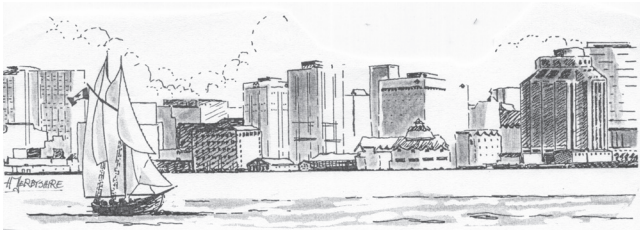
# THE HALIFAX FIELD NATURALIST

No. 194
March to May 2024



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 the Canada Revenue Agency. Tax-creditable receipts will be issued for individual and corporate gifts. **HFN** is an affiliate of Nature Canada and an organisational member of Nature Nova Scotia, the provincial umbrella association for naturalist groups. **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 third Tuesday of every month at 7:30 p.m. in the auditorium of the NS Museum of Natural History. **HFN Field Trips** are held at least once a month; it is appreciated if those travelling with someone else share the cost of the gas. **Participants** in HFN activities are responsible for their own safety. **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 Halifax Field Naturalist**, along with its included **Programme**, quarterly. Our membership year is from January 1st to December 31st, and new memberships received from September 1st to December 31st of any year are valid until the end of the following membership year.



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**GRAPHICS** All uncredited illustrations are by H. Derbyshire or from copyright-free sources. **Front Cover** -Jack-in-the-Pulpit *Arisæma triphyllum,* Richard Beazley; p. 7 - Amphibians, Rebecca Betts; **Back Cover** - Blood Root *Sanguineria canadensis,* David Patriquin; p.15 - **Tide Table** - Canadian. Hydrographic Service, Fisheries & Oceans Canada.



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# HFN NEWS AND NATURE NOTES

## NATURE NOTES

### DECEMBER'S MEETING

Judy Keating noted that on Yankeetown Road a lot of trees had blown over due to the preious night's high winds, and also that her **Haskap bush** is still in bloom – in December!. Wendy McDonald reported that her **Whych Hazel** is also still in bloom. Lesley Jane Butters said that two storms ago, at a cloudy 4:00 p.m. dusk, she looked up and saw some sort of raptor, long, slender, and 'pointy'. It flapped its wings three times then glided, then five times and once gain glided before disappearing. It looked something like **a Missippi Kite**. Could a storm have brought it up north she wondered ?

Carol Morrison noted an unusually large influx of Black-capped Chickadees at her feeder in Oakfield.

### JANUARY'S MEETING

At her Cape Breton cottage near River Bourgeois Lauren Burke spotted **two River Otters**; she'd never seen them there before. She watched them play on the docks for quite awhile; they were a lot of fun to watch!

Two neighbours of Bernie McKenna's quite often see **River Otters** when they go to Bissett Lake. Bernie and Heather only see birds and turtles and he felt it's because they only go later in the day.

Stephanie Robertson, who hasn't been to York Redoubt for at least ten years, was devastated to see there what was essentially an immense and fairly fresh clear cut of the conifers and trees from the full length of the steep bouldery hill down to the ocean. She and Lesley Jane Butters had gone on a hike there on January 10th. Also, a few remaining conifers had had their branches removed leaving only a 'moptop'. In winter storms these will become top heavy with ice and be easily blown over. She feels that the tree removal and consequent death and drying up their roots will definitely lead to rapid hillside erosion. Shirley McIntyre said she and her hiking group witnessed the start of the cut in November. Keith Vaughan noted that this was probably a Federal Park and that this shouldn't have been allowed. Unfortunately - too late now.

Through her window on January 8th, Judy Keating saw **five Bald Eagles**, three mature and two juveniles, chasing and pouncing on one another for control of a very large fish. This carried on until the huge fish was demolished! This was a first sight of so many togethter there; she usually sees only one or two at once. The next day in the morning she spotted **two Foxes** travelling up the newly frozen ice (the second one seemed a little leery of it all). Ten minutes later, a third came on the scene. Neighbours saw it later on the road, then it came back and continued its ice journey. So within a 24-hour period, it was like a National Geographic show.

Sadly, Bernie Mckenna reported that the **White-tailed Doe** rescued from Bissett Lake had had a badly injured leg and had to be put down by DNRR. On January 15th Dennis Hippern saw **four Cardinals** in his back garden in Cole Harbour. It was the first time in many years he had seen that number. Bernie noted that he has them regularly now for quite a few years. Dennis mentioned that a long time ago, if anyone had spotted a cardinal, many birders would think nothing of travelling as far as Yarmouth just to get a glimpse.

Carol Klar reported seeing **four pair of beautiful Harlequin Ducks** at Peggy's Cove (among many other types of birds she saw there). On January 14th, Helen Guderley spotted **a pair of mergansers** by her house in the Ingramport area. It was too difficult to identify whether it was the Common or Hooded.

### FEBRUARY'S MEETING

Gillian Webster spotted **three Common Mergansers**, one female and two males, in breeding plumage at Point Pleasant Park; also **a Black Guillemot** which sported a lot of white (nonbreeding adults retain the black-and-white wing pattern but have mostly whitish head, neck, and underparts), **a pair of Goldeneye**, male and female, and **five squeaking Wigeon**. At Sullivan's Pond in Dartmouth – **Ring-necked Ducks**, **Mallards and Black Ducks**, and naked people swimming!

Carol Morrison was out early during the big snowstorm at Withrod Lake in Long Lake Park and saw a long travelling channel in the snow and the **Beaver** that made it; he was gnawing down a sapling – and it was the first time she had ever seen this in real life.

Regine Maass noted how differently animals react to snow, such as the joyful playfulness of dogs. She locally recently witnessed a dog rescued from Texas exhibit not the least bit of reaction to it; she thinks probably because it had never seen snow before.

Bernie McKenna saw at his birdfeeder, along with the usual **bevy of Cardinals**, **a Flicker** which had two feathers on its right wing significantly awry; it didn't seem to be hampering successful flight.



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# SPECIAL REPORTS

## 2023/2024 YEAR END REPORTS

### FROM THE PRESDENT

2023 was very much a year of constant transition for the whole organisation, it being our first full year without the benefit of our cherished President Burkhard – the loss of his calm and knowledgeable leadership and presence was constantly in evidence. In my current position I have come to marvel at his abilities, his calmness, and his in-depth reverence for nature.

This year saw Don Flemming come on board as Audio Video coordinator and alternate webmaster alongside David Patriquin. Don has been instrumental in ensuring upcoming events are graphically illustrated on our website for both our own members and interested parties. Here also I have to heartily thank our board members for their guidance, understanding and patience, this has been a tremendous help to me in this my first year. A most memorable event of 2023 saw the much deserved presentation of the Colin Stewart Conservation Award to Colin's widow, Betty Hodgson. Colin died much too prematurely in 2004 and since then, Betty has carried on his tradition of love for and respect of our natural world. Residing in Pugwash since 2012 she soon joined the Friends of the Pugwash Estuary, (FoPE) and has been chair since 2018, where she continues her diverse nature-oriented activities.

HFN is totally a product of its members, their volunteerism, time sacrifices, and ongoing support. Without these efforts I fear HFN would cease to exist in its current form, or at minimum be a much lesser organisation. Along this vein I encourage all members to get involved, write articles, write up talks and or walks, lead walks or co-lead walks, join committees or just pitch in where you can. We always need new blood for board members and committee members.

In closing you will find the following various year end reports – Audio/Visuals (new), Conservation, Programme, and Newsletter. (The Financial and Membership Reports will be included in the Summer 2024 Issue#195.) As I close, on behalf of all Halifax Field Naturalists, I thank one and all for their constant support and dedication throughout all of 2023.

***– Respectfully Submitted***
***Bernie McKenna, President***

### AUDIO/VISUALS

The position of AV Setup Coordinator was established in 2023 in order to provide a focus for the development of new technical solutions to support HFN talks/presentations, and for resolving the ongoing challenges posed by ever-changing technology.

The main success this year was the development of procedures and technical setup for dual Zoom + Live monthly HFN presentations. This was made possible by the excellent advice and assistance of Bob Kennedy from the NSWFS, and ongoing support from the museum staff. HFN members who are not able to travel in person to the HFN monthly talks can now either participate virtually in real time on Zoom, or review the recordings (posted to the HFN website), at their leisure.

The main challenges were (and continue to be) ensuring compatibility between a static auditorium AV infrastructure and dynamic personal computing devices. For example, it is preferable to allow guest presenters to use their personal laptops to run their slideshows and videos since this is the device with which they are most familiar. The auditorium projector requires hard-wire connections to the presenter's laptop using specific formats: VGA (video only), or HDMI (audio and/or video). However, most new portable computers (especially Apple products like the popular MacBook Pro laptop or the iPad) assume wireless connectivity will be available so they no longer come with ports which support these formats. Suitable adapters have to be obtained or other work-around solutions devised to overcome this problem. In the upcoming year, we will continue to refine the dual Zoom + Live setup and procedures, and investigate ways to resolve any compatibility challenges.

***– Submitted by Don Flemming***
***Audio/Visual Coordinator***

### CONSERVATION

We have been minimally active as a group this past year, but as in other years individual members of the Conservation Committee interacted with other naturalists and environmental groups and submitted comments on a variety of issues., e.g. related to the Backlands, Sandy Lake (Bedford), the Eisner Cove Wetland, and Mainland Moose.

***– Respectfully Submitted***
***David Patriquin, Conservation***

### PROGRAMME

**Talks:** 2023 was an interesting year for HFN talks. We had our normal, or somewhat normal, number of talks (ten). Our average number of attendees per talk is still down from pre Covid numbers but is recovering well. We had about 400 or so total talk attendees, but that is only a conservative estimate, I suspect it is a few dozen short. Topics presented were – Organic Chemistry, N.S. Power Osprey Program, AGM and Photo Night, Native Plants, Bats, Insects of Asia and Australia, Mainland Moose, Orchids and Fungi, Coastal Adaptations and lastly Nature Good News.

