

Biolink

OFFICIAL NEWSLETTER OF THE
ATLANTIC SOCIETY OF FISH AND WILDLIFE BIOLOGISTS



SPRING 2020

A Review of the 2019 ASFWB Annual General Meeting in Nova Scotia

The 56th Annual General Meeting of the Atlantic Society of Fish and Wildlife Biologists took place in Western Shore, Nova Scotia from 22 October to 24 October 2019. The event was a joint meeting with the Mersey Tobeatic Research Institute's Annual Science Meeting. The event was well attended by over 100 participants. We thank John Brazner (VP Program) and his team for organizing the event. John was supported by Jane Barker, Amy Marsters, Pam Mills, Steve Mockford, Jason Power, and Cindy Staicer. As well, we thank Leif Helmer (Nova Scotia Community College) and his Environmental Studies class for their assistance at the registration desk and with audio-visual support.

The 2019 AGM included a variety of talks and posters from students, industry professionals, government employees, and academics from across Atlantic Canada. Melissa Labrador from the Wildcat Community opened on October 23rd followed by opening remarks from Rosie McFarlane (ASFWB President). Sean Brilliant gave the plenary address discussing the decline of the North Atlantic right whale and the steps to recover the species' breeding population.

In the morning we heard a variety of presentations from mapping wildlife connectivity in New Brunswick (Courtney Burk) to ongoing studies focused on numerous tur-



Above: Winners of the student awards from left to right, Meaghan Quanz, Courtney le Roux, Julie-Lynn Zahavich & Damien Mullin.

Photo: John Brazner / Nova Scotia Lands and Forestry - Wildlife Division

tle species. In the afternoon the attendees heard presentations about work with river herring, white-tailed deer, and many unique avian studies. The poster session hosted 22 posters from throughout Atlantic Canada. During the morning of October 24th, we heard presentations on waterfowl, forest birds, gulls, and terns. This was followed by presentations on ecosystem management, biological inventories, and invasive species.

Student awards for presentations were presented to Damien Mullin (University of New Brunswick), Julie-Lynn Zahavich (Royal Roads University), and Courtney le Roux (University of New Brunswick) for first, second, and third place, respectively. The award for top student poster was presented to

Meaghan Quanz (Dalhousie University). Congratulations to all on your continued success and we look forward to seeing you at future ASFWB events.

We would like to thank everyone who attended and everyone who contributed to a wonderful event and presented their work. We would also like to thank our sponsors Ducks Unlimited Canada, Environment and Climate Change Canada, McCallum Environmental Ltd., Nova Scotia Power, the Government of Nova Scotia, Port Hawkesbury Paper, and WestFor Management Inc. for their support. A special thank you to the Mersey Tobeatic Research Institute for co-hosting this event with ASFWB. We look forward to seeing you all at our next Annual General Meeting in Cardigan PEI in October!

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ASF WB Information and Updates

The ASF WB Newsletter is published twice a year. Articles and opinions do not necessarily reflect the views of the Society or its members.

Thank you to all who contributed to this issue!

Do you have a research project, wildlife topic, upcoming event, photo, story, or anything else that you would like to see included in BioLink? If so, email one of our newsletter editors! We are always looking for content ideas and photos from our membership!

Find us online!

www.asfwb.ca



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New Members Welcomed to the ASFWB Executive Committee

The executive committee continues to see a mix of veteran and new committee members. Rosanne MacFarlane continues on in the role of President; Andy Smith continues as VP Membership; and Greg Johnson continues as Web Site Manager.

Danielle Horne (Conservation Biologist for Nova Scotia with Nature Conservancy of Canada), Julie-Lynn Zahavich (Forest Conservation Specialist, PEI Department of Environment, Water and Climate Change), and Delaney Brooks (Graduate student with the University of New Brunswick) are the new Newsletter Editors. Courtney Baldo (Species at Risk Monitoring Biologist with the Nova Scotia Department of Lands and Forests, Wildlife Division) is VP Student Affairs. Ed Torenvliet (Aquatic Biologist with the New Brunswick Department of Transportation and Infrastructure) takes over as Secretary/Treasurer. Rosemary Curley (over 35 years of experience in Prince Edward Island) is the VP Program for the 2020 AGM.

