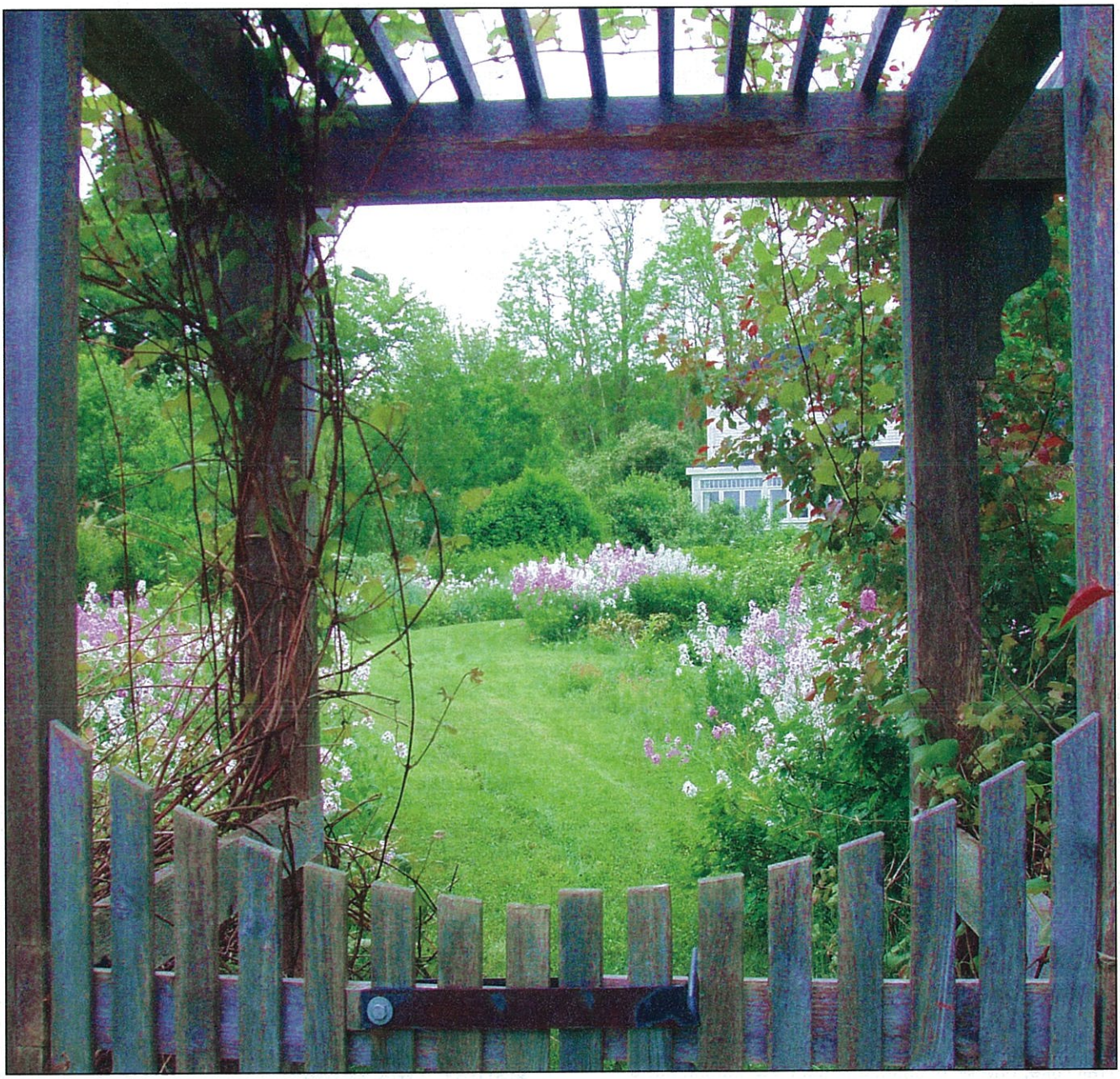
Rec'd July 12

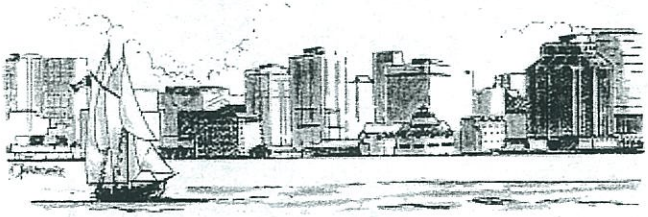
THE HALIFAX FIELD NATURALIST

No. 127
June to August, 2007



Return address: HFN, c/o NS Museum of Natural History, 1747 Summer Street, Halifax, NS B3H 3A6

HFN is incorporated under the Nova Scotia Societies Act and holds Registered Charity status with Canada Revenue Agency. Tax-creditable receipts will be issued for individual and corporate gifts. HFN is an affiliate of Nature Canada and an organizational member of Nature NS (Federation of Nova Scotia Naturalists), the provincial umbrella association for naturalist groups in Nova Scotia. **Objectives** are to encourage a greater appreciation and understanding of Nova Scotia's natural history, both within the membership of HFN and in the public at large, and to represent the interests of naturalists by encouraging the conservation of Nova Scotia's natural resources. **Meetings** are held, except for July and August, on the first Thursday of every month at 7:30 p.m. in the auditorium of the Nova Scotia Museum of Natural History, 1747 Summer St., Halifax; they are open to the public. **Field Trips** are held at least once a month; it is appreciated if those travelling in someone else's car share the cost of the gas. **Participants** in HFN activities are responsible for their own safety. Everyone, member or not, is welcome to take part in field trips. **Memberships** are open to anyone interested in the natural history of Nova Scotia. Forms are available at any meeting of the society, or by writing to: Membership Secretary, Halifax Field Naturalists, c/o N.S. Museum of Natural History. Members receive the quarterly **HFN Newsletter** and **HFN Programme**, and new memberships received from September 1st to December 31st of any year are valid until the end of the following membership year. The regular membership year is from January 1st to December 31st.



HFN ADDRESS
Halifax Field Naturalists, c/o N.S. Museum of Natural History, 1747 Summer St., Halifax, N.S., B3H 3A6
Email: hfnexec@chebucto.ca
Website: chebucto.org

NNS ADDRESS
Nature Nova Scotia, c/o N.S. Museum of Natural History, 1747 Summer St., Halifax, Nova Scotia, B3H 3A6
Email: doug@fundymud.com (Doug Linzey, NNS secretary and Newsletter Editor)
Website: naturens.ca

IN THIS ISSUE

GRAPHICS All uncredited illustrations are by H. Derbyshire or from copyright-free sources. **Front cover** -Windhorse Farm, S. Robertson; **Back cover** -Lupins at Windhorse Farm, B. Moores; p.6 -Sally Lightfoot Crab, www.ultimateaquatics.co.uk; p.7 -Tree Swallow, L.A.Fuertes, Citizen Bird, an e-Book; p.8 -Meerkats, www.deviantart.com; p.11 -Weathervane, Denninger Weathervanes & Finials; Tide Tables -Canadian Hydrographic Service, Fisheries and Oceans Canada.

HFN NEWS AND ANNOUNCEMENTS

EDITORIAL

Finally – comparatively dry, warm weather! But, not a brown lawn in sight, and I've never seen the trees so lush and heavily leaf-laden.

On a recent YNCNS flower field trip in the Dingle area, a pair of mating caddisflies was able to be closely observed; the same species, a male only, was spotted later in Point Pleasant Park. There are in this issue some good talk and field trip reports; and, the latest news on the BSLB/CFIA saga can be found on page 5.

Have a wonderful summer!

– Stephanie Robertson

NATURE CANADA'S 2007 AGM

Don't forget to register for Nature Canada's 2007 AGM and Annual Conference, **"Tide and Time"**, hosted by Nature Nova Scotia at Acadia University in Wolfville.

Surrounded by all the natural delights of the Minas Basin and the beautiful Annapolis Valley, it kicks off on Wednesday, Aug. 1st with a wine and cheese reception on campus. The field trip programme is rich and varied, with different themes from which to choose; also, there is a special programme being planned specifically for the children. For more info, go to **naturens.ca**, then click the link to **Nature Canada 2007 AGM**.

SEA TURTLE NETWORK

The Canadian Sea Turtle Network (formerly the Nova Scotia Leatherback Turtle Working Group) is embarking on an exciting new project and would love to have members of the Halifax Field Naturalists involved.

Since 1997, sighting data collected by fishermen-members of the Canadian Sea Turtle Network revealed that eastern Canadian waters are important habitat for these animals. As part of our efforts to research this critically endangered species, we are undertaking a jellyfish research project. This project aims to describe jellyfish abundance and growth in Atlantic Canadian waters, in hopes of better understanding leatherback turtle foraging behaviour. It will make a grand contribution to both our conservation and research efforts for leatherbacks. In addition, this study will make a contribution to the knowledge of Atlantic jellyfish, for which there is very little available information.

As part of this study, we're looking for volunteers to conduct jellyfish beach surveys on beaches around the province. The volunteers would be required to walk selected beaches once every seven to ten days, noting abundance of jellyfish, and collecting some sample information.