I hesitate to expand on any specific talks but attendee feedback mentioned the following in particular – the N.S. Power Osprey Programme, as much for the ease of Peter Morrison adapting when we couldn't get his computer on-line and his comprehensive knowledge of the topic at hand; and, going by the length of the Q & A post-talk follow up I'd say Norm Pinsky's Asian and Australian Insects is notable. Also, Clarence Stevens's Nature Good News made for a good finish to the year. Indeed, all talks were informative, interesting, and well received.



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**Walks:** In total we had 18 walks, 3 of which were conducted in support of Nature Nova Scotia's 2023 Celebration of Nature. These three were done at Belcher's Marsh, Sackville 2nd Lake Loop, and the Russell Lake Trail. Other walks were the Dalhousie University Aquatron Tour with John Batts, the Sewer Stroll with Fulton Lavender, the Hope for Wildlife Tour, Brookline Trail, Shubenacadie Railway/Flume House with Richard MacMichael, the Three Nature Nova Scotia walks previously covered, Belcher's Marsh with Jessica Boyd, Stewiacke River Run with Gareth Harding, another Belcher's Marsh Walk, Spectacle Lake Trail, Halifax Backyard Wilderness with Gareth Harding, Brookfield Marsh, Walter Regan Celebration, McNab's Island, and a Bird Walk with Clarence Stevens Sr.

We had a total of 214 attendees, some were very well attended, some not so much. Location, weather, and date/time are all contributing factors to turnout. All in all, we were led on some memorable outings. I'm told the Clarence Stevens Sr. Bird Walk was especially enjoyed. Others said the Shubenacadie Railway/Flume House was a highlight for them, both for its location and for the knowledge of the leader Richard MacMichael. Personally, I found the Stewiacke River Run to be a stand-out for me, others told me the same thing.

As a Programme Committee member, I want to express our appreciation to all who have suggested locations and topics, your input is very welcome. I also want to tell everyone how good it is to have members come forward to write-up these events for the newsletter. It's through this input that we are able to have the variety of walks and talks that we have – thank you all.

***– Respectfully Submitted***
***Bernie McKenna, Programme Commitee***

## NEWSLETTER

### SPRING ISSUE NO. 190, 12 PAGES

We reminded readers to join the City Nature Challenge, and our Nature Notes boasted both surprising and expected seasonal sightings.

**Talks** After our 2022/2023 Year End Reports, we launched off into the mysterious world of **Organic Chemistry**, with a wonderful Jan. 5th presentation by HFNer retired St. Mary's chemist Keith Vaughan. Organic chemicals (they all contain the element carbon) are the basis of all life. We learned about their interactions, behaviours, and uses of their many elements, compounds, atoms, and molecules which combine to produce proteins, pharmaceuticals, colour pigments, hormones, taste and flavour, the many fibres we use, and agricultural chemicals as well.

**Ospreys** and Nova Scotia Power's Osprey Management Programme were the topic of our Feb. 8th talk by NS Power's Peter Morrison. NS Power has committed to helping nesting Ospeys, our provincial bird. They monitor nests and occupants, and help them by moving nests if necessary (to the nearest sutiable place). At the time of the talk, NS Power had over 100 pairs of Osprey nesting on their different types of poles!

At our Mar. 1st **AGM 'Slide Night'** Lesley Jane Butters presented beautiful and artistic ice- and snow-inspired images, while Clarence Stevens showed pictures of edible and/or medicinal Nova Scotia plants.

### SUMMER ISSUE NO. 191, 16 PAGES

Our first item - a call for a new HFN Webmaster to replace 'retiring-from-the-role' environmentlist Dr. David Partriquin. (He still continues as our Conservation Committee Chairman). The second – the announcement that longtime HFNer and Past President Janet Dalton volunteered to be Vice-Chair for our up and coming HFN 50th Anniversary Celebration (to be in 2025). Our **Nature Notes** were aptly followed by some members' **HFN 40th Anniversary Memories**.

**TALKS** Our April 12th presentation was **Native Plant Benefits** by Samuel Jean of Acadia's Harriet Irving Botanical Gardens. He shared the many benefits of growing natives rather than 'exotics' in our gardens, and supplied a copious list of them for us to use – trees, shrubs, native ferns, perennials, and groundcovers – and where we could source them.

**Nova Scotia Bats** was our 4th of May talk by longtime and very knowledgeable friend of HFN, retired NSMNH biologist Andrew Hebda. He talked of interesting bat behaviour and physiology, their now drastically declined numbers due to White-nose Syndrome, and what we can all do to help.

**Insects of Asia and Australia** was our June 1st talk by Dr. Norm Pinsky, who chose to live with his whole family near Perth for ten years, on the southwestern coast of Australia. He became fascinated with Austalia's insects, moths, and butterflies, especialy their unique camoflage adaptations. He shared his images of these many strange, interesting, and very different insects – some quite startling in appearance.

**FIELD TRIPS** **Hope For Wildlife** On 16th April we offered this always popular field trip. We met many rescued animals, some named and permanent residents due to their injuries, and many others which would be released at the best time and in the best area for them. Highlights were Twisty the Groundhog and Clover the exotic Tortoise. We admired their new, state-of-the-art animal hospital and surgery with its second-floor animal care room.

**Shubenacadie Railway** On 11th May, we heard the fascinating history of this rail line from Richard MacMichael, with a 'Cole's Notes' summary of the railway, the canal, and the Flume House (which housed the machinery which enabled vessels to be moved through different levels via the locks). Begun in 1826, due lack of financing for awhile it wasn't completed until 1862.

**NNS Celebration of Nature** On 28th May, HFN offered three walks for this event – Belcher's Marsh, Sackville 2nd Lake Trail, and Russell Lake Trail in Dartmouth. Each walk was chock full of bird and plant sightings. Highlights were nesting Chickadees, Wintergeen and Mayflowers, ferns, a Beaver lodge, Osprey nests, Mayflies, and Muskrats.

### FALL ISSUE NO. 192, 16 PAGES

Our saddest issue of all, it began with six pages of members' and colleagues' glowing remembrances of our able and much admired President Burkhard Plache,


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tragically taken by rip tides on September 10th at our annual Melmerby Beach Weekend. His loss is still being felt within HFN and by his family, friends, and colleagues.

**FIELD TRIPS** Started out with an 'Addenda' by Mille MacCormack, for the April 16th **Hope for Wildlife Trip**. We learned about Buddy the Bald Eagle, the Ravens Cash, Tucker, and Tilly, mangey Porcupines (which can be cured), and the specific-built fawn house.

**Belcher's Marsh** Writer and HFNer Brian Bartlett delved deeply into this rich 'oasis-in-the-city' area's name (Loyalist Andrew Belcher), its historical connections, and the positive value of getting out into nature during our troubling times. He oulined a plethora of botanical and bird sightings, and mentioned anxieties felt about what is happening on our planet. Ending with ferns, we learned there are 15 species of them in Belcher's Marsh.

**Middle Stewiacke River Run** On July 8th HFN offered a five-hour canoe trip including lunch and a swim; twelve paddlers and a Jack Russell Terrier took part. A Muskrat and signs of Racoons, Deer, Beaver, Snapping Turtles, and wading birds were seen. It was idyllic; lots of birds were seen and heard, and all the riverside plants and trees added to the ambience

**Spectacle Lake Park** Aug. 12th – Situated between Burnside Industrial Park and Dartmouth Crossing, it boasts five or more storm sewer inflows and one bog inflow. The sunny day was perfect, and White Waterlilies, a Painted Turtle, beautiful Trembling Aspen, Wych Hazel, Lady Slippers, Black Bead Orchids, and many other plants and trees added to this lovely trip.

**WINTER ISSUE NO. 193, 16 PAGES**

**Pandemic Pigeons** submitted by Grace Beazley outlined the steady increase of balcony pigeons (and their droppings) at her building on South Street due to the COVID pandemic greatly reducing balcony use. Waterspray was tried; it turned out to be not a permanent solution. Finally, the building's management had to take things in hand and hired a firm to do so.

**iNaturalist** Anticipating this spring's **City Nature Challenge 2004** (26th-29th April - mark your calendars!), and after a get-together of naturalists at the MSNH parking lot, Dalhousie University Teaching Fellow Lara Gibson shared very detailed and useful instructions on how to use iNaturalist – how to post photos and findings, taking 'good' photos, and everything else one needs to know.

**TALKS** Nature Nova Scotia's (NNS) Bob Bancroft brought us up to date on the present state of the **Mainland Moose in Nova Scotia**. NNS has set up a Mainland Moose Research Project in order to start advocacy for this magnificent animal. It also provides free 'trail cams' for the Chebucto Peninsula's private landowners in hopes of spotting this elusive animal.

**Orchids & Fungi - Some Close Relationships** Mushroom specialist John Crabtree outlined some of their entwined lives, and shared all of the 20 native wild orchids he's found in N.S. and some of their specific fungi relationships

**CarbonRun** Presented by environmentalist Dr. Shannon Sterling and ecologist Dr. Eddie Halfyard of the NS Salmon Association, this company works with locals to restore our rivers to healthier states. When water quality is improved and restored, rivers regain their natural ability to support and increase biodiversity while drawing down $CO_2$ out of the atmosphere.

**Nature Good News** 19th Dec. – Clarence Stevens once again lightened our spirits with the good things that had happened over the year.

**FIELD TRIPS** On the 30th Sept. we hiked **McIntosh Run - Halifax's Backyard Wilderness**, with very knowledgeable HFNer Gareth Harding. We experienced the rolling granites, the consequent lack of soils, all of the trees, shrubs, and plants there, plus the nice sighting of an American Toad, and enjoyed an al fresco lunch.

**McNab's Island Tour** Always popular, on Oct. 15th this unique historical Island was revisited on a sunny, warm day to see again the flora and fauna there with very knowledgeable Friends' of McNab's Island member Mike Crowell. It's always satisfying to learn all of the detailed information about its species and history.

As usual, all of these Issues began with our Nature Notes, and finished with our informative Almanac compiled by Don Flemming and the ever useful Tide Tables. I thank everyone who wrote up the trips and talks, and those who helped with proofing.