Thank you to Danielle Q., Holly, Lita, and Bruce for all of your hard work during your terms!

Check out our website at www.asfwb.ca

- register for upcoming events,
- biographies of your executive committee members,
- download newsletters,
- find blog posts from scholarship winners,
- renew your membership
- and stay up to date on information for the **upcoming 2020 AGM in Prince Edward Island**



A photo of an aquatic invasive species - Smallmouth bass, caught for CARP outreach events (Kings County). Photo submitted by Samantha Hudson

Become an ASFWB Member!

Regular Membership: \$20/year

Student Membership: Now FREE!

To renew or become a new member, visit www.asfwb.ca or contact the Society's Treasurer, Ed Torenvliet (ed.torenvliet@gnb.ca), for other payment options!

Network with professional contacts, including biologists, professors, managers and researchers from across Atlantic Canada

Read the bi-annual newsletter that keeps you up to date on research and upcoming events

We hope to see you at our 57th Annual General Meeting in PEI in October 2020!
Find more information about the AGM on the bottom of page 20

Are Forested Wetlands Biodiversity Hotspots in Nova Scotia?

Submitted By John Brazner, Nova Scotia Lands and Forestry – Wildlife Division

The conservation value of forested wetlands in Nova Scotia's landscapes has been a topic of interest at the Department of Lands and Forestry since 2014. The relatively unsubstantiated idea that forested wetlands are biodiversity hotspots along with being poorly mapped and lost to development more frequently than any other wetland type in Nova Scotia all contributed to the department initiating efforts to more fully understand the ecological role of these habitats. Our work in 2015 and 2016 was strictly focused on three different types of forested wetlands - wooded peatlands, tall shrub swamps and treed swamps - at 229 sites spread across three ecoregions in western Nova Scotia. Our main objective was to characterize differences in breeding bird communities at these sites and determine if there were any important differences among ecoregions.

The work was completed thanks to the help of Laura Achenbach, several citizen scientists and a few other government staff. We ended up detecting breeding evidence for 95 species comprising 46% of the 208 bird species thought to breed in Nova Scotia. Five of these species are listed as at-risk provincially. Species like Canada warbler and eastern wood-pewee were common in and strongly associated with treed swamps, olive-sided flycatchers were observed at all three wetland types, but most common along the edges of wooded peatlands, and rusty blackbirds were extremely rare and only observed in swamps. It was interesting that bird communities were more distinct among wetland types than ecoregions. This suggests that assessing the condition of these habitats for future studies is likely best done separately for each wetland type but that pooling effort across ecoregions may be appropriate to improve the efficiency of sampling effort. It was also interesting that shrub swamps and peatlands had significantly more species and higher mean abundances than treed swamps, and Valley Ecoregion sites had the highest species richness and abundance compared to the Fundy Shore and Western Ecoregions. All of this suggests that shrub swamps, particularly in the Valley Ecoregion, have high conservation value and are acting as important refugia for birds in this highly fragmented landscape. It also suggests that the conservation value of wooded peatlands and treed swamps is high, but more-so due to the at-risk species they support.