If you are interested in conducting surveys as part of this project, please contact: Laura Bennett, 423-6224, or email **lbennett@seaturtle.ca**. Once you have made contact, you will be provided with more information about the surveys, and a sample kit complete with the materials you'll need to conduct the survey. Thank you for your help with this exciting project!

— Laura Bennett

DIGBY NECK MEGA-QUARRY

Digby Neck is a narrow spit of land jutting out into the ecologically sensitive Bay of Fundy in Nova Scotia.

A New Jersey company wants to extract millions of tons of basalt from its shoreline in order to build more highways in the States. The quarry company proposes to blast away at the shores of the Bay of Fundy, a highly sensitive ecosystem which is home to many endangered species, including the Right Whale.

Although this quarry is being proposed for a tiny spit of land in Southwestern Nova Scotia, the underlying forces make it a global issue. In 2002, it was discovered that, without consulting the communities to be affected by this large industrial project, their governments granted the permit which began the process towards the current position of a Panel Review under the Canadian Environmental Assessment Agency (CEAA).

Mark **July 14th, 2007** on your calendar for the annual **"Stop the Quarry" fundraising supper**. It's at the Digby Neck Consolidated School at 5:30 pm. For more info, go to **http://www.savedigbyneck.org/**.

AVON WATERSHED IN PERIL

The Avon Peninsula, Hants County, N.S., is the area of land that rain flows across and through on its way to local wells, wetlands, ponds, streams, marshes, and tidal rivers. The eastern part of the peninsula has been deeply impacted by gypsum mining for many years.

The higher, wooded land in the interior of the western part of the peninsula is still relatively intact. It is the heart of the watershed, where the headwaters begin, and where most of the wildlife habitat is located. Underlying this is one of the most complex 'gypsum karst' geological formations on the planet, which gives rise to the fragile hydrology, unique ecology, and very special landscape of the gypsum woods.

This watershed is shared by all the plants, animals, farms, and residents in the community. Many community residents still refer to the western upland of the watershed as the Commons. Although owned by individual community members, the Commons was once managed collectively by local farmers.

Fundy Gypsum, a division of U.S. Gypsum, is proposing to start an industrial mega-mining complex in this important watershed area. To learn more, go to **http://www.avondalemedia.ca/APWPS/pages**.

NEW AND RETURNING

Matthew Brake
Sharon Berkinshaw
Ellen Dupuis
Cheryl Jeffers-Johnson
Susanne A. MacLachlan
Pauline Norris
Barbara Taylor
Martial & Annabelle Thiebaux
Joan Waldron

SPECIAL REPORTS

BEETLES OF MASS DESTRUCTION

On June 5th, the Ecology Action Centre (EAC), the Lawrencetown/Cole Harbour Citizens' Committee, and the Friends of Point Pleasant Park (FPPP) made a presentation to the Resources Committee of the Department of Environment and Labour about the Canadian Food and Inspection Agency's Brown Spruce Longhorn Beetle (BSLB) programme in Nova Scotia.

They jointly requested that the Resources Committee strongly advise the Federal government to conduct a full scientific enquiry. They felt that the inauguration of the CFIA's deleterious and drastic BSLB programme was a political decision, therefore the decision to stop it should be a political one as well.

Seven years down the road from the instigation of their massive quarantine, infestation levels of the insect have not been found, and the Eastern shore woodlot owners are still paralysed by CFIA quarantine. Worse, more clear-cuts are taking place, the last thing beleaguered N. S. forests need, in order for people to get value from their standing wood before it comes under order by the ever-increasing CFIA quarantine area.

The FPPP shared the following data about spruce-feeding beetles in Point Pleasant Park (PPP), along with a pithy slide presentation:

SPRUCE-FEEDING BEETLES

Where the Brown Spruce Longhorn Beetle (BSLB) has been found on spruce, there are many more other species of cambium-feeding beetles there too. Specifically, **the BSLB is only one out of 36 spruce cambium-feeding species**. Two of these 36 are introduced beetles – the BSLB, and a bark beetle; the other 34 species are all native to N.S.

Therefore there are many more native beetle species doing exactly what the BSLB is doing; feeding on dead and dying spruce. To date, the CFIA's science has presented no evidence to single out the BSLB from the others as being different in its behaviour and effects on conifers.

Hence, eliminating and/or slowing the spread of the BSLB from N.S. forests would have no practical consequences whatsoever. Our own native species are serving the same essential ecological role (and will continue to do so with or without the BSLB) – ensuring the long-term health of our forests by recycling nutrients.

PREDATORS AND PARASITES

There are at least 12 native species of predatory insects that attack longhorn and other beetle larvae and adults.

There are at least 6 native species of parasitic wasps that specifically target longhorn beetles. Two of these wasps were the subject of a 2005 Canadian Forestry Service study in the Park. One wasp exhibited a parasitism rate of 5%-56%, the other 0%-25% – encouraging numbers. However, this important survey was cut short when the CFIA cleared the study area.

Hence, an abundance of natural predators and parasites that keep beetle populations in check are alive, well, and functioning normally in PPP. (There are also woodpeckers and other bark-gleaning birds such as brown creepers and nuthatches in the Park; they are known from other studies to predate wood and bark-boring beetles. *If* the BSLB is a 'pest', the CFIA should be investigating this to find out the level of their effectiveness.)

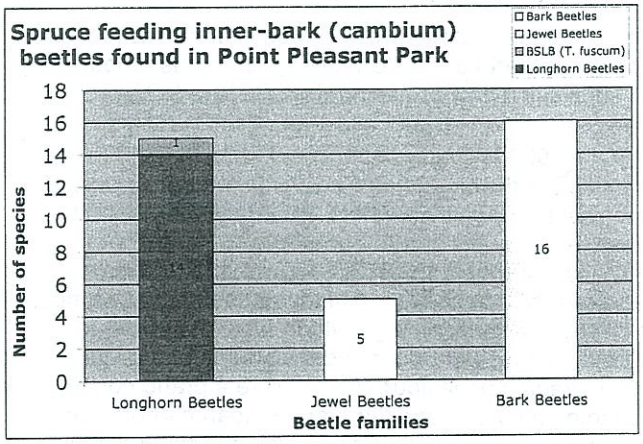
BSLB STATUS AND BEHAVIOUR

The graph below illustrates that the BSLB is not an invasive, exploding species. Instead, it's a small segment of a very much larger array of native spruce-feeding beetles which is not behaving differently here than it does in Europe; not behaving differently here than our much more abundant native species; and is not without natural restraint by many predators, parasites, and much competition.

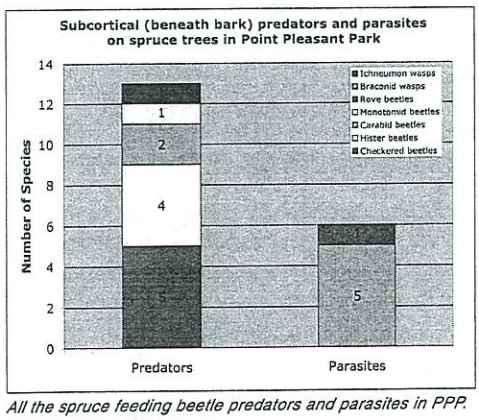
After convincing presentations by the FPPP, the EAC, and a powerful emotional appeal by the Lawrencetown/Cole Harbour Citizens' Action Committee, the Resources Committee voted unanimously to grant our request and take it to the Federal Government.

The presentations were very well-received, with many questions from the MLAs. A measure of the groups' success was that two motions were unanimously passed: that the Minister of Natural Resources call for a full scientific enquiry, headed by a non-partisan commissioner; and that the Minister approach the relevant federal departments to push for financial compensation for those private woodlot owners who have seen their woodland investments virtually disappear because of the CFIA's actions.

– Stephanie Robertson



All the spruce feeding beetles in PPP. The BSLB is the small segment, top left.



All the spruce feeding beetle predators and parasites in PPP.

HFN TALKS

AGM & SLIDES — 4 MARCH

There was a wonderful variety of slides for this 'Members' Slides Night'.

Ingrid Plache

Ingid and Burkhard Plache travelled to New Zealand recently, and what different and wonderful scenic pictures they brought back! There is a wide range of climates there, depending upon whether you are at sea level, up in the mountains, or in the rain forest areas. There were images of giant tree ferns, huge Kauri trees, *Agathis australis,* with diameters of five metres (hundreds of years old), and mangrove areas as well.

From Aukland they travelled to New Zealand's North Island. It boasts a red-flowering tree, the Pohutukawa, that blooms in December, thus it is named the 'Christmas' tree. They had also photographed many beautiful, different flowers, and many sandy, deserted beaches. The temperature stayed at ± 20°C, but it was always extremely windy. Then they travelled on to sheep country, with lots of aerial shots of the rolling green hills, dotted with sheep. On the west coast they photographed the famous Castle Rock; they found it very much wetter in this area.

South Island had tree ferns as well, and we were shown river gorges with their vegetation; epiphytes; and the drier foothills of mountains. These dry areas sported lots of golden brown Tussock Grass. The mountains were high enough to be snow-topped, and there were lots of alpine-type flowers, mostly white. They hiked in these Southern Alps for three days, and the lower areas sported beech forests. It was very cold here when they camped in the very steep mountains. We were shown the famous Harris Pass which boasted beautiful vistas of lakes and snowy mountain tops.

Back on North Island once again, they visited unique-looking lava fields and strangely-coloured volcanic lakes; one was a beautiful turquoise green because of its dissolved minerals.

Patricia Chalmers

Patricia chose as her subject the people and HFN members who have taken part in our field trips. Many of us were amused to see our much younger selves on trips of longer ago than we liked to think! We were shown the spectacular scenery of Colpitt Lake and views from there; shots of Blue Mountain (the highest point of land in HRM) and its views; pictures of a wonderful 'raptor trip' to Shearwater with the late Mr. Peter Serwylo with his falcons and merlins he used to clear the airport of other birds; and shots of participants in an Aikens Marsh trip in Hants County. There was a good close-up of Peter Payzant showing a dragonfly to Bernice Moores, and another of Jim Wolford holding a very large and impressive mass of salamander eggs on a Blomidon trip.

Bob and Wendy MacDonald and Pat Leader were shown hugging a mighty Hemlock in Bedford. It was 128.5 inches around — almost one metre in diameter!

Jim Wolford

Jim's slides from his many field trips were beautiful and varied: sandpipers in the Minas Basin; many slides from 'Bogan's Monarch Factory' in the valley (Larry Bogan has an abundance of milkweed on his property which is ideal habitat); a severed wing from a Leach's Storm Petrel found, surprisingly, on the Acadia University campus; shots of Tussock caterpillars during an outbreak; and a banded longhorn beetle on Queen Anne's Lace.

There was beautiful Jewelweed at Acadia, a Cardinal Flower in bloom in the Acadia Botanic Gardens, and a Turtlehead flower and a Groundnut vine. There were woodland trail shots showing different plant galls; valley maple leaves infected with fungi tar-spot (which is very common in Wolfville) and Anthracnose fungi; fall webworms; an infected Horse Chestnut; and a Linden with gall mites on its leaves.

Charles Cron

Charles had some beautiful flower shots from Newfoundland: the seed heads of a *Polygonium* sp.; some *Batrichium virginiana;* 3-parted Gentians; *Centaurium aretheum;* and a probable *Lunaria* sp. three to four cm tall.

Bob McDonald

Bob's images were of Odonates, which begin their spring flights from mid- to late-May. His first was an impressive close-up of a dragonfly resting on a thumb, taken about three to four years ago on a trip with Paul Brunelle. Then there was a Boiler's Sandragon, taken at a beautiful pond on Mt. St. Vincent campus; a Chalk-fronted Corporal dragonfly from the Captain Arnell Lands area; and a male Crimson-winged Whiteface. Also, a male Bluet damsel, either a Boreal or a Northern; a female Four-spotted Skimmer; a female Crimson-winged Whiteface; and a male Ebony Jewelwing (the wings are solid black) from Belcher's Marsh park and also a female (with white spots on its wings).

He then showed a female Meadowhawk taken at his own house.

Joan Czapalay

Joan's slides were from her many past teaching trips to remoter areas in Jamaica. It is an island of sharp mountains, coral coasts, long beaches, and cacti deserts, with marshlands in the southwest.

She has been through three huricanes and one uprising while there! We were shown spectacular, scenic shots, and jungle views of where many parrots flew and a Barn Owl was heard. She also showed a butterfly with a wingspan of 15 cm.

Joan said this wonderful island of Jamaica is just too big to see everything. It is also very, very beautiful, and not fully appreciated for its gorgeous natural history.

Karen McKendry

Karen showed some pictures from the first Young Naturalists' Club field trips. There was a moonsnail in a young hand taken at Rainbow Haven Beach; slides from a tree identification trip to Blue Mountain; the acting out of how fungi and lichens came together from the lichen trip; and some slides from the Long Lake winter survival trip.

Peter Payzant

Peter's images were of Ecuadorean and Galapagian invertebrates: a lesser Rainbow Locust pair; a Greater Locust, at .5 cm. long; a hermit crab (perched on an iguana!); a Ghost Crab with very long eyestalks; and a Sally Lightfoot Crab. There was a huge Sphinx Moth on Hibiscus, a little white moth, a Sulphur, a Skipper, a Galapagos Fritillary, a Galapagos Blue, and, accordng to Peter, a 'nasty' hornet. A very big and black bee loomed on the screen, and there was also a shot of a Zig-zag Spider *(Stabila menta)*, which weaves its web with distinctive zig-zag patterns, and a Galapagos Scorpion.

Thank you to all for the as always fascinating natural history images.

—Stephanie Robertson

a Sally Lightfoot Crab

ANIMAL TALK 5 APRIL

"Can you hear me yet?"

We live in a noisy world. We often do not realise how noisy our living spaces are. Highways and roadways, construction, airplanes and airports, machinery, electricity lines and telephones humming, city downtowns... and that's just on land. Oceans and waterways have their share of noise too — ship and boat traffic, seismic and sonar testing, and oil rigs. All this is man-made noise and all relatively very recent. Dalhousie's biology professor, Dr. Marty Leonard shared the trials and tribulations of animals living in an increasingly noisy environment.

There is a lot of 'natural noise' in our world as well. Think of waterfalls... the roar can be deafening; ocean surf, wind, rainfall, other animals – how do animals contend with all this noisy interference?

A lot of different species of animals rely on acoustic signals to communicate. We can all think of the familiar ones in our areas... frogs peeping in the spring, a woodpecker tapping on a tree, crickets strumming their late summer evening songs, and geese honking while flying in formation. Others that we may not hear are the rattle of the rattlesnake, a cod fish 'drumming', a whale singing, or an elephant trumpeting. And of course, songbirds are known around the world for their beautiful acoustic signals. But, what are animals saying?

Identity is one reason to be heard... letting everyone know who you are. Different species have their own unique sounds, but there can also be variations of sounds between social groups as well as individual differences.

Fighting ability can also be communicated through sound. Size, willingness, and ability to fight can be relayed from individual to individual. Simply by 'dialoguing' first, these sometimes noisy confrontations may actually prevent a physical fight, as the weaker of the participants may get intimidated and simply leave the area.

Mating is a big reason for communication. First, males and females need to be able to find each other. One way of finding someone is by calling out and letting them know you are there. Calls or songs may also relay other personal information such as mate quality.

Needs – Young animals use sound to tell parents they need food or warmth (most of us know exactly what that sounds like... at least with young human animals).

Warning signals are often acoustic signals. Letting others know that there is danger in the area is an altruistic trait that many animals have.

What are some of the problems with too much background noise? Acoustic information is broadcast, and animals need to be able to receive it. Anything that may interfere with the signaller or the receiver can create problems. Noise can be thought of as any sound that interferes with the signal getting across. There are two main areas that noise interference can affect negatively:

Detection – Animals need to know where others are; they need to hear and be heard, clearly.

Discrimination – Animals need to know who is who by being able to differentiate between individual calls.

What are some animals' responses to all this fairly recent background noise?

Long Term Response – Long term responses are thought of as changes taking place over evolutionary time. A good example of a long term response to too much noise is shown by the western Willet, an inland bird, and the eastern Willet, which lives along the ocean shore. When compar-

ing the pitch of the call of the eastern and western Willet, it was found that the eastern Willet's call is a higher pitch. The sound of the surf along the shoreline is a low pitch so it is thought the eastern Willet's call evolved so it could be heard above the sound of the surf.

Short Term Response – A short-term response is a strategy that some animals may use in the presence of a relatively new noise, or increased noise. Short-term responses to too much noise include: an increase in call volume (the 'Lombard Effect' — the animal is trying to be louder than the noise); an increase in the frequency (pitch) of the call; and an increase in the rate of the calls (the animal will give the call a lot).

How do animals cope with increased noise?

Coping with noise can be costly for animals; raising the frequency and increasing call repetitions takes more energy. If the noise is persistent for very long periods then it could affect the long term health of the animal. There was an experiment conducted in Holland on the effect of traffic noise on the song of Great Tits. In this noisy environment they sang in a higher pitch than they did in a less noisy part of the city. But, they eventually may lose their original identity, because they have constantly to change their calls/songs.

In another experiment, speakers were placed in the nest box of Tree Swallows. When young swallows call, parents can tell which baby is hungrier by the rate of their begging calls. The hungrier babies have a faster rate of call than the babies that have just been fed, and parents will attend to the baby who has the faster call rate.

The experimenters then introduced extraneous noise into the nest boxes. In the presence of the noise the parents could not discriminate between the different rates of the begging call. This could have a disastrous effect on the young as they may not be fed properly.

With female tree frogs, their ability to receive and detect male calls was tested. There were two speakers placed among a group of females; one speaker played a chorus of frogs, and the other played the same chorus with the addition of a single male calling. When the male's call was louder than the chorus, the female went to that speaker more often than when the chorus was louder than the call. Thus, the ability of the female to find the males depends upon her receiving and detecting the call of the male, and too much noise can interfere with that.

One last experiment Dr. Leonard mentioned tested how noise might affect the development of calls in baby birds. Speakers were placed in nest boxes; one nest had a normal noise level, but constant, and the other nest recieved no noise. The babies in the noisy nest developed calls that were higher in pitch than the babies that had received no noise. At least with birds then, noise can also affect and permanently change the outcome of calls as the developing young grow to adulthood.

— Cheryl Jeffers-Johnson

Tree Swallow

S. AFRICAN WILDLIFE 3 MAY

Helene Van Doninck has been a practicing veterinarian and wildlife rehabilitator for 16 years. She co-founded and operates the Cobequid Wildlife Rehabilitation Centre in Hilden, N.S., just outside Truro. This home-based rehabilitation centre is run by volunteers and provides care for 200-300 animals per year, and the caseload is made up of about 90% birds, 10% mammals, and an occasional turtle. She has special interests in raptors, songbirds, and seabirds, although she has rehabilitated everything from hummingbirds to Bald Eagles. She is also part of the Blanding's Turtle Recovery Team.

Current projects involve the construction of flight enclosures for rehabilitation of birds of prey in Truro, and the development of the Atlantic Wildlife Coalition, a group dedicated to rehabilitation of birds and mammals affected by oil spills. Helene still practices small animal medicine part-time and is an instructor in the Veterinary Technician program at the N.S. Agricultural College.

However, for the past seven years, Helene has been teaching about wildlife rehabilitation across North America, and abroad, as a member of the International Wildlife Rehabilitation Council. It was through this work that she traveled to South Africa in September of 2005.

Her stay there involved four days of educating wildlife rehabilitators at the Delta Environmental Centre in Johannesburg, which she said is a very scary city in which to spend any time. She showed barbed-wire fencing, razor wire, and armed guards – which keep people and wildlife out of private properties. Nevertheless, she was quite excited about the environmental centre and her teaching experience. One of the features of the centre was a nesting box for spotted eagle owls, which are large cousins of our great horned owl.

Helene saw many, many animals and birds. There were meerkats, which the locals get rid of by smoking them out of their burrows. Meerkats are difficult to rehabilitate and release; we saw a tame one which was used for education. We also saw a

type of ibis; she learned that drought makes the ground very hard and difficult for these birds with probing bills to get food. There was also a cattle egret which was accustomed to being fed mice.

A duiker (a tiny antelope) liked squash and other vegetables. A tame Cape hunting dog was used educationally as well; this species is highly endangered, and is now being bred in captivity.

There is a honey badger there, or ratel, which is very fierce and strong; she was given warnings about honey badgers at night. Lions are too abundant and they are very hard on cheetah populations (they compete for food and kill the babies). There is a cheetah breeding programme; however, feline leukemia is a problem. Helene mentioned that Cape hunting dogs and lions do not get along either, but that it's very hard to find areas with no lions.

After her teaching, she left Johannesburg and spent some time in the famous Kruger National Park, where she surprised people by asking for the Birds Tour (rather than the Mammal Tour). She said that a five-day safari, all-inclusive, with a guide, can be had for $99.00 Canadian. Africans themselves are accustomed to different temperatures than visitors; a spotter on her game drive had on an insulated coat and hat in the 98˚F. heat!

She showed a giraffe sporting some oxpeckers on its back. Lions have learned to chase giraffes onto roads, where the giraffe is likely to fall and then be easier to kill. There is always a lot of wildlife at waterholes, and the hippos are the most dangerous of all the animals in Africa in terms of human deaths.

She experienced scary loud noises at night, plus rustling noises in the thatch roof where she stayed. Mongooses were common but she managed no photos of them. Similarly, she had got no photos of the ubiquitous vultures. She mentioned seeing impala, elephants, a warthog with a single tusk, a large bat, a kudu, a steenbok, zebra, a young male lion, leopard tracks, and bushbabies that could be spotted at night.

As for monkeys, there is a huge problem with them, especially when released from a local rehab centre; vervet monkeys were also shown.

A puff adder, a boomslang, and a Mozambique spitting cobra were seen, and a crocodile was observed eating a plover. There was a green chameleon as well.

Birds shown were: Pied Crow; White-crested Cormorant; Grey Heron; Black-headed Heron; Goliath Heron; Cattle Egret; Hammerkop (a strange stork-like bird —one caught a large toad, and their large nests were seen); Sacred Ibis; Black Duck; Black-shouldered Kite; Black Eagle (endangered — a scope was set up on the nest and young); Steppe Buzzard (a hawk); Sparrow Hawk; Lesser Kestrel; Egyptian Geese (they like nest-boxes, and a female with goslings was shown); Crested Francolin plus another species; Helmeted Guineafowl; Red-knobbed Coot; Finfoot; a bustard species; Crested Plover; Blacksmith Plover; Wattled Plover; Dikkop or Thick-knee; Rock Pigeon; Barn Owl; a Spotted-eagle Owl in a rehab facility; Mousebirds (were everywhere) and Red-masked Mousebirds; Woodland Kingfisher; Grey-capped Kingfisher; Hoopoes (everywhere); Red-billed Hoopoe; Grey Hornbill; Ground Hornbill; Yellow Hornbill; Black-collared Barbets (gorgeous!); Crested Barbet; Gold-tailed Woodpecker; Red-throated Wryneck; Eurasian Swallow (no bridges or buildings for them); Fork-tailed Drongo; Arrow-marked Babbler (common along roads); Black-masked Babbler; Thrush; Olive Thrush; White-throated Robin; Tawny-flanked Prinnia; Paradise Flycatcher; a wagtail species; a pipit species; Fiscal Shrike; Crimson-breasted Shrike; Glossy Starling; Red-shouldered Starling; White-bellied Sunbird; Black Sunbird; Cape White-eye; Cape Sparrow; Masked Weaver and nest (each tree owned by a male with a harem); Bishop Weaver; Firefinch; Waxbill; Quail Finch; Cut-throat Finches; a canary; and a captive Blue Crane (the national bird of South Africa, and endangered).

Helene had some interesting pictures of flowers and plants, a Bird-of-Paradise flower, and a few others – for instance a cactus-like succulent (a euphorbia?), whose nuts are welcome substitutes for ivory. There were also some beautiful botanical gardens shown.

Questions and discussion came afterwards regarding management and culling of lions and elephants, and also about the monitoring for feline leukemia. She also mentioned that ostrich farming was common there.

— Jim Wolford

a Meerkat huddle

FIELD TRIPS

HIKING THE BLUFF TRAIL

DATE: Saturday, 14 April
PLACE: Bluff Trail
WEATHER: Windy; snowing
INTERPRETER: Richmond Campbell
PARTICIPANTS: 11

Eleven hardy souls met on a blustery, snowy Saturday afternoon at the designated parking lot off Exit 4 from Highway 102. We were met by Richmond Campbell, a founding member of the Woodens River Watershed Environmental Organization, or WRWEO for short (**www.wrweo.ca** for more information).

WRWEO was founded in 1995 as a means of protecting crown land from commercial exploitation and to preserve original wilderness for future generations. The idea of wilderness hiking trails was conceived nine years ago with the cooperation of the Nova Scotia Trails Federation.

The Bluff Wilderness Hiking Trail is the last large wilderness area in the Chebucto Peninsula. It is home to bears and about 25 mainland moose. After a five-minute walk along the well-maintained Rails-to-Trails path, we came to the Bluff Wilderness Trailhead. Detailed maps posted at the entrance showed us the lay of the land. It is comprised of four loops, graded according to the ruggedness of the terrain and its remoteness. There are also a few access points for canoes which were marked on the maps given us.

The trails are well defined but it is important to be well prepared with a map, compass, and an adequate supply of food and water. Camping is discouraged and all garbage is to be carried out. In case of emergency, especially in remote areas, one should carry a knife, matches, first-aid kit, flashlight, and a whistle.

It is best to travel in small groups rather than alone, at least if you are unfortunate enough to be chased by a bear or one of the 25 moose. Rather than try to out-run the beast, the best plan is to just out-run the person next to you! (Although I doubt that I could outrun Burkhard.) Anyway, the wildlife have a lot more to fear from us than us from them.

Burkhard had decided on the shorter, Pot Lake loop, which is the first of the four trail loops and is a good introduction to this wilderness park. It was still snowing as we set out. We came to a junction where a black arrow clearly marked on rock showed us the right direction. The path led up to an escarpment of granite rock overlooking Cranberry Lake. This is part of the watershed and acts as a buffer between the highway and the wilderness. While hiking along the ridge we could see for kilometres up and down the long narrow lake. Behind us was the distant traffic on highway 103; ahead of us – wilderness.

Flora and fauna along the way included a beautiful White Pine overlooking the water and a pair of loons someone with good eyesight spotted in the middle of the lake. By this time it had stopped snowing but the sky remained overcast.

A pivotal point was a rocking-stone boulder. When some of us clambered on top it rocked gently, similar to the rocking stone in Spryfield. It gave us a good view of the area.

From here the trail gradually descended to the lake level. There were remnants of old growth forest in the shape of an ancient Red Spruce tree at least 150 feet tall! A giant among midgets. All this time we could still hear distant traffic from the 103.

Finally, about 1 1/2 hours in, all we could hear was the wind. The terrain was mostly open granite barrens with boulders planted amongst stunted evergreens. These are called erratic rock and they were dispersed eons ago by melting glaciers.

On this hike we had an interesting eclectic mix of people including two young women from South Korea, and Regine Maass, originally from Germany, who is very knowledgeable about mosses and lichens. For example she pointed out green strands of Chrysalis Lichen, along with rock tripe and liverwort, at the base of a tree. There was also a spectacular growth of Big-leaf Lichen on a standing dead tree aptly described as Witch's Broom.

We stopped for a snack break at a junction near the end of Cranberry Lake. Here the trail we were on looped back around Pot Lake which we could see below us. We met a few other hikers but the largest group was an all-woman team consisting of grade 9 students and their teachers on a leadership course.

After our break, we parted from this group and clambered down to Pot Lake following the trail as it began to turn back towards the highway. The well-marked junction we were leaving was the beginning of the second, or Indian Hill Loop, leading to more remote areas where our guide Richmond pointed out that hikers were more likely to spot signs of moose and bear here.

On the way back Regine discovered a small cluster of Mayflowers in bloom. We arrived at the parking lot about 4:50 p.m. after hiking a total distance of about 7.2 kilometres.

Thanks to Burkhard for the drive out since the Bluff Trail is way beyond the Metro bus route, and thanks also to Richmond Campbell of WRWEO for an informative and enjoyable excursion.

— Brian Ferguson

DALHOUSIE GREENHOUSE

DATE: Tuesday, 1 May
PLACE: Dal Greenhouse, Life Sciences Centre
WEATHER: n/a
INTERPRETER: Stephen Fry
PARTICIPANTS: 9

On this Tuesday evening, nine participants met with Stephen Fry, Chief Technologist in the Biology Department at Dalhousie University, to get a first hand introduction to the Dalhousie Greenhouse, and to learn about the exhibits in the McCulloch Museum.

Before entering the Greenhouse on the top level of the Life Sciences Centre, we enjoyed an impressive view: to the south-east over Halifax's South End, towards Point Pleasant Park, and to the south-west over the North West Arm towards Purcell's Cove; then, directly below and in front of us, the Oceanography Department, with the conspicious circular tower of the Aquatron. Here, researchers are developing methods to decontaminate ballast water from shipping vessels. Waterborne foreign species have been introduced in various regions of the world by ballast water, causing ecological and economical problems.

The hallway leading to the Greenhouse shows a number of magnificent cacti photos, part of the cacti collection which was donated to the Biology Department of Dalhousie University by Paul Brunelle. The photo archive is available on the internet at **http://cactus.biology.dal.ca/index.html**. The cacti collection, together with a number of other succulents, occupies just one room of the greenhouse complex.

In all seven of the greenhouse rooms, temperature, humidity, and light intensity can be controlled independently. The walls and ceiling of one room are completely light-tight in order to permit experiments under light-controlled conditions. Of the remaining rooms, three are reserved for research projects, while the others contain material used for teaching: the fern room; the monocotyledons; and the 'jungle' of a variety of larger tropical and subtropical species. But the greenhouse is not only used for land plants; one past project worked on coral reefs.

The stable climate conditions in the greenhouse on the one hand benefit the plants, but on the other hand, they provide ideal conditions for pests. Pest control is predominantly biological, but cleaning is also important. Wooden benches were also replaced by metal ones, depriving animals of spots to hide and to propagate.

The second part of our visit was to the Thomas McCulloch Museum, **http://biotype.biology.dal.ca/museum/**, on the ground level of the Life Sciences Centre. One highlight is the McCulloch Bird collection, consisting of some 20 cases with birds mounted in 'Audubon Style', which is not considered a natural mounting, but does try to achieve some resemblance to natural representation. The birds on display are predominatly of larger size, encompassing raptors, owls, many shorebirds, and ducks. A pair of extinct Labrador Ducks is part of the collection; due to their rarity, such specimens command high prices on the black market. Thus, the pair has been moved to a safe location, and replicas are on display in their stead.

Other exhibits are: a collection of colourful shells from tropical Oceans; aquaria with live tropical fish; and the well-known Lorenzen ceramic mushrooms, which are modelled on specimens found in Nova Scotia.

Overall, we spent an interesting two hours, with Stephen Fry giving good insight into the working of the greenhouse, and good interpretations of the exhibits in the museum. While the greenhouse is not open to the public, the McCulloch Museum can be visited during weekdays.

— Burkhard Plache

CAPE SPLIT

DATE: Sunday, 27 May
PLACE: Cape Split, Blomidon
WEATHER: Sunny and not too cold
INTERPRETER: David Dermott
PARTICIPANTS: 15

The sun smiled on Cape Split on May 27th, a perfect hiking day for the 15 people, including a couple of new faces, who showed up at Cape Split for a trek to be led by David Dermott.

Just before 10:00 a.m. we were ready to stroll and off we went through the softwood forest. The soaked trail gave us the opportunity to try out some ballet and gymnastic manoeuvres as we balanced and jumped, avoiding the plunge into muddy waters by using available sticks and stepping stones underfoot. No one emerged the worse for wear.

Soon the trail was lined with the small, five-petalled Spring Beauty. Some blossoms were white with fine pink lines; others were blushing all over. We also found sparse specimens of fully blossomed Dutchman's Breeches, and Meadow Rose still in bud.

We shared the trail with the Blomidon Naturalists, who were being led by Sherman Williams. Sherman took his group to a patch of Toothwort, and invited us to join in as there was an exciting discovery underfoot. Toothwort, he told us, is a member of the mustard family, and although its tiny buds were not quite brave enough to open, he said the flower looks just like a cross. We could see by the leaves that this was the normal species found in the area and native to Nova Scotia. However, huddled nearby were other tooth-worts whose leaves were finely cut, which seemed to be the only difference. Could this be a new variation? Sherman said this was being investigated by a lady in his club.

Just in time for lunch, we arrived at Cape Split, with its beautiful, stunning vision of the Bay of Fundy. Each cluster of hikers chose favourite vistas and settled down on the ground to view and chew. Those

gazing toward the grassy sea stack across the gap could see a few gull chicks – soft, grey, fuzzy and a little wobbly – nuzzling close to the tender mama birds. When the young weren't feeding, mama settled down into her 'nest', (a slight dip in the ground), with the fledglings tucked in under her wing and nearly invisible. Other gulls remained quietly on their nests with little activity. Only one bold gull had made her nest on our side of the split. As we meandered around in her vicinity, she eyeballed each one of us relentlessly, but never lost her nerve enough to fly the coop.

David led us down the trail toward the shore and soon we found ourselves climbing down a wet stream bed using a rope, hand over hand, to ease our passage. At the bottom, we crunched downward toward the water on large, loose beach rocks. And what rocks there were! All shapes and sizes (including those farther down the beach the size of half a house) and colours. Irresistible! We clambered around until many of us had trouble walking with all the extra weight in our pockets or backpacks. Then it was, 'to keep or not to keep', that was the question!

Back up the rope we climbed and began the return trek to the cars. After a few hours of hot sun, even in the shaded woods, the puddles had shrunk noticeably in size, and our acrobatics thankfully weren't nearly as severely strained as before, as – with the rocks weighing us down – it would have been impossible. By 4:30 p.m., nearly everyone had returned to the vehicles.

Some were spotted later outside a local ice cream stand... **— Veronica Price Brown**

WINDHORSE FARM

DATE: Saturday, 16 June
PLACE: Windhorse Farm, Wentzell's Lake, Lun. Co.
WEATHER: Overcast, light rain, clearing after lunch
INTERPRETER: Jim Drescher
PARTICIPANTS: 37

Our car was full; four adults and one child on a booster seat as we drove Highway 103 towards Bridgewater through intermittent light rain. On the way we saw two unfortunate deer who had had a run-in with vehicles; also, a ubiquitous Osprey nest on a distant power pylon.

We arrived at the farm in light drizzle, and were directed to a parking area near some lumber piles drying in the open air. We disembarked onto a deep, dark fragrant carpet of wet sawdust in various stages of break-down, and hung around waiting for everyone to arrive by exploring the 'industrial zone' – the buildings where trees are turned into wood products.

Windhorse Farm, in the LaHave River watershed, is right in the heart of the Acadian Forest, one of six endangered forests of North America. It is owned and run by Jim and Margaret Drescher. Although the entire region has been severely abused over the past few hundred years, especially since the advent of industrial clear cutting, there do remain a few remnants of mature, fully functioning Acadian Forest. Windhorse Farm is one such place.

Windhorse Farm wood products and forestry operations have been granted a certification of excellence by the global accreditation body, the Forest Stewardship Council (FSC), and by the even stricter regional certifier, Nagaya Forest Restoration. There are 30 such certified woodlots in the maritimes.

When all participants had arrived, Jim and Margaret gathered us around them near their chicken run to hear about the history and philosophy of the farm. We all introduced ourselves and gave our reasons for coming.

Jim talked about the Acadian forest which has been around since at least the last glaciation period, about 10 to 12 thousand years ago. After that glaciation the land in Nova Scotia was probably tundra-like. The biodiversity had been increasing ever since then, right up until the Europeans arrived about 300 years ago. Since that time, the diversity has been decreasing, especially in the last 50 years.

Windhorse Farm was first settled in 1840 by Konrad Wentzell from Germany (there are many Wentzells in the area). Wentzell started farming and logging the land with a particular set of natural principles and practices and was very strict about them. These principles were passed down through successive owners, and then to Jim Drescher in 1990. The farm has been logged every winter since 1840, and this past winter was its 167th harvest of wood. Because of the continuation of Wentzell's principles for the land, there is still as much wood on it as there was in 1840!

The lumber produced on the farm is first air-dried, then put into a kiln for further drying. Then it's 'ripped' and graded. The best goes for cabinetry, and the next grade down goes for tongue-and-groove flooring. They produce flooring, furniture, and 'tone-wood' for musical instruments. There are 12 residents on the farm now, six different households, three businesses, and lots of activity.

Jim comes from Wisconsin, and has lived in Nova Scotia since 1979. From 1973 to 1987 he studied Buddhist ethics, and his farm is based on the 'Shambala vision'. When he is farming, he asks himself, "How can one encourage and inspire the good, the successful, and the best in rural Nova Scotia?" Sustainability is the aspiration, not by aggressive means, but instead by intelligent, gentle, fearless, harmonious, and mindful ones. The two main principles are to refrain from causing harm, and to enrich the lives of others; this is the pathway he has chosen for his farm.

They also practice permaculture, a type of permanent agriculture within the context of natural laws. 'Permaculture' was started by Bill Mollison from Australia. The farm's organic permaculture garden system recently changed this year to an organic community system, with bartering among the different growers. There is also a Sweetwater Plant Nursery of native plants, and Jake Wentzell, a descendant of Konrad, also runs a wilderness school from the farm.

After the talk we started our trip through heavily-mossed woods along deeply sawdusted paths, through hemlock groves of at least 600 - 700 years old. We

Burke-Gaffney Observatory: Public shows at the Burke-Gaffney Observatory at Saint Mary's University are held on the first and third Saturday of each month, except from June through September when they are held every Saturday. Tours begin at 7:00 p.m. between November 1st and March 30th, and at either 9:00 p.m. or 10:00 p.m. (depending on when it gets dark) between April 1st and October 31st. For more information, 496-8257; or **http://apwww.stmarys.ca/bgo/**.

Nova Scotia Bird Society: Indoor meetings take place on the fourth Thursday of the month, September to May, at the Nova Scotia Museum of Natural History, 7:30 p.m. For more information, Suzanne Borkowski, 445-2922; or **http://nsbs.chebucto.org/**.

15 Jul. "Wallace Bay", with leader Paul MacDonald, 627-2568; email **paulrita2001@yahoo.com**.
28 Jul. "Herbert River Trail", with leader Patrick Kelly, 798-3329; email **patrick.kelly@dal.ca**.
4 Aug. "Mahone Bay", with leader James Hirtle, 640-2173; email **jrhbirder@hotmail.com**.
11 Aug. "Pictou County", with leader Ken McKenna, 752-7644(h), 752-0044(w); email **kenmcken@eastlink.ca**.
18 Aug. **Rain date 19 Aug.** "Cherry Hill Beach", with leader Eric Mills, 766-4606; email **e.mills@dal.ca**.
25 Aug. "Taylor Head Provincial Park", with leader Karl Tay, 772-2287.
31 Aug. **-3 Sept.** "Bon Portage Island", with leader Joan Czapalay, 405-4157, 348-2803; email **joancz@ns.sympatico.ca**; or Claire Diggins, **claire_diggins@hotmail.com**. **Pre-registration necessary!**
8 Sept. "Port Joli", with leader Donna Ensor, 875-4269; email **smokeytow@yahoo.ca**.
15 Sept. "Peggy's Cove Loop", with leader Blake Maybank, 852-2077; email **maybank@ns.sympatico.ca**.
27 Sept. "Birding Ethiopia: From Barbets to Whydahs", with speakers Bob and Wendy McDonald.
28 Sept. **-30 Sept.** "Brier Island Weekend", with leaders Wayne Neily, 765-2455; email **neilyornis@hotmail.com**; and Fulton Lavender, 455-4966.

Nova Scotia Department of Natural Resources: Many outings that will take place in Provincial Parks are listed in the "Parks are for People" Programme available free from the Department (424-4321), and at many museums, parks, and tourist bureaus, and on the web at **http://parks.gov.ns.ca/programs.asp**.

Nova Scotia Lighthouse Preservation Society: Monthly meetings and organized guided trips to lighthouses, including boat trips to islands. For more information, Dan Conlin, 424-6442; or **http://www.nslps.com**.

Nova Scotia Museum of Natural History: For more information, 424-6099, 424-7353; or go to **http://museum.gov.ns.ca/mnh**.

29 May **-9 Sept.** "Wings Over the Atlantic", an exhibit of marine birds.
2 Jun. **-3 Sept.** "Sable Island" exhibition.
8 Jun. **-18 Jul.** "Inside Whales", — bronze endocranial casts of great whales by sculptor Dustin Wenzel.
late Jun. **-mid-Sept.** "The Butterfly House", with new residents arriving every two weeks.
18 Jul. **Rain date Jul. 25th.** "Annual Public Gardens Botanical Ramble", with Alex Wilson, Curator Emeritus. **Register, 424-3563.**
21 Jul. **Rain date Jul. 28.** "Bat Walk", with Museum zoologist Andrew Hebda, at Smiley's Prov. Park (aka Meander River Prov. Park). **Register, 424-3563.**
11 Aug. "Stream Saunter", with Museum zoologist Andrew Hebda, Smiley's Prov. Park (aka Meander River Prov. Park). More info, 424-3563.

Nova Scotia Wild Flora Society: Meets fourth Monday of the month, September to May, at the Nova Scotia Museum of Natural History, 7:30 p.m. For more information phone Heather Drope, 423-7032; or **http://www.chebucto.ns.ca/~nswfs/**.

11 Jul. "Bog Orchids at Belcher's Pond", with leader John MacDonald of the Orchid Society of Nova Scotia. Heather Drope, 423-7032; John MacDonald, 221-4033.
21 Jul. "Look-off Trail, Wentworth Mountain", with leader Heather Drope, 423-7032. **Pre-register.**
8 Aug. "Hartlen Point, Eastern Passage", with leader John MacDonald, 221-4033.
25 Aug. **-26 Aug.** "Tusket Coastal Plain Flora", with leader Charles Cron. **Pre-register, 477-8272 (evenings).**
24 Sept. "Old Growth Forests", with speaker David MacKinnon of the N.S. Department of Natural Resources.

Royal Astronomical Society of Canada (Halifax Chapter): Meets third Friday of each month in Room L176 of the Loyola Academic Building at Saint Mary's University, 8:00 p.m. For more information, **http://halifax.rasc.ca/**.

17 Aug. **-19 Aug.** "Nova East", Atlantic Canada's longest running star party, Smiley's Provincial Park near Brooklyn in Hants County.

Young Naturalists Club: Meets September to June on the third Saturday of the month for talks at the Nova Scotia Museum of Natural History, and the fourth Sunday of the month for field trips at various venues. For children eight years old and up. For more information about the talks and trips, contact Karen McKendry at **yncns@yahoo.ca**.

23 Jun. "Wildflowers at the Frog Pond", Frog Pond parking lot, 10:00 a.m.

— Compiled by Patricia L. Chalmers

TIDE TABLE

July-juillet

Day	Time	Feet	Metres	jour	heure	pieds	metres
1	0235	**0.7**	0.2	**16**	0326	**0.7**	0.2
	0841	**5.2**	1.6		0922	**5.9**	1.8
SU	1438	**2.0**	0.6	MO	1550	**1.6**	0.5
DI	2032	**5.9**	1.8	LU	2124	**5.9**	1.8
2	0318	**0.7**	0.2	**17**	0409	**0.7**	0.2
	0921	**5.2**	1.6		1003	**5.9**	1.8
MO	1522	**2.0**	0.6	TU	1637	**1.6**	0.5
LU	2115	**5.9**	1.8	MA	2208	**5.9**	1.8
3	0400	**0.7**	0.2	**18**	0448	**1.0**	0.3
	1002	**5.6**	1.7		1043	**5.9**	1.8
TU	1611	**2.0**	0.6	WE	1723	**2.0**	0.6
MA	2157	**5.9**	1.8	ME	2251	**5.6**	1.7
4	0444	**0.7**	0.2	**19**	0525	**1.3**	0.4
	1043	**5.6**	1.7		1122	**5.9**	1.8
WE	1705	**2.0**	0.6	TH	1811	**2.0**	0.6
ME	2240	**5.9**	1.8	JE	2333	**5.2**	1.6
5	0529	**0.7**	0.2	**20**	0601	**1.6**	0.5
	1124	**5.6**	1.7		1201	**5.6**	1.7
TH	1802	**1.6**	0.5	FR	1859	**2.0**	0.6
JE	2327	**5.6**	1.7	VE			
6	0618	**1.0**	0.3	**21**	0016	**4.9**	1.5
	1208	**5.6**	1.7		0640	**2.0**	0.6
FR	1901	**1.6**	0.5	SA	1243	**5.6**	1.7
VE				SA	1949	**2.0**	0.6
7	0018	**5.6**	1.7	**22**	0104	**4.6**	1.4
	0710	**1.0**	0.3		0725	**2.3**	0.7
SA	1254	**5.6**	1.7	SU	1328	**5.2**	1.6
SA	2000	**1.3**	0.4	DI	2037	**2.0**	0.6
8	0115	**5.2**	1.6	**23**	0158	**4.6**	1.4
	0806	**1.3**	0.4		0819	**2.3**	0.7
SU	1346	**5.6**	1.7	MO	1419	**5.2**	1.6
DI	2059	**1.3**	0.4	LU	2126	**2.0**	0.6
9	0221	**4.9**	1.5	**24**	0305	**4.3**	1.3
	0905	**1.6**	0.5		0918	**2.6**	0.8
MO	1446	**5.6**	1.7	TU	1515	**4.9**	1.5
LU	2200	**1.0**	0.3	MA	2215	**1.6**	0.5
10	0335	**4.9**	1.5	**25**	0418	**4.6**	1.4
	1008	**1.6**	0.5		1018	**2.6**	0.8
TU	1551	**5.9**	1.8	WE	1614	**4.9**	1.5
MA	2301	**0.7**	0.2	ME	2305	**1.6**	0.5
11	0449	**4.9**	1.5	**26**	0521	**4.6**	1.4
	1113	**1.6**	0.5		1113	**2.3**	0.7
WE	1656	**5.9**	1.8	TH	1710	**5.2**	1.6
ME				JE	2355	**1.3**	0.4
12	0001	**0.7**	0.2	**27**	0612	**4.9**	1.5
	0555	**5.2**	1.6		1203	**2.3**	0.7
TH	1216	**1.6**	0.5	FR	1759	**5.6**	1.7
JE	1758	**5.9**	1.8	VE			
13	0058	**0.3**	0.1	**28**	0044	**1.0**	0.3
	0653	**5.6**	1.7		0657	**4.9**	1.5
FR	1315	**1.6**	0.5	SA	1248	**2.0**	0.6
VE	1855	**6.2**	1.9	SA	1846	**5.9**	1.8
14	0151	**0.3**	0.1	**29**	0129	**0.7**	0.2
	0747	**5.6**	1.7		0738	**5.2**	1.6
SA	1410	**1.6**	0.5	SU	1332	**1.6**	0.5
SA	1948	**6.2**	1.9	DI	1930	**5.9**	1.8
15	0240	**0.3**	0.1	**30**	0212	**0.3**	0.1
	0836	**5.9**	1.8		0818	**5.6**	1.7
SU	1501	**1.6**	0.5	MO	1417	**1.6**	0.5
DI	2038	**6.2**	1.9	LU	2014	**6.2**	1.9
				31	0253	**0.3**	0.1
					0858	**5.6**	1.7
				TU	1504	**1.3**	0.4
				MA	2057	**6.2**	1.9

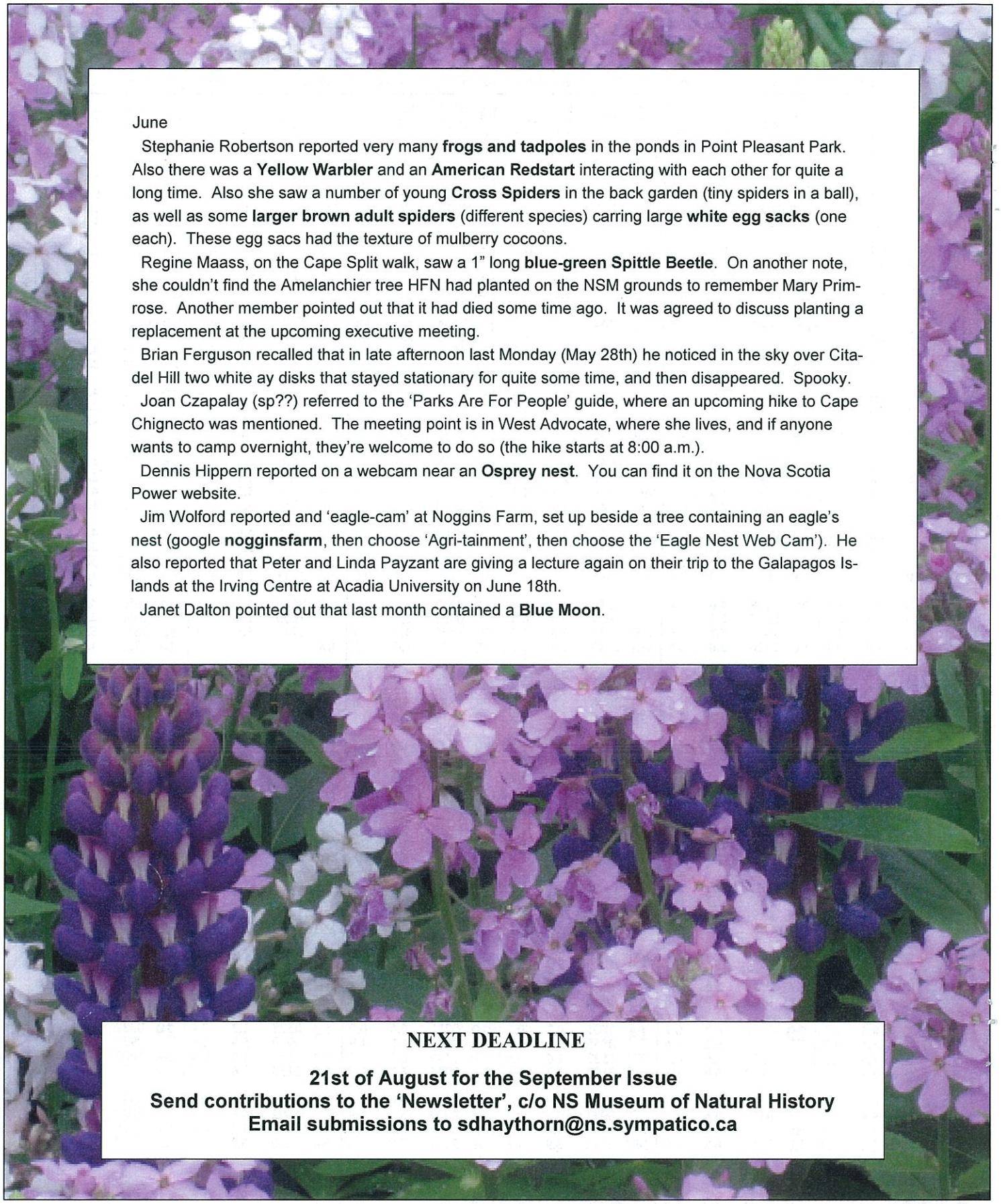
August-août

Day	Time	Feet	Metres	jour	heure	pieds	metres
1	0334	**0.3**	0.1	**16**	0408	**1.3**	0.4
	0937	**5.9**	1.8		1008	**5.9**	1.8
WE	1553	**1.3**	0.4	TH	1638	**1.6**	0.5
ME	2140	**6.2**	1.9	JE	2222	**5.6**	1.7
2	0416	**0.3**	0.1	**17**	0435	**1.6**	0.5
	1018	**5.9**	1.8		1043	**5.9**	1.8
TH	1646	**1.3**	0.4	FR	1717	**1.6**	0.5
JE	2225	**5.9**	1.8	VE	2300	**5.2**	1.6
3	0501	**0.3**	0.1	**18**	0503	**1.6**	0.5
	1058	**5.9**	1.8		1118	**5.9**	1.8
FR	1742	**1.0**	0.3	SA	1759	**2.0**	0.6
VE	2312	**5.6**	1.7	SA	2339	**4.9**	1.5
4	0552	**0.7**	0.2	**19**	0538	**2.0**	0.6
	1141	**5.9**	1.8		1155	**5.6**	1.7
SA	1841	**1.0**	0.3	SU	1846	**2.0**	0.6
SA				DI			
5	0002	**5.2**	1.6	**20**	0021	**4.9**	1.5
	0649	**1.0**	0.3		0627	**2.3**	0.7
SU	1227	**5.9**	1.8	MO	1235	**5.2**	1.6
DI	1941	**1.0**	0.3	LU	1936	**2.0**	0.6
6	0056	**5.2**	1.6	**21**	0108	**4.6**	1.4
	0752	**1.3**	0.4		0730	**2.6**	0.8
MO	1318	**5.6**	1.7	TU	1320	**4.9**	1.5
LU	2043	**1.0**	0.3	MA	2030	**2.0**	0.6
7	0159	**4.9**	1.5	**22**	0208	**4.6**	1.4
	0858	**1.6**	0.5		0837	**2.6**	0.8
TU	1420	**5.6**	1.7	WE	1417	**4.9**	1.5
MA	2146	**1.0**	0.3	ME	2126	**2.0**	0.6
8	0317	**4.6**	1.4	**23**	0327	**4.6**	1.4
	1004	**1.6**	0.5		0939	**2.6**	0.8
WE	1532	**5.6**	1.7	TH	1527	**4.9**	1.5
ME	2249	**1.0**	0.3	JE	2223	**1.6**	0.5
9	0442	**4.9**	1.5	**24**	0446	**4.6**	1.4
	1108	**1.6**	0.5		1036	**2.6**	0.8
TH	1648	**5.6**	1.7	FR	1636	**5.2**	1.6
JE	2350	**1.0**	0.3	VE	2319	**1.3**	0.4
10	0552	**4.9**	1.5	**25**	0542	**4.9**	1.5
	1210	**1.6**	0.5		1129	**2.3**	0.7
FR	1754	**5.6**	1.7	SA	1732	**5.6**	1.7
VE				SA			
11	0046	**0.7**	0.2	**26**	0011	**1.0**	0.3
	0647	**5.2**	1.6		0627	**5.2**	1.6
SA	1306	**1.6**	0.5	SU	1218	**2.0**	0.6
SA	1848	**5.9**	1.8	DI	1821	**5.9**	1.8
12	0136	**0.7**	0.2	**27**	0057	**0.7**	0.2
	0734	**5.6**	1.7		0707	**5.6**	1.7
SU	1356	**1.6**	0.5	MO	1307	**1.3**	0.4
DI	1936	**5.9**	1.8	LU	1906	**6.2**	1.9
13	0221	**0.7**	0.2	**28**	0140	**0.3**	0.1
	0816	**5.9**	1.8		0747	**5.9**	1.8
MO	1441	**1.6**	0.5	TU	1356	**1.0**	0.3
LU	2020	**5.9**	1.8	MA	1950	**6.2**	1.9
14	0301	**0.7**	0.2	**29**	0221	**0.0**	0.0
	0855	**5.9**	1.8		0827	**6.2**	1.9
TU	1522	**1.6**	0.5	WE	1445	**0.7**	0.2
MA	2102	**5.9**	1.8	ME	2036	**6.2**	1.9
15	0337	**1.0**	0.3	**30**	0303	**0.0**	0.0
	0932	**5.9**	1.8		0907	**6.2**	1.9
WE	1600	**1.6**	0.5	TH	1535	**0.7**	0.2
ME	2142	**5.9**	1.8	JE	2121	**5.9**	1.8
				31	0347	**0.3**	0.1
					0949	**6.6**	2.0
				FR	1627	**0.7**	0.2
				VE	2208	**5.9**	1.8

September-septembre

Day	Time	Feet	Metres	jour	heure	pieds	metres
1	0435	**0.3**	0.1	**16**	0418	**2.0**	0.6
	1031	**6.2**	1.9		1036	**5.6**	1.7
SA	1723	**0.7**	0.2	SU	1707	**1.6**	0.5
SA	2256	**5.6**	1.7	DI	2307	**5.2**	1.6
2	0532	**1.0**	0.3	**17**	0453	**2.3**	0.7
	1116	**6.2**	1.9		1111	**5.6**	1.7
SU	1823	**0.7**	0.2	MO	1752	**1.6**	0.5
DI	2346	**5.2**	1.6	LU	2345	**4.9**	1.5
3	0637	**1.3**	0.4	**18**	0546	**2.6**	0.8
	1203	**5.9**	1.8		1149	**5.2**	1.6
MO	1925	**1.0**	0.3	TU	1845	**2.0**	0.6
LU				MA			
4	0040	**4.9**	1.5	**19**	0028	**4.9**	1.5
	0746	**1.6**	0.5		0656	**2.6**	0.8
TU	1257	**5.6**	1.7	WE	1233	**4.9**	1.5
MA	2029	**1.0**	0.3	ME	1944	**2.0**	0.6
5	0144	**4.6**	1.4	**20**	0122	**4.6**	1.4
	0853	**2.0**	0.6		0804	**2.6**	0.8
WE	1402	**5.2**	1.6	TH	1327	**4.9**	1.5
ME	2133	**1.0**	0.3	JE	2045	**2.0**	0.6
6	0310	**4.6**	1.4	**21**	0237	**4.6**	1.4
	0959	**2.0**	0.6		0905	**2.6**	0.8
TH	1524	**5.2**	1.6	FR	1438	**4.9**	1.5
JE	2236	**1.0**	0.3	VE	2143	**1.6**	0.5
7	0445	**4.9**	1.5	**22**	0404	**4.6**	1.4
	1102	**2.0**	0.6		1003	**2.6**	0.8
FR	1647	**5.2**	1.6	SA	1555	**5.2**	1.6
VE	2335	**1.0**	0.3	SA	2239	**1.3**	0.4
8	0546	**5.2**	1.6	**23**	0505	**4.9**	1.5
	1200	**1.6**	0.5		1058	**2.0**	0.6
SA	1747	**5.6**	1.7	SU	1658	**5.6**	1.7
SA				DI	2331	**1.0**	0.3
9	0028	**1.0**	0.3	**24**	0550	**5.2**	1.6
	0632	**5.6**	1.7		1151	**1.6**	0.5
SU	1252	**1.6**	0.5	MO	1751	**5.9**	1.8
DI	1836	**5.6**	1.7	LU			
10	0116	**1.0**	0.3	**25**	0018	**0.7**	0.2
	0711	**5.6**	1.7		0630	**5.9**	1.8
MO	1337	**1.3**	0.4	TU	1244	**1.0**	0.3
LU	1918	**5.9**	1.8	MA	1839	**5.9**	1.8
11	0157	**1.0**	0.3	**26**	0103	**0.3**	0.1
	0748	**5.9**	1.8		0710	**6.2**	1.9
TU	1417	**1.3**	0.4	WE	1335	**0.7**	0.2
MA	1958	**5.9**	1.8	ME	1927	**5.9**	1.8
12	0233	**1.0**	0.3	**27**	0147	**0.3**	0.1
	0823	**5.9**	1.8		0752	**6.6**	2.0
WE	1452	**1.3**	0.4	TH	1425	**0.3**	0.1
ME	2038	**5.9**	1.8	JE	2015	**5.9**	1.8
13	0303	**1.3**	0.4	**28**	0233	**0.3**	0.1
	0857	**5.9**	1.8		0836	**6.6**	2.0
TH	1525	**1.3**	0.4	FR	1516	**0.0**	0.0
JE	2116	**5.6**	1.7	VE	2103	**5.9**	1.8
14	0328	**1.3**	0.4	**29**	0322	**0.3**	0.1
	0929	**5.9**	1.8		0921	**6.6**	2.0
FR	1556	**1.3**	0.4	SA	1609	**0.0**	0.0
VE	2153	**5.6**	1.7	SA	2152	**5.9**	1.8
15	0351	**1.6**	0.5	**30**	0417	**0.7**	0.2
	1002	**5.9**	1.8		1007	**6.6**	2.0
SA	1629	**1.3**	0.4	SU	1706	**0.3**	0.1
SA	2230	**5.2**	1.6	DI	2242	**5.6**	1.7

ALL TIMES ARE AST



June

Stephanie Robertson reported very many **frogs and tadpoles** in the ponds in Point Pleasant Park. Also there was a **Yellow Warbler** and an **American Redstart** interacting with each other for quite a long time. Also she saw a number of young **Cross Spiders** in the back garden (tiny spiders in a ball), as well as some **larger brown adult spiders** (different species) carring large **white egg sacks** (one each). These egg sacs had the texture of mulberry cocoons.

Regine Maass, on the Cape Split walk, saw a 1" long **blue-green Spittle Beetle**. On another note, she couldn't find the Amelanchier tree HFN had planted on the NSM grounds to remember Mary Primrose. Another member pointed out that it had died some time ago. It was agreed to discuss planting a replacement at the upcoming executive meeting.

Brian Ferguson recalled that in late afternoon last Monday (May 28th) he noticed in the sky over Citadel Hill two white ay disks that stayed stationary for quite some time, and then disappeared. Spooky.

Joan Czapalay (sp??) referred to the 'Parks Are For People' guide, where an upcoming hike to Cape Chignecto was mentioned. The meeting point is in West Advocate, where she lives, and if anyone wants to camp overnight, they're welcome to do so (the hike starts at 8:00 a.m.).

Dennis Hippern reported on a webcam near an **Osprey nest**. You can find it on the Nova Scotia Power website.

Jim Wolford reported and 'eagle-cam' at Noggins Farm, set up beside a tree containing an eagle's nest (google **nogginsfarm**, then choose 'Agri-tainment', then choose the 'Eagle Nest Web Cam'). He also reported that Peter and Linda Payzant are giving a lecture again on their trip to the Galapagos Islands at the Irving Centre at Acadia University on June 18th.

Janet Dalton pointed out that last month contained a **Blue Moon**.

NEXT DEADLINE

21st of August for the September Issue
Send contributions to the 'Newsletter', c/o NS Museum of Natural History
Email submissions to sdhaythorn@ns.sympatico.ca