***– Respectfully Submitted***
***Stephanie Robertson, Editor***

## YNC

The Young Naturalists Club continues to provide natural history programming to youth and their families. Last year the Club had active chapters in five communities, including the Nature Guardians Chapter. This 'tweenage' (age 10 - 14 years old) Chapter takes on youth-led conservation projects. In 2022 they had a multi-day field trip to learn about Atlantic Coastal Plain Flora. They collected data on species, took photos, made sketches of the plants, and learned from local experts. During the following months the Nature Guardians designed and published the "Kids Guide to Weird Plants of the Atlantic Coastal Plain." This beautiful guide is available for purchase from YNC, and funds raised through sales of this guide contribute to the continuation of the work of the YNC. "If we want children to flourish, to become truly empowered, then let us allow them to love the earth before we ask them to save it." – David Sobel.

***– Karen McKendry***

## PAUL KEDDY, 1953-2023 HFN FOUNDER

Sadly, on December 26th lst year, Paul Keddy died at home in Ontario. His father Norm Cyril Keddy was a Nova Scotian who had enlisted in the air force during World War II, his mother Dorothy Jean Keddy an English war bride.



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Paul began showing his lifelong interest in nature and conservation early on. In Portage La Prairie, Manitoba, Paul started doing science fair projects on frogs and salamanders, and also conservation work, by starting a petition against the seal hunt. In Ottawa, his parents bought a home near the Mississippi River. He canoed it often, becoming well acquainted with the wild Musk Turtles. He rescued turtle nests and did his best to hatch them for re-release. Winning science fair prizes with his turtle projects, he also started a conservation newspaper column.

At the end of his first year at York, Paul worked summers at the Algonquin Park Museum, leading hikes and giving evening programmes. Working those three summers with other dedicated and skilled naturalists – some of whom became life-long friends – changed his life. Shortly after meeting Cathy Pointing they became inseparable through their many happy botany excursions. He proposed, and asked her to accompany him to Halifax where he had a scholarship to Dahousie. They were married in 1976 and explored Nova Scotia from Cape North to Brier Island. Together they successfully lobbied for the establishment of nature reserves in southwest Nova Scotia, and in their spare time, they organised The Halifax Field Naturalists, with Paul becoming the Founding President.

Paul did his doctoral research in plant population ecology mostly at Martinique Beach, but he knew his work had little relevance to actually solving the environmental problems there. His last two books, both published in 2023, illustrate how a solid scientific foundation is the very essence of effective conservation, involving selections of whole self-sustaining natural habitats supporting rich biodiversity representation rather than individually 'protected' natural components.

Moving to Guelph, Paul was trying to segue from being a plant population ecologist toward a future in the ecology of wetlands, and this he did at the University of Ottawa. As the first ever ecologist there, he made ecology a required course for all biology majors, despite some stiff opposition. In addition to his teaching and research, he hiked and canoed through many parts of Ontario.

After a debilitating envivonmental illness, they moved to Louisiana, where Paul became the first holder of the Schlieder Endowed Chair for Environmental Studies at Southeastern Louisiana University. It provided resources which allowed him to continue research and teaching in spite of chronic illness.

Louisiana was heaven on earth for biologists – with a subtropical climate, extensive cypress swamps, a rich amphibian and reptile fauna, and threatened pitcher plant savannas amidst longleaf pine forests. Here he worked on both the theory and practice of coastal restoration, as well as supervising research on species-rich pine savannas inland.

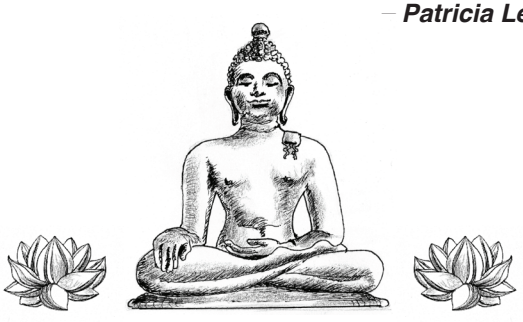
With both sons having left the roost, Paul and Cathy returned to Canada, where Paul became an independent researcher. He focused on multiple projects, scientific publications, and text books, including a revision to his "Wetland Ecology: Principles and Conservation" for Cambridge University Press, and a new edition of "Plant Ecology" – both with much appreciated assistance from Cathy.

Paul was a professor of ecology for over 30 years. He was designated a Highly Cited Researcher, **ISIHighlyCited.com**, and in 2007 was awarded the Merit Prize by the Society of Wetland Scientists, and the National Wetlands Award for Science Research by the Environmental Law Institute. In 2017 he received the Lifetime Achievement Award from the Society of Wetland Scientists, and in 2018 he received the Meritorious Service Medal of Canada for his contributions to natural area conservation. The family suggests that donations to the Mississippi Madawaska Land Trust (MMLT) in his name would be an appropriate way to celebrate Paul's life and continue his passion of protecting important pieces of nature.

# SPECIAL ARTICLES

## "THE MOTHER OF WATERS"

*– Patricia Leader*



**A trip along the Mekong River through Thailand and Laos** Can you imagine a group of teenage boys, with brushes and clothes in hand, cleaning the outside walls of several buildings? This without any bribes or compensation? Or a group of young men pulling at ropes in order to tighten the skins of huge ceremonial drums? Well it did actually happen, as it was an important Buddhist festival and the orange-clad monks were making their preparations for the festival of Makha Bucha in the country of Laos. Along with 24 seniors from Canada and two from the USA, this scene was part of an adventure group having travelled to Thailand and Laos for a 600 km trip up the Mekong River – "The Mother of Waters".

Before Laos, our air journey had taken us via Vancouver to Rangoon. When we arrived we wondering what time of day it was until the hotel staff said that breakfast was being served besides the river! Passing deep pink water lilies and seeing the River Mekong begin its busy day, we selected our food and sat outside while being watched by mourning doves who were more than willing to share at our table.

After we settled in, there was time to wander beyond the hotel but most people headed for the pool on the top deck with a different view of the river below. Suddenly the sky lit up with a tremendous thunderstorm which easily outdid those in Nova Scotia. Despite this, the river still stayed



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busy with illuminated boats ferrying people to their evening meal, as if nothing was happening.

We took one of the main canals, or klongs, off the Mekong, passing small houses, each arrayed with flowers and vines, where people went about their daily business. It was like trespassing into people's back yards! Occasionally we saw dark creatures on the banks or skimming the surface – Monitor Lizards – one of the most intelligent of lizards, related to iguanas, chameleons, and the giant Komodo. The canal provided an easy diet for this carnivorous animal – a plethora of insects, small mammals, and even birds. We stopped at a large complex where a giant golden Buddha surveyed us, so large that we could hardly fit it into our photos. Before the trip ended, and back at the river, we stopped at another temple. Here local visitors rented traditional clothes and posed among the buildings. The men wore the traditional pants of Siam and I fully expected a scene from the "King and I".

In the evening we boarded a neon-lit boat to arrive at a hotel with a large array of beautiful orchids in every colour. Dinner was served while we were entertained by passing boats, and inside the hotel, dancers in traditional costumes and masks. The next evening we were booked into a cooking school where we learned about typical foods and spices then went to work on small gas stoves. In all we cooked about six dishes and best of all there was no washing up for us!

After a few more interesting days such as visiting Chinatown and a dim sum restaurant plus the local night market, we were finally on the bus which would take us north to the Laotian border. We visited Chiang Mai and saw two ethnic minorities – the Akha, originally from Tibet, and the Yao, who came from China. Laos has a long history of invasion and wars and the ethnic Chinese had migrated south to Laos. The bus continued north to the tea plantations in the mountains and we stopped at a garden full of pink, red, and lilac azaleas to sample tea especially brewed for us.

Afterwards we were in the area known as the Golden Triangle, infamous for its opium trade. The Opium Museum, a worthwhile visit, was based on the work of King Rama VIII's mother Princess Srinagarindra, who in the 1960s wanted to rid her country of this devastating industry. Beside taking on the drug lords, she encouraged farmers to grow flowers, coffee, and vegetables instead. After her death, her daughter-in-law was successful in continuing to decrease the growing of opium.

That day we entered Laos and were soon aboard our boat the 'Mekong Pearl' which would take us along the river. We were greeted in the traditional way of closed palms and a short bow, acknowledging the spirit of each. They proffered wet cloths and cold drinks then showed us where to store our shoes. The boat was a miracle in varnish so it was a joy to pad around and explore our rooms each with its half balcony, the 2nd floor with its dining room, a small bar, coffee machine, and even a tiny library although most books had obviously been left by German tourists or perhaps our Berlin-born tour leader, Thomas. He got us acquainted with the boat and outlined the programme and safety concerns, reminding us that tea and cake would be served later. We discovered the top deck which gave an excellent view of the river but it was not for the 'tenderfoot' as the extremely hot varnished deck necessitated hopping from one chair to another and going to to find our shoes.

Unlike a river or ocean cruise there was neither a morning rush to secure a deck chair, nor any loud music, nor "This is your Captain speaking" – only a feeling of ease and enjoyment over the large and winding river with huge white sandbanks and interesting rock formations on either side. The sun rose, often pale and watery, resembing ancient paintings of Chinese landscapes. Each minute gave changing panoramas of the densely forested mountains.

One had to admire the Captain who, as on my Mississippi cruise, had to know the river intimately and in both directions. (When we left the boat in March this same river would be unnavigable due to the higher water level. After each flood, the Captain had to relearn a new route of safety.) Mostly the river was wide but occasionally there were places where the rock formations and the swift current left only a narrow passage. These traditional fishing boats' engines extend out into the water on the end of a large shaft. Noticeably, neither village children nor animals entered these swift currents, and at night it was mandatory for any boat to be moored to one of the large sand banks for safety. In this vast area there were no rescue boats nor planes that could help. It's hard to imagine mooring a boat on a large sandy hill but extra ropes and sometimes a several poles stuck into the sand do the trick.

Besides the worrisome currents and the many rocks to be encountered, there were few lights on the river at night except from the moon and the occasional light on shore. Most of the villages were higher up on the mountains or in the forests. Sometimes there were rocky cliffs and one we climbed boasted at least 200 steps to reach a cave filled with a thousand small Buddha statues. It seemed that every day there were more and more steps to climb as we ascended from the river banks, especially if the villages were higher up the slope. However, the boat crew was always there to help or encourage us ever upwards.