About the time we were completing these first studies on the conservation value of forested wetlands, the Lahey Report was released and NSDLF began moving toward an ecological forestry management approach. As part of the paradigm shift in perspective to one where biodiversity and ecological integrity are given top priority in forest management, it became even more essential that land



A rich forested wetland. Photo Submitted by John Brazner.

managers have the ability to make informed assessments about the relative biodiversity value of various habitats in landscapes they were managing. Without that knowledge, they will not be able to fully assess the conservation consequences of different management options. In response, we expanded our focus beyond forested wetlands to provide an understanding of the relative conservation value of as many different forest types as possible. To get started on this in 2017 and 2018, we surveyed breeding bird communities in 18 forested wetlands from our previous study, as well as 18 mature and regenerating forest stands in the landscapes immediately adjacent to the forested wetlands. The main goal was to determine if forested wetlands were biodiversity hotspots relative to adjacent upland forests. We found there were distinct bird communities in each forest type and that species richness, diversity, overall abundance and abundance of several guilds and species of conservation concern were all higher in forested wetlands than in mature and regenerating forests. Wooded bogs and shrub swamps had the highest number of species with strong habitat affinities, but treed swamps and mature sites had unique suites of strongly associated species and guilds - several of conservation concern. Regenerating sites were occupied mainly by forest edge-disturbance species with weak habitat associations although olive-sided flycatchers and chimney swifts were occasionally observed at these sites. Overall, this second study highlighted the importance of forested wetlands to bird conservation and strongly supported the idea that forested wetlands are biodiversity hotspots for birds. The two studies taken together indicate that special management practices and/or protections might be appropriate for forested wetland habitats given the overall biodiversity and rare species they support.

Newfoundland and Labrador Mosquito Project

*Submitted By Hugh Whitney
(Adjunct Professor, Memorial University)*

Researchers at Memorial University, with funding from the Public Health Agency of Canada, and collaboration with the French territorial government of St. Pierre/Miquelon (SPM), are studying the mosquito species and viruses they carry in this province and in SPM. Interpretations will include the potential impact of climate change on species distribution and disease risks.

Though research has been carried out in the past, this project, through the participation of volunteers (citizen scientists), is the most extensive study ever undertaken with samples collected in 2019 coming from as far north as Okak (Labrador) and as far south as our collaborators in SPM.

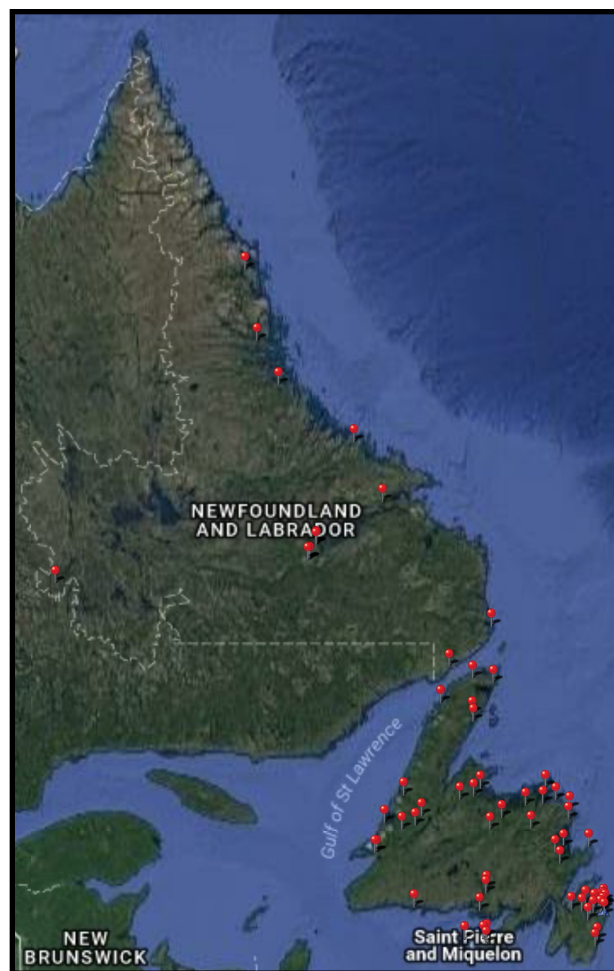
Volunteers are provided with a simple pre-labelled sampling device (pooter) and instructions on the collection, storage and submission of samples. All results from such work are returned to the volunteers as soon as available. Volunteers may include individuals, nature groups, other researchers or employees of interested agencies such as parks and municipalities.

