

THE HALIFAX FIELD NATURALIST



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HFN

is incorporated under the Nova Scotia Societies Act and holds Registered Charity status with Revenue Canada. Tax-creditable receipts will be issued for individual and corporate gifts. It is an affiliate of the Canadian Nature Federation and an organisational member of the 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. 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 Street, Halifax. Meetings are open to the public.

FIELD TRIPS are held at least once a month, and it is appreciated if those travelling in someone else's car share the cost of the gas. All participants in HFN activities are responsible for their own safety. Everyone, member or not, is welcome to take part in field trips.

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MEMBERSHIP is open to anyone interested in the natural history of Nova Scotia. Memberships are available at any meeting of the society, or by writing to: Membership Secretary, Halifax Field Naturalists, c/o NS Museum of Natural History. New memberships starting from 1 September will be valid until the end of the following membership year. The regular membership year is from 1 January to 31 December. Members receive the HFN Newsletter and notices of all meetings, field trips, and special programmes. The fees are as follows:

Individual	\$15.00 per year
Family	\$20.00 per year
Supporting	\$25.00 per year
FNSN (opt.)	\$ 5.00 per year

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HFN NEWS AND ANNOUNCEMENTS

EDITORIAL

After our 'brutal winter', summer is finally coming. Environment Canada's weather line gives the record temperatures every day, and many of them were set in the 19th or early 20th century, before recent climate changes. The cold winter and slow spring have affected insects and plants. Insects were late; so were migrating birds. But – there were no reports of starving swallows as there were a few years ago.

Bears are visiting built-up areas as usual; green bins tempt them – easy to empty, as they were designed to be. Spring bulbs, and shrubs, which have bloomed synchronously in Halifax for the last few years, have done so successively this year: first on south-facing sites; as much as a week later in west-facing places; and last, on sites facing north. Dandelions showed this pattern clearly; this will be a long parachute seed season! Fred Scott's talk on the effects of climate change presented a new perspective for naturalists (p. 6).

Wendy McDonald has continued the column on interesting web sites (p. 12). This is a very fine idea, and contributions from newsletter readers will be welcome. So will book reviews, and ideas for talks and field trips.

The end of Pat Leader's story on Halifax's historic brook is here (p. 9), and Stephanie Robertson's Sundarbans tiger story ends in this issue (p. 10). She returns from Bangladesh to Halifax permanently this July.

As for summer hobbies – The Herp Atlas is in its final year, and accepting records (p. 3). They are doing well. Thousand Eyes, the Nova Scotia achievement, is still inviting records and new contributors.

– Ursula Grigg

THE HERP ATLAS IN 2003



Fred Scott has written a narrative report on the progress of the Herp Atlas to the end of 2002, which was the fourth year for the project (the Nova Scotia Herpetofaunal Atlas Project). Specimens and records are being collected from a grid of equal-sized squares across Nova Scotia during a five-year period, ending with the year 2003. A subset of the available squares was randomly selected in order to keep the project manageable with a limited number of atlasers.

The criterion for considering a square complete was finding 75% of the species expected to occur in it, and by the end of 2002 the job was 81.5% complete, a very satisfactory position.

In early spring of 2002, when the project was behind schedule, the methodology was reviewed, and drastic changes were made. In particular, collecting was made the first priority of staff coordinator Sabrina Taylor, and a second staff member, hired with a single donation of \$10,000 from the McLean Foundation, concentrated on atlasing. Experienced volunteers made up the rest of the collectors, and John Gilhen, retired Herpetologist from the N.S. Museum of Natural History, helped review

the lists of species to be expected in each square. Squares were targeted according to the amount of work needed to finish them, which brought the project up to where it should be.

In 2003, the same focus – by the coordinator, one paid assistant, and experienced volunteers – will be applied to unfinished squares. Results from the early spring will be critical, because many squares can only be completed with spring species. As each square becomes closer to completion, the time necessary to find the final species, usually the uncommon ones, gets longer. It is going to be very tight, and so are the funds.

Records contributed by other naturalists are still needed, and can be sent to: **The Herp Atlas Project, c/o Biology Dept., Acadia U., Wolfville, N.S., B0P 1X0, 902-585-1313**; or go to: <http://landscape.acadiau.ca/herpatlas> for the colourful, informative website.

– Ursula Grigg

BLANDING'S TURTLE

About 100 hectares of land around MacGowan Lake, Queens County, has been designated a conservation area for Blanding's Turtle, which is protected under the Nova Scotia Protected Species Act. Blanding's Turtle nests on gravel and sand beaches of lakes and waterways where it is easily disturbed. It feeds and hibernates in the adjacent marshes.

This conservation area, which belongs to Bowater Mersey Paper Company, adjoins Kejimikujik National Park. Natural Resources Minister Tim Olive announced the conservation arrangement on May 21.

– Ursula Grigg

TRIP APPRECIATION

Both my wife Diane and I want to thank you for enabling us to have had such a terrific trip Sunday past. (Stewiacke River Paddle, May 4.) We were in the sand-coloured canoe.

I still am a little sore, but it was worth it!

– Mike Casey

TIGER ACCOUSTICS

The magazine New Scientist reports, "Tigers appear to rely on booming low frequency sounds – much of it inaudible to humans – to drive rivals away from their territory and to attract mates. The discovery may explain how the animals maintain large hunting territories, and may also help conservationists to protect the endangered animals." (New Scientist, 3 May, 2003, page 21.)



NEW AND RETURNING

Ken & Tamra Hill
Hugh & Sheila Kindred
Anna McCarron

SPECIAL REPORTS

CONSERVATION



OUR NEWEST PARK: MCNABS AND LAWLOR ISLANDS PROVINCIAL PARK

Another piece of good news from 2002 is the official designation of McNabs and Lawlor Islands Provincial Park. Those who have been around awhile will recall that we were getting close to designation in the late 80's, when the whole effort was side-tracked by the proposal to put metro's sewage treatment plant there.

After the sewage plant option was deemed too expensive, we were back on track until a local MP indicated that the feds were rethinking their decision to transfer the island to the province. It took a public consultation process to confirm the strong public desire for a nature-based park before the matter was resolved.

In early 2000, the province assembled an advisory committee to help establish a management plan. The Halifax Field Naturalists were asked to provide a member, and that has been me. There are about a dozen people on the committee, plus some advisors from related government agencies. We've met a couple of dozen times (really!), and have tried to resolve numerous difficult issues.

A management plan isn't necessary to establish a provincial park – that only requires an order-in-council (a cabinet decision) – but for parks larger than a few picnic tables, it's the way to go. It defines a vision for the park, and gives strong guidance on how to get there. For a park like McNabs, which could see very high annual visitation, and lots of pressure to be everything to everybody, it really is essential. McNabs will likely be the third provincial park to have an approved management plan.

The management plan was supposed to be completed in time for the park to be designated at a major parks conference last September. The draft was available for comment last summer, but there was no time to incorporate comment before the conference. While the announcement wasn't made then, cabinet approval was continued so we had the official designation in Eastern Passage on November 4, before a crowd which included many who had worked towards that day for many years. At present, in May 2003, the advisory committee is reviewing the public comments and revising the plan.

The management plan starts with a vision. The colour of the vision is green. McNabs and Lawlor will be primarily a natural park. That said, there has also been over 250 years of cultural use with both settlement and military elements playing important roles. The principle sites for these also deserve protection and interpretation – they are part of the fascination of the island. Then there are the recreational aspects, an island tradition for over 100 years. Recreational aspirations have to be consistent with the rest of the vision. Given the expected increase in use, future recreation must be at a scale which the island can sustain without damaging its

character. Last, but not least, the vision recognises the island as a great place for environmental education.

Understandably, the islands are also seen as major economic opportunities. There is clearly room for services to the island users, but not the intent to provide the visitors as a market. Hence a canteen is possible, but a souvenir shop seems unlikely.

Another reality is that there wouldn't be huge pots of provincial money to develop the park. There will be some response to increased usage, but budgets and staff resources are expected to remain limited. Proposals from organisations (commercial and non-profit) will substantially influence the progress of this park.

It's usual to divide larger natural parks into zones; the Provincial Parks Act (and policy) allows for three types. They help protect the best natural areas, and direct impacts from public use to places designed to withstand them. The accompanying map shows the proposed distribution of zones for this park. The map also shows areas which are not under the ownership or control of the provincial park, including the Fort McNab National Historic Site, which is owned by Parks Canada and will be managed and developed complementary to the provincial park.

McNabs is a bit different than what the drafters of the legislation and policy had in mind, so the names of the zones seem odd. The Environmental Protection Zones are essentially places where nature is left alone. Mostly this area will have hiking trails and not much else. These include all of the south end of McNabs and most of the north-eastern side, as well as all of Lawlor Island. (The recommendation from the Meltzer Report of the mid-90's was that Lawlor be left alone for 25 years, then the situation be reassessed. This makes even more sense when the limited financial resources available are considered.) The map shows a bit less of this zone than the committee intended, so there will be some revision of the lines.

The Resource Conservation Zones are areas with particular management objectives. Here the conservation or protection of some element of the site is the major concern. Often this means limiting how nature takes its course. The major cultural sites comprise most of these areas. For example, Fort Ives will be preserved as a fort, not allowed to regenerate to forest. There will likely be some management of the forest on the slope seaward of it to maintain views of Halifax. Likewise, the area around the tearoom (Hugonin-Perrin Estate) and Finlay farm and Hugonin Hill, won't just revert to forest. There will likely be some interpretation around the farm site (and pop factory). Hugonin Hill, as a tradition vantage point, may be managed to preserve a partial view. The tea house and Hugonin-Perrin Estate are likely to undergo a special vegetation management plan to see whether aspects of the garden which was there in Victorian times can be restored. (This would largely depend on whether there was a not-for-profit group willing to undertake the effort.)

Strawberry Hill is another battery which will presumably be preserved. Right now visitation is discouraged because the state of disrepair makes the site dangerous.

The area north of Fort McNab is the original McNab homestead. While we are unsure of the potential, it has been included in a Resource Conservation Zone.

Maugher's Beach is also in this zone, while the dunes and McNabs Pond behind it are in the Environmental Protection Zone. The recreational interest in the beach is undeniable (and probably unstoppable). Both the dunes and pond are an artifact of the causeway to the lighthouse. The pond, now fresh water, was originally a cove, allowing Peter McNab to sail to a landing below his house. Maugher's Beach was just around the lighthouse and was actually separate from McNabs. The management plan is clear that it wishes to protect the dunes while allowing recreational use of the beach. It is less clear on whether McNabs Pond should be protected from breaches by the sea.

The Recreation Development Zones are where new facilities are proposed. There is a small area around Range Pier (in Back Cove), which would have a replacement wharf, and, most likely, change facilities and an information kiosk. A larger area runs from Garrison Pier to the beach. The proposal is similar, but would likely include a combined canteen-information center. (There is still discussion on the most practical location.) Finally, the largest development area includes the Conrad and Lynch houses and areas along the Old Military Road. Everyone would like to see the house put to good use, and an outdoor education center is the most frequently cited possibility. The area along the old military road is one of the likely sites for a campground.

The existence of the roads and cultural sites has strongly influenced the zoning. The Recreation Development Zones are also influenced by the vision, and what will be needed to achieve it.

The map included here has an additional feature not included in the draft management plan. Some areas of ocean have been declared part of the park. HFN and a few others pushed for the inclusion of a reasonable amount of marine area in the park. The nature of the surrounding waters merits protection, and is particularly involved in the recreation potential of the islands. If the education potential of the islands is to be reached it would be foolish to ignore the waters. We suggested a minimum distance out from all the shore, and the entirety of Drakes Channel (between the two islands); but the areas between headlands is a good start. (The Ives Cove area is omitted because it falls under the Halifax Port Authority and attempting to include it would have delayed the rest.) The final version of the management plan will include discussion of these marine areas.

There are two recreational issues which cause most of the debate. The simpler is cycling. The management plan proposes restricting cycling to the hardened roads (Range Pier to Ives Point, The Old Military Road and into Fort McNab.) The concern is over whether cycling can be effectively restricted to those areas. There is agreement that the trail system is not sufficiently hardened to withstand the use of bikes without damage, especially if numbers increase as expected. There are also issues of trail width, conflicts between users, and appropriateness. The question asked is, if we can't be sure of being able to enforce restrictions, should people be allowed to take bikes to the island at all?

The more troubling issue is camping. Prior to official

designation as a park, camping has been generally unrestricted except during fire closures. There are small sites scattered all over the island. Now that this is a park, if we ignore the practice, or specifically allow it to continue, and if visitation increases as expected, then as traditional sites fill we could see the creation of a large number of new ones. As many campers choose remote sites to get away from others, the whole island is likely to be impacted. Further, most users, especially those not well introduced to back country camping, disturb a significant amount of vegetation around their sites. For some this includes taking down large trees for firewood. Then there is the fire hazard. Some members of our committee believe that the solution is to prohibit camping. Could this be enforced? Or would it cause significant community resentment among those who obeyed, and just drive those who refuse to obey to less readily checked sites?

Presently the management plan calls for a limited number of camp sites. The intent is to provide tent pads (sand-filled squares where the tent is to go) and probably fire pits. It provides two traditional areas of coastal use (Back Cove and Timmons Cove) with a total of five sites. At present groups may be given permits to use the center area of Fort Ives. We recognise that with increasing visitation this becomes inappropriate for both the groups and the enjoyment of other visitors. Hence the designation of a new area for group camping proposed for a disturbed site along the Old Military Road, which is also a convenient area to bring in water service. The same area would also provide camping for those not using the designated coastal sites.

Parks are for enjoying. They are also for learning. (That's part of the enjoyment – isn't it?) The plan includes a number of interpretative themes. This is where we start to see additional emphasis on nature. In the levels below a management plan we will begin to see how these themes are communicated. This can include displays at the various sites or through making pamphlets or books available.

The mandate of the advisory committee was to advise on the establishment of the park and to prepare the management plan. The park is established. The management plan will likely go to the Minister early this summer. So what happens then? I'm pleased to say that the announcement of the park also included an announcement that the advisory committee will continue to serve, and provide advice on the management of the park. (Maybe I shouldn't be so pleased – the meetings now string out very far in front of us indeed.)

Of course the reason we support the formal protection of places like McNabs is – nature.

There are fairly comprehensive species lists for the island (e.g. in the Friends of McNabs Island Society's book *Discover McNabs Island*) and even some descriptions of habitats and ecological process in other reports. But there are still gaps, including signage, pamphlets, and checklists, which HFN can help to fill.

The Province would be very pleased to have any additional information about the species and habitats of the islands. Both it and the committee would also appreciate help in making information more available to the public.

– Colin Stewart

HFN TALKS

AUSTRALIA

7 NOV., 2002

Dr. Charles Cron gave us a wonderful slide-illustrated account of his travels across Australia late last year. Charlie is an accomplished photographer, with a particular interest in photographing natural landscapes and wildflowers. He researched his trip well beforehand, particularly on the internet, but he also recommended the Lonely Planet series of guidebooks.

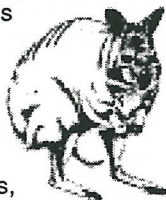
He and his family arrived in Perth, in Western Australia, where they visited Nambung National Park and the Pinnacles Desert. In the greener areas of the park he found some of the plants most characteristic of Australia, and photographed various species of Banksia, as well as Grevillea, a rosemary-like shrub.

The sandy desert presented a striking contrast, with vestigial rocky outcrops of limestone. The stark upright pillars are like tombstones in the barren landscape. At Rottnest Island, accessible by ferry from Perth, the island's sheltered coves and white sand beaches are full of holiday-makers. However, Charlie was more interested in the plants, and was particularly taken by a curious tree, the Rottnest Island Tea-tree (*Melaleuca lanceolata*), whose unusual gnarled branches reminded him of the Krummholz formation of conifers in his native Newfoundland.

Charlie spent several days at the Royal Botanic Gardens in Sydney. They occupy the old site of the Governor's Domain. Since the arrival of the Dutch explorers in the 17th century, Australia's ecology has been greatly altered. Later English settlers rapidly transformed the landscape, with wood-cutting, grazing, and burning. Hundreds of alien species have been introduced, especially for agricultural and horticultural purposes, and many of Australia's native plants are consequently rare or threatened. These were what most interested Charlie. The Wollemi Pine (*Wollemia nobilis*), one of the world's rarest plants, is grown in a cage in the gardens, as a form of 'protective custody' to reduce the risk of theft. It was a challenge to photograph, but the palms, many Banksias, and a huge fig tree were more obliging subjects for his camera.

The place which most intrigued him, though, was Uluru, known to tourists as Ayers Rock, in Uluru-Kata Tjuta National Park in the Northern Territory. The world's largest monolith is an aboriginal sacred site, and Australia's most famous landmark. The local Aborigines, the Anangu people, own the site, and lease it to Parks Australia. The massive sandstone looms above the horizon, presenting an extraordinary subject for the photographer, especially its glowing reddish purple presence at dawn and again at sunset. But it is memorable at all times of day, and its colours turn from burnt orange, to deep crimson, to amber, with the changing light. The red soil of this desert area was uncharacteristically covered with lush green growth during his visit, as Australia received unusual rain levels last year.

Charlie walked the nearly ten kilometres around the base of the rock, and through the Valley of the Winds, and his photographs captured for us characteristic plants, including ghost gums and desert oaks,



and memorable images of the many faces of Uluru.

– Patricia L. Chalmers

GLOBAL WARMING 5 DEC. 2002

Canada, Great Britain, and Australia are leading the way in studies modelling the effects of rising temperatures in the future. Fred Scott has been following these studies. He points out that sudden climate change has happened before, when the system of ocean currents which controls local conditions was broken 3,000 years ago, and a short ice age (the Younger Dryas) followed. Future changes will be equally complex, and results often unexpected.

If temperatures rise, there will be warmer, drier summers and warmer, wetter winters, with moisture falling as rain and running off. The drier climate will reduce food supply, and ability to disperse, for example among migratory birds, but the impact of change will be less dangerous than the speed of it - few organisms can adapt in one season.

Without snow cover, amphibians will be weakened by constantly adjusting their physiological responses to winter temperature variations, and turtle nesting habitat will lack the scouring of a spring melt. Summer impacts will include variations in water levels, which will benefit some plants – water pennywort, for example.

Fred gave many examples of the future uncoupling of such seasonal events as the synchronous appearance of flowers and their pollinators; if flowers bloom out of turn, competition for resources among their pollinators may arise where it did not exist before.

While climate may change, yearly change in day length will not, so again, formerly linked elements will be separated.

Since these changes will happen fast, we need to foresee as much as possible beforehand, hence the importance of climate modelling. Besides, it is a rivetting topic!

– Ursula Grigg

SLIDE NIGHT 6 MARCH 2003

It is always a delight to share the natural history experiences of fellow members, whether at home or elsewhere. Members' Slide Night, at our AGM, gives everyone the opportunity to do just that. This year, we had the chance to learn and explore with three members; Peter Payzant, Colin Stewart, and Bob McDonald.

Lepidoptera

Peter began by showing us the undersides of three leaf-mimic butterflies – Mourning Cloak, Red Admiral, and Question-mark. He then showed a slide with seven Mourning Cloaks coming to sap on a recently cut Yellow Birch. He mentioned that Mourning Cloaks were among our earliest butterflies, since they over-winter as adults.

Another early butterfly is the Spring Azure, which over-winters as a pupa and emerges around mid-April.

There were some photos of skippers, mainly to point out the hooked antennae, robust bodies, and short

wings. One of these was the introduced European Skipper, by any measure now the commonest butterfly in the province, perhaps an order of magnitude more common than its nearest competitor.

Peter then showed a few western butterflies, with photos taken at Nose Hill Park in Calgary. These included Western Tailed Blue, Melissa Blue, Common Alpine, and Western White, none of which occur here.

These were followed by a photo of a Zebra butterfly (a tropical and sub-tropical species, commonly found in butterfly houses). The purpose of this photo was to point out the blue eyes with black spots, and the discovery that eye colour is a useful feature for separating some species (not this one!).

Peter finished with a Hummingbird Clearwing moth (a day-flying Sphingid), commenting on how they are at times reported as 'baby hummingbirds', and how the two large black antennae are a giveaway (not to mention the size). Also, these moths mimic large and presumably dangerous wasps, and they are so confident in the fearsomeness of their disguise that they can actually be touched as they hover in front of flowers feeding. To learn more about our local butterflies in the field, plan to join us on an outing in July or August (see Summer Programme 2003 insert for details).

Switzerland

Colin Stewart brought a few slides taken on a family trip to Switzerland in 1987. His modern slides are the digital kind.

The first few shots came from a chance encounter of the annual procession bringing the cattle down from their high pastures for the winter. The cattle drive was along the road, so all the cars pulled off. The Swiss were in traditional costumes, and the cattle had floral garlands strung between their horns. The road led to the Lauterbrunnen valley, a narrow, vertical-sided glacial valley famous for Trummelbach Falls. These falls are within the valley wall, so to view (and photograph) them requires a climb inside the channel they've carved out.

The last sequence was photos taken on the ride from Grindelwald, near the top of Jungfrau and past the north face of the Eiger by cog railway. A couple of shots illustrate why Switzerland is considered the roof of Europe. Subsequent photos showed the white expanse of the Aletsch Glacier on the Jungfrauoch Plateau. Both climbing and skiing (summer) are based from here, but most visitors are just tourists! Colin's final photo was of then 3-year old daughter Jenny, on a 'Railway Jenny' (a single-seat, rail-maintenance car), taken at high elevation (11,400 ft).

Mexico

Bob's recent trip to Cancun, Mexico allowed him to add a few new birds to his list. Birds are difficult to photograph however, so he chose to show us the Mayan ruins of Coba and Chichen Itza of the Yucatan peninsula. The wooded areas surrounding these ancient structures, often with water nearby, are ideal habitat for the many species of birds, some unique to the area. While most visitors were intent on climbing to the top of the ruins, Bob was busy beating the bushes!

The beauties on the beach included Brown Pelicans, awaiting treats from the deep-sea fishermen. Overhead were the ever-present Magnificent Frigatebirds, although one stopped to rest on a post long enough to have his

picture taken. A visit to Isla Mujeres included a Turtle sanctuary, where the Green Turtles are being protected from natural and human predators.

Thanks Peter, Colin, and Bob for sharing with us. And members, as your summer unfolds, be sure to keep next year's members slide night in mind. Or, while reviewing past trips, local or away, keep HFN in mind.

As well, the Programme Committee is always looking for new ideas for trips, outings and talks. Contact a member of the committee or the board (see p. 2) to pass on ideas or remind us of old favourites.

– Bob McDonald

GETTING LOST 3 APRIL 2003

Dr. Ken Hill, Saint Mary's University, has been interested in the business of being lost since he was lost himself, briefly, at the age of 9. When he came to Saint Mary's, in Nova Scotia, he became involved with Search and Rescue, then in its infancy, at about the time when young visitor Andy Warburton became lost and was found dead, after 8 days. He had been on his way to swim with his cousins and was separated from them. The tragedy was so bizarre that Ken abandoned preconceptions, and began to observe the psychology of being lost, first-hand. The first reponse to being lost is to become disoriented in space; this is followed by panic, which is the most dangerous reaction.

He joined Search and Rescue as a searcher, but also to help make their methods more effective. The RCMP are in charge, and treat all searches as crime scenes. They also licence all search dogs, according to police standards.

Ken observes adults through series of experiments; his favourite is to lead a walk through Hemlock Ravine, which is badly signposted, then ask the party to return by the same route. Very few people can do it, because a trail looks so different from another direction. He follows children across wooded areas to see how they use the terrain – they take short-cuts and narrow passages, and do their best to elude trackers!

In Search and Rescue, Ken can talk to people who have been missing and then found, and has recorded the behaviour of different types of missing persons. He notes that small children are trusting, don't go far, and respond to calls. Older children hide, don't respond to calls, and, if seven years or older, they run until exhausted, which is probably what happened to Andy Warburton. Youths tend to be in groups, which is safer, and they stay together. Hikers often find their way out by choosing trails and sticking to them. Hunters are macho – they say they never get lost, just "turned around". Ken's advice to the lost – "make yourself comfortable, and wait to be tracked"; better still, take a map and two compasses (in case one goes wrong or gets broken!), and know how to get out of trouble.

Apparently most of us in the audience were used to carrying map and compass, and not used to getting lost. Ken Hill's was an important talk, with a lot to think about in this naturalists' paradise with so much wild land.

– Ursula Grigg



ROADSIDE PLANTS 1 MAY, 2003

When Diane LaRue spoke to HFN a few years ago, she had just about persuaded contractors to save topsoil from highway excavations separately from subsoil, and was having a terrible time getting plants to thrive on the reconstructed roadsides.

Now she has proved that native species grow there best; they are adapted to salty air, and to our winter conditions. Diane has studied the subtleties of highway habitats, and selected local species which will stabilise the soil without intruding on sight-lines. Obtaining enough plants to fill those miles of roadside is a challenge, but ingenuity provides satisfying answers. Some plants are reclaimed from clearance sites, others seeded in place, some arrive by themselves, and others are obtained from nurseries, where developing native species is fashionable.

100 Series highways are mown once a year, to allow plant stands to establish and flower; some weeding has to be done. Conifers are useful if not too tall and thickly seeded, and despised alders are

handy for wet spots; their glossy leaves look lovely and they provide nitrogen to some very poor soil.

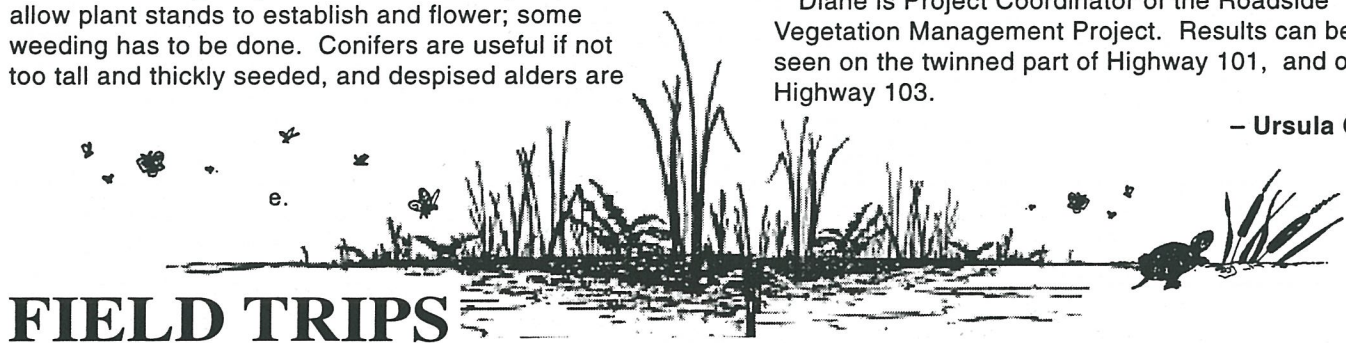
The background is seeded with grasses – no longer hydroseeded, but sown with highway mix with clover, suited to Nova Scotia's climate.

Diane is not fond of lupins; she does like some recent foreigners, including Himalayan Balsam, which is as pink as fireweed. Both spread to massive displays, and are followed and complemented by pearly everlasting, cotton grass and cat-tails. Earlier, and much later, come the yellows of coltsfoot, buttercup, and goldenrod.

We were introduced to a book, [Pocket Guide to Roadside Plants: A View from Nova Scotia Highways 2002](#), by Diane LaRue and Belinda Culgin. This is illustrated with coloured photographs, and is sponsored by the NS Department of Transportation and Public Works, and the N.S. Agricultural College.

Diane is Project Coordinator of the Roadside Vegetation Management Project. Results can be seen on the twinned part of Highway 101, and on Highway 103.

– Ursula Grigg



FIELD TRIPS

MYSTERY WALK

Date: Sunday, 13 April (originally Sun., 22 Feb.)

Place: Fernleigh Park, Bedford

Weather: Overcast, windy, +3°; patches of snow in shaded areas; pond still half-covered in ice

Interpreter: Pat Leader

Participants: 13

As development encroaches upon the few wild areas left near the city, we cherish those that remain and want to visit them before they too are gone. Pat Leader organised this walk to a location which bridges the old municipal boundary between Halifax and Bedford. (The walk had to be rescheduled, due to icy conditions in February.) We met in Fernleigh Park, where both Pat Leader and Barry and Jean Sawyer live, and they led us into the woodland behind their subdivision.

Pat began with an historical account of the vicinity, showing us some 19th century views and maps of the area around the Bedford Basin. Coach trails from Halifax to Bedford, and thence to Annapolis and Truro, were built through the forest. Horses were changed, and passengers could rest, at inns along the way. Ten Mile House in Bedford, and Fultz House in Lower Sackville, are survivors from that era. The portions of the old trails which remain are wide, level, and well built; some stonework over wet areas is still in place. Narrower trails branch off in several directions. Barry told us about Clayton Development's

plan for 200 hectares in this area, to be known as "The Ravines of Bedford South" (go to: <http://www.claytondev.com>). He attended some of the public meetings, after which Clayton announced their intention to incorporate some of these old trails into recreational green areas for the new residential development.

When my family moved to nearby Millview Subdivision in the late 1960's, the hills overlooking Bedford Basin were still largely woodland, though privately-owned. There were houses along the highway and the lower slopes, but neighbours told us about the 'Coach Trail' through the woods which went all the way from Hemlock Ravine to Paper Mill Lake. Subsequent building has obliterated most of it, but the stretch from the top of Pine Drive to Fernleigh Park remains, where it is enjoyed by local residents. I grew up exploring these trails, and in more recent years have kept careful notes of my observations of plants, birds, mammals, and other creatures.

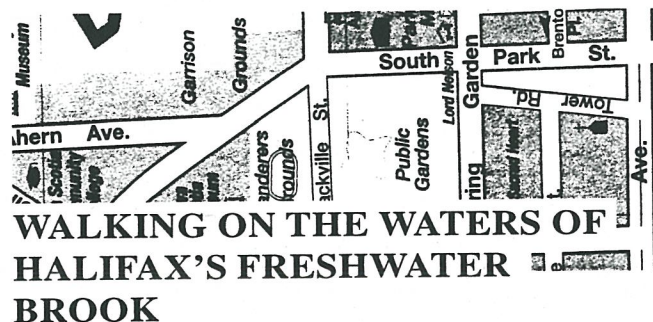
On this chilly, damp, grey afternoon, spring had barely arrived, and though we saw little in the way of wildlife, we enjoyed walking the trails through the diverse habitats. Pat, Barry, Jean, and I all reported what we have found here in season. The forest varies, and includes open, rocky, hardwood hills, where I will soon hear Ovenbirds and Hermit Thrushes singing. In the mixed coniferous forest, we saw square cavities made by Pileated Woodpeckers. Northern Flying Squirrels and Red Foxes live here.

There are some immense Eastern Hemlocks, and three people posed for a photo, their arms outstretched to encircle one. More open areas include a blueberry barren where Barry once found signs of a Black Bear, and glacier-scarred bedrock outcroppings covered with reindeer lichens and Broom-crowberry.

Among the wetlands is an iris-ringed pool where Yellow-spotted Salamanders, Wood Frogs, and Spring Peepers lay their eggs, and a low bog where Heart-leaved Twayblade grows. Ruffed Grouse nest in the coniferous swamps, and beside a mossy stream Club-spur Orchids bloom. At a larger pond edged with Canada Holly and Leatherleaf, Black Ducks nest every April as soon as the ice is out. The homes in Fernleigh and Millview, below this woodland area, are not serviced by the municipality, and their water supply depends upon the ponds and streams in these hills.

Orange and blue flagging tape used by the surveyors was everywhere. We followed a survey-line cut away from one trail and came out of the woods near the new Bedford South School. It is built on what now looks like a quarry site, achieved by clearcutting, levelling, and blasting the surrounding rocks and trees. We were shocked by the contrast between this 'landscape of deprivation' and the green trails behind us.

– Patricia L. Chalmers



On December 1, 2002, I met with some enthusiastic people to explore the course of an old Halifax brook, now completely covered by concrete and drains. (See Issue #110 – Spring, 2003.) Here are the directions for the route, as promised.

For those inclined to walk the historical brook route, it is as follows:

1. Begin at the northeast end of the Common, junction of Robie and Cunard. Evidence of the river source is seen in the dampness of the ground in this area and in the current building excavation, north of Cunard, by O'Regan's Automobiles.
2. Cross the Common and Cogswell St. to the junction of Bell and Trollope. The Egg Pond on the Common was once used by cattle, later by children for swimming and skating, and now for skateboarding.
3. Continue on Bell behind the Nova Scotia Museum of Natural History and the Wanderers' Grounds. Pass the Public Gardens and follow the old source of the brook as it crossed Spring Garden Road and

passed near the present site of Robbie Burns' statue.

4. Continue along South Park Street with its remnants of green areas and Oland's fountain, to South Street. In this section, the brook had provided water for institutions like the Sacred Heart School, the Victoria General Hospital, and the School for the Blind.

5. Turn left at South Street, where in Holy Cross Cemetery you can compare the level of the graves (the old water level) with that of the built-up road.

6. Immediately after passing 5644 South Street, turn right on a passage way behind the Fenwick apartments. In the area to your right — difficult to imagine — Freshwater Brook flowed through a wooded ravine (as illustrated in Paul Erickson's article, see Issue #110, p. 12, 1st column).

Towards the end of the 1700s, General Massey noted that the deep bushy ravine offered convenient cover to an enemy approaching the southern flank of Citadel Hill. His engineer, Spry, built Fort Massey by the present junction of Queen and South Streets to control any future approach via the ravine. The brook used to flow through the area now occupied by Sobeys. In the 19th century the speed of the water was used to operate a mill and a tannery owned by the Smith brothers. Again, notice the various levels of terrain and wonder why flooding still occurs in basements following heavy rains.

7. At Fenwick Street, cross over and follow Lucknow Street to Victoria Street and turn left. The brook used to flow through the area now occupied by Sobeys's.

At the junction of Barrington and Inglis there is a pocket-sized green area. Here you may look across the road to the place where the brook once flowed under the Kissing Bridge and entered the harbour through Esplanade Park.

Despite the present day buildings and railway lines, you may imagine how former Haligonians met at the bridge to stroll in the park observing life around the harbour. You may also imagine people enjoying swimming from a popular, floating bath-house on a warm day.

The Kissing Bridge was built along the former Pleasant Street, the old name for the southern section of Barrington. It was here that the road crossed over the brook en route from downtown to Point Pleasant Park, providing a popular Sunday walk. The fresh waters of the brook provided life for the workers of the town. Here mariners filled their water barrels before embarking perhaps for Europe or the West Indies. Further downstream, riders and their horses cooled down in the shallow waves from the sea.

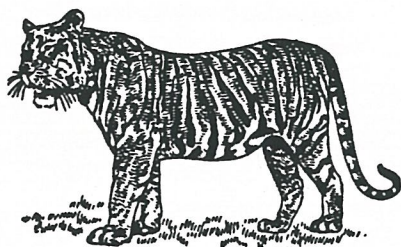
Lastly, in this area you may imagine various small industries connected to the sea. One such example was the rope works with its 860-foot covered ropewalk, which ran along South Bland Street to Inglis. This ropewalk was abandoned in the 1830s.

– Pat Leader

THE SUNDARBANS, PART II

November 6-9, 2002, Bangladesh

(cont'd from Issue #109)



May, 2003

It's the rainy season here in Dhaka now. The mosquitoes are gone. All the trees are clean and upright, breathing easily and sporting new growth of spring green leaves at their branch tops. Across the street the two large mango trees are drooping with heavy, green fruit and many Indian Pond Herons. The multitude of herons reminds me of our Sundarbans trip last year, boating and trekking through the habitat of the Royal Bengal Tiger. A wonderful trip, marred only by our kamikaze driver from Jessore to the port of Mongla.

Since 1966, the Sundarbans has been designated a wildlife sanctuary. Its forest is the largest littoral mangrove belt in the world, stretching 80 km into the interior from the Bay of Bengal. The name 'Sundarbans' and 'Sundari' derive from the Sanskrit for 'beautiful forest'. The Sundari tree, a variety of mangrove, grows straight to about 25 metres.

But the magnificent Sundarban forests aren't only mangrove swamps – they include some of the last remaining stands of the mighty jungles that once covered the Gangetic plain – 3,600 sq. km in Bangladesh, and 2,400 sq. km in India. There is no permanent settlement in these impenetrable forests apart from a few government camps for the labour force who hand-cut the sundari trees for wood and fuel. These camps are either built on stilts, or 'hang' from the trees; the ground is all sloppy, heavy, grey mud.

About one-third of the Sundarbans is covered in a network of muddy river channels and brackish, tidal creeks varying in width from a few metres to five km in some places. These waterways enclose thousands of densely-forested, flat, marshy islands, and the coastal areas are regularly and deeply inundated inland by two-metre high tides (in some places it is five metres).

The ecological balance is extremely delicate – influenced mostly by the tides, especially the great and hazardous bi-annuals. These tides can totally change the landscape by drowning entire areas and creating new ones; they also seriously affect plant growth rates with the extreme salinity fluctuations. The bi-annual cyclonic storms augment the tidal havoc on the vegetation; and the local deer, boar, and even the crabs are predators of the young trees and plants as well.

Being extremely difficult to penetrate, the Sundarbans Wildlife Sanctuary supports a great

abundance of forest and wetland species. There are of course many birds, insects, Lepidoptera, wild honeybees, wild boars, deer, and monkeys; crocodiles, clawless otters, and river dolphins; a rich abundance of fish, sharks, shrimps, and crabs; and some 50 species of reptiles, including snakes and eight species of amphibians.

Over 270 species of birds have been recorded, including 95 water-birds, and 35 birds of prey. Birds found include partridges, mynahs, parrots, tongos, corvids, jungle fowl, snipes, white and gold herons, woodcocks, coots, yellowlegs, sandpipers, common cranes, the Golden-backed Woodpecker, Golden Eagles, Brahmani Kites, gulls and terns, and the Adjutant Bird. Eight varieties of kingfisher have been recorded, including the Brown-winged, White-throated, Black-capped, Pied, and the rare Ruddy Kingfisher.

There are Barking Deer, and an estimated population of 30,000 Spotted Deer. Deer are the chief prey of the Royal Bengal Tiger, of which there is believed to be a population of four to five hundred. Wild boars are prey as well, and also fish stranded on riverbeds at low tide. Not surprisingly for its habitat, this magnificent cat is a strong and agile swimmer. It has eyesight six times sharper than humans', and it can attain a length of two metres. This magnificent animal has extraordinary strength, stealth, and agility, and has a life span of up to 16 years.

One tour group reported seeing a tiger swimming by their boat, but it is rare to catch sight of one. All the locals and even the armed tour guards are petrified of them, and for good reason. In old age, losing its physical strength, agility, perhaps even its canines – and attacking always from behind – it sometimes preys upon the local woodcutters and honey gatherers, who can't always be 'watching their backs'. Every year there are reports of people being attacked and eaten. Also, during the terrific storms, both human and animal corpses are washed into the flooded river channels from upstream to become an additional source of food. Thus these tigers develop a taste for human meat.

Thursday, 7 November, 2002

Early morning, and we breakfasted and then embarked upon our leisurely ten-hour river journey through a truly pristine wilderness, as we made our slow way from the Dhangmari Forestry Station to Kotka and the Bay of Bengal.

The first sign of wildlife was an otter-midden of shells, but no otters! We spotted two beautiful White-throated Kingfishers, a male and female, one perched on a drowned snag, the other in a riverside tree waiting for their chance – with orange beak, warm brown head and body, and brilliant blue wings and back. These birds are common and widespread in India and Bangladesh, and we were to see many

more of them. Brahmani Kites dogged our whole route like gulls, and gave good chances for photos. We detected some suspiciously crocodile-like ripples just under the surface of the water soon after we set out, about two or three of them following along for awhile, but there were no definite sightings in that muddy, muddy water.

For the majority of the trip, the dense vegetation extended right to the shoreline, and in only a few places was there a beach-like expanse of muddy shore. On one of these beaches, we spotted six or seven magnificent, white, Great Egrets, some perched on snags, some slowly working the mud and detritus. Their legs are a dark brown, rather than the black of the very similar Intermediate Egret. Later, on another open shore, we spotted two less common Lesser Adjutant Storks, with their large beaks, vulture-like featherless necks and heads, and great black backs and wings.

On another, a herd of Spotted Deer danced around on hind legs, reaching for leaves and pruning the trees to even hemlines. An exciting observation was of two large, brown, Red-faced Macaques leaping about after each other in the trees. These monkeys are noisy sentinels for the deer when tigers are near; tigers will stalk monkeys for hours.

We passed several fishing villages of no more than five to ten small daub and wattle houses, perched on the treacherous riverbanks and islets, with attendant beached boats, drying nets, cows, chickens, and smiling and waving children. The inlets and estuaries were too numerous to count.

Friday, 8 November

Up at 4:40 a.m. to share a quick breakfast and prepare for the tiger-spotting trek to the ocean.

Taking a smaller boat launch through a maze of inlets to a small dock near the Jamtala Watching Tower in the eastern end of the wildlife sanctuary, we joined another tour boat there. The guards from the two tours joined forces, carrying mostly WWII Chinese rifles, excepting the valuable addition of one Lee-Enfield 303, and we all started inland with backpacks, water, hats, sunscreen, binoculars, walking sticks, and cameras. In this area, there is an ongoing population study of the Spotted and Barking Deer, proscribed by an even smaller area within Sundarbans East – the Katka Wildlife Sanctuary Center.

We trudged past the Jamtala Watching Tower, already it was growing hot, through a flat plain of white sand, coarse tall elephant grasses, and small shrubs. Very soon we spotted our first pug marks in the sand – those of a large male. This wide expanse of a grassy, plains-like area was surrounded by magnificent trees. Many deer trails were seen through the grasses, and several places where tigers had lain; and – more pug marks – very large, larger than the size of a man's outspread hand.

Everyone was fascinated with the vegetation, birds, and many butterflies on this hour-long walk to the

Bengal Bay beach. We wanted to linger, look more closely, and take photos – the guards wanted to hurry us along and get it over with! And yet it was dangerous to let oneself be separated from the participants' hiking line.

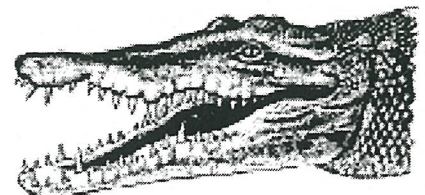
Finally, through some shady and muddy mangrove stands, we emerged through to the seashore – the longest beach I have ever seen from treeline to waters' edge. The surface was a firm mixture of dark grey sand and mud. Crab holes with sand castings were everywhere, each one different. There were one or two dramatic, lone Sundari trees, having been snatched away from their brethren by some storm. They presented artistic photo opportunities as we wandered around looking for shells. There was a slight enjoyable breeze, but the sun was up with a vengeance and soon we started back, only to stumble upon pugs of three different tigers travelling together on the beach near the forest – two larger and one very small one. As well, some beautiful little green jewels of bee-eaters were spotted in the trees there before we started our hot trek back to our launch and thence to our riverboat, the B613.

During our long and lazy 12-13 hour cruise back to the Dhanmari forest station, kingfishers, egrets, and Brahmani Kites were seen. More grazing deer, and even a couple of bloated, dead cows were spotted on the shore. After a delightful supper, the evening was spent recounting sightings and enjoying the stars, bridge, and chess, before retiring under our mosquito nets in our bamboo-lined cabins.

Only one tiger was spotted on that cruising segment, a large head peering out from the dense vegetation on the shore at our motored passing, but only by two people and it was much too brief to be definite or to share quickly enough to take pictures

We have a close acquaintance here in Dhaka, a biologist who is monitoring and counting the wildlife in the Chittagong area. Despite much field experience, he was recently attacked by a wild elephant there about three months ago. He considered it miraculous that he survived, because when elephants do attack, they usually always kill, by goring and stomping. For some reason, it used only its massive forehead to push him down hard before running off, so he escaped with only broken ribs and a giant dorsal haematoma. He is only just now fully recovered.

So, my own reaction, at least, to this non-sighting of tigers, was a mixture of disappointment but also, in a way, relief. The only way to see and photograph tigers safely is to build a tree-top blind, set out food bait, and – wait!



Saturday, 9 November

Up at 6:00 a.m. for a small breakfast and then we took the launch to explore some smaller inlets, turning off the engine to drift back silently with the currents. The lack of engine noise worked, as many more egrets, and even more bee-eaters, were spotted, and also some magnificent green parrots. We also sighted tongos, bulbuls, kingfishers, swallows, jungle mynahs, some Chestnut-tailed Starling, and doves.

Upon our return we had our last grey shower in the bamboo-lined stalls (was this water pumped directly from the river?) and readied ourselves for our return to the huge, industrial port of Mongla, where we had embarked.

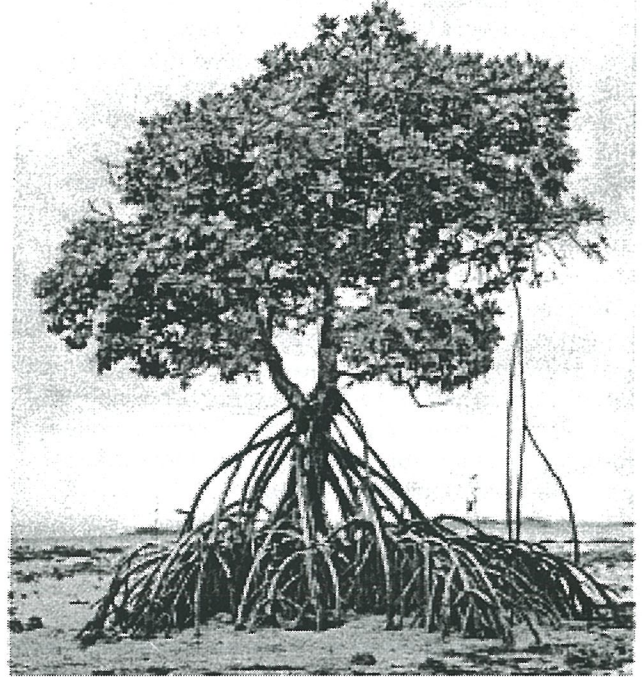
We left Mongla at 1:45 p.m. for the airport at Jessore. This time, with great relief, our group had a turn with the other, steadier driver. Now we could sit back, relax, and enjoy the beautiful scenery.

At 2:30 p.m., in the usual soup of wall-to-wall traffic that has to be seen to be understood, we arrived again at the same ferry terminal as we did four days previously, in order to cross a small river on the road back to Dhaka. We were one of the last vehicles in the free-for-all mass boarding onto the jam-packed ferry, and as it began to sail away, we realised that only the front wheels were on the deck – the rear wheels were still on the road! We desperately scabbled to undo seat belts and throw ourselves out, but the driver, just in time, slewed

off sideways and back, smashing the side-mirror against a giant lorry.

With our long-acting overdoses of adrenalin, it was a very alert, heart-pumping, and wide-eyed group of participants that arrived, finally, at the Jessore airport.

– Stephanie Robertson



NATURE ON THE NET

This visit to the net is not to a natural site but rather to a site to help enhance nature.

Evergreen is a registered national charity founded in 1991. It is a national non-profit environmental organisation with a mandate to bring nature to our cities through naturalisation projects. The Evergreen Foundation is a resource that anyone keen about green spaces would be interested in. They have three accessible programs which would be useful, depending on one's location or situation.

Common Grounds is based on community stewardship and will help individuals or groups organise naturalisation projects. Help is available on how to raise funds and how to work with local government. The steps outlined are simple to follow and rewarding.

Learning Grounds, as one would guess, is focused on school ground naturalisation projects with the goal of turning the schoolyard into an outdoor classroom. Local examples of note are St. Stephen's School in the north end of Halifax, where blueberries and cranberries may be picked in season, and Harry Hamilton School in Sackville,

where a bog is alive with natural plants and creatures. Over 1,300 schools across Canada have had help from this program.

The program that many of us can use to enhance our efforts in stewardship, right in our own back and front yards is **Home Grounds**. Naturalisation is here to stay and more neighbourhoods are embracing this idea. Be the first on your block to plant 'naturally' and watch the trend grow. A simple guide on 'Starting a Native Plant Garden' is available for one to print out.

To learn more about the 'How to', visit the Evergreen website at <www.evergreen.ca> and go to the appropriate buttons and links. There are lists of native plants, and suggestions on how to get your neighborhood and the local school involved. By helping to green up our communities, we are helping to create and sustain a healthy, natural environment.

For those members who do not have access to the internet, these resources are available by calling, toll free, **1-888-426-3138**.

There may be a small charge for some resources.

– Wendy McDonald

ALMANAC

This almanac is for the dates of events which are not found in our programme: for field trips or lectures which members might like to attend, or natural happenings to watch for, such as eclipses, comets, average migration dates, expected blooming seasons etc. Please suggest other suitable items.

A star appears in the western sky and from the roadside thicket below, as if in feeble echo, a pale spark glows for a moment, fades and glows again. It is the first firefly. Summer is here.

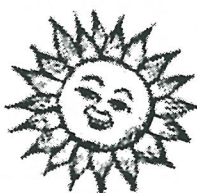
– Charles R.K. Allen: “Spring”, in A naturalist’s notebook: Yarmouth County (1987)

NATURAL EVENTS

- 21 June** Summer Solstice at 16:10 ADT: Summer begins in Northern hemisphere; longest day of year, with 15 hours, 34 minutes of daylight at Halifax.
- 22 Jun.-1 Jul.** The latest evenings of the year: Sun sets at 21:04 ADT.
- 13 Jul.** Full moon.
- 19 Jul.** Canada’s ‘Parks Day’ – look for events at local parks.
- 5-12 Aug.** Hottest days of summer (average daily maximum is 22.5°C).
- 12 Aug.** Full moon.
- 13 Aug.** Perseid Meteor showers peak: highlight will be night of 12 Aug., although light of the full moon will interfere.
- 13 Aug.** Temperatures start decreasing.
- 10 Sept.** Full moon – this is the ‘Harvest Moon’.
- 23 Sept.** Autumnal Equinox at 7:47 ADT: Fall begins in Northern Hemisphere.
- 30 Sept.** Average date for first frost in Halifax (i.e. Environment Canada says only a 1:10 chance we’ll have frost before this date). Look forward to 210 days of frosty weather.

– Sources: Atmospheric Env. Service, Climate Normals 1951-80 Hfx (Shearwater A) N.S.; Blomidon Naturalists Society’s 2003 Calendar.

SUNRISE AND SUNSET ON SUMMER AND EARLY FALL SATURDAYS



7 June	5:30	20:57	5 July	5:35	21:03
14 June	5:28	21:01	12 July	5:40	20:59
21 June	5:29	21:03	19 July	5:46	20:54
28 June	5:31	21:04	26 July	5:54	20:47
2 Aug.	6:01	20:39	6 Sept.	6:42	19:43
9 Aug.	6:09	20:30	13 Sept.	6:50	19:30
16 Aug.	6:17	20:19	20 Sept.	6:59	19:16
23 Aug.	6:26	20:08	27 Sept.	7:07	19:03
30 Aug.	6:34	19:55			

– courtesy of David Lane, Burke-Gaffney Observatory, Saint Mary’s University

ORGANISATIONAL EVENTS

Blomidon Naturalists Society: Indoor meetings take place on the 3rd Monday of the month at Room 241 in the Beveridge Arts Centre, Acadia University, 7:30 p.m. Field trips usually depart from the Robie Tufts Nature Centre, Front St., Wolfville. For more info, go to <<http://www.go.ednet.ns.ca/~bns/>>.

- 28 Jun.** “Showy Lady-slippers in Smiley’s Provincial Park”, led by Carl Munden.
- 12 Jul.** “Butterflies on the Wolfville/Grand Pré Dykelands”, led by Jean Timpa, 542-5678. **Rain date – 13 July!**
- 19 Jul.** “Mineral Hunt on Fundy Shore/Visit to the Scots Bay Formation”, led by geologist Ron Buckley, 542-1815.
- 15 Sept.** “Cutting Trees/Restoring Acadian Old-growth Forests”, with speaker Lance Bishop.
- 20 Sept.** “Forest Harvesting Alternatives”, led by Lance Bishop of the North Mountain Old Forest Society.

Burke-Gaffney Observatory: Public shows at the Burke-Gaffney Observatory at Saint Mary’s University are held on the 1st and 3rd Saturday of each month, except from June through September, when they are held every Saturday. Tours begin at 7:00 p.m. between 1 Nov. and 30 Mar., at either 9:00 p.m. or 10:00 p.m. (depending on when it gets dark) between 1 Apr. and 31 Oct. For more info, 496-8257; or go to <<http://apwww.stmarys.ca/bgo/>>.

Friends of McNabs Island: For more info, call Dusan Soudek, 422-1045; or go to <<http://chebucto.ns.ca/Environment/FOMIS/>>.

13 Sept. "McNabs and Lawlor Islands Paddle and Cleanup".

Maritime Museum of the Atlantic: For more info, 424-7490, or go to <<http://museum.gov.ns.ca/mma/>>.

15 May "Charting the waters: Hydrography in Atlantic Canada". A new exhibit opens.

Nova Scotia Bird Society: Indoor meetings take place on the 4th Thurs. of the month, Oct. to Apr., at the Nova Scotia Museum of Natural History, 7:30 p.m. For more info, Suzanne Borkowski, 445-2922; or go to <<http://www.chebucto.ns.ca/Recreation/NS-BirdSoc/>>.

21 Jun. "Dawn Chorus at Porters Lake", led by Cindy Staicer, 494-3533; or email <cindy.staicer@dal.ca>.

Rain date – 22 June!

28 Jun. "Warbler Walk Portugese Cove", led by Hans Toom, 868-1862; or email <htoom@hfx.eastlink.ca>.

Rain date – 29 June!

5 Jul. "Pockwock Watershed: Birds and Butterflies", led by Suzanne Borkowski, 445-2922; or email <sborkowski@hfx.eastlink.ca>. **Rain date – 6 July! Pre-registration is necessary!**

26 Jul. "Pictou County", led by Ken McKenna, 752-7644; or email <kenmcken@north.nsis.com>.

2 Aug. "Mahone Bay", led by James Hirtle, 624-0893; or email <jrhirder@hotmail.com>. **Rain date – 3 August! Pre-registration is necessary!**

23 Aug. "Point Michaud, Cape Breton", led by George Digout, 535-3516; or email <george.digout@ns.sympatico.ca>; and Billy Digout, 535-2513. **Rain date – 24 Aug!**

29 Aug-1 Sept. "Bon Portage Island", led by Joan Czapalay, 422-6858 (348-2803 in July), 229-3327 (cell); or email <joancz@ns.sympatico.ca>. **Pre-registration is necessary!**

6 Sept. "Yarmouth County", led by Murray Newell, 745-3340; or email <murcar@klis.com>. **Rain date – 7 Sept.!**

13 Sept. "Hartlen Point", led by Bob Lindsay, 434-3438; or email <rhlindsay@accesswave.ca>.

Rain date – 14 Sept.!

20 Sept. "Wallace Bay", led by Paul MacDonald, 627-2568; or email <rita.paul@ns.sympatico.ca>.

27 Sept. "Eastern Shore", led by Peter Richard, 463-5612; or email <Prichard@ns.sympatico.ca>.

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 Dept., 424-4321 at many museums, parks, and tourist bureaus; and on the web at <<http://parks.gov.ns.ca/programs.asp>>.

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

May-Sept. "Watercolours", an exhibition by Twila Robar-DeCoste, biologist and artist.

5 Jun.-Sept. "The Terrarium", an interactive installation by textile artist Holly Carr.

1 July "Butterfly Social", to mark the opening of the Butterfly Pavilion. **Free admission today!**

1 July - Sept. "The Butterfly Pavilion".

12 Jul. "Bat Walk", led by zoologist Andrew Hebda at Meander River Prov. Park, a.k.a. Smiley's Provincial Park. **Pre-register, 424-3563!**

16 Jul. "Botanical Ramble through the Public Gardens", led by botanist Alex Wilson. **Pre-register, 424-3563!**

26 Jul. "Stream Saunter", led by zoologist Andrew Hebda at Meander River Prov. Park, a.k.a. Smiley's Prov. Park. **Pre-register – 424-3563!**

7 Aug. "Family Butterfly Hike", led by Research Associate Derek Bridgehouse at Uniacke Estate. **Pre-register by Aug.1, 424-3563!**

Nova Scotia Nature Trust: A series of walks looking at Coastal Plain Flora will be offered. For more info, 425-5263. **Pre-register** with the Trust at <nature@nsnt.ca>, or with the leaders listed below.

9 Aug. "Quinn's Meadow, Shelburne Co.". **Pre-register** with Dave McKinnon, 424-2027; or email <mackinds@gov.ns.ca>

16 Aug. "Gillfilan Lake Nature Reserve, Yarmouth County."

30 Aug. "Ponhook Lake Nature Reserve". **Pre-register** with Dave McKinnon, 424-2027; or email <mackinds@gov.ns.ca>.

22 Nov. "Silent Auction and Dinner", with guest speaker Monte Hummel.



Nova Scotia Wild Flora Society: Meets 4th Monday of the month, Sept. to May, at the Nova Scotia Museum of Natural History, 7:30 p.m. For more info, phone Keith Vaughan, 445-9887; or go to <<http://www.chebucto.ns.ca/~nswfs/>>.

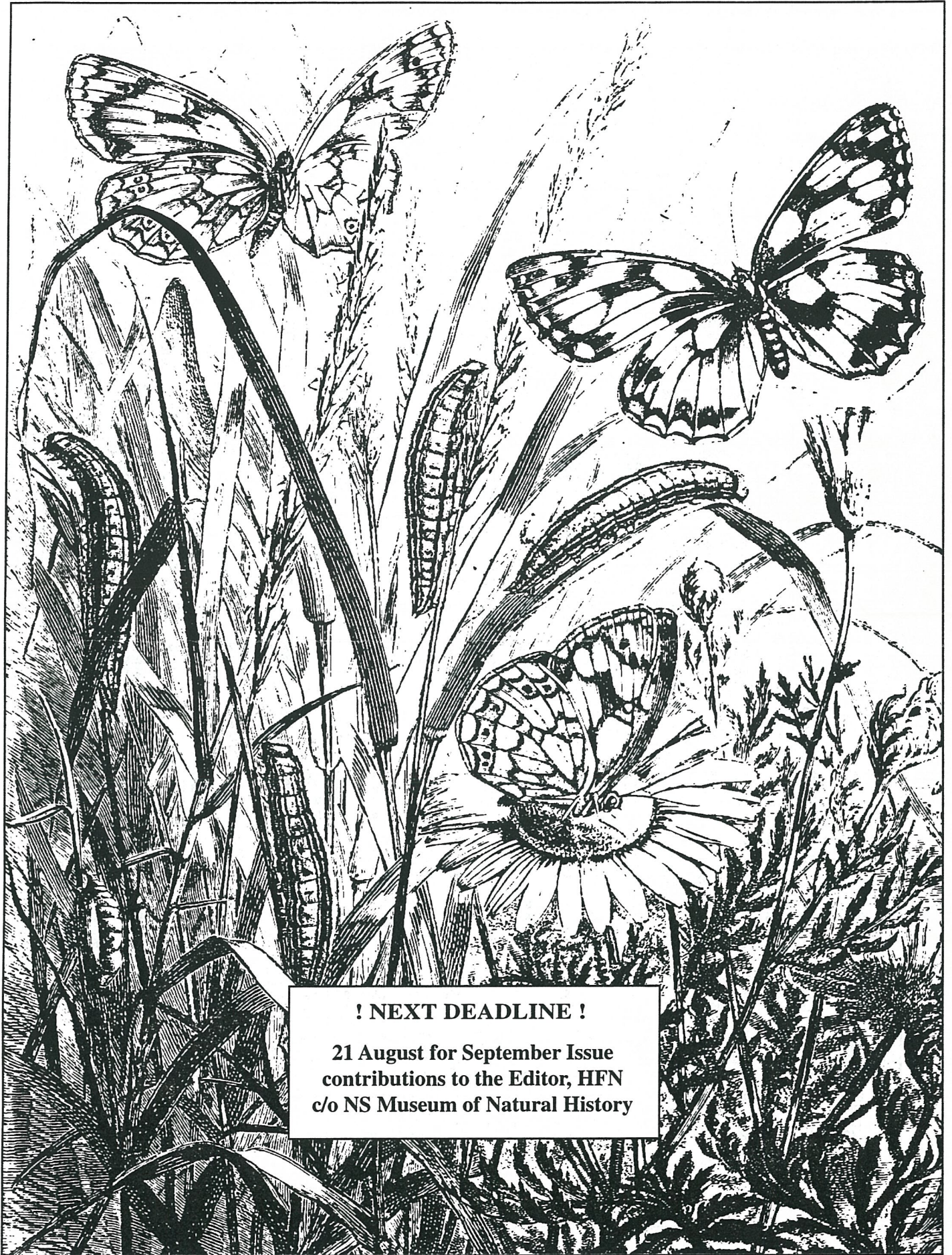
21 Jun. "Nova Scotia Agricultural College Gardens", led by Prof. Carol Goodwin. Contact – Liz Whitney, 469-1856.

20 Sept. "Labrador Castle", led by Ray Fielding. Contact – Carl Munden, 469-1856. **Rain date – 21 Sept.!**

22 Sept. "New Zealand", with speakers Barry and Jean Sawyer.

Royal Astronomical Society of Canada (Halifax Chapter): Meets 3rd Friday of each month in Room L176 of the Loyola Academic Building at Saint Mary's University, 8:00 p.m. For more info, go to <<http://halifax.rasc.cs>> <<http://halifax.rasc.cs/>>.

1-3 Aug. "Nova East, Atlantic Canada's Longest Running Star Party", at Meander River Prov. Park, a.k.a. Smiley's Prov. Park.



! NEXT DEADLINE !

**21 August for September Issue
contributions to the Editor, HFN
c/o NS Museum of Natural History**