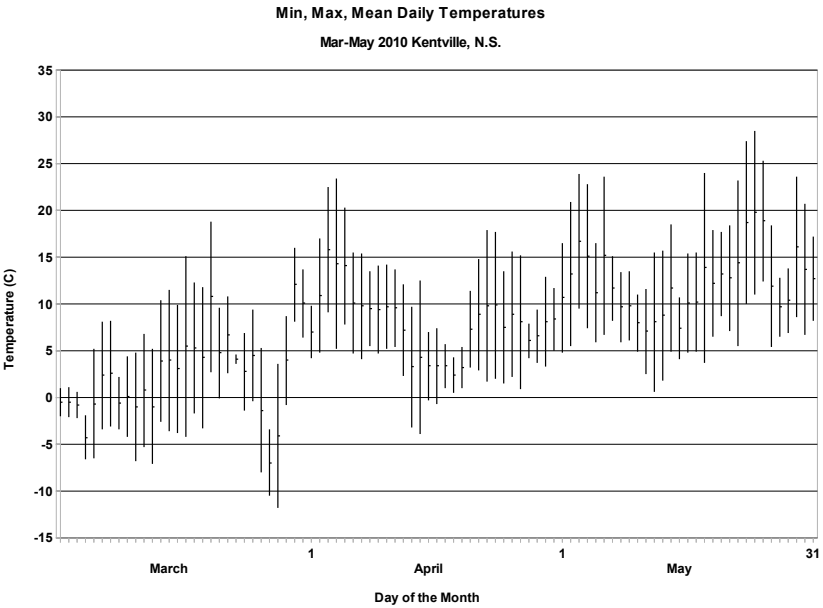
**Incomplete data*

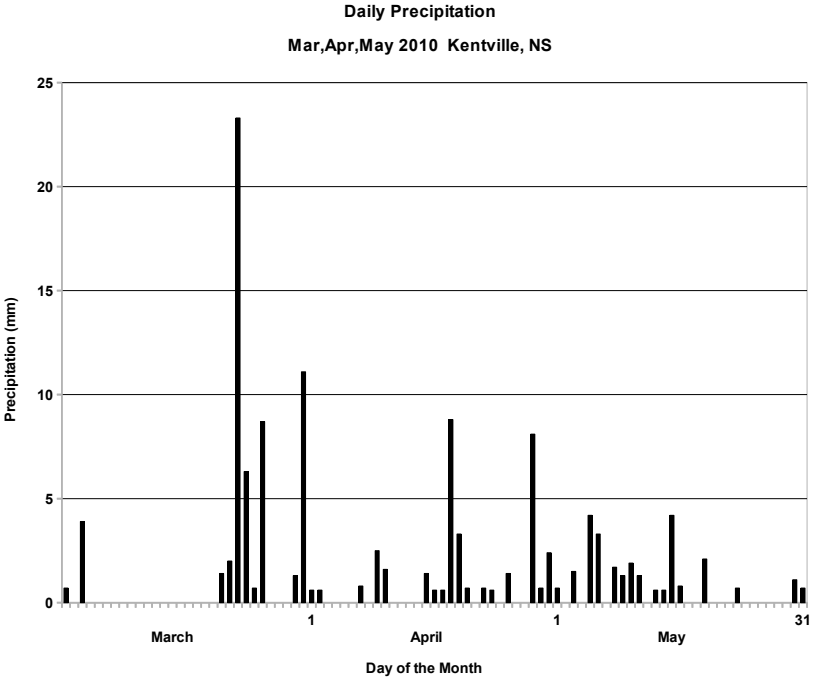
SOURCE: *Environment Canada (30-year averages are for 1970–2000) for Kentville, NS*

average, by 2.6 °C. As you can see on the graph of temperatures for the season, after a few days below freezing at the end of March there were only four days of near-zero temperatures in mid-April. During that same period, the daily maximum reached 20 °C or higher on 14 days (note that three of those days occurred in early April).

Of course, warm and sunny means dry, and the precipitation was very much below normal for the period. It got drier and drier as we progressed through the season. March, April, and May had 64 percent, 39 percent, and 28 percent of normal rainfall, respectively. For the whole spring 2010, we received only 45 percent of average rainfall for the season.

I have included a rainfall chart to show the distribution of precipitation. Although it appears that we had good spread of rainfall throughout the season, the amounts were tiny. We had some precipitation on half of the days, but of those 46 days, 37 had less than 5 mm of rain. Only two days had more than 10 mm. The largest amount of






precipitation occurred on March 23, when we got 22 cm of snow, the only significant fall during the month. Except for that day, there was very little snow on the ground this spring.

The sunshine hours for March and April were both above average by 20 hours per month. Unfortunately, the May sunshine hours are incomplete, but as I remember, that month was also nice and sunny.

My rule of thumb is that in winter and spring we have one-third clear and two-thirds cloudy weather. That does not seem to be the case this spring. In summer I expect two-thirds clear and one-third cloudy. We shall see.

# *What's in the Sky?*

by Roy Bishop

## SPECIAL EVENTS IN SEQUENCE

**June 21:** The solstice – noon Sun highest in the sky – summer begins at 8:28 a.m. ADT
**June 26:** Full Moon (partial lunar eclipse, but not visible from Nova Scotia)
**July 6:** Earth farthest from the Sun during 2010
**July 25:** Full Moon
**August 1–18:** Three planets in the evening twilight
**August 11–13:** Large tides
**August 12:** Perseid meteor shower
**August 24:** Full Moon (smallest in 2010)
**September 3–6:** Nova East
**September 8–11:** Large tides
**September 23:** Equinox – Sun on the equator, at 00:10 ADT – Full (Harvest) Moon
**October 7–10:** Large tides

## PERIGEAN SPRING TIDES

With three references to "large tides" above, a few words are in order. A new or full Moon results in large spring tides because the lunar tide and the solar tide are then in step. As the Moon orbits Earth every month in its elliptical orbit, it is at perigee, its close point to Earth, every 27.5 days on average. This is the point that is favourable for large "perigean" lunar tides. However, the cycle of phases takes 29.5

days, two days longer than the perigee cycle. As a consequence, perigee coincides with a new or full Moon at roughly seven-month intervals to produce extra large "perigean-spring" tides. That happened at full Moon back in January and February, and occurs again, at new Moon, in August, September, and October this year. The dates are listed at the beginning of this article. See your BNS Natural History Calendar for the times and tide ranges in Minas Basin.

### THE EVENING STAR

Venus entered the evening sky last February and continues as the "evening star" during the summer while it draws ever nearer to Earth in its faster orbit. However, because of the changing orientation of Earth's tilt relative to the Sun, Venus drops ever lower toward the southwestern horizon as the weeks pass. It reaches its maximum distance east of the Sun on August 20 and attains maximum brightness on September 23, when its shrinking crescent phase begins to offset its ever-decreasing distance from Earth. Despite these two favorable circumstances, the celestial geometry of the late-summer sky places Venus very low in the southwestern twilight. Venus passes between Earth and the Sun in late October and reappears in the dawn sky in November.

### MARS IS RACING

Earth, in its smaller, faster orbit, lapped Mars on January 29. Since that date Earth has been leaving Mars further and further behind, with Mars shrinking in size and fading. However, during the remainder of 2010, the orange planet valiantly tries to keep up with us as it races eastward in the western evening sky past the background stars ahead of the advancing Sun. Not until December does Mars finally get swallowed up in the solar glare. As a result of Earth's faster motion, Mars passes behind the Sun next February 4. We will lap Mars once again on March 3, 2012.

## SATURN IN SUMMER

The viewing season for Saturn is rapidly drawing to a close. Like Mars, this summer Saturn is dropping into the western evening twilight. However, being more than six times farther from the Sun, Saturn moves much slower than Mars. Mars, in its eastward race, passes Saturn on August 1, and the ringed planet vanishes into the solar glare a month later, passing behind the Sun on October 1 to reappear in the dawn twilight late in October.

## VENUS, MARS, AND SATURN IN AUGUST

As noted on your BNS Natural History Calendar, these three planets are closely grouped, low in the southwestern evening twilight during early August. Venus, by far the brightest, will be easiest to spot. On August 1, Saturn and Mars are at 10 o'clock from Venus, about one binocular field of view from Venus, with Saturn above Mars. Look about 9:45 p.m., assuming clear skies. By August 8, both Mars and Venus have moved to the left of Saturn (look about 9:30 p.m.). By the 18th, Venus catches up to and passes Mars (look about 9:15 p.m.).

## PERSEID METEOR SHOWER

The crescent Moon in the western evening sky sets before twilight ends, leaving a dark sky for the annual Perseid meteor shower. The Perseids are caused by debris scattered along the orbit of Comet Swift-Tuttle. Every year in the second week of August, Earth passes near the orbit of the comet and collides with some of the fragments. The shower will be at its best on the night of August 12/13, with the most activity between midnight and dawn. Perseid meteors enter the atmosphere at a speed of 60 km/s (about 270 times the speed of a jet plane) and burn to gas and dust between altitudes of about 130 km and 80 km. Thus there is no danger of being hit by a Perseid meteor.

## JUPITER IN AUTUMN

Jupiter passed behind the Sun on February 28 and reappeared low in the dawn twilight in April. By mid-July it rises due east near midnight and enters the evening sky. Jupiter is at opposition near the end of summer, on September 21. For the past several years, Jupiter has been low in our southern sky where atmospheric turbulence degrades telescopic views. This year it is significantly further north, near the celestial equator, so viewing will be better. Also, Jupiter is nearing perihelion (the closest point to the Sun in its elliptical orbit) and thus attains a 12-year maximum diameter of 50 arc-seconds at its 2010 opposition. The longer nights, clear skies, and comfortable temperatures of early autumn, together with Jupiter's large diameter and higher position in the sky, will make for some memorable telescopic views of the king of the planets.

## URANUS ANYONE?

For several nights in mid-September (approximately September 12–20), the first planet to be discovered in modern history will be easy to locate in binoculars. Locate bright Jupiter, high in the southeastern, late-evening sky. Uranus is the brightest object above Jupiter barely one degree away (a small fraction of a binocular field of view). To avoid snide comments from ignorant friends, put the emphasis where it properly belongs, on the first syllable, not the second.

## WHAT ABOUT THE REST OF THE UNIVERSE?

"What's in the Sky" usually focuses on our Solar System, as does the present edition to this point. The reason, of course, is that that is where we are. From planet #3, with the unaided eye we can see the nearest star, our Moon and all but two of the other seven planets. However, there are far more stars in just out own galaxy than there are people on Earth, and there is strong evidence that a significant

fraction of those 100 billion stars have planets of their own. With the unaided eye we can see about 3,000 stars on any clear night, all of which are intrinsically fairly bright stars located within a few thousand light-years, in our own suburb of that great stellar city, the Milky Way Galaxy. If you are fortunate enough to be away from the lights of civilization on a clear, moonless night this summer, grab a lawn chair, blanket, and binoculars, and contemplate the edge-on view of our galaxy that spans the vault of the sky, extending down to the southern horizon. Humble binoculars will reveal tens of thousands of stars. Regions thick with stars will be mottled with silhouetted, dark clouds of foreground dust, the debris of expired stars and the raw material for future stars and planetary systems. Binoculars will also reveal several other Milky-Way-type galaxies, far beyond our own; but to recognize those small, dim patches of light you will need a star atlas, or someone beside you who knows the sky.

## NOVA EAST

Nova East is Atlantic Canada's largest annual star party. Hosted by the Halifax Centre of the Royal Astronomical Society of Canada (RASC) and by the Minas Astronomy Group (MAG) of Wolfville, Nova East is held in late summer near the time of the new Moon at Smileys Provincial Park near Windsor. This year, Nova East occurs on Labour Day weekend, September 3–6. The public is invited to attend talks and view the Sun and the nighttime sky through telescopes on Saturday. If you wish to attend all events, check the website http://halifax.rasc.ca/ne/ for more information, registration, and for reserving a campsite at the park. Families with children are especially welcome.

## SOURCES OF LOCAL NATURAL HISTORY

**Compiled by the Blomidon Naturalists Society**

| TOPIC | SOURCE | OFFICE OR HOME TELEPHONE | |
|---|---|---|---|
| **Amphibians & Reptiles** | Sherman Bleakney | H: 542-3604 | |
| | Jim Wolford | H: 542-9204 | |
| **Astronomy** | Roy Bishop | H: 542-3992 | |
| | Sherman Williams | H: 542-5104 | |
| | Larry Bogan | H: 678-0446 | |
| **Birds – General** | Bernard Forsythe | H: 542-2427 | |
| | Richard Stern | O: 678-4742 | H: 678-1975 |
| | Gordon & Judy Tufts | H: 542-7800 | |
| | Jim Wolford | H: 542-9204 | |
| | Jean Timpa | H: 542-5678 | |
| **Butterflies & Moths** | Jean Timpa | H: 542-5678 | |
| **Fish & Wildlife** | NS Department of Natural Resources | O: 679-6091 | |
| **Flora:** | Ruth Newell | O: 585-1355 | H: 542-2095 |
| **Fungi:** | Nancy Nickerson | | H: 542-9332 |
| **Hawks & Owls** | Bernard Forsythe | H: 542-2427 | |
| **Indian Prehistory & Archeology** | James Legge | H: 542-3530 | |
| **Mosses & Ferns** | Ruth Newell | O: 585-1355 | H: 542-2095 |
| **Mammals** | Tom Herman | O: 585-1358 | H: 678-0383 |
| **Rocks & Fossils** | Geology Dept., Acadia University | O: 585-2201 | |
| **Seashore & Marine Life** | Sherman Bleakney | H: 542-3604 | |
| | Jim Wolford | H: 542-9204 | |
| | Michael Brylinsky | O: 585-1509 | H: 582-7954 |

# BLOMIDON NATURALISTS SOCIETY

*2010 Membership Fees & Order Form*

Members receive four issues of the BNS newsletter annually. As a registered charity, BNS issues receipts for all donations. Members may also join Nature Nova Scotia through BNS and will receive FNSN News, the federation newsletter. (Neither BNS nor NNS membership is tax deductible.)

NAME

ADDRESS

POSTAL CODE

E-MAIL TEL

*In signing this membership application, I/we hereby waive and release the Blomidon Naturalists Society, its executive committee and members, from all claims for injury and/or damage suffered at any function or field trip organized by the Blomidon Naturalists Society.*

SIGNATURE DATE

| No. | Description | Price | Total |
|---|---|---|---|
| _____ | Individual/ Family Membership | $20.00 | $_____ |
| _____ | Junior (under 16 years) Membership | $1.00 | $_____ |
| _____ | Nature Nova Scotia Membership | $5.00 | $_____ |
| _____ | 2010 BNS Calendar | $15.00 | $_____ |
| _____ | Natural History of Kings County | $14.00 | $_____ |
| _____ | Within the View of Blomidon | $20.00 | $_____ |
| _____ | Checklist of Kings County Birds | $5.00 | $_____ |
| _____ | Blomidon Naturalist crest | $5.00 | $_____ |
| _____ | Blomidon Naturalist hat | $15.00 | $_____ |
| _____ | BNS Calendar Photos (Screensaver) | $10.00 | $_____ |
| | Postage: (calendar $2) (parcel $6) | | $_____ |
| | Tax-deductible Donation | | $_____ |
| | | **TOTAL** | $_____ |

Address cheques or money orders to Blomidon Naturalists Society for membership and other purchases to: **Ed Sulis, 107 Canaan Avenue, Kentville, NS B4N 2A7.** Due date is January 1 of current year.

RICHARD STERN

*Doug Linzey receives* BNS *honorary life membership from president Rick Whitman, June 2010*