Focused on those species that attack people, 28 species were collected in

2019 including such important vector and/or nuisance species as *Aedes japonicus japonicus*, *Culex pipiens* and *Aedes vexans*. Viral studies are now underway. To date, we are the only Canadian province that has not detected any evidence of West Nile virus though California serogroup viruses (snowshoe hare virus and Jamestown Canyon virus) have both been detected in the past.

Depending upon final results and availability of funding, further sampling and testing will be done likely in both a broad scale manner (citizen scientists) and more focussed (graduate students). The more focussed work will follow up on any viral discoveries as well as tracking the dispersal of target mosquito species.

We appreciate the enthusiasm of those citizen scientists and organizations that have joined this project. It has proven to be a very rewarding approach that both increases the number and distribution of our samples and engages the public in a study that has a direct impact on their health. Complete information is available on Facebook under our project name or by contacting our project team at mosquitoNL@mun.ca.



Locations of 2019 volunteers



Pre-labelled pooter

Putting Newfoundland's Birds on the Map!

Submitted By Catherine Dale, Newfoundland Breeding Bird Atlas Coordinator

When Parks Canada biologist Darroch Whitaker was first asked to write a status report for the Newfoundland subspecies of Gray-cheeked Thrush in 2005, he encountered an unexpected challenge. While anecdotal evidence suggested a dramatic population decrease, a lack of historical data made it virtually impossible to evaluate that decline quantitatively. It wasn't until Whitaker came across some old surveys conducted in Gros Morne National Park in the 1970s that he was able to compare current and historical population numbers. With this baseline data in hand, he was able to demonstrate that the Gray-cheeked Thrush population had declined precipitously over the previous 40 years.

Having solid baseline data about the distribution, abundance, and health of bird populations is essential for sound conservation and management decisions: we can't know what we're losing if we don't know what's out there. However, because much of Newfoundland is remote and difficult to access, that baseline information is largely lacking.

This summer, Birds Canada will take the first step towards filling that knowledge gap by launching the Newfoundland Breeding Bird Atlas, a 5-year effort to map the distribution and abundance of all bird species breeding on the island of Newfoundland.

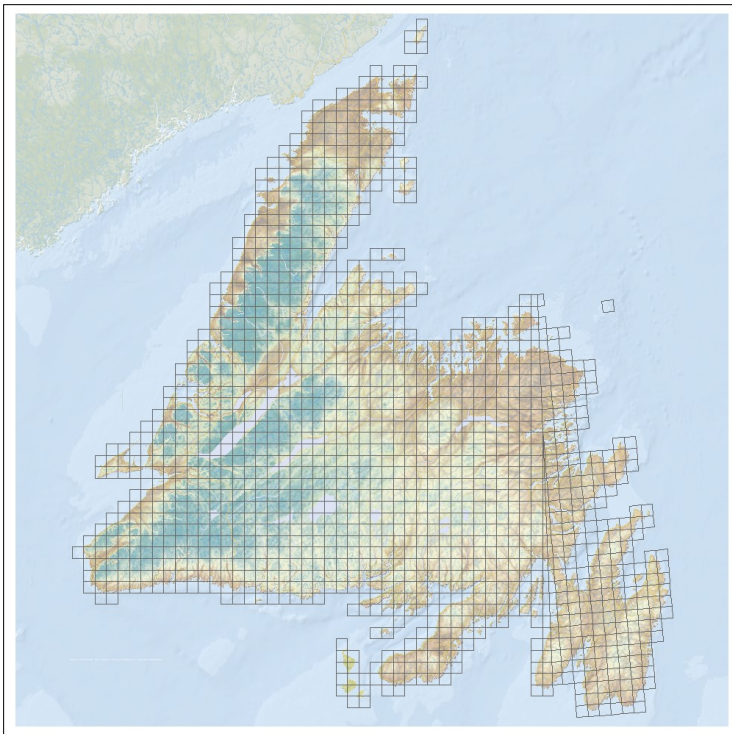
So how exactly do you atlas for birds? The first step is to divide the area into 10 km × 10 km squares – the basic units of an atlas. Over the next 5 years, these squares will be systematically surveyed for evidence of breeding birds. Atlasers will keep track of the time they spend in a square, the distance they cover, and all the bird species they encounter. They will also note any evidence of breeding they observe for those species – for example, whether males are singing, or birds are seen carrying nesting material or food.

Newfoundland is roughly 11,000,000 ha in size – which works out to just over 1450 atlas squares. Collecting data over an area this large requires an immense effort, and would be impossible without help from biologists and citizen scientists who volunteer their time and effort to survey squares. Volunteers don't have to be experienced birders to contribute – anyone with a pair of binoculars and an interest in birds can participate!

So we're sending out a call to all Atlantic biologists: if you're planning fieldwork anywhere in Newfoundland and might be interested in collecting some data for the Atlas at the same time, please get in touch with us at nlatlas@birdscanada.org. And to learn more about the atlas, check out our website and Facebook page!



Surveying for birds in the mountains of Gros Morne National Park. Photo credit: Parks Canada.



Map of Newfoundland showing 10 km × 10 km atlas squares. Photo submitted by Catherine Dale

Addressing the Threat of Invasive Fish to At Risk Atlantic Salmon and Atlantic Whitefish Populations in Nova Scotia

Submitted By Sam Hudson, Project Lead, Clean Annapolis River Project

Smallmouth bass (SMB) and chain pickerel (CP) are two non-native species that were introduced to Nova Scotia in the 1940s, with both species having serious negative impacts on native fish communities once introduced into a water system. Smallmouth bass and chain pickerel are direct predators of native fish and create competition for food and habitat. In watercourses where the two species have been introduced, observed impacts include declining populations of native species such as salmon and trout along with other popular sportfish and decreased species richness and diversity.

The Clean Annapolis River Project (CARP), a charitable non-profit environmental organization, and project partners are working together to address the regional priority threat of competition and predation by non-native species (e.g. Chain pickerel, smallmouth bass) to the endangered Inner Bay of Fundy (iBoF) Atlantic salmon and Atlantic whitefish as well as the NS Southern Upland population of Atlantic salmon. The project is currently supporting activities in several watersheds including the Annapolis, Cornwallis, Gaspereau, Petite Rivière, LaHave, Stewiacke and Shubenacadie River watersheds.

Project Activities:

- Delivering education and outreach programs to raise awareness about the threat of aquatic invasive species (AIS) and improve compliance with regulations and best practices that help reduce the spread of AIS.
- A series of 'eat your invasives' outreach events will be hosted in 2020 – Join us for our first event of the season happening at CARP's annual fundraising event 'River Fest' taking place on July 11th, 2020 at Jubilee Park in Bridgetown, NS, where we will be sampling some invasive fish cakes! Stay tuned for more upcoming events: www.annapolisriver.ca/ais
- Delivering outreach events and activities that raise public awareness about aquatic species at risk (SAR) and help community members understand how they can help mitigate threats to these species
- Developing and piloting a citizen science monitoring program that can be used for early detection and to monitor the spread of AIS



Project Lead, Sam Hudson, electrofishing in the Annapolis River watershed.

- Working with partners across the province to ensure access to up-to-date geospatial data about AIS observations for use in project planning and management activities
- Filling data gaps about the current distribution of AIS through field sampling (eg: electrofishing, eDNA sampling, etc.)
- Coordinating the development of an aquatic habitat connectivity planning tool that considers how restoration actions might facilitate the spread of AIS. Resource materials will be developed so that conservation organizations across the province can be trained to factor the threat of AIS into planning for future restoration projects
- Development of an Atlantic whitefish communications plan in partnership with project partners and the Atlantic Whitefish Recovery Team
- Conducting angler surveys to gauge angler awareness around AIS and aquatic species at risk, regulations, etc.

If you would like to find out more about the project or would like to sign up to participate in the citizen science fish monitoring program, please email Sam Hudson at samanthahudson@annapolisriver.ca.

A Tribute to Rudolph Frank Stocek, 1937–2018



Rudolph (Rudy) Frank Stocek, aged 81, “the eagle man” of New Brunswick passed away on 2 December 2018 in Fredericton, New Brunswick, following a stroke. He is survived by Arlene, his wife of 58 years, and his daughter

Lehane Knowlton and son Rudy Jr. Rudy was born 5 June 1937 in Woodside, New York. During summers at his grandparent’s farm in New Jersey, he developed a deep love of the outdoors and a fascination with wildlife. Thus, it is no surprise that he graduated from University of Maine at Orono, in 1959 with a B.Sc. in Wildlife Management and a minor in Forestry. He then pursued fisheries science, graduating in 1962 with an MSc. from the Ontario Agricultural College (then affiliated with the University of Toronto). He later became known for his work on raptors, but remained interested in fish. He designed and taught the first ichthyology course offered at the University of New Brunswick, and he reported the addition of muskellunge to the Saint John River system and the occurrence of fat head minnow in New Brunswick. In 1968 Rudy took a position as an Instructor and Fish and Wildlife Biologist with the Maritime Forest Ranger School, now the Maritime College of Forest Technology.

From 1973-2002, Rudy designed, directed, and with other instructors, delivered, the MFRS wildlife technology program to hundreds of men and women intent on becoming wildlife technicians and enforcement officers. He also accepted contracts to investigate a variety of wildlife-related issues in the Maritimes, including defining an early list of candidate environmentally significant areas for protection in New Brunswick. Until 1968, NB was one of the heaviest DDT users in North America and in 1976 the New Brunswick Endangered Species Act included the Bald Eagle as “Regionally Endangered” -- limited data indicated a mere 12-15 pairs nested in the

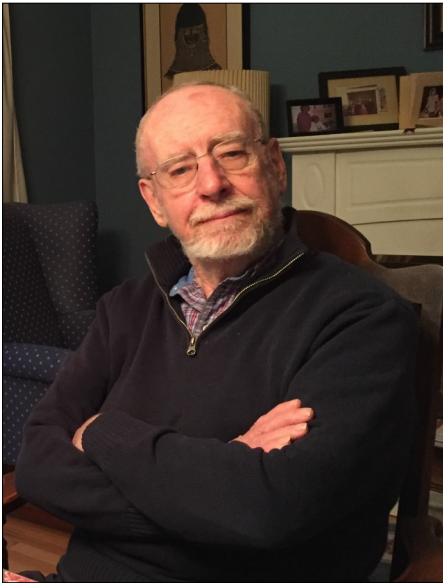
province at that time. Rudy was contracted by the New Brunswick Department of Natural Resources to undertake regular Bald Eagle surveys in New Brunswick and continued the surveys for the next 25 years. He collected information on distribution, nesting success, habitat requirements, and winter feeding patterns and developed management guidelines for individual Bald Eagle nesting sites. In 2006 he summarized his decades of Bald Eagle research in a book that garnered an independent publisher’s book award.

While best known for his work on raptors, and Bald Eagles in particular, Rudy also found time to work and publish on other Maritime wildlife, including common loon, the cougar and tree swallows. A field guide to New Brunswick trees and shrubs in winter helped fulfil his commitment to teaching, and it was made available to a wider general audience. A mainstay of provincial government committees dealing with species of conservation concern, Rudy was a long-time member of the Atlantic Society of Fish and Wildlife Biologists and received the Award of Merit from the Society in 1995. In 2010, he received the Award of Professional Excellence from the University of Maine Wildlife Program. Rudy was an “old school” wildlife biologist who never left natural history behind, even as he kept pace with computer programming, teaching and administration, and media communications. A first-rate field naturalist, Rudy could identify trees and shrubs, and knew fish, birds, and mammals. He was especially fascinated by the Bald Eagle. As a leader in promoting the growth of Bald Eagle populations in New Brunswick, Rudy had the satisfaction of watching provincial numbers increase to 40 pairs by 1992 and 92 pairs by 2010.

He will be remembered for his eagerness to share his love and knowledge of wildlife with the general public, as well as at Society meetings.

With permission, condensed and modified from McAlpine, D.F., and G.J. Forbes. 2019. A Tribute to Rudolph Frank Stocek, 1937–2018. *Canadian Field-Naturalist* 133(3): xxx-xxx.
<https://doi.org/10.22621/cfn.v133i3.2435cknowledgements>

A Tribute to Peter John Sr. Austin-Smith, 1932-2019



On December 27, 2019 Flight Officer Peter John Austin-Smith Sr. died at home in Wolfville, Nova Scotia. Peter was born on May 11, 1932 in Galt, Ontario, to Cecily Harvey Williams and John Smith (both deceased), and grew up in Kitchener. An early school teacher, unimpressed by his progress, suggested that he would do better out in the woods. He listened, and became a junior forest ranger while still in high school, learning about wildlife and things that fly. Peter joined the RCAF in 1951 and took pilot training in Gimli, Manitoba. As a member most notably of 408 Squadron, he flew many different planes, his favourite being the Canso. He claimed he had flown into every small town in Canada. One of the Cansos he flew is on display in the War Museum in Ottawa. On a visit there, he got too close to the aircraft and was reprimanded by a guard. "See that dent?" he responded, "I put that dent there." For his seven years as a military pilot, Peter flew search and rescue off the Queen Charlotte Islands, was Detachment Commander for Arctic patrol, and flew Arctic resupply. He told amazing stories of flying up north, learning to land on water, and especially, of flying at night, in silence, with the moon and stars for company. He swore he could hear music in the engines on those flights.

After leaving the military in 1957, Peter earned a BSc from Cornell University, and began a PhD. He later taught Biology at Acadia University, supervising several Honours and Masters students. He then set academia aside

to work as a Manager of Non-Game Biology in the Department of Lands and Forestry. During these years as a wildlife biologist, he grew hay and blueberries on his small farm. In the 1980s, he was part of a project to re-establish bald eagles in Massachusetts and another to re-establish peregrine falcons in the upper Bay of Fundy. He retired in 1991, but continued fieldwork, research, graduate supervision, and writing, especially on shorebirds and raptors. In 2003 he chaired the Sub-committee on wild animals for the Canadian Committee on Animal Care. He wrote and published several reports and papers, but never took himself too seriously. He once presented a paper to the ASFWB on the migration patterns of *Phoenicopterus ruber ornamentalis* (aka plastic pink flamingoes) to a puzzled audience. He is survived by Tish, his wife of 62 years and his children, Brenda, Peter, and Lesley, daughter-in-law, Gabrielle Breault and son-in-law, Richard Kruk. Peter accepted people without judgment, and with extraordinary generosity. He loved his family fiercely and without condition, with a heart as big as the sky. A celebration of Peter's life will be held on Friday, June 26th in the Wolfville Farmers' Market. For those who wish to do so, donations can be made to the Peter Austin-Smith Sr. Memorial Fund at Acadia University (online) or by mail at 15 University Ave., Wolfville, NS B4P 2R6. Funds will support a fieldwork student in Biology or related field of study. Online condolences and inquiries may be directed to:

www.whitefamilyfuneralhome.com

Up, up the long delirious, burning blue, I've topped the windswept heights with Easy grace, where never lark, or even Eagle flew - Wheels up, Peter. Safe flight.

**Adapted from the Chronicle Herald,
Halifax January 02, 2020**

BioLink Flashback

Conjunctivitis in Double-crested Cormorants – Prince Edward Island

*Originally published in the ASFWB Newsletter in Spring 1997 Vol. 13 No. 1
Contributed By: Pierre-Yves Daoust*

A large colony of tree-nesting double-crested cormorants, averaging 4,000 breeding pairs, was studied on Ram Island, Malpeque Bay, Prince Edward Island, in 1994 and 1995. During both years, approximately 90 nests were surveyed at weekly intervals. Although starvation was common among nestlings, infectious diseases were not observed. In 1996, suspected harassment of the colony during April caused complete abandonment of the island and relocation of the breeding adults to Little Courtin Island, a low-lying treeless island, 2.5 km south of Ram Island; the number of cormorant nests on this island jumped to more than 4,000 in 1996, from about 300 in the previous eight years. This island also hosts a large colony of great black-backed and herring gulls, whereas very few gulls nest on Ram Island.

During a weekly visit of Little Courtin Island in mid July 1996, a severe uni-or bilateral conjunctivitis was seen in several nestlings at the three sites routinely visited on the island, including two newly colonized sites (in the north part of the island) and one that had been occupied in previous years (in the south part of the island). Twenty of a total of 194 birds examined (10.3%) were affected. However, this proportion is based only on the younger segment of the population of nestlings (up to three weeks of age), which remained on the nests when approached. During the next visit, a week later, nestlings with ocular lesions could still be found, but because most young birds left their nests when approached, no attempt was made to determine the incidence of conjunctivitis.

In all affected birds, the ocular lesions varied from an accumulation of viscous slightly opaque fluid in the conjunctival sac to a marked distention of this sac by a pale orange caseous (cheese-like) material. In most cases, the cornea remained intact, but a few instances of severe corneal ulceration were found. Routine bacteriological culture of the

affected conjunctival sacs of three birds yielded a mixed flora of bacteria which were interpreted as opportunistic contaminants. The conjunctivae of four other birds was cultured for *Mycoplasma*, and all four were positive; the species of this *Mycoplasma* is currently being determined. The conjunctivae of two birds cultured for *Chlamydia* was negative.

This outbreak of conjunctivitis was unexpected, considering that no such case had been encountered among approximately 400 nestling cormorants handled on Ram Island in 1994 and 1995. Little Courtin Island has limited vegetation, and wind activity may cause sufficient sand turbulence to irritate the nestlings' eyes and predispose them to secondary bacterial infection. Experimental inoculations would be required to determine the precise role of *Mycoplasma* in causing the conjunctivitis in these young cormorants. *Mycoplasma gallisepticum* has been identified as the primary cause of an outbreak of conjunctivitis among house finches in eastern United States in 1994. The potential role of gulls as carriers of *Mycoplasma* also should be examined, since these were in very low numbers on Ram Island but plentiful on Little Courtin Island.



Nesting double-crested cormorants. Photo by: Brett MacKinnon

Recent Literature

Heading to the field and need some reading material? Keep up to date with fish and wildlife research publications from Atlantic Canada and beyond. Paste the "dio" provided into your internet browser.

- Allen, Maximilian L., Michael P. Ward, Damjan Juznic, Miha Krofel. 2019. Scavenging by Owls: A Global Review and New Observations from Europe and North America. *Journal of Raptor Research* 53(4): 410-418. <https://doi.org/10.3356/0892-1016-53.4.410>
- Anderson, C.M., Gilchrist, H.G., Ronconi, R.A., Katherine R. Shlepr,, Daniel E. Clark, D. V. Chip Weseloh, , Gregory J. Robertson and Mark L. Mallory. 2019. Winter home range and habitat selection differs among breeding populations of herring gulls in eastern North America. *Movement Ecology* 7: 8. <https://doi.org/10.1186/s40462-019-0152-x>
- Andrews, Samuel N., Michael J. Dadswell, Colin F. Buhariwalla, Tommi Linