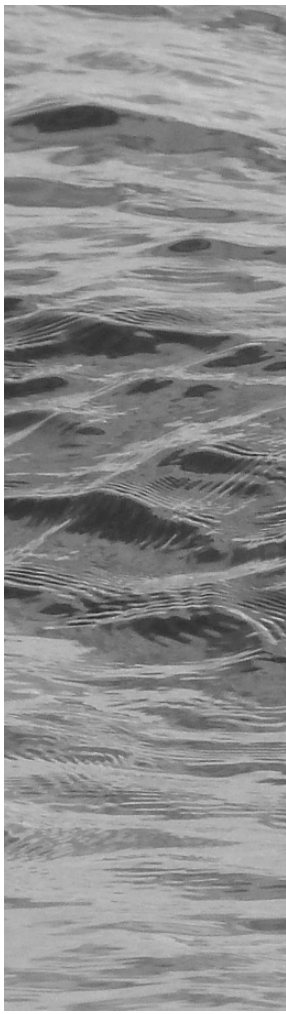
Blomidon Naturalists Society

SUMMER 2012 NEWSLETTER

Volume 39 · Number 2



Long-tailed Duck, Digby

RICK WHITMAN

THE BLOMIDON NATURALISTS SOCIETY

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

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John Owen	678-0004
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Patrick Kelly	472-2322
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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. (Registration number: 118811686RR0001)

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

BNS Newsletter

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Contributions to the BNS newsletter are always welcome. Articles may be reprinted with permission of the author or the editor. Credit the Blomidon Naturalists Society Newsletter. Unless otherwise stated, opinions are those of authors, not necessarily the Blomidon Naturalists Society. For subscription information, see the membership fees form at the back of this newsletter. If you change your address, please notify us at the address in the facing column.

Editorial Board

Chair: Jean Timpa (542-5678)
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Production: Doug Linzey, Gary Dunfield, Andrew Steeves
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www.blomidonnaturalists.ca

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VOLUME 39 NUMBER 2

BLOMIDON NATURALISTS SOCIETY 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:

1 – 25 GASPEREAU AVENUE
WOLFVILLE, NS B4P 2C5
jtimpa@ns.sympatico.ca

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

Submission deadline for Fall:
August 30, 2012

Out and About

Jean Timpa

Spring! Perhaps the best of times with a new awakening; perhaps the worst of times with so many broken promises. How should we cope between the black and white of it all?

Renew our efforts to heal so much damage to Mother Earth. Plant trees and shrubs especially, clean and restore habitat when possible. Create natural shelters. Visit many parks, many times, to encourage their keepers, perhaps now the most important reason for going to our natural areas. Always be ready to cajole and educate those who do not understand tree huggers; we have been greatly misunderstood! Beware of those who lie with their statistics. Explore their fallacies. Paint beautiful pictures of what truly can be.

Rampant cynicism now found in our world-wide society cannot be healed with one-sighted obsessions. Many well-thought-out deeds to Mother Nature, small as they may be, can add up to many great examples for old and young alike.

THANKS

We can give thanks for our wonderful camaraderie in various BNS activities. New suggestions are always welcome to any of the executive. Thanks to all who make these events and this Newsletter happen so smoothly and professionally. Kudos for the laughs and understanding when occasionally the best-laid plans do not go so well in a human world. Merci for paying up your 2012 dues, now mostly completed. Sadly, a few always leave us, but happily, several new members have also signed on. I'm sure you will all welcome them.

Now please challenge your best salespersonship to see how many

new members you can bring into the fold. Twenty to thirty more members would give us a better chance of survival. Like many organizations, including the Province of Nova Scotia, we seem to be missing youngsters.

Gratitude for your patience as we attempt to put the newsletters on a more reliable schedule and find stable meeting rooms in the Beveridge Arts Centre. All of your efforts are very important to our overall happiness.

CALL FOR PHOTOS

2013 BNS Natural History Calendar

Calendar Committee:
Sherman Williams, Pat Kelly, Roy Bishop

PHOTO submissions are invited for possible use in the 16th 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. Usually we receive more "summer" photos than scenes from the other seasons. Please submit no more than ten (10) 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), content (a photo that calendar users will enjoy looking at for a month), and originality (not too similar to photos appearing in recent BNS calendars).

Send submissions to Roy Bishop (542-3992) by e-mail (RLB@eastlink.ca) or by post: RR 1, Avonport, NS B0P 1B0

Deadline for submissions: Labour Day, September 3, 2012

Green Dragons

by Harold Forsyth

Our Young Naturalist program is well underway for the eighth season. We expect to provide over 400 kid-days in nature with hands-on, fun, and informative outdoor experiences. Children from five surrounding communities will be bused to Blomidon Park, Smileys Park, Blue Beach Fossil Area, and the Harriet Irving Botanical Gardens. With the financial help of our generous sponsors, TD Friends of the Environment, Canada Summer Employment Program, Michelin, Kings County Municipal Council, member donors, and of course the Blomidon Naturalists Society itself, we expect to provide a series of nature day camps that ultimately give youth the tools to become the future guardians of nature and our environment.

Funding is always a challenge, and the depth of the program we can provide depends on the amount we receive, so any donations are gratefully accepted and income tax receipts are provided for all contributions.

Board of Directors Report

By John Owen, BNS president

Your board had a regular meeting on May 17, 2012.

Former members follow-up – About 40 members from 2011 have not renewed. Board members will be giving each a personal call, reminding them of their lapsed status and mentioning some of the things their membership supports.

Science Fair – A report will be published [see this issue]; two awards were given at the junior high level. This is both a fun and important event, and the organizers are always looking for judges. There will be advance notice at the monthly meeting two months before the fair requesting volunteer judges.

There was an outstanding elementary school entry that was worthy of recognition (no prizes or marks are awarded at this level). BNS sent a letter of commendation/recognition to the elementary student who produced an outstanding science project, mentioning the Green Dragon summer program and the new Young Naturalists group.

Invasive species – About 40 people were present at the March 22, 2012, round-table discussion at the Irving Centre, representing various groups, including universities. George Alliston gave a personal presentation indicating that Glossy Buckthorn could be eradicated in a small space (Nature Trust property). Other invasive plants discussed were Garlic Mustard, Purple Loosestrife, and Japanese Knotweed. Other invasive species discussed included the fire ant and the Vase Tunicate, which attaches to mussels. The biggest problem is the lack of funds to let the public know about the problem. The govern-

ment does not seem to be interested. There is a website (www.invasivespeciesns.ca) where people can learn about the issues. The problem is very widespread.

Board members discussed whether or not BNS should/could disseminate information to the general public, or spur groups that might act physically to eradicate these species in defined areas. It was suggested we focus on efforts to keep invasive species out of specified protected areas or specific public areas. (Martin Thomas, a BNS member, helped eradicate invasive species from Bermuda and has written extensively about this issue.)

It was agreed that BNS will look into possible protection of a localized area, and a proposal will be presented at the next board meeting.

Stewardship of Grand Pre beach – Rick Whitman has recruited Richard Stern, Jim Wolford, and Roy Bishop to form this committee. Sue Abbott, Bird Studies Canada, met with them at their first committee meeting. They have come up with several action items, including signage about dogs on Evangeline Beach and documentation of species and numbers. They will be meeting again the third week of June before onset of summer/fall migration.

Issues committee: Wind farm regulation review Kings County – George Alliston has attended several municipal meetings as well as the two public meetings. The municipality has withdrawn its current regulations for at least 150 days until it can review the current bylaws. The issues that interest BNS are also very high on the lists of concerns of the public (as reflected on questionnaires): wildlife and noise. BNS has more specific concerns about the patterns of bird migrations and how we might determine them for our area. BNS has been trying to get more information about the ability of radar to monitor birds: there is a "precipitation" mode that is able to pick up relatively small groups of birds. Only the non-migratory bats are of concern for wind farms (white nose disease has affected our non-migratory bats).

The next BNS board meeting is scheduled for August 23, 2012.

Upcoming Events

MEETINGS

Unless otherwise noted, all meetings are held at 7:30 p.m., usually on the third Monday of each mont, in Room BAC *241 of the Beveridge Arts Centre of Acadia University on the corner of Main Street and Highland Avenue, Wolfville. Parking is available off Highland Avenue, on Acadia Street, and at the parking area around the Robie Tufts Nature Centre. Everyone is welcome.*

Monday, June 18, 2012 – *Atlantic Coastal Plain Flora*, by Alain Belliveau. The Atlantic Coastal Plain Flora (ACPF) is a group of 90 species of wetland plants that inhabit our lake and river shores, bogs, fens, and estuaries. Some of the world's largest and least disturbed ACPF populations are located here in Nova Scotia.

Alain Belliveau is a masters student at Dalhousie University's School of Resource and Environmental Management. Alain's research focus has been the examination of a number of lakes in southwestern Nova Scotia for red- and yellow-listed ACPF species to determine, among other things, their distribution and population health.

Monday, September 17, 2012 – *Set Course for Ceti Alpha V*. Most science fiction relies on planets: Totoonie and Alderaan in *Star Wars*; Vulcan, Bajor, and Cardassia in *Star Trek*; Caprica (and the mythical planet "Earth") in *Battlestar Galactica*. For most of human history, the existence of other planets was either a speculation or a hypothetical reality but with no way to prove they existed. The last 15 years have seen incredible advances that now allow several methods for the detection of planets around other stars. This talk will explain some of

these methods, the results, and how you can keep track of the 700+ planets discovered so far. And yes, there's an app for that!

Patrick Kelly has a background in astronomy and computer science. He is the Director of Faculty Computing at the Faculty of Architecture and Planning at Dalhousie University, where he teaches a graduate course in archaeoastronomy and architecture. He teaches first-year astronomy at Dalhousie and is a past editor of the Observer's Handbook of the Royal Astronomical Society of Canada.

FIELD TRIPS AND OTHER NATURE EVENTS

Saturday June 23, 2012 – *Butterfly Field Trip*. Jim Edsall will lead this trip in support of the Maritimes Butterfly Atlas. Given that butterflies tend to be active only in good weather, register with Jim by e-mail at jim.edsall@bellaliant.net so that if the event needs to be cancelled he can contact you. The trip will start at the Wolfville Waterfront at 10 a.m. and will go until 2 p.m. For more information on the atlas project, visit the atlas web site at http://www.accdc.com/butterflyatlas.html.

Saturday, June 23, 2012 – *New Birders Trip: Windsor, Hants County*. Leader: Patrick Kelly (494-3294 (w), 472-2322 (h), patrick.kelly@dal.ca). Pre-registration is required. This trip is geared for those who have always had an interest in bird watching 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.

Saturday, June 30, 2012 – *Showy Lady's Slippers: Smileys Park*. Bernard Forsythe (542-2427) will lead a trip to see these magnificent flowers. They are usually at their best around this time of year. Meet at the Wolfville waterfront at 6 p.m. or at the picnic area at Smileys Provincial Park at 6:45 p.m.

Every Thursday in July and August – *Acadia University Woodland Trail Biodiversity List*. For a sixth year we will take a walk every Thursday at noon throughout the summer to look for flowering plants, nesting birds, fungi, butterflies, dragonflies, etc. This will be done in cooperation with the Irving Environmental Science Centre, and we plan to continue it as a long-term project to observe the changes in biodiversity over the seasons and over the years. Everyone is invited to participate. Come for one week or every week. You don't need to be an expert but we need lots of people to show up to help spot and identify the different forms of natural history. Some weeks we will have a special leader with an emphasis on a specific area of natural history. If you would like to lead a walk or be on one with a particular emphasis, call Melanie at melanie.priesnitz@acadiau.ca or 585-1916. Meet at noon at the main entrance to the Harriet Irving Botanical Gardens on University Avenue.

Saturday July 21, 2012 – *Plants of the Wolfville Watershed Nature Preserve*. The Wolfville Watershed Nature Preserve is a partnership between the Town of Wolfville and the Nova Scotia Nature Trust and protects old-growth hemlock forest, Acadian forest, and wetlands. Join leaders Reg and Ruth Newell (ruth.newell@acadiau.ca) to explore botanical and historical aspects of the new Havey Trail. The difficulty level is moderate, with several steep areas. Bring lunch and/or snacks. Wear sturdy footwear; hiking poles are recommended. Meet at 1 p.m. at the entrance on Forest Hill Road. For those who want to carpool, you should meet at the Wolfville Waterfront at 12:45 p.m. The trip will be about four hours long.

Wednesday, August 1, 2012 – *Moon Over the Water*. The view from The Lookoff on the North Mountain is likely familiar to many society members. But how many have watched the Sun set and the Full Moon rise from that vantage point? Tonight, the Moon will rise around 8 p.m., about 40 minutes before the Sun sets and about 4 hours from being full. The tide will be coming in, although you will have to stay until after 1:30 a.m. to see the moonlight with the tide

in all the way. Arrive for around 7:45 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.

Friday, August 17–Sunday, August 19, 2012 – *NOVA EAST 2012*. 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 and the Saturday evening observing session are open to the public. This year's guest speaker is David Levy. 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.

FIELD TRIP REPORT

Herbert River Canoe Trip

by Patrick Kelly

April 21, 2012 – The weather forecast was not the best, but we had some sun, and the few raindrops that came down did so as we were about to drive home. There were five of us. Douglas Guptill brought his kayak out from Halifax. Kristiina Lehtonen, who is from Finland and has been on several other BNS trips, also came with a kayak, although this was to be her first attempt to use it in on a river. Jamie Simpson had a 16-foot canoe, as did I, and we had one canoeist, Gisela Westphalen, who does not own a canoe. You may recall that while attempting the trip solo in a large canoe, I managed to fall out twice. Thus we decided that Gisela and Jamie would come in my canoe.

While we did see signs along the way that the water had been much higher over the winter, the water level was the lowest I have

seen on this trip. That is not surprising, given there was little snow to melt this year, and we have had little rain this spring. There were quite a few places where it was more like a gondola trip than a canoe trip, with the paddles being used to push the canoe over rocks and shelves of bedrock. In retrospect, Jamie was glad we had taken my canoe and not his. Mine is vinyl and just flexed over the rocks; his is fiberglass, a material not noted for its pliant properties. Douglas mentioned after the trip there were some places where our canoe was bouncing up and down while traversing flat water – a most unusual sight.

The river changes noticeably from one year to the next. I noted a lot more trees at the edge of the bank than in the past, leaning out over the water. Those who have done the trip in the past likely recall the place we usually portage by a dark-brown cabin on the north side of the river. The blockage there has actually changed the course of the river, the main channel now going left and not coming near the cabin. There is also a brand-new house, on the south, just below the Vaughan Road bridge. We passed five different places with people fishing. I also noticed a few more clear-cuts in places.

We saw and heard lots of robins and juncos, but the only warbler heard was a single Yellow Warbler. This was a change from last year, but we were two weeks earlier this year. We did meet some water birds, flushing a pair of American Black Ducks and a male Common Merganser. Two Canada Geese also seemed content to float down the river ahead of us for a while, but when we reached a point where someone was standing in the middle of the river fishing, they started honking and then both burst into flight. We also spotted two Bald Eagles, one adult and one immature, and in one spot a Great Blue Heron was moving around in the treetops where there were some tall pines. We didn't see anything in the way of other wildlife, at least none that was alive.

For lunch we stopped just below the bridge where Highway 14 crosses the river, selecting a gravel bar in the middle of the river that was dominated by the trunk and roots of a huge tree that had been washed there by the higher water from earlier in the year. The

power of the water must be something to behold, as the trunk was at least 60 cm in diameter; we could sit on it quite comfortably. Jamie noticed some small bright-yellow spheres over the bark at one end of the log. Closer inspection revealed several fish bones and the head of a large fish that had fallen under the trunk. We concluded that the yellow spots were eggs from the fish that had likely been the meal of an eagle, or possibly an osprey.

Given the low water levels, it took us longer than expected to reach Brooklyn. We were on the river from about 10 a.m. to 4 p.m., with about an hour on either end for moving vehicles, etc. I think next year I'll try to find a new place in the area for a canoe trip and spend March and early April keeping an eye on the Herbert River, as there should be a period of time when the water level is high enough that rocks should not be a problem but not so high that the river is fast enough to be hazardous.

FIELD TRIP REPORT

Valley Birding

by Richard Stern

April 28, 2012 – After a week or more of mid-teen temperatures, sunshine and calm winds, winter returned on the day of this year's joint BNS/NSBS field trip, with temperature just above freezing, strong NW winds, and snow flurries. But that didn't deter some 15 participants from Halifax and locally, including some new birders.

Our first stop was Bernard Forsythe's property, where his pair of locally nesting Barred Owls put on a fine show. The male was watching us as we approached. Bernard climbed a ladder to his nestbox, and the female flew out and watched, hooting and bill-snapping as Bernard pulled out a single chick, together with two prey items – a

Blue Jay and a Starling – and then put them back. He then put some food on the nearby feeding platform, and the male swooped in, gathered it in his talons, and flew back into the trees. Many photos were taken. We left the family in peace and headed on.

Our next stop was Van Nostrum's Pond, near Starrs Point, and on the way we stopped for a Red-tail's nest, with the adult sitting on it. We walked around the ponds, where there were hardly any ducks – just a few Mallards – but two Tree Swallows, many Red-winged Blackbirds, and a pair of Yellow-rumped Warblers. A murder of crows were diving at a screeching Red-tail in a group of Norway Spruce, probably indicating the presence of a nest. Out of the few sheltered areas it was c-c-c-c-cold!

We checked the Bald Eagle nest at Lower Canard, with one bird sitting on it, and then headed over to our warm kitchen, where we had lunch. Liz made coffee, and we all had a chance to look at goldfinches, Downy Woodpeckers, Purple Finch, etc. at the feeders.

After the lunch stop we checked out the Bald Eagle nest at Eagle Landing, N. Kentville, where everyone had good scope looks at the adult bird eying us from the nest. Then we went over to James Churchill's in Kentville, where some "good birds" had been seen recently. And indeed, one of them was present: a brilliant male Indigo Bunting that obligingly stayed in the hedge till we all had a good look. This was one of a major fallout of this species throughout the province in the last few days.

By then, some people had had enough of the cold wind and left for home. A few of us headed around the Miner's Marsh trail in Kentville, where we saw many more Red-winged Blackbirds, another kingfisher, and two pairs of Wood Ducks, amongst others. Those for whom it was their first visit were suitably impressed with the habitat.

A total of 34 bird species were seen, of which the highlights were undoubtedly the Barred Owls, the eagle nests, and the Indigo Bunting.

Cape Split Walk 1

by Jim Wolford

May 13, 2012 (mother's day) – Pat Kelly and I, co-leaders, picked up one participant in Wolfville, then drove to Scots Bay, where we first checked out the Bald Eagle nest on Huntley Road behind the Community Centre and Fire Department. An adult eagle was sitting on the nest. Later, after 4 p.m., I saw no eagle activity at all at the nest.

At the trailhead at 9 a.m., we found four more participants; later an eighth caught up with us on the trail. Morning weather was excellent, sunny and calm and warm; the afternoon was brightly overcast and still warm, and conditions out at the tip of Cape Split were quite nice and calm.

Flowers seen included alder, shadbush or serviceberry, Goldthread, Red-berried Elder, *Aralia* or Wild Sarsaparilla (just one plant in bloom), American Fly-honeysuckle, Spring Beauty, Purple Trillium (one group of three pale whitish ones seen), Tooth-wort, Dutchman's Breeches, Rosy Twisted Stalk, Yellow Birch, Red Baneberry, wild strawberry, Blue Violet, and common Dandelion.

The Spring Beauties were in carpets and all open, thanks to the weather, and extended for at least two-thirds of the walk's distance. In many spots along the way, we saw bumblebees actively foraging on and pollinating the Spring Beauties. I guessed that the bumblebees were all overwintered queens, in the process of starting up new colonies.

Regarding Tooth-wort, a brief search did not turn up the mutant form with differently shaped leaves this year. However, on my return walk I found a few examples of Tooth-wort leaves infected with *Albugo cruciferarum*, a whitish rust fungus, on their undersides. Nancy

also spotted a few stems of Spring Beauty infested with a yellowish fungus, *Puccinia mariae-wilsoniae* (fungus names courtesy of Nancy Nickerson).

The ferns were diverse and mostly in tall unfurling fiddleheads: Beech Fern, Cinnamon Fern, Lady Fern (both green and reddish varieties), Wood or Spinulose Fern, New York Fern, and Ostrich or fiddlehead Fern. The last mostly lives on floodplains, but there are lots of them along the couple of upland kilometres of the tip of the cape.

My bird list included a couple of Winter Wrens, Purple Finch, several Black-throated Green Warblers, Overbird, Yellow-rumped Warbler, and raven.

At the tip of the cape, it was nice to see a new nesting colony of 20+ nests of Double-crested Cormorants, after seeing few or none for several years. As usual, there were about 60+ visible nesting/incubating Great Black-backed Gulls and at least one nesting Herring Gull.

At the trailhead we saw a Snowshoe Hare, and out near the trail tip we met two walkers who showed us a photo of a baby hare they found right next to the trail. Other mammals, besides lots of leashed dogs, were several Red Squirrels and chipmunks. It was nice to hear the "chuck" notes of the chipmunks and, in one case, see the critter in the act of calling.

FIELD TRIP REPORT

Cape Split Walk 2

by Patrick Kelly

Saturday, May 19, 2012 – This was a joint trip with the Halifax Field Naturalists, and we had about a dozen people with roughly equal numbers from both organizations. As with the previous

week's trip, the weather was near perfect and we saw many of the same plants and birds. I don't recall seeing or hearing any chipmunks on this trip, but the Purple Finches were singing at the start of the trail, and the Winter Wren was heard at the same location, and even though it sounded quite close to the trail and well off the forest floor, none of us was able to spot it. At the site of the old clear-cut, we were all treated to the song and great views of a pair of American Redstarts. Once we were well into the Sugar Maple / Yellow Birch part of the trail, we heard a very vocal Least Flycatcher, and Black-throated Green warblers were frequent. The Spring Beauty was again in full bloom, which was a nice treat, as the weather and peak blossoming of this plant rarely allows for great displays on both trips.

At the tip, we had lunch, with people breaking up into groups. Larry Bogan and I spent some time watching a group of about 40 birds out on the water. They had been there the previous week, but too far out to see well enough to identify, other than that they were black and therefore not the eiders sometimes seen off the cape. This time they were closer, and we eventually determined that they were Black Scoters.

Different groups returned at their leisure and by different routes. Some of us took the lower path that runs along the south side of the tip to the small cove where you can descend a steep path (with the help of a rope). The path from there back to the main trail is now well marked with coloured tape. The one drawback of this route is that you lose most (or all, if you go the beach) of the elevation you gained on the inward trip, so you end up "climbing" Cape Split twice. Larry and I came back this way and also rediscovered the patch of variant Tooth-wort on the main trail on the way back.

Walk in Blomidon Provincial Park

by Jim Wolford

May 19, 2012. *This is an annual Nova Scotia Parks field trip (with BNS) to a woodland pond for fairy shrimps and other pond life, spring plants, migrant birds, etc.* The park just opened yesterday for this long May weekend. For the woods and pond walk, we had 20 to 25 participants, a nice mix of adults and children. Thanks very much to Kristiina Lehtonen and Andy Dean for taking a lot of nice photos. Pam Grace of the Department of Natural Resources also joined us. Our day was also nice weather-wise: mostly sunny, warm, and quite windy in open areas.

On my drive to and from Blomidon Provincial Park, I checked out the Bald Eagle nest on top of the cliff 1.4 km north of Mill Creek Rd, Blomidon. One of the parent eagles was feeding two downy eaglets in early afternoon.

In the parking lot where we gathered, someone found an asymmetrical moth (with smaller wings on one side, unable to fly), which Andy Dean photographed and then got identified by Jim Edsall. It was a Comstock's Sallow Moth (*Feralia comstocki*).

As usual, I welcomed everyone to the provincial parks system and mentioned that everything living and non-living is protected within these parks. I have a special temporary permit to use a dip net in the vernal pond, as long as I return the critters, etc. to that same pond after the show-and-tell.

On our drive through the campground, I saw two Snowshoe Hares crossing the road together.

Our walk from the northeastern part of the campground began with a lady beetle, which landed on one of the youths. It was a Seven-spotted Lady Beetle, one of the two alien or introduced species that

make up the vast majority of our sightings these days, with native species relatively very rare. Other terrestrial insects seen were two Red Admiral butterflies (one very worn, the other much fresher in appearance).

I pointed out the lush leafy growths of Wild Leeks (onions) along the Jodrey Trail; this sparsely distributed plant is deservedly protected in the park. In bloom were Hobblebush, American Fly-honeysuckle, Dewberry, or trailing raspberry, and Purple, or red, Trillium. We also noted unfurling fiddleheads of Christmas Ferns, as well as other ferns.

Ian Manning showed us that Alternate-leaved Dogwood stems were orange with an infection (possibly *Nectria*, a fungus).

Early on the walk someone spotted a nestbox between the trail and the cliff. Later I asked Bernard Forsythe about it. He said it was his box, all right (for Barred Owls), and has been there three years. But so far only deer mice have used it. Interestingly, the mouse nest is made out of chewed pieces of toilet paper, which must have come from the park's latrine, which is at some distance (not far for humans). So picture these mice making lots of trips back and forth for the nice nest material!

In the big field where we parked our cars, we saw a large flock of 20+ Blue Jays, prompting questions about whether they were migrating. I mentioned that indeed Blue Jays can be very migratory but their movements are not totally understood. And very few birds are non-migratory for their entire lives. Other birds heard or seen were Ovenbird, Least Flycatcher, Blue-headed Vireo, Black-throated Green Warbler, American Redstart, and a drumming woodpecker.

Our short walk got us to the vernal pond in the woods. After the relatively dry winter and spring, the pond was fairly small and in two unconnected pools. Two years ago the pond was almost totally dry, and last spring the water level was extremely high. Such is the way with vernal ponds, which depend on snow runoff and precipitation.

We had two quick highlights at the pond: I flushed a Common Garter Snake from the sedges out onto the water surface. We watched it swim and dive. And a day-flying small bat (possibly Little

Brown Bat) flew back and forth over the pond surface and then into the woods. (There have been many sightings of day-active bats this spring, which might reflect infections with *Geomyces destructans*, the fungus that causes white nose syndrome in bats. For today's bat, we might be far enough into late spring now that it could have just emerged from its hibernaculum and is just on its way to where it will spend the summer.)

As usual on this annual trip, I used the dip net to randomly sweep through the water to find some pond life. Dominating our catch were oodles of medium-sized blackish tadpoles, probably of Wood Frogs, and lots of green clumps of developing eggs and larvae of Yellow-spotted Salamanders. The green is from a symbiotic green alga that occurs nowhere else than in these salamanders and their egg-envelopes. The symbiosis is mutualistic (i.e., beneficial to both the algae and the salamander larvae; the larvae get oxygen from the photosynthesis of the algae, and the algae get protection from the slime-jelly plus nutrients in the form of the waste products of the growing larvae).

Other forms of pond life included black flatworms (planarians) gliding on the enamel; snails; oodles of tiny "water fleas" (crustaceans related to Daphnia); fairy shrimp (*Eubranchipus intricatus*), not very abundant, and only males observed; a few orange water mites; damselfly larvae, common and variable sizes; one tiny dragonfly larva; two kinds of caddisfly larvae in "houses" constructed of pieces of plant material; phantom midge larvae (flies); mosquito pupae, comma-shaped, tumbling in the water; and a couple of diving beetles.

A microscope would have also revealed green algae and several kinds of tiny animals such as worms, mites, and protozoans.

As usual, I recommended the widely available Golden Guide *Pond Life* as a good source of colour pictures, etc., about all forms of pond life.

Some folks continued walking the Jodrey Trail circuit beyond the lookoff to the Minas Basin and Five Islands Provincial Park, and I was back at my car by 12:30 p.m.

The Park Events Guide 2012–2013 is available from the Nova Scotia Provincial Parks branch of the Department of Natural Resources. See www.novascotiaparks.ca for a long list of events.

SEEN IN THE WILD

The Seal That Came Ashore

by Marina Firth

On Sunday afternoon, May 9, 2010, in Dellhaven, Kings County, around 2 o'clock, a Harbour Seal washed up on shore with the tide. Paula Rockwell and Tessa Firth took their two puppies for a walk on the beach. When they were on their way back, Tessa spotted a sandy-coloured animal moving around on the beach near a stream that came in from the Minas Basin.

"I looked at the animal for a second and it was like, Oh, my gosh! A seal!" Tessa Firth said in an interview. "And then Mom and I both walked up to it and looked at it to make sure it was okay. Then I ran to the house to get Dad."

Once Tessa had reached the house she ran up the stairs to the door and went in yelling for Dad. She was talking about how it was an emergency and that she needed him right away. I overheard her, ran upstairs to get my camera and, of course, followed my Dad down to the beach. He grabbed a tarp from the garage and continued walking. Once we arrived, my Mom was standing by the seal. She told me not to pet it because it was a wild animal and wasn't used to humans. My Dad then dragged him by his flippers and put him on to the tarp. Then my Mom and Dad lifted him and carried him to a big tidal pool, which was about three feet deep in the eel grass. We then decided to call him Buster. We didn't really know if it was a boy or a girl, but we thought the name Buster fit well.

The tide was out and probably wouldn't be full until 9 o'clock that night, so we left him there. Every hour or so we would go down to check on him to see if he was okay. He'd go out of the tidal pool, back in, out, in, and so on. When it got to around eightish, we got the tarp again and went back down. When we went down he was out of the water so it was easier to get him on the tarp. When Dad tried to get him on, he tried to bite him and he hadn't before. The water probably gave him more energy or got him back to himself.

When we did get him back on with great difficulty, we took him over to the big channel and said our final goodbyes. He didn't know which direction to go in, so Dad pushed him in the right direction and he was off. He was so fast! We thought he'd peek his head up again, but we never saw him again. I hope he got back to his home safe.

Marina is in grade 8. She plays the flute and dances. She likes writing. Her aspiration is to study dance at Julliard.

NATURAL HISTORY

Ghostly Flowering Plants of Nova Scotia

by Martin L.H. Thomas

If you go down to the woods today, you may get a big surprise,
With a ghostly plant a-flowering there right before your eyes.
APOLOGIES TO JIMMY KENNEDY

The great majority of flowering plants that we see in gardens and in the wild are mostly green or at least have pigments that give them obvious colour. These plants get their food energy through the process of photosynthesis, using the green pigment chlorophyll to

organic compounds from carbon dioxide in the air, using the energy of sunlight. However, we occasionally come across plants that are virtually colourless or, if mildly coloured, show not a trace of green. Seen in the woods, these plants have a distinctly ghostly appearance. This is because these plants have no chlorophyll at all when they are mature, although a few of them, such as Common Dodder (*Cuscuta gronovii*), may have a brief seedling period with chlorophyll. These plants grow to moderate size and must get food energy to do so. One is tempted to assume that these unique plants are parasites on other plants, and this is true for many of them; however, others are saprophytes, which means that they get their food energy from dead plant material in the soil. The coral-root orchids (*Corallorhiza* spp.), are saprophytes. Fungi such as mushrooms and toadstools, with which we are all familiar, are also saprophytes.

Perhaps the ghostly plants most familiar to most naturalists are the Indian Pipe (*Monotropa uniflora*), aka Ghost Plant or Corpse Plant, and its close relative Pine-sap (*Monotropa hypopithys*), aka Dutchmans Pipe or Birds Nest. Indian Pipe is pure white and Pine-sap a delicate yellow. Both are quite commonly seen from June to September in mixed woodland. They show up very well in the reduced lighting of the forest floor, and both are about 15–20 cm tall. Apart from the colour difference, they can easily be told apart by Indian Pipe's single flower per stalk in contrast to the many flowers in Pine-sap. The colourless leaves are scale-like and arranged alternately on the stems. Surprisingly, these plants are members of the heather family (Ericaceae).

These two plants have a curious way of getting their food energy. Although closely associated with tree roots, they do not directly attach to roots. Instead, they are parasites of the mycorrhizal fungi that do live in intimate association with the tree roots. The fungi extract organic compounds and dissolved minerals, which are then passed on to the Indian Pipe and Pine-sap. Experiments using radiocarbon have shown that this whole process is very rapid. The fungi involved also produce large brown-capped mushrooms that are also

MARTIN THOMAS

Early Coral-root

MARTIN THOMAS

Indian Pipe

MARTIN THOMAS

Pine-sap

found under the trees. An example is the King Bolete (*Boletus edulis*), which is reported to be a choice edible species.

The straightforward parasitic plants that live directly on their host plants are divided into two groups, depending on their mode of life. The stem parasites are found attached to the stem or twigs of the host, whereas the root parasites attack roots of the host, and the only visible parts are the stems and flowers that emerge from the soil only in the reproductive season.

The most commonly seen stem parasites are the dodders (*Cuscuta* spp.), of which three species have been recorded from Nova Scotia. They are placed in their own family, the Cuscutaceae, but are closely related to the morning glories. The only reasonably common one, the Common Dodder (*C. gronovii*) is quite hard to spot but appears as a quite small wiry climbing vine wound round the stems of the host plants. The stem of Common Dodder is firm and yellowish or reddish in colour. The numerous flowers are small and white. In other parts of the world, dodders cause serious crop damage, especially of leguminous plants (pea and bean family).

Dodders are unusual among the parasitic plants in that the seedlings are green, rooted, and initially carry out photosynthesis. However, as soon as they find a host plant to climb they abandon their root and feed entirely on the host plant. It has been shown that where several host plants are available, one with the highest nutrient content will be selected.

Another common stem parasite found in Nova Scotia is Dwarf Mistletoe (*Arceuthobium pusillum*) in the Christmas Mistletoe family (Viscaceae), which attacks spruce trees. The growing stage of this parasite is small and quite hard to spot, but host trees usually show the clumps of twigs known as witches' brooms. The growing plants found down among the needles bear tiny flowers. Each flower produces a single seed that when mature is explosively ejected from the plant. It is said that if you are in the woods when this is happening the sound made by the ejecting seed is easily heard. These seeds are very sticky and can travel up to 16 m before falling to earth. It is intriguing that anything so sticky can be so easily discharged! They

ALAIN BELLIVEAU

Dodder in flower on Swamp Candle

ALAIN BELLIVEAU

Cancer-root

will stick to anything they encounter. Those lucky enough to finish up on a spruce needle slide to the base and germinate there. As with the dodder, the new seedling is green and photosynthetic, but as it grows the plant soon becomes totally parasitic.

The final group of these plants is the root parasites, which live underground and extract food energy and minerals from the roots of their hosts. One striking member of this group that can occasionally be found particularly in oak and beech woodland is called Squawroot (*Conopholis* spp.) The species found in Nova Scotia is Cancerroot (*Conopholis americana*). It and the next two species are placed in the Broom-rape Family (Orobanchaceae). It is quite rare but cannot be mistaken if you come across it in the flowering season from April to July. The flowers are at the top of a stout shoot about 10 cm high completely hidden by white scales.

Another root parasite associated with beech trees is Beech-drops (*Epifagus virginiana*), which flowers from August to September on pale, slender stems up to 50 cm high. At the tip of the stem are tubular flowers with reddish stripes. Further down the stem are small flowers that never fully open. It is reasonably common.

The last member of this group is Broom-rape (*Orobanche uniflora*), which parasitizes various plants and appears as a group of short (5 cm) stems each ending in a single violet-coloured elongate flower. These flowers can be found in June and July but are inconspicuous. Broom-rapes are not a serious problem here, but in other parts of the world they cause extensive crop damage. One curious feature is that the seeds are exceedingly long-lived, lasting up to 50 years in the soil. This makes them difficult to eradicate!

These plants may seem peculiar, but they exhibit some very advanced and beautiful adaptations to their mode of life. They are not all closely related but are found in families scattered throughout the plant kingdom, which explains the wide diversity of adaptations found. As you wander about this summer, keep an eye out for these pale and sometimes ghostly plants. They can be a very rewarding find, particularly if you are aware of their peculiar features.

New Occurrence in a 35-year Barred Owl Study

by Bernard Forsythe

Barred Owls require a large hunting territory to breed successfully; therefore, most nests are two or more kilometres apart.

The many varied habitats along the Gaspereau River produce a lot of Barred Owl prey species, enabling these large birds to nest closer together than usual. Most years, four of my boxes around White Rock Pond are used by these owls. Two of the nests are only 1.08 km apart and have been occupied for more than 30 years. A pair of Northern Goshawks has also been nesting successfully between these two nestboxes each year. In late march of 2012, three eggs were laid in each of the two closer-than-average owl boxes.

On April 9, I visited the Goshawk stick nest, which is 12 m up in a large poplar. To my great surprise, a female Barred Owl was incubating eggs on the open stick nest, with no sign of any Goshawks in the area. Later, Rick Whitman joined me, and using his GPS we carefully measured the distances between the three nests. The distance from the Barred Owl in the Goshawk nest to one nestbox was 415 m and 668 m from the second nestbox, for a total of 1.08 km with three nesting pairs of Barred Owls. A fourth pair nested in another box 2 km up the Gaspereau River along the nature trail. A fifth pair occupied a box 2 km north of White Rock Pond. After 35 years of working with these fascinating owls, new material on their life cycle always turns up.

When there is lots of food available, owls defend smaller territories. Our open winter last year was easy on the owls' small-mammal supply. The area around White Rock Pond contains patches of old

growth woods, second growth woods and bushes, farm fields, and the river; wetlands provide homes for all the small mammals, birds, snakes, amphibians, fish, and large insects these owls prey on. The Gaspereau (*Alosa pseudoharengus*) run in May and June is an important food source to feed the young owls. The nestboxes are always full of Gaspereau scales.

The owls in the Goshawk nest must be defending a very small territory or are sharing ground with their close neighbours. Could one of the nestbox males have two females? If so, he would be very busy feeding both families, as there are three healthy owlets in each neighbouring box. Perhaps further observations will answer these questions.

YOUTH

BNS 2012 Regional Science Fair Awards

by John Belbin

This year the Annapolis Valley Regional Science Fair, which covers Annapolis, Kings, and Hants Counties, was held at the NSCC campus in Middleton. The judging days were March 28 and 29, and the rewards ceremony was on March 30. In view of the long distance and early morning starts required, I was very pleased to be joined by Jean Gibson Collins and Barry Yoell, both BNS board members, who volunteered as judges. As usual, the fair had fewer judges than they would like; it would be an excellent experience for other members of BNS.

This was our first year since we changed the rules for the two BNS awards, and it seemed to work well. We simply select the two projects

that seem to be the most qualified within the interests of our society. There is no longer a rigid age range. Each winner will receive $100, a special BNS certificate, and a one-year subscription to our Newsletter. We are told that this now places it as one of the more desirable awards, and hopefully it will generate interest in both our society and our natural world.

WHEN WOODPECKERS COME KNOCKING
(LS 301 MAKENZIE WELTON, HANTSPORT SCHOOL)

Subtitled, "Why don't woodpeckers get concussions, headaches, or hurt their brains?" Makenzie even constructed a model of a woodpecker skull to illustrate her points – she knows far more about woodpeckers than I do. A woodpecker can hit a tree 17–20 times a second with more power delivered at its beak than that used by a prize fighter. Why doesn't it suffer damage? A woodpecker has a specially designed skull, which is unique from that of other birds. All over the skull are spongy bone spots that help to absorb the shock. It also has a strange protector that wraps over the skull – partly the tongue and partly a mix of bone, muscle, and cartilage. Called a *hyoid apparatus*, it circles the head and allows the tongue to come through the lower beak. This acts as a large shock absorber. Woodpecker brains are also tightly cushioned and have little fluid surrounding them, which minimizes movement inside the skull. This design is now inspiring a new generation of safety helmets.

Makenzie's display also illustrated the variety of woodpeckers we find and their habits. And she showed their other adaptations to their life style, such as *zygodactyl* feet (2 toes in front and 2 behind) to grasp the tree bark.

ACID RAIN, AND THE EFFECTS ON EDIBLE PLANTS
(LS 317 EMILY ALBERT, WKDS)

Emily wanted to find out the effect acid rain would have on smaller, food-bearing plants that we depend on for much of our nutrition.

The testing was carefully done, well recorded and analyzed, clearly a superior effort for her age group. The tests were to see the effects of changing acidity in the water supplied to some fast-growing vegetables under otherwise identical conditions. Acidity was controlled with a pH meter. Different sources of acidity were considered and some discarded when they didn't show the necessary correlation. There were 12 tests on mungo beans, 12 on soldier beans, and 12 on black-eyed peas.

This proved to be an excellent demonstration of the stresses placed on plants by changing acid levels. Emily's project was exceptionally well documented, complete with a PowerPoint presentation and a large number of photos of the various experiments she had performed. She had a detailed comparison of all results with a control group that she had established. This was a quite scientific study and extremely well presented. (PERSONAL NOTE: After 20-odd years of seeing acid rain topics at every science fair, I passed this one by until the other judges directed me to it as an excellent prospect. I am very glad they did. JB)

Congratulations to both BNS winners. You have a great future.

SCIENCE

Biochar: Soils, Carbon, and Climate Change

by Thea Whitman

As someone worried about climate change, you've probably got carbon on your mind. One of the key strategies to reduce anthropogenic climate change is to reduce the amount of carbon dioxide (CO_2) and other greenhouse gases such as methane (CH_4) in the atmosphere. Or, in other words, we need to keep that carbon

stored somewhere other than the atmosphere – in growing plants or uncombusted fossil fuels, for example, or in the soil.

Is the amount of carbon stored in the soil really relevant to the global carbon cycle? Absolutely! The amount of carbon in soils is actually two to three times the amount of carbon in the atmosphere and is stored as organic matter or inorganic materials such as carbonates. (I'll be using the term *organic* to mean "carbon derived from living things," not the other common meaning, "produced without synthetic pesticides or fertilizers.") Besides keeping carbon out of the atmosphere, soil organic carbon serves many purposes. Its ecosystem services include improving soil's ability to hold water, contributing to soil structure, affecting nutrient cycling in soils, and binding toxic metals so plants don't take them up.

The amount of carbon in a given soil is determined by the balance between additions and losses. Additions come annually from plants, in the form of things like falling leaves, dead roots, or the crop residues that we leave on the soil surface after a harvest. Losses come largely through decomposition as microbes or animals in the soil consume soil organic matter for energy and growth, respiring CO_2 just like we do. The rate of decomposition is affected by factors such as temperature, moisture, whether the organic matter is protected from decomposers, or whether its chemical bonds are easily broken down or are more stable. One form of soil carbon is particularly stable, likely due to its chemical structure; it is known as black carbon.

The term *black carbon* includes everything from lightly charred plant materials to soot. Black carbon is most often the product of fires, formed when there isn't enough oxygen available to completely combust the fuel (this process is called pyrolysis). In regions of the world where wildfires are common, such as parts of Australia, black carbon can make up over 70 percent of the total soil organic carbon. Although a substantial fraction of carbon is lost during its production, the remaining black carbon is often very stable and can persist in soil for hundreds to thousands of years, depending on its chemical properties and environmental conditions.

The high stability of black carbon has piqued the interest of those

interested in storing carbon in soils to combat climate change. You may have heard the term *biochar* – it is used to describe black carbon that is more like charcoal than soot, and it is produced intentionally either to manage carbon stocks or for agricultural applications. Historically, charcoal was produced in simple kilns, covering piles of smouldering biomass with mounds of earth. More recently, industrial-scale pyrolysis units can produce biochar while capturing energy, In developing countries, small cookstoves that use pyrolysis to produce heat for cooking along with biochar as a co-product are being developed. It is helpful to think of biochar production as part of an integrated system that includes the biomass selection, biochar production, and the ultimate application of biochar to soils.

Some scenarios for producing biochar may be a good idea, and others may not.

Each system is different, but a few general principles help to determine when it makes sense from a climate perspective. The first question is What would have happened to the biomass otherwise? For example, cutting trees from a growing forest for biochar production doesn't make sense; if the trees weren't cut, they would continue to grow, storing more carbon. The second question is How will it be produced? It is important that the energy and gases or oils released during pyrolysis be captured and used, whether for cooking, heating, or generating electricity or fuel. The third question is Where will it be applied? The ideal systems may work at a very small scale where the biochar is returned to the same soils from which the biomass is produced.

Because each biochar is different, it is important to match it to the soil where it is applied. As a simple example, biochars with a high pH should not be applied to high-pH soils, but they might improve crop growth on acidic soils. Furthermore, although we are focusing here on biochar's carbon or climate impact, there are many other important factors to consider, including what other demands there are for biomass, the effect of using biomass for biochar production instead of returning it directly to the soil, or other ways biochar will impact soil fertility.

The volume of research being done on biochar has exploded over the past five years, but many exciting questions remain. During my master's research, I investigated the question of how the introduction of a pyrolysis cookstove to small farm households in western Kenya would change carbon stocks and flows in the system. I found that it had the potential to decrease carbon emissions within the same range that a very efficient combustion cookstove could, while producing biochar that could improve crop yields. I also compared the rates of decomposition in biochars produced from different sources of biomass at different temperatures. I found that for biomass sources that decompose slowly anyway, such as pine or oak, producing biochar results in a "carbon debt" that won't be repaid for decades because of the initial carbon loss during biochar production. However, because materials such as corn stalks decompose quickly under normal conditions, creating stable biochar from these materials can quickly result in a carbon benefit.

Currently, I am investigating how black carbon interacts with other forms of soil organic matter. Some researchers have found that the addition of black carbon to a soil can change the decomposition rate of other organic matter. If black carbon stabilizes organic matter, its addition to soils could have a greater climate benefit than predicted. However, if its addition results in faster decomposition of other soil organic matter, its impact will be reduced. I am working to determine under which conditions these different effects occur and what mechanisms may be responsible. It is important that we understand these interactions in order to predict the impact of black carbon on the global carbon cycle and climate change – for both natural and managed ecosystems.

Reducing fossil fuel emissions is the number one action we need to take to fight climate change. In addition, by carefully designing biochar systems and improving our understanding of biochar-soil-plant interactions, we could potentially add biochar as one of a diversity of tools we use to help reduce atmospheric greenhouse gas levels.

Thea Whitman is from White Rock and is currently working on a PhD in soil science at Cornell University.

Nature Nova Scotia Annual Conference and AGM

by Jean Gibson Collins

May 25–27, 2012 – Nature Nova Scotia (NNS) and the Young Naturalists Club (YNC) of Nova Scotia held simultaneous conferences at Tatamagouche Centre. The YNC conference was sponsored mainly by a grant from TD Friends of the Environment Foundation. Fifteen children attended in the company of parents or grandparents. Although the two groups shared only one speaker event, having these enthusiastic children in the vicinity was marvellous.

Attendance was down from last year, but there were some new faces and the usual wealth and diversity of knowledge and experience, which means invaluable contributions to both the educational program and the field trips.

The informal reception Friday night and the one preceding the banquet on Saturday evening were opportunities to reconnect face-to-face with like-minded friends. The weather was more than cooperative, with sunshine, warm temperatures, and not a drop of rain. The Tatamagouche Centre grounds and the nearby Trans-Canada Trail harboured a good variety of birds as well as bugs, mosquitoes, flowers, and other plant life for early-morning naturalists. Although evening stargazing was a bit hampered by the late sunset and some nearby artificial light, children and adults alike appreciated the explanations and the magnified views of telescopes brought by Larry Bogan, Pat Kelly, and Sherman Williams. (How did we manage before laser pointers?)

John Klymko introduced the butterfly species of the Maritimes and reviewed progress of the Maritimes Butterfly Atlas as of the end of 2011. Participants are now encouraged to submit their entries on the website <ebutterfly.ca>. John is also interested in documenting any sightings prior to 2012; all he needs is a reasonable photograph, along the date and location of the sighting.

Jason LeBlanc, a fisheries biologist with Nova Scotia Fisheries and Aquaculture, gave an overview of aquatic invasive species in Nova Scotia. He reviewed the history of the Smallmouth Bass, now recognized as an invasive species, and other alien species such as the Chain Pickerel. He told us about the lack of *any* invasive species policy in Nova Scotia, the need to develop one quickly, and the necessity of very early intervention to eradicate unwanted species from any given watershed

Matt Miller, Forestry Program Coordinator for the Ecology Action Centre, told us about the Otter Ponds Demonstration Forest. This area of crown land (about 650 hectares, 20% water and wetland) had been sustainably (and unofficially) managed by the community of Mooseland for many years. When Northern Pulp clear-cut large sections immediately adjacent to the highway (selecting its quota from a different area of crown land was permitted when the company lost harvest rights on a newly protected area), the dismayed citizens realized that they had to take action to protect as much as possible of the rich forests near their community. This is the first time that a Nova Scotia community has been granted management of crown land. The board has representatives from the four founding members (Mooseland and Area Community Association, NS Woodlot Owners and Operators, Eastern Shore Forest Watch, Ecology Action Centre) and non-voting representatives from Northern Pulp and the NS Department of Natural Resources. See http://www.novascotiaforests.ca/otter-ponds-demonstration-forest.

Helene Van Doninck of the Cobequid Wildlife Rehabilitation Centre gave the Sunday morning presentation for the combined NNS and YNC groups: Helping Us Help Wildlife – Tips for Everyday Life.

This was a highly practical talk about what to do and what not to do for both household pets and wildlife. She described how to capture without actually touching injured wildlife, when to rescue baby birds (only when they have no feathers; see her blog on the Nature Canada website <www.naturecanada.ca>), the importance of keeping cats indoors, and the dangers of lead shot and sinkers for wildlife and also humans.

The after-dinner speaker was Billy MacDonald, founder of Redtail Nature Awareness. His talk was titled *Reflections on Youth and Outdoor Education*. Billy arranges a unique six-day camping experience on a private, 120-acre property in Scotsburn, where youth have the opportunity to "free play" and discover nature in a minimally guided environment. Individuals learn not only respect for nature but also respect and tolerance for one another and how to solve problems. They also learn to disconnect from the plugged-in world. See http://www.redtailnatureawareness.ca/.

FIELD TRIPS

John Klymko led a butterfly field excursion at Tatamagouche Centre, Friends of Pugwash Estuary hosted two woods walks around a part of the Pugwash Estuary, and Ducks Unlimited Canada hosted two walks on the dyke at Wallace Bay. Tom and Matt Miller led a post-conference trip though part of Tom's sustainable-forest property in Earltown, and Mary MacAulay took a group to a forest property around the Angevine cemetery. Each place was unique, and the experience was enriched by the participants and their individual areas of expertise.

YOUNG NATURALISTS

The YNC program began Friday evening with the Becoming a Naturalist workshop where the children learned to make nature journals. In the birding workshop, they learned to identify, observe, and draw birds. They were encouraged to go birding with their parents

before breakfast each morning and could be seen watching, drawing, and making notes about their sightings. Nature Walks taught them to identify trees, make other nature observations, and focus on the sights, smells, and sounds of the great outdoors. There were field trips to the Northumberland Shore (Saturday) and to Sugar Moon Farm (Sunday). Games around a campfire followed the Saturday banquet.

This annual NNS event, usually held during the last week of May or the first week of June, presents a wonderful opportunity to socialize with like-minded people from many different walks of life who share a common interest in, respect for, and desire to preserve the diversity of nature, especially in Nova Scotia where we are fortunate to have a great deal of diversity. Thank you to the guest speakers and field trip leaders who generously donate their time and expertise to advance our knowledge.

NATURAL HISTORY

Bald Eagle Restoration Project in Massachusetts

by Peter J. Austin-Smith, Sr.

THERE was something very fishy about the small aircraft as it flew south from Nova Scotia to Massachusetts. However, it was the inflight meal of fresh fish being eagerly devoured by the six 6–7-week-old eaglets that gave the flight such a distinctive odour and not something rather sinister. These young Bald Eagles were destined to be the first of several yearly shipments of birds from Cape Breton in Nova Scotia to help restore an eagle breeding population in the States.

The Bald Eagle is a very large, aggressive-looking bird with features that led to a misunderstanding of its qualities and an early disagreement in 1782 when Ben Franklin, John Adams, and Thomas Jefferson were appointed to choose an official seal for the fledgling United States by the Continental Congress. Franklin wanted the Wild Turkey to stand as a symbol rather than the Bald Eagle because he believed it to be a bird of "dubious diet and equally dubious character." He was outvoted by Adams and Jefferson, who both thought of the Bald Eagle as a bird that symbolizes "a free spirit, high soaring and courageous." (The Golden Eagle, used by the Romans as a symbol, seems to fit this description a bit better.) Both views were correct – up to a point. The Bald Eagle does have a noble appearance, but its true nature is that of a benign bird of prey, more readily attracted to an easy meal, often carrion, than to one that requires the effort of pursuit. Nonetheless, it will attack living prey when presented with an opportunity for doing so without expending very much energy.

In the lower 48, the Bald Eagle population declined to 791 nesting pairs in 1974, resulting from a combination of habitat destruction, shooting, and pesticide contamination. (As an aside, it was a retired Canadian banker, Charles Broley, who in the 1950s first noted precipitous declines in nesting eagles, and in the case of those that attempted to nest he noted their failure to produce young. He believed that, somehow, chemical contamination was to blame.) It was later determined that DDT was linked to thin-eggshell syndrome, a significant cause of Bald Eagle nest failure. DDT was banned in 1972. Later, the Bald Eagle was placed on the US endangered species list, and efforts were begun to restore populations to their former range.

US biologists established captive breeding programs using adult birds that were injured and could not be returned to the wild to produce young eagles. The birds were placed in artificial nests in hack boxes, or in wild nests. Viable eggs were also placed in occupied eagle nests and hatched by wild birds. Biologists also transported young birds from wild nests where there were at least two eaglets to artificial nests in hack boxes. This technique of "hacking" is an old falconry trick whereby the young will imprint on the site where they

were raised and from which they fledge rather than the hatching site. These programs of moving young birds from one site to another for eventual release are called *translocation* programs.

In 1984 it was clear that the Bald Eagle population was thriving in Nova Scotia, so it was agreed that the province would help the United States re-establish eagle populations in the northeast by taking young birds from Cape Breton nests. Over the course of the next six years 40 eaglets were donated to the United States, of which four first went to New Jersey and the rest to Massachusetts.

Eaglets, each of which was taken from Cape Breton nests that produced at least two young, were banded and then transported to the States. On arrival they were placed in individual cages facing a large lake and shielded from any human contact, as food was delivered through a hatch in the top of the boxes. Perches attached to electronic scales automatically recorded the weight of the birds, and one-way windows allowed observers to monitor their development. Just before the birds were ready to fledge, as evidenced by flight-feather growth and much wing flapping, they were equipped with radio transmitters and patagial tags. Eventually, the cages were opened and the young birds, now 11 to 12 weeks old, took wing, some to flap precariously then glide to a nearby island while others often took to the nearest tree. Biologists monitored the birds' movements around the area and also placed fish and other carrion on the island later to help the eagles through the fall and winter months. It was hoped that these and subsequent eaglets from Nova Scotia would survive to become breeding adults and repopulate suitable areas of the state where the last known bald eagle nest was in 1909.

In 1987 one of the first birds to be shipped to Massachusetts – a female adult – was observed in the company of a male eagle, and then in 1989 the first eagle nest in Massachusetts produced two young birds. The female was a 1985 nestling from Cape Breton, which mated with a male that had been taken from a nest in Michigan.

In 1993 there were nine occupied eagle territories, one of them in Connecticut. In 1994 there were an estimated 15 occupied nests in

the region. By 2006 there were 23 nests in Massachusetts alone. In 2008 the US Fish and Wildlife Service removed the Bald Eagle from all lists of concern (endangered, threatened, etc.).

In recognition of Nova Scotia's assistance with this bald eagle restoration program, the Commonwealth of Massachusetts House of Assembly passed a resolution formally expressing gratitude to the people of Nova Scotia.

This project to re-establish a Bald Eagle population in Massachusetts was conceived by Jack Swedberg of the Massachusetts Department of Fish and Game, who came to Nova Scotia to help obtain the eaglets from nests in Cape Breton, together with regional biologists Dave Harris and Dan Banks and their nest-climbing teams.

UN-NATURAL HISTORY

Silent Spring, South – or Rachel Carson Revisited

by Barry Yoell

The faint, but unmistakable, smell of pesticide wafted on the soft, warm, tropic breeze, the palms, bougainvillea, hibiscus, and other exotics moving gently in its passing. The sun, warm but not yet hot, smiled on this idyllic early morning scene. The calm, azure sea lapped indolently on the soft sand beach. It was quiet. It was abnormally quiet.

We had visited this Caribbean island several times in the past 10 years and had enjoyed the large number of birds, reptiles, and insects. The sounds and sights of these tropical natives were regarded as a large and important part of our winter getaway. We were fascinated by the gatherings of geckos and other small lizards that con-

BRIAN MCKIBBIN

gregated around the outside light fixtures each evening, feasting on the insects attracted to these lights. We identified Green Heron, Tricoloured Heron, Great Egret, Grassquit, several types of woodpecker, parrots, gallinules, hummingbirds – and there were many other "unknowns." The pelicans, diving into the sea like large brown paper bags were one of our favourites. There were myriad butterflies and, of course, the biting flies.

During this past winter's trip, there were very few mosquitoes and only one huge cockroach (discovered inside someone's pyjamas, in the middle of the night!), and for this decrease in insect activity we were grateful and virtually bite free. One cannot minimize the importance of this aspect of insect control, as malaria and dengue

fever (break bone fever) are endemic to these islands and are transmitted through mosquito bites. So the virtual elimination of mosquitoes cannot be all bad. However, the baby has gone out with the bath water. The abnormal silence early in the morning reflected an almost complete absence of birds and insects, and though we went searching, our binoculars discovered only a few doves, woodpeckers, one Tricoloured Heron, some Common Gallinules, a Great Ibis, and only one pelican. There were no geckos around the lights at night, though we did see a few very small ones elsewhere over the week. A few butterflies flew overhead, tossed by the winds, but almost none were seen in the tropical flowers. Also, we noted that there were no fish or turtles in any of the artificial pools and streams on the property, but in a foul-smelling rivulet near the edge of the resort, there were many small fish – and a Green Heron!

Presumably this major change in the fauna at this resort is caused by the well-meaning owners attempting to protect their patrons from the insect hordes. Their actions, however, have eliminated one of the most attractive features of their country, one that is enjoyed by many of their northern visitors. We will not return.

SCIENCE LOST

Loss of Environmental Monitoring

by Wendy Elliott

Eighteen months ago, more than a few Wolfville residents thought the town had been invaded by aliens. The federally funded light detection and ranging (lidar) observation station at Acadia University was installed quietly in the fall of 2010, and just as quietly it was shut down recently.

The station was one of five in the Canadian Operational Aerosol

Lidar Network (CORALNet) to be closed by the federal government. The large green laser that shot 25 kilometres skyward is no more.

Every 10 seconds the lidar station in Wolfville used to provide vertical aerosol profiles from near ground to 25 km into the sky. It operated 24 hours a day, seven days a week except when it was raining or aircraft flew over the site.

Environment Canada told CBC it had drastically cut back on its monitoring of air pollution that can cause health problems for Canadians, reassigning scientists involved in that monitoring to "other priorities."

Acadia professor Dr. Nelson O'Driscoll, who runs the environmental biogeochemistry lab, said that the loss of data collection on air emissions is regrettable. "We were part of a cross-country network, and it is well known that Nova Scotia is downwind of a lot of air emissions," he said. Nova Scotians have been aware for some time that they live in the tail pipe of North America; pollutants released in Boston can reach Nova Scotia 24 hours later. Dr. O'Driscoll calls the closure of the lidar station here a loss to the global network of scientists studying air quality. He did note that an already functioning station at Dalhousie University will continue to operate.

US scientists have indicated the Environment Canada cuts could go far beyond ozone monitoring. Programs tracking pollution drifting into Canada from Asia, Europe, and the United States are also being hit. According to a Feb. 14 story in the Montreal *Gazette*, there is concern about whether Canada will be able to fulfill its obligations under several international agreements.

Dr. O'Driscoll noted that "the east coast is losing capacity for long-term environmental monitoring, which is often the realm of federal government researchers." Based on a recent CBC article it appears that research resources such as the air-quality lidar could be redirected to Alberta's tar sands.

NOTE: See "Look Straight Up," John Belbin's original story on the Acadia lidar, in the BNS Newsletter vol. 37, no. 1 (Spring 2010).

Spring Weather 2012, Eastern Annapolis Valley

Larry Bogan, Cambridge Station

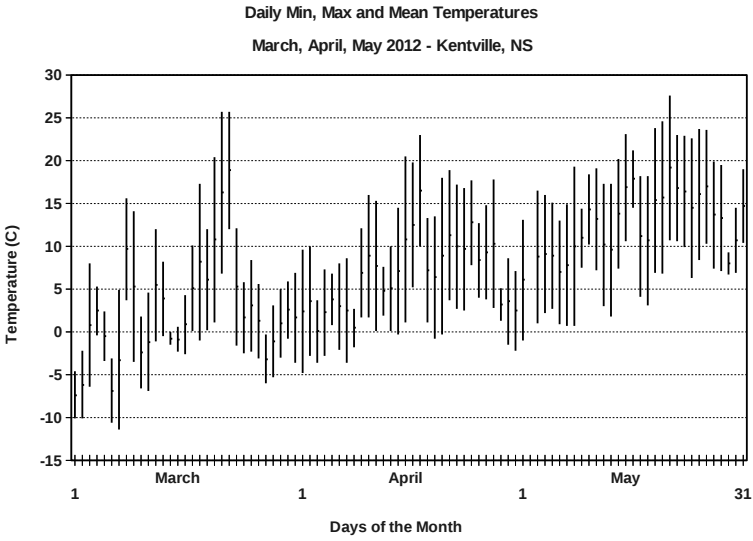
I THINK everyone will agree that we had a very pleasant spring with lots of sunshine and warm weather. It also has been very dry, creating a water deficit for the Valley.

	Temperature			Precipitation	
	Max (°C)	Min (°C)	Mean (°C)	Total (mm)	(Fraction of 30 yr. average)
March	7.6	–2.7	2.5	43	0.39
(30 yr. average)	(3.4)	(–5.2)	(–0.9)	(111)	(1.0)
April	12.6	0.9	6.7	55	0.61
(30 yr. average)	(9.5)	(0.4)	(4.9)	(90)	(1.0)
May	19.0	5.9	12.5	26	0.27
(30 yr. average)	(16.3)	(5.4)	(10.9)	(97)	(1.0)
Season	13.1	1.4	7.2	124	0.42
(30 yr. average)	(9.7)	(0.2)	(5.0)	(298)	(1.0)

Source: Environment Canada data for Kentville, NS (http://weatheroffice.gc.ca) and Canadian Climate Normals and Averages (Kentville).

TEMPERATURE

All three months of spring were warmer than normal, but March was by far the most extreme. The mean temperature for March was

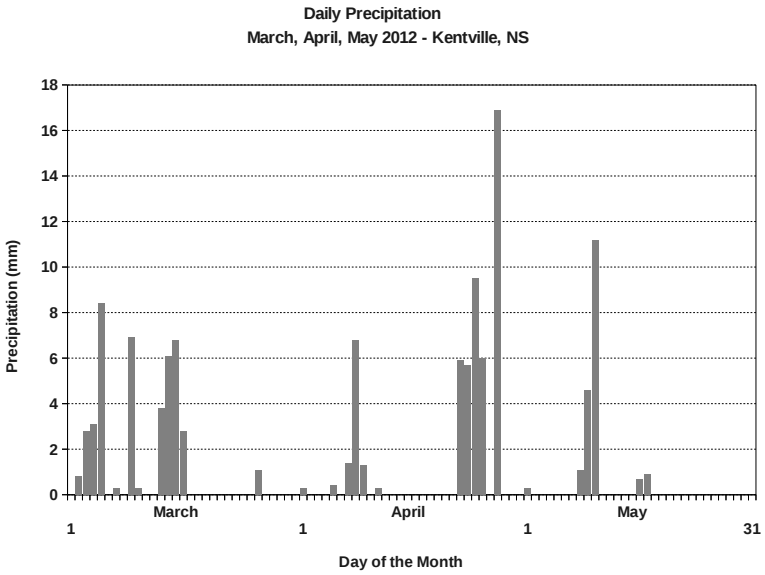


3.4°C above the 30-year average. The means for April and May were 1.8°C and 1.6°C above normal, respectively. It is interesting that only March had a mean minimum temperature significantly above the average (by 2.5°C), while April's and May's were both 0.5°C above the average. It was the mean maximum temperatures that were high in all three months, leading to a mean maximum for the whole season of 3.4°C above the average.

Interestingly, only three days of the season reached a maximum temperature above 25°C, one in May, the other two on the 21st and 22nd of March. The chart of daily temperature shows nicely the elevated temperatures of March.

PRECIPITATION

The right-hand column in the table expresses monthly precipitation as a fraction of the 30-year average: 39 percent in March, 61 percent



in April, and 27 percent in May. The whole season got less than half the expected precipitation. This is serious, since as we saw in my last weather report, the winter was also below average in moisture, with only 56 percent of its normal precipitation. The winter and spring together are 333 mm (13 inches) behind in moisture for the two seasons.

The chart of daily precipitation shows that although we had rain throughout the season, most of it was not significant. Only two days had more than 10 mm of rain. There was precipitation on 30 days, but 18 had less than 5 mm. Eleven of them had 1mm or less.

We had 4 to 12 cm of snow on the ground until the 9th of March, but that disappeared and we had the warm period during March 20–22. Then on April 8, Easter Sunday, 5 cm of snow fell, causing traffic problems in the morning, but it was gone by the evening.

What's in the Sky?

by Roy Bishop

Highlights for the next four months:

JULY

Saturn lies 5 degrees north of the star Spica all month. Venus (post-transit, and a waxing crescent) is brilliant in the eastern morning sky all month.

July 1 to 15: Jupiter stands above Venus in the dawn sky (04:00–05:00)
July 3: Full Moon
July 14: Tomorrow morning Venus, Jupiter, Moon, Aldebaran, Hyades are low in the dawn (03:30–04:15, use binoculars)
July 24: Southwest sky at 22:00: Moon, Mars upper right of Moon, Spica and Saturn to the left

AUGUST

Mercury is well placed in the dawn sky during the last half of the month. Venus is bright and high in the eastern dawn sky all month. Jupiter, in the eastern morning sky, is near the Hyades star cluster all month and is joined by the waning crescent Moon on the morning of the 11th.

August 1: Full Moon
August 11 & 12: Perseid Meteor Shower
August 13 & 14: Crescent Moon and Venus in the eastern morning

sky. In the southwestern evening sky Mars passes between Saturn and Spica.

August 31: Full Moon (the second one this month!)

SEPTEMBER

Venus is bright and high in the eastern dawn sky all month.

September 17, 18, 19: Large tides
September 22: Equinox, autumn begins at 11:49 a.m.
September 29: Full Moon

OCTOBER

Jupiter moves into the late evening, eastern sky this month. The bright star Aldebaran and the Hyades star cluster are to the right of Jupiter.

October 2: Tomorrow morning Venus lies only 9 arc minutes (!) south of the bright star Regulus. Look about 5:45 a.m.
October 15, 16, 17, 18, 19: Large tides
October 29: Full Moon

RICK WHITMAN

Ebony Jewelwing

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

2012 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.)

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In signing this membership application, I/we hereby waive & 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	$_____
_____	2012 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 (Registration number: 118811686RR0001)		$_____
		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.

The Blue-Bird (*excerpts*)

by Alexander Wilson,
poet-naturalist (1766–1813)

When winter's cold tempests and snows are no more,
Green meadows and brown-furrow'd fields reappearing,
The fishermen hauling their shad to the shore,
And cloud-cleaving geese to the Lakes are a-steering;
When first the lone butterfly flits on the wing,
When red glow the maples, so fresh and so pleasing,
Oh then comes the blue-bird, the herald of spring,
And hails with his warblings the charms of the season.

[…]

While spring's lovely season, serene, dewy, warm,
The green face of earth, and the pure blue of heaven,
Or love's native music has influence to charm,
Or sympathy's glow to our feelings is given,
Still dear to each bosom the blue-bird shall be;
His voice like the thrillings of hope is a treasure;
For, through bleakest storms, if a calm he but see,
He comes to remind us of sunshine and pleasure!

SOURCE: P.H. Gosse, *The Canadian Naturalist* (1840)