Mekong is the largest River in Southeast Asia, running some 4,900 km through China, Myanmar, Laos, Cambodia, and Thailand. It ends in a broad delta in Vietnam and consequently provides water and travel for millions of people living riverside. Its sand banks are constantly under attack by nature and by commerce. Erosion destroys habitats by altering the river's course, and leads to other problems such as increasing the water's flow and narrowing the valley.

Even worse is Asia's need for hydropower. China has been busy financing some of the poorer countries and evidence was seen of damming and the building of hi-speed rail lines which cross the river. (A while ago, when visiting China, a hi-speed train line had been introduced to take passengers to Llasa, Tibet. The 3606 Km journey from Beijing could be accomplished in just over forty hours. In Tibet, a programme to institute modern cities and amenities encouraged the Chinese people to move north thus establishing China's claim to Tibet. The Chinese railway is extensive in its bid to capture markets in southest Asia. Eventually, one will be able to travel to the South China Sea through Vietnam and as far south as Bangkok and Singapore. From there, further markets will open in Indonesia.)

Occasionally while on the river we saw long bridges connecting the shores but were never able to spot the hi-speed trains crossing. Eventually our journey took us to another of the Chinese projects – the Sayaboury (Xayburi) dam. At 82 metres high and 820 metres long It is one of eleven dams being planned. Thailand buys 95% of the hydroelectricity produced while Laos stands to contend with the impact on its land and the livelihood of some of its people



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who farm or fish. The dams present controversial issues, one being whether the two fish passes will work satisfactorily. Our 'Mekong Pearl' entered the lock area and we watched the outgoing water as it plunged us down into the lock's dark depths . (I was reminded of waking one night in my cabin at the bottom of a deep lock on the Dnieper River in Ukraine where I could only see the lock's dark wet walls. Unfortunately as we know, that dam was breached this July.) After some time we were out of the Laotian lock and on our way on the Mekong once more. The spillway nearby measured 1.3 metres.

Thomas had arranged a series of evening talks - one was on the culture of the Laos people who have diverse ethnicities; a 1995 government census recognised 149 distinct groups. We later visited the Traditional Arts and Ethnology Centre run by an American woman; there we saw many of the costumes and crafts of the various groups. Instead of the usual lecture, one evening we were visited by local people who performed songs and dances. Following this we took part in a Baci ceremony where our wrists were tied with cotton strings and we were given good wishes. (Taking a shower always meant emerging with a tangle of wet cotton ends around our wrists.) Other evening lectures were on the Dam Projects, Becoming a Buddhist monk, and one experiencing local fruits including Pomela, Jujube, Guava, Dragon Fruit, Sasodilla, Longan, and Tamarind. One of our crew had been a Buddhist monk for six years; he demonstrated how their simple orange robe and shirt could be worn several ways. As learned before, parents sent their sons to train in this as they then were assured of a higher education.

Thomas later told us about living as a foreign national in Myanmar coping with the military government. But being in tourism did allow him the freedom to travel to various countries. During the day we visited villages and we did not feel like strangers. The women and children stood by their craftwork – brightly woven scarves and bags, and were also pleased to point out the wooden homemade looms. Unlike many Asian countries, there was no insistence to purchase and bargaining was a quiet affair.

These riverboats are traditional fishing boats where the engine extends out into the water on the end of a large shaft. Noticeably, village children and animals were never seen entering the swift river currents. At night it was mandatory for any boat to be moored to one of the large sand banks for safety. In this vast area there were no rescue boats or planes that could help. It's hard to imagine mooring a boat on a large sandy hill but extra ropes and sometimes several poles stuck into the sand, do the trick.

The men who weren't engaged in farming or with their animals were producing wooden crafts or weaving small baskets in which to carry their lunches to their fields. The boat company had developed past relationships with these villages, and so, if they liked, passengers could bring small gifts to the school and also donate clothing. *(to be continued in the next issue.)*

**The Mekong Pearl - *Patricia Leader***

# HFN TALKS

## ECOSYSTEMS CONSERVATION 16 JAN.

***– Bernie McKenna***

This presentation by Helga Guderley came about after several months of emails covering scheduling, topic, and planning. But with the night's forecast predicting heavy rain, wind, snow and possible freezing rain, the in-person talk was changed to a Zoom talk, with Helga safely at home in Boutilier's Point. The remaining 35 participants spread themselves around in whichever of their rooms at home they chose. The combination of Don Flemming's AV abilities and Helga's patience won out and the talk came off just fine.

Helga obtained her PhD in Zoology at UBC, and for 30 years was a professor of comparative physiology at Laval University. In 2010 she and her husband retired to St. Margaret's Bay, and since 2022 she has been an Information Officer for the Healthy Forests Coalition. This enabled her to present a two-topic talk – the first detailing some of her later work on sea scallops at Laval, and the second addressing forest habitat conservation and how critical it is to carbon sequestration/isolation.

### SCALLOP PRESENTATION

Helga and her husband John took a sabbatical from their positions at Laval University and went to Venezuela where she studied the movement capabilities of several species of sea scallops there. Over seven months she studied the muscle mitochondria of the Zigzag Scallop *Euvola zicnac* which are found along the Atlantic coast of North America. Mitochondria are membrane-bound cell organelles generating most of the chemical energy that powers a cell's biochemical reactions. Zigzag scallop shells show a wavy, crenulated pattern along their outer edges and have several colored rays varying from white to orange, yellow, or gray.

Every day technicians and students brought her fresh scallops from scallop nets. Her research revealed a large variation in muscle oxidative capacity and the regulatory properties within the muscle. Interestingly, her research also showed that the larger their reproductive gonads were (both male and female) the more their muscle energy reserves were depleted, thus limiting the animal's strength and power of movement. Often, these



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gonads exceeded the size of the actual phasic and tonic muscles themselves.

To assess the scallops' swimming strength and escape capability, they would closely introduce a starfish or whelk (scallop predators) and then observe and record the scallop's actions. To do so they recorded the muscle contractions of both the large, striated phasic muscle (what we eat) and the smaller tonic, smooth muscle next to it (which is discarded).

Scallops possess two adductor muscles. The phasic adductor, the most dominant feature in the body of the animal, is the muscle sought by gourmets and gourmands alike. It is cross-striated and facilitates fast, repetitive opening and closing of the valves; contraction of this muscle causes a rapid ejection of water from the mantle cavity, enabling the animal to swim by jet propulsion which is powered, in the main, by anaerobic metabolism. The smaller tonic adductor is more commonly known as the catch muscle. It is a smooth muscle, lacking cross-striations. Its slower contraction is capable of generating considerable force, keeping the animal's hinged shell closed for long periods of time with little expenditure of energy. In most scallops, the two types of adductor muscle lie closely opposed to one another.

Helga and her students, some from south America, researched the following five species – *Amusium balloti, Placopecten magellanicus, Pecten fumatus, Mimachlamys asperrima, and Crassadoma gigantea.*

*P. magellanicus,* the Giant Scallop, is an Atlantic species found on the east coast of North America as far south as North Carolina. It's a good swimmer especially in smaller sizes; this swimming ability decreases as the animal grows.

*P. fumatus* relies more on camouflage than swimming, and, with its convex bottom shell, buries itself in the substrate, swimming to escape only if necessary.

*C. gigantea* is a Rock Scallop. It attaches itself to rocks and stays stationary.

Research found that the phasic and tonic muscles, the escape response, shell shape, and the different habitats varied directly by species. Both *A. balloti* and *P. magellanicus* had more prolonged phasic muscle contractions, while *P. fumatus* and *A. mimachlamys* had more intense initial phasic contractions. In all species, tonic muscle contractions are interspersed between phasic contractions. *C. gigantea* was a bit of an exception in that it had almost continual tonic contractions and rare phasic contractions.

This was a wonderfully informative talk and drew very appreciative responses from our members. It was clear during the entire scallop presentation that Helga had everyone's full attention and in the Q & A session it was also apparent some members had a very good understanding of these wonderful bivalves.

## FOREST HABITAT CONSERVATION

As an Information Officer for the Healthy Forests Coalition, Helga's second topic this evening clearly demonstrated her deep passion and in-depth understanding of the pressing need for forest habitat conservation as they are central to carbon storage. She explained how at the climax of forest growth fully 60% of carbon storage (sequestration) is in the soil and not the above ground vegetation. This point is so very important to help counter climate change and promote diversity. She also showed that our forest coverage continues to decrease in size – 16% less from 2001 to 2022. To me that means we have 16% less biomass in Nova Scotia and then also 16% less carbon storage capacity than we did in 2001!

There are four areas of concern or threats to this situation that have to be countered if we are to gain back any ground here.

**I The Necessary Implementation of Ecological Forestry Practices**

Their are many, many concerns, difficulties, and hindrences here – **DNRR** is dominated by former Mersey Bowater staff; **the** natural resources strategy was accepted but then abandoned; **the** Lahey report had 45 recommendations that as of (2021) were accepted by government, and there's been very minimal positive action since; **Lahey** proposed a triad approach with three categories, Protected Areas (PA), Ecological Matrix Areas (MA) and High Productive Forestry Areas (HPF) but the planning for both MA and HPF was done entirely within DNRR, behind closed doors – no public access was provided; **since** 2013, (11 years plus) only two PA's have been developed; **DNRR** all by itself developed its own Silviculture Guide for MA areas; **continuing** clearcuts are given an assortment of euphemistic names or titles – but a clearcut is a clearcut, regardless of its designation; **public** response to harvest/cut areas is *only* available after these harvest/cut areas are listed on the "Harvest Plan Map Viewer"; **maps** for potential HPF areas show vast tracts of forest with little or no regard for seemingly logical forestry practices. (For example, I would think if two PAs are in close proximity, it would only make sense to not put a clearcut in between them, thus leaving both isolated); **spraying**, fertilising, and frequent cutting continues to go on unabated; **the** plantation model currently being used by DNRR is the same one Germany had and has since wisely abandoned as unsustainable.

**II Nutritionally Poor Soils**

In general Nova Scotia has nutritionally poor soils; glacial action in the past scoured them away leaving little top soil available. The better soils are in northern Nova Scotia, with most of the rest of the province having less except for some small areas such as The Annapolis Valley. On top of that our soils naturally decrease in nutritional value, whether forests are cut or not, plus acid rain has not been good to them either.

**III Biomass Pellet Export**

We continue to cut our forests for biomass burning and particle board manufacture both in Nova Scotia and abroad. This has resulted in heavily cut areas in the south eastern United States and in the north eastern United States and Canada.

**Emerld Ash Borer**

**IV Invasive Species**

Invasive species are wreaking havoc with devastating results on several species – **Hemlock Woolly Adelgid** is severely affecting our Hemlock forests and has no



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natural enemy. Both the insecticide 'Imidocloprid' and the *Laricobuis nigrinus* beetle are being deployed, with the latter starting in 2003 (and it's still continuing to be released); **Beech Leaf Mining Weevil** is 2-3 mm long and jumps like fleas when disturbed; it decimates beeches with ease. (It was first noted in Nova Scotia in 2011.); **Emerald Ash Borer** is very difficult to control or eradicate, and tolerates extremely low temperatures well (therefore is not killed in winter). Adults are 8.5 t0 14.0 mm long and up to 3.4 mm wide. Their exit holes from the tree are very much the same shape and size as the exit holes of the Bronze Birch Borer – both leave a half moon-shaped hole in the bark.

**V Now Some Good News**

**First** – on the government side: there was an announcement of a Collaborative Protected Area (PA) Strategy n December, 2023; the PAs committed are to reach 20% by 2030; there is to be Federal support for land conservation; the Nova Scotia Working Woodlot Trust (NSWWT) has been recognised under the Community Easement Act; and, the Nova Scotia Innovation Transition Trust (NSITT) will commit to $9.9 million for sustainable forestry equipment development.

**Second** – on the non-government side – there are these: a Family Trust Network promoting ecological forestry on non-industrial lands; a Growing Forests Programme created to provide woodlot succession owners with viable options; Community Forests International which will use carbon credits to restore forested land in the Maritimes and in Zanzibar; and the NSWWT which upholds long-term forest stewardship.

These, combined with the following citizen and scientist groups, go a long way in identifying the forest industry shortcomings. They are: the Environment Action Committee, the Healthy Forests Coalition, Nature Nova Scotia, the Blomidon Field Naturalists, the Halifax Field Naturalists, the Young naturalists Club, Friends of McNabs Island, the St. Margaret's Bay Stewardship Association, and the worldwide Extinction Rebellion, and also, last but not least by any means – lichen specialists. There are also private conservation groups, such as Nova Scotia Nature Trust, Ducks Unlimited, and the Mahone Bay Island Association.

After an active and informative Q & A session where Helga further enlightened us on Nova Scotia's current forest practices situation, it was time to sincerely thank her for a most engaging meeting and a wonderful night. As I write this, it's important I mention the large and appreciative response I have had for the evening Helga gave us. Thank you Helga.

## THE CARBON CAGE 20 FEB.

***– Bernie McKenna***

carbon dioxide O═C═O carbon dioxide O═C═O

We Halifax Field Naturalists were extremely fortunate to have a presenter with such impressive qualifications as Kate Ervine PhD. She showed us her CBC co-produced documentary "The Carbon Cage" and provided a comprehensive and detailed explanation of all the considerations and background involved in its production.

Kate is an Associate Professor of Global Development Studies at St. Mary's University (SMU) and a Faculty Associate with SMU's School of the Environment. Well versed in this topic and indeed all the other various facets of this terrible carbon mess we have gotten ourselves into. It is unquestionable that 2023 was the worst year in history for climate disasters, our entire world having suffered a multitude of horrendous events. Kate led us through an enormous amount of information on the current situation, how we got here, what's keeping us here, and hopefully some possible means of us improving the situation.

We are now in an unheralded critical climate crisis. "The evidence is crystal clear and indisputable", Kate said. In her own lifetime carbon dioxide, $CO_2$, parts per million (ppm) in the atmosphere has jumped from 260 ppm in 1950 to 416 (ppm) in 2022 – well past the level needed to level out to a 1.5 degree Celsius rise in average world temperatures. This $CO_2$, which is being constantly released into the atmosphere, is cumulative and will be there, not for just years, but for *centuries* to come. Without a doubt the villains here are the fossil fuels coal, gas, and oil which between them are by far the biggest contributors to our $CO_2$ crisis. The climate change this has brought forth has caused the record number of floods, fires, and hurricanes which we witnessed last year, not to mention the melting of polar ice caps and glaciers and the resultant world's rising sea levels. Already, low-lying islands and seacoast countries are facing imminent submergence and some are having to make contingency plans as we speak. We have been lulled/led/walked into this by our thirst for limitless growth while ignoring our limited resources.

This increase in atmospheric $CO_2$ started in the 1850's with the Industrial Revolution, then really took off as the internal combustion engine made an appearance and was used more and more over the years as the primary source of power - in different factory machines, and increasingly more and more new inventions. Since then the massive amount of air travel has only increased it much further. Air travel alone accounts for 10% of atmospheric $CO_2$, and to pick just one example out of thousands, imagine what an aerial war does to those numbers.

Another 10% of atmospheric $CO_2$ is from these four mega-petroleum companies – Shell, BP, ExxonMobil, and Chevron – and there are many many more oil comcontributing as well. These same companies lobby in the greenwashing industry, telling us they use carbon offsets to lessen their impacts. They don't admit that



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$CO_2$ is still being emitted, regardless of the spin they or anyone else puts on it. In my mind there's no such thing as environmentally-friendly pollution, whether it be $CO_2$ or any other pollutants.

It is calculated we have at most ten years (more likely six) to achieve even a 50% chance of achieving the 1.5 degrees Celsius increase in global average temperatures – not good odds and not very likely with our ever increasing rate of emission.

The Global Climate Agreement was signed in 1992 and to this day emissions increase annually. This 'Paris Agreement' – a legally binding International Treaty – was adopted by 196 parties in 2015 and entered into force in November 2016. Its goal was to limit global temperatures well below 2 degrees Celsius from pre-industrial levels and to pursue efforts which would limit any increase to 1.5 degrees Celsius.

How are we addressing this so far? The world is finding out the steps needed to accomplish this elusive target, but little if any progress on the ground is being made. If we are to have any chance of success, very meaningful and aggressive worldwide steps have to be taken, and truly serious actions have to be implemented as soon as possible and – they have to be achieved by all parties.

What has to be done is fairly well known, however for various reasons (lots of those being political), the actual doing is much less successful. Combine this with the rise of worldwide conservative attitudes and any forward movement becomes problematic. Kate showed us a number of slides and graphs, none of which I found encouraging, but the one that concerned me and stood out the most was the "Concentration of $CO_2$ in the Atmosphere". It graphically illustrated its massive jump from 1950 to 2022, and the extent of the problem we have. We're virtually at 1.5 degrees Celsius now and not much has changed to keep it at that level.

Much is being done to try to counter this terrible problem, however it is not even close to enough, more has to be done and fast. In theory we have some valuable resources in this struggle – wind, solar, nuclear, and hydroelectric power. They'll all have to be employed to one degree or another in attempting to wean us off carbon-based fuels. The more we can utilise all of those, leaving the fossil fuels in the ground, the better. Left underground, the carbon they contain stays neutralised. Unfortunately, the biggest bill for all this falls mostly on those least responsible in the first place and for the most part the most vulnerable among us. The entire world is unprepared for this tragedy and all its associated human effects. Massive changes are going to have to happen if we are to maintain the world anywhere close to its current condition, anything less and we and our descendants are in a world of trouble.

Kate's presentation was by far the most informative and comprehensive information I have had the privilege to sit in on, not really encouraging but critical just the same. On behalf of all who had the good fortune to attend either in-person or by Zoom, we thank Kate most sincerely for this evening's talk.

# HFN FIELD TRIPS

## ANNUAL WINTER BIRD TRIP

***– Clarence Stevens Sr.***

**Date:** Sunday, Nov. 25th
**Places:** Sullivan's Pond, Birchcove Park, Bissett Lake, Cole Harbour
**Leader:** Clarence Stevens Sr.
**Weather:** Cool (-2˚) and sunny
**Participants:** 35

There was a very large turnout for this always favourite winter birding trip. Starting at the Sullivan's Park Bandstand, we walked the pathways to Birchcove Park, drove to Bissett Lake, walked the Cole Harbour Trail, and finished at the Cole Harbour Funeral home.

The 37 bird species observed were:

| | |
|---|---|
| Canada Goose | *Branta Canadensis* |
| American Wigeon | *Anas americana* |
| American Black Duck | *A. rubripes* |
| Mallard | A. *platyrhynchos* |
| Redhead | *Aythya americana* |
| Ring-necked Duck | *A.collaris* |
| Greater Scaup | *A. marila* |
| Lesser Scaup | *A. ffinis* |
| Bufflehead | *Bucephala albeola* |
| Common Merganser | *Mergus merganser* |
| Ring-necked Pheasant | *Phasianus colchicus* |

| | |
|---|---|
| Bald Eagle | *Haliæetus leucocephalus* |
| American Coot | *Fulica americana* |
| Ring-billed Gull | *Larus delawarensis* |
| Herring Gull | *L. argentatus* |
| Rock Pigeon | *Columba livia* |
| Mourning Dove | *Zenaida macroura* |
| Barred Owl | *Strix varia* |
| Downy Woodpecker | *Picoides pubescens* |
| Hairy Woodpecker | *P. villosus* |
| American Crow | *Corvus Brachyrhynchos* |
| Common Raven | *C. corvax* |
| Black-capped Chickadee | *Poecile atracapillus* |
| House Wren | *Troglodytes aedon* |
| American Robin | *Turdus migratorius* |
| Northern Mockingbird | *Mimus polyglottos* |
| European Starling | *Sturnus vulgaris* |
| Yellow-breasted Chat | *Icteria virens* |
| Summer Tanager | *Piranga rubra* |
| Western Tanager | *P. ludoviciana* |
| Field Sparrow | *Spizella pusilla* |
| Song Sparrow | *Melospiza melodia* |
| White-throated Sparrow | *Zonotrichia albicollis* |
| Northern Cardinal | *Cardinalis cardinalis* |
| Purple Finch | *Hæmorhous purpureus* |
| American Goldfinch | *Spinus tristus* |
| House Sparrow | *Passer domesticus* |



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# FLAG POND PARK

***– Bernie McKenna***

**Date:** Saturday, Feb.10th
**Place:** Flag Pond Park, 1775 Cow Bay Road
**Leader:** By committee
**Weather:** Overcast, light breeze, about 1˚C
**Participants:** 16

On an overcast but pleasant day sixteen of us gathered in the well plowed parking lot of the Flag Pond Coastal Access Park in preparation for the walk ahead. A varied group by age, we ranged from a mere 18 months on the young side to the older side which doesn't need a precise mention. Listening in the parking lot before everyone arrived, we could hear the waves in the distance as they rolled in and broke onto the rocky shore.

From here on I will cover the walk in three stages, the parking lot to the boardwalk, the boardwalk itself, and finally the beach area from the boardwalk to the pond outlet/outflow.

From the parking lot we could see Red Maples *Acer rubrum,* a few White Birch *Betula papyrifera*, some Red Spruce *Picea rubens*, and many Speckled Alders *Alnus incana*. While still in the parking lot I mentioned to all that there were a number of pheasant and rabbit tracks; someone was paying attention and asked if I had meant Varying Hare *Lepus americanus* or Snowshoe Hare, I admitted the mistake I made as Varying Hare and Snowshoe Hare are the only valid names for this animal, and unlike rabbits, bear fully-furred precocial young. Nova Scotia has no native rabbits although released or escaped ones do appear on occasion. I'm taking a little side trip here on hares and Rabbits. At birth baby rabbits are furless and have closed eyes, baby Hares on the other hand are fully furred and have open eyes and can hop around in a few hours. Another appealing (or maybe not) feature of both hares and rabbits is that they both eat their own fæces (Coprophagy). They have two types of fæces, one is the familiar hard pellets we are familiar with and often see on the snow, while he other is a soft and moist dropping (caecotrophs) that is seldom seen, as the hare normally eats it as soon as it is deposited. In essence the soft droppings contain protein and B vitamins that the first digestion process did not sufficiently absorb, the hares eat these droppings to salvage the food value that otherwise would be lost.

The whole way from the parking lot to the boardwalk, lots of tracks were seen, however just one Hare can make a lot of tracks in one night. Throughout the whole walk I didn't see any chewed alder trunks, although this may well change if snow depths increase and other foods become less available. The walking was single file but firm underfoot, as long as one stayed on the beaten path.

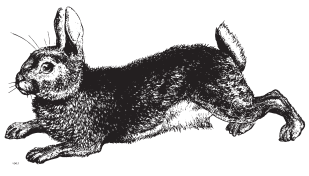
Arriving at the boardwalk we found the walking somewhat a bit better, some snow had melted on top of the planking, and the boardwalk had hand rails on both sides, at least one felt more secure.

Here we had our first look at the frozen pond and the different plant species there. Bulrushes *Scirpoides holoschoenus* seemed to be very dominant with a few stalks still holding onto their seed heads, others had lost theirs no doubt due to the wind exposure they have to endure. Other types of plants and bushes/shrubs were seen but again I could not ID them; a 'plant person' in the lead would have helped. Halfway across the boardwalk a side branch goes out to the water's edge. It's a good open water spot to see the Sticklebacks and other minnows living here. In the spring no doubt the bulrushes appeal to the Red-winged Blackbirds *Agelaius phoeniceus* and I suspect Belted Kingfishers *Megaceryle alcyon* comb the waters here for the minnows below.

Returning back out to the main boardwalk we turned left and headed for the beach. Before the beach there was a clump of 4 or 5 Tamarack/larch *Larix laricina*, now bare of their golden coloured autumn needles. Here too were a few dead conifers with Old Man's Beard *Usnea longissimi* draped off of their dead limbs.

Once we reached the beach, we left the boardwalk behind and headed out onto the cobblestones. Here we got a clear unobstructed view of the 3-5 foot waves as they rolled in and broke on the shore. We had two good bird identifiers with us and they identified the following seabirds which were working a couple of hundred feet or more offshore; three Long Tailed Ducks *Clangula histrionicus*, four Red-headed Mergansers *Mergus serrator*, five or six adult Herring Gulls *Larus argentatus*, and fifteen or so or so Mallards *Anas platyrhynchos*, plus a few American Crows *Corvus brachyrhynchos*. Two days previously, on a much lower tide, I had seen three Common Eiders *Somateria mollissima* but you might know it – none today. Several of us headed east/left from the boardwalk towards the pond outlet. At only a few feet wide and less than three inches in depth, it trickles and tumbles its way to the water's edge. Walking on the cobblestones themselves wasn't too bad as only the top stones were loose but the lower ones were pretty stable. The beach rocks in this area are a reddish brown, likely due to the their high concentration of iron. The rocks further out from shore were below the water surface today and though hidden I assure you they are covered in an attached seaweed that's worth your life to try and walk on. It was here we saw the fifteen Mallards – they had been up against the shore but got skittish as we approached and they flushed out as one skein.

That pretty much wraps up this little walk, it was a great day – well worth the time – and several walkers suggested it would be nice to come back when the Flag Iris *Iris versicolor* are in bloom. We'll keep that in mind and hopefully be able to set up a return on fairly short notice (think email) or at least let folks know when they are in bloom. From here we all found our way back to the cars in our own time and headed out on our separate ways, (one member was headed for a chocolate fix or I think that was the idea). This was a most successful and enjoyable walk, well attended for a February event and being so short, it could be fit into almost any limited time slot.





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# ALMANAC

"The Sun does arise, / And make happy the skies. / The merry bells ring / To welcome the Spring"
***From "The Echoing Green", by William Blake***

## NATURAL EVENTS

**10 Mar**. New Moon. Start of Mi'kmaw moon cycle Siwkewiku's (Maple Sugar)
**20 Mar.** Spring Equinox (first day of spring in the Northern Hemisphere) occurs at 12:01 ADT
**23 Mar.** Earth Hour 2024 from 20:30 to 21:30 ADT (https://earthhour.org). Switch Off!
**24 Mar.** Mercury at Greatest Eastern Elongation (view low in western sky just after sunset)
**25 Mar.** Penumbral Lunar Eclipse. Moon will darken slightly. Max at 04:12 ADT
**8 Apr.** New Moon. Start of Mi'kmaw moon cycle Penatmuiku's (Birds Laying Eggs)
**8 Apr.** Solar Eclipse. Nova Scotia will see a deep partial eclipse. Max at ~16:36 ADT Halifax area.
**21 Apr. to 30 Apr.** Average Last Frost for Halifax Area (https://plantmaps.com)
**22 Apr.** Earth Day 2024 (https://earthday.ca).
**22-23 Apr.** Lyrids Meteor Shower (meteors radiate from constellation Lyra)
**23 Apr.** Full Moon
**6-7 May** Eta Aquarids Meteor Shower (meteors radiate from constellation Aquarius)
**8 May** New Moon. Start of Mi'kmaw moon cycle Sqolijuiku's (Frogs Croaking)
**9 May** Average date of last light freeze of spring in the Halifax area
**9 May** Mercury at Greatest Western Elongation (view low in eastern sky just before sunrise)
**23 May** Full Moon
**6 Jun.** New Moon. Start of Mi'kmaw moon cycle name Nipniku's (Trees Fully Leafed)
**8 Jun.** World Ocean Day (worldoceanday.org)
**9 Jun. to 20 Jun.** Earliest mornings of the year in Halifax area (sunrise at 05:28 ADT)
**20 Jun.** Summer Solstice (first day of summer in the Northern Hemisphere) occurs at 17:46 ADT)
**20 Jun. to 1 Jul.** Latest evenings of the year in Halifax area (sunset at 21:03 ADT)
**22 Jun.** Full Moon

***- Sources: Sea and Sky Astronomy Calendar; SkyNews: Mi'kmaw Moons (Brunjes 2021)***

**SUNRISE/SUNSET - HFX WINTER & EARLY SPRING SATURDAYS, 44 39 N, 063 36 W (AST to 9 Mar., thereafter ADT)**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **2** | **Mar.** | 06:49 | 18:04 | **6** | **Apr.** | 06:54 | 19:42 |
| **9** | **Mar.** | 06:36 | 18:13 | **13** | **Apr.** | 06:32 | 19:57 |
| **16** | **Mar.** | 07:23 | 19:22 | **20** | **Apr.** | 06:20 | 20:06 |
| **23** | **Mar.** | 07:10 | 19:31 | **27** | **Apr.** | 06:09 | 20:14 |
| **30** | **Mar.** | 06:57 | 19:39 | | | | |
| **4** | **May** | 05:59 | 20:23 | **1** | **Jun.** | 05:31 | 20:53 |
| **11** | **May** | 05:50 | 20:31 | **8** | **Jun.** | 05:29 | 20:58 |
| **18** | **May** | 05:42 | 20:39 | **15** | **Jun.** | 05:28 | 21:01 |
| **25** | **May** | 05:36 | 20:46 | **22** | **Jun.** | 05:29 | 21:03 |
| | | | | **29** | **Jun.** | 05:32 | 21:03 |

***– Source: www.timeanddate.com***

## ORGANISATIONAL EVENTS

**Atlantic Rhododendron & Horticultural Society https://atlanticrhodo.org.** ARHS meetings and presentations are held at the NS Museum of Natural History Auditorium starting at 7:30 p.m.
**5 Mar.** "Namaqualand Superbloom", presented by Freeman Patterson.
**2 Apr.** "Naturalisation Strategies for Gardeners", a panel discussion.

***Compiled by Don Flemming***

**Ecology Action Centre https://ecologyaction.ca.**
**8-22 Apr.** "Earth Fest" – a free, 5-day festival of climate action in HRM.

**Nature Nova Scotia https://naturens.ca**
**24-26 May** Annual Symposium 2024 Celebration of Nature. "Naturalists as Nature Advocates", presentations/field trips in the Kentville area - Tickets available. For more info go to **https://naturens.ca/the-celebration-of-nature.**

**Friends of Blue Mountain & Birch Cove https://bluemountainfriends.ca.** Guided Hikes for those who might want to explore the woods, but would feel more comfortable in a a group with others leading the way. Spaces are limited and **registration is required**.
**2 Mar.** Susie's Lake Flagpole Hill – 3 km; 10:00 a.m.
**10 Mar.** Susie's Lake West 9 km; 09:00 a.m.

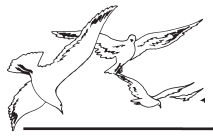
**The Nova Scotia Bird Society https://nsbirdsociety.ca**. The NSBS presentations are via Zoom, 7:00 to 8:30 p.m.
**28 Mar.** Understanding the Role of Migratory Warbler Feather Moult in Winter, presented by Shae Turner (Thompson Rivers University)
**25 Apr.** "Big Year Birding Canada", presented by Bruce De Labio.

**Nova Scotia Institute of Science http://nsis1862.ca** All events are presented at Saint Mary's University in the Stephanie Mac-Donald Lecture Theatre (SMU Atrium 101), starting at 7:30 p.m. For online Zoom option see http://nsis1862.ca/public-lectures.
**8 Apr.** "Sustainable agriculture needs insects; insects need sustainable agriculture", presented by Dr. Paul Manning, (Dalhousie University)
**6 May** "The Geology of the Cabot Trail: The Surprising 1.5 Billion Year Story of Nova Scotia's Most Iconic Drive", pre sented by Dr. Jason Loxton, Cape Breton University.



*ISSN 1485-709X Spring 2024, #194*

# HALIFAX TIDE TABLE



## April-avril

| Day | Time | Metres | Feet | jour | heure | mètres | pieds |
|---|---|---|---|---|---|---|---|
| **1** | 0711 | **0.5** | 1.6 | **16** | 0127 | **1.5** | 4.9 |
| | 1239 | **1.5** | 4.9 | | 0852 | **0.5** | 1.6 |
| MO | 1928 | **0.8** | 2.6 | TU | 1434 | **1.5** | 4.9 |
| LU | | | | MA | 2131 | **0.7** | 2.3 |
| **2** | 0046 | **1.6** | 5.2 | **17** | 0246 | **1.4** | 4.6 |
| | 0816 | **0.5** | 1.6 | | 0947 | **0.5** | 1.6 |
| TU | 1343 | **1.4** | 4.6 | WE | 1558 | **1.5** | 4.9 |
| MA | 2035 | **0.8** | 2.6 | ME | 2227 | **0.7** | 2.3 |
| **3** | 0152 | **1.6** | 5.2 | **18** | 0405 | **1.5** | 4.9 |
| | 0918 | **0.4** | 1.3 | | 1039 | **0.5** | 1.6 |
| WE | 1507 | **1.5** | 4.9 | TH | 1656 | **1.6** | 5.2 |
| ME | 2138 | **0.7** | 2.3 | JE | 2318 | **0.6** | 2.0 |
| **4** | 0312 | **1.7** | 5.6 | **19** | 0502 | **1.5** | 4.9 |
| | 1017 | **0.4** | 1.3 | | 1127 | **0.5** | 1.6 |
| TH | 1628 | **1.6** | 5.2 | FR | 1738 | **1.6** | 5.2 |
| JE | 2240 | **0.6** | 2.0 | VE | | | |
| **5** | 0430 | **1.7** | 5.6 | **20** | 0002 | **0.6** | 2.0 |
| | 1113 | **0.3** | 1.0 | | 0547 | **1.6** | 5.2 |
| FR | 1725 | **1.7** | 5.6 | SA | 1210 | **0.5** | 1.6 |
| VE | 2341 | **0.4** | 1.3 | SA | 1814 | **1.7** | 5.6 |
| **6** | 0534 | **1.8** | 5.9 | **21** | 0039 | **0.5** | 1.6 |
| | 1206 | **0.2** | 0.7 | | 0627 | **1.6** | 5.2 |
| SA | 1814 | **1.9** | 6.2 | SU | 1246 | **0.4** | 1.3 |
| SA | | | | DI | 1846 | **1.7** | 5.6 |
| **7** | 0040 | **0.3** | 1.0 | **22** | 0112 | **0.4** | 1.3 |
| | 0630 | **1.8** | 5.9 | | 0705 | **1.6** | 5.2 |
| SU | 1257 | **0.1** | 0.3 | MO | 1318 | **0.4** | 1.3 |
| DI | 1900 | **2.0** | 6.6 | LU | 1916 | **1.7** | 5.6 |
| **8** | 0135 | **0.1** | 0.3 | **23** | 0144 | **0.3** | 1.0 |
| | 0722 | **1.9** | 6.2 | | 0743 | **1.6** | 5.2 |
| MO | 1346 | **0.1** | 0.3 | TU | 1347 | **0.5** | 1.6 |
| LU | 1946 | **2.1** | 6.9 | MA | 1946 | **1.7** | 5.6 |
| **9** | 0227 | **0.0** | 0.0 | **24** | 0216 | **0.3** | 1.0 |
| | 0813 | **1.9** | 6.2 | | 0820 | **1.6** | 5.2 |
| TU | 1435 | **0.1** | 0.3 | WE | 1417 | **0.5** | 1.6 |
| MA | 2031 | **2.1** | 6.9 | ME | 2018 | **1.7** | 5.6 |
| **10** | 0319 | **0.0** | 0.0 | **25** | 0250 | **0.2** | 0.7 |
| | 0902 | **1.8** | 5.9 | | 0857 | **1.6** | 5.2 |
| WE | 1526 | **0.2** | 0.7 | TH | 1450 | **0.5** | 1.6 |
| ME | 2116 | **2.0** | 6.6 | JE | 2051 | **1.8** | 5.9 |
| **11** | 0410 | **0.0** | 0.0 | **26** | 0327 | **0.2** | 0.7 |
| | 0951 | **1.8** | 5.9 | | 0933 | **1.6** | 5.2 |
| TH | 1620 | **0.3** | 1.0 | FR | 1526 | **0.6** | 2.0 |
| JE | 2202 | **1.9** | 6.2 | VE | 2127 | **1.7** | 5.6 |
| **12** | 0503 | **0.1** | 0.3 | **27** | 0409 | **0.3** | 1.0 |
| | 1039 | **1.7** | 5.6 | | 1011 | **1.6** | 5.2 |
| FR | 1719 | **0.5** | 1.6 | SA | 1610 | **0.6** | 2.0 |
| VE | 2247 | **1.8** | 5.9 | SA | 2206 | **1.7** | 5.6 |
| **13** | 0559 | **0.2** | 0.7 | **28** | 0458 | **0.4** | 1.3 |
| | 1127 | **1.6** | 5.2 | | 1051 | **1.6** | 5.2 |
| SA | 1823 | **0.6** | 2.0 | SU | 1705 | **0.7** | 2.3 |
| SA | 2334 | **1.7** | 5.6 | DI | 2248 | **1.7** | 5.6 |
| **14** | 0657 | **0.4** | 1.3 | **29** | 0555 | **0.4** | 1.3 |
| | 1218 | **1.5** | 4.9 | | 1135 | **1.6** | 5.2 |
| SU | 1928 | **0.7** | 2.3 | MO | 1813 | **0.8** | 2.6 |
| DI | | | | LU | 2336 | **1.7** | 5.6 |
| **15** | 0026 | **1.6** | 5.2 | **30** | 0656 | **0.4** | 1.3 |
| | 0755 | **0.5** | 1.6 | | 1227 | **1.5** | 4.9 |
| MO | 1317 | **1.5** | 4.9 | TU | 1921 | **0.8** | 2.6 |
| LU | 2031 | **0.7** | 2.3 | MA | | | |

## May-mai

| Day | Time | Metres | Feet | jour | heure | mètres | pieds |
|---|---|---|---|---|---|---|---|
| **1** | 0030 | **1.7** | 5.6 | **16** | 0205 | **1.4** | 4.6 |
| | 0756 | **0.4** | 1.3 | | 0858 | **0.6** | 2.0 |
| WE | 1331 | **1.5** | 4.9 | TH | 1504 | **1.6** | 5.2 |
| ME | 2025 | **0.7** | 2.3 | JE | 2150 | **0.7** | 2.3 |
| **2** | 0135 | **1.6** | 5.2 | **17** | 0316 | **1.4** | 4.6 |
| | 0854 | **0.4** | 1.3 | | 0945 | **0.6** | 2.0 |
| TH | 1447 | **1.6** | 5.2 | FR | 1603 | **1.6** | 5.2 |
| JE | 2127 | **0.6** | 2.0 | VE | 2239 | **0.7** | 2.3 |
| **3** | 0253 | **1.6** | 5.2 | **18** | 0418 | **1.4** | 4.6 |
| | 0950 | **0.3** | 1.0 | | 1031 | **0.6** | 2.0 |
| FR | 1558 | **1.7** | 5.6 | SA | 1649 | **1.6** | 5.2 |
| VE | 2228 | **0.5** | 1.6 | SA | 2323 | **0.6** | 2.0 |
| **4** | 0411 | **1.7** | 5.6 | **19** | 0509 | **1.5** | 4.9 |
| | 1044 | **0.3** | 1.0 | | 1116 | **0.6** | 2.0 |
| SA | 1654 | **1.8** | 5.9 | SU | 1728 | **1.7** | 5.6 |
| SA | 2327 | **0.3** | 1.0 | DI | | | |
| **5** | 0516 | **1.7** | 5.6 | **20** | 0001 | **0.5** | 1.6 |
| | 1139 | **0.3** | 1.0 | | 0554 | **1.5** | 4.9 |
| SU | 1743 | **1.9** | 6.2 | MO | 1157 | **0.5** | 1.6 |
| DI | | | | LU | 1802 | **1.7** | 5.6 |
| **6** | 0024 | **0.2** | 0.7 | **21** | 0038 | **0.4** | 1.3 |
| | 0612 | **1.8** | 5.9 | | 0637 | **1.5** | 4.9 |
| MO | 1232 | **0.2** | 0.7 | TU | 1237 | **0.5** | 1.6 |
| LU | 1830 | **2.0** | 6.6 | MA | 1835 | **1.7** | 5.6 |
| **7** | 0118 | **0.1** | 0.3 | **22** | 0114 | **0.3** | 1.0 |
| | 0705 | **1.8** | 5.9 | | 0717 | **1.6** | 5.2 |
| TU | 1325 | **0.2** | 0.7 | WE | 1315 | **0.6** | 2.0 |
| MA | 1917 | **2.0** | 6.6 | ME | 1909 | **1.7** | 5.6 |
| **8** | 0209 | **0.0** | 0.0 | **23** | 0151 | **0.2** | 0.7 |
| | 0755 | **1.8** | 5.9 | | 0757 | **1.6** | 5.2 |
| WE | 1417 | **0.3** | 1.0 | TH | 1353 | **0.6** | 2.0 |
| ME | 2003 | **2.0** | 6.6 | JE | 1946 | **1.8** | 5.9 |
| **9** | 0258 | **0.0** | 0.0 | **24** | 0231 | **0.2** | 0.7 |
| | 0845 | **1.8** | 5.9 | | 0836 | **1.6** | 5.2 |
| TH | 1509 | **0.4** | 1.3 | FR | 1433 | **0.6** | 2.0 |
| JE | 2050 | **2.0** | 6.6 | VE | 2025 | **1.8** | 5.9 |
| **10** | 0348 | **0.1** | 0.3 | **25** | 0313 | **0.2** | 0.7 |
| | 0934 | **1.8** | 5.9 | | 0916 | **1.6** | 5.2 |
| FR | 1603 | **0.5** | 1.6 | SA | 1517 | **0.6** | 2.0 |
| VE | 2137 | **1.9** | 6.2 | SA | 2107 | **1.8** | 5.9 |
| **11** | 0438 | **0.2** | 0.7 | **26** | 0359 | **0.2** | 0.7 |
| | 1022 | **1.7** | 5.6 | | 0957 | **1.6** | 5.2 |
| SA | 1701 | **0.6** | 2.0 | SU | 1606 | **0.6** | 2.0 |
| SA | 2224 | **1.8** | 5.9 | DI | 2151 | **1.8** | 5.9 |
| **12** | 0530 | **0.3** | 1.0 | **27** | 0450 | **0.3** | 1.0 |
| | 1110 | **1.7** | 5.6 | | 1041 | **1.6** | 5.2 |
| SU | 1801 | **0.7** | 2.3 | MO | 1703 | **0.7** | 2.3 |
| DI | 2312 | **1.7** | 5.6 | LU | 2237 | **1.8** | 5.9 |
| **13** | 0624 | **0.4** | 1.3 | **28** | 0544 | **0.3** | 1.0 |
| | 1159 | **1.6** | 5.2 | | 1128 | **1.6** | 5.2 |
| MO | 1903 | **0.7** | 2.3 | TU | 1807 | **0.7** | 2.3 |
| LU | | | | MA | 2326 | **1.7** | 5.6 |
| **14** | 0003 | **1.6** | 5.2 | **29** | 0640 | **0.3** | 1.0 |
| | 0717 | **0.5** | 1.6 | | 1220 | **1.6** | 5.2 |
| TU | 1252 | **1.6** | 5.2 | WE | 1911 | **0.7** | 2.3 |
| MA | 2002 | **0.8** | 2.6 | ME | | | |
| **15** | 0059 | **1.5** | 4.9 | **30** | 0020 | **1.7** | 5.6 |
| | 0808 | **0.6** | 2.0 | | 0735 | **0.3** | 1.0 |
| WE | 1355 | **1.5** | 4.9 | TH | 1317 | **1.6** | 5.2 |
| ME | 2058 | **0.7** | 2.3 | JE | 2013 | **0.6** | 2.0 |
| | | | | **31** | 0123 | **1.6** | 5.2 |
| | | | | | 0830 | **0.3** | 1.0 |
| | | | | FR | 1420 | **1.7** | 5.6 |
| | | | | VE | 2114 | **0.5** | 1.6 |

## June-juin

| Day | Time | Metres | Feet | jour | heure | mètres | pieds |
|---|---|---|---|---|---|---|---|
| **1** | 0235 | **1.6** | 5.2 | **16** | 0323 | **1.4** | 4.6 |
| | 0925 | **0.3** | 1.0 | | 0928 | **0.6** | 2.0 |
| SA | 1523 | **1.7** | 5.6 | SU | 1550 | **1.6** | 5.2 |
| SA | 2213 | **0.4** | 1.3 | DI | 2234 | **0.6** | 2.0 |
| **2** | 0350 | **1.6** | 5.2 | **17** | 0424 | **1.4** | 4.6 |
| | 1021 | **0.4** | 1.3 | | 1019 | **0.6** | 2.0 |
| SU | 1620 | **1.8** | 5.9 | MO | 1635 | **1.6** | 5.2 |
| DI | 2311 | **0.3** | 1.0 | LU | 2317 | **0.5** | 1.6 |
| **3** | 0457 | **1.6** | 5.2 | **18** | 0519 | **1.4** | 4.6 |
| | 1119 | **0.4** | 1.3 | | 1110 | **0.6** | 2.0 |
| MO | 1713 | **1.9** | 6.2 | TU | 1717 | **1.7** | 5.6 |
| LU | | | | MA | | | |
| **4** | 0007 | **0.2** | 0.7 | **19** | 0000 | **0.4** | 1.3 |
| | 0555 | **1.7** | 5.6 | | 0607 | **1.5** | 4.9 |
| TU | 1216 | **0.4** | 1.3 | WE | 1159 | **0.6** | 2.0 |
| MA | 1803 | **1.9** | 6.2 | ME | 1757 | **1.7** | 5.6 |
| **5** | 0101 | **0.1** | 0.3 | **20** | 0044 | **0.3** | 1.0 |
| | 0649 | **1.7** | 5.6 | | 0652 | **1.5** | 4.9 |
| WE | 1312 | **0.4** | 1.3 | TH | 1247 | **0.6** | 2.0 |
| ME | 1853 | **1.9** | 6.2 | JE | 1839 | **1.7** | 5.6 |
| **6** | 0152 | **0.1** | 0.3 | **21** | 0129 | **0.2** | 0.7 |
| | 0741 | **1.7** | 5.6 | | 0734 | **1.6** | 5.2 |
| TH | 1406 | **0.4** | 1.3 | FR | 1332 | **0.6** | 2.0 |
| JE | 1942 | **1.9** | 6.2 | VE | 1923 | **1.8** | 5.9 |
| **7** | 0240 | **0.1** | 0.3 | **22** | 0214 | **0.1** | 0.3 |
| | 0831 | **1.7** | 5.6 | | 0817 | **1.6** | 5.2 |
| FR | 1457 | **0.5** | 1.6 | SA | 1417 | **0.5** | 1.6 |
| VE | 2030 | **1.9** | 6.2 | SA | 2008 | **1.8** | 5.9 |
| **8** | 0328 | **0.2** | 0.7 | **23** | 0259 | **0.1** | 0.3 |
| | 0919 | **1.7** | 5.6 | | 0900 | **1.6** | 5.2 |
| SA | 1548 | **0.6** | 2.0 | SU | 1505 | **0.5** | 1.6 |
| SA | 2118 | **1.8** | 5.9 | DI | 2055 | **1.9** | 6.2 |
| **9** | 0414 | **0.2** | 0.7 | **24** | 0347 | **0.1** | 0.3 |
| | 1006 | **1.7** | 5.6 | | 0945 | **1.7** | 5.6 |
| SU | 1639 | **0.6** | 2.0 | MO | 1556 | **0.5** | 1.6 |
| DI | 2205 | **1.8** | 5.9 | LU | 2141 | **1.9** | 6.2 |
| **10** | 0500 | **0.3** | 1.0 | **25** | 0435 | **0.1** | 0.3 |
| | 1051 | **1.7** | 5.6 | | 1031 | **1.7** | 5.6 |
| MO | 1732 | **0.7** | 2.3 | TU | 1654 | **0.5** | 1.6 |
| LU | 2252 | **1.7** | 5.6 | MA | 2228 | **1.8** | 5.9 |
| **11** | 0545 | **0.4** | 1.3 | **26** | 0526 | **0.1** | 0.3 |
| | 1135 | **1.7** | 5.6 | | 1117 | **1.7** | 5.6 |
| TU | 1825 | **0.7** | 2.3 | WE | 1755 | **0.5** | 1.6 |
| MA | 2339 | **1.6** | 5.2 | ME | 2318 | **1.8** | 5.9 |
| **12** | 0630 | **0.5** | 1.6 | **27** | 0618 | **0.2** | 0.7 |
| | 1221 | **1.7** | 5.6 | | 1205 | **1.7** | 5.6 |
| WE | 1919 | **0.8** | 2.6 | TH | 1857 | **0.5** | 1.6 |
| ME | | | | JE | | | |
| **13** | 0027 | **1.5** | 4.9 | **28** | 0010 | **1.7** | 5.6 |
| | 0713 | **0.6** | 2.0 | | 0712 | **0.2** | 0.7 |
| TH | 1310 | **1.6** | 5.2 | FR | 1255 | **1.7** | 5.6 |
| JE | 2011 | **0.7** | 2.3 | VE | 1958 | **0.5** | 1.6 |
| **14** | 0120 | **1.5** | 4.9 | **29** | 0109 | **1.6** | 5.2 |
| | 0756 | **0.6** | 2.0 | | 0808 | **0.3** | 1.0 |
| FR | 1404 | **1.6** | 5.2 | SA | 1349 | **1.7** | 5.6 |
| VE | 2101 | **0.7** | 2.3 | SA | 2057 | **0.4** | 1.3 |
| **15** | 0219 | **1.4** | 4.6 | **30** | 0215 | **1.5** | 4.9 |
| | 0841 | **0.6** | 2.0 | | 0905 | **0.4** | 1.3 |
| SA | 1459 | **1.6** | 5.2 | SU | 1448 | **1.7** | 5.6 |
| SA | 2148 | **0.7** | 2.3 | DI | 2156 | **0.3** | 1.0 |

**ALL TIMES ARE AST**



*ISSN 1485-709X Spring 2024, #194*

**NEXT DEADLINE**

**21st of May for the June 2024 Issue**

**email submissions to hayderbyshire@gmail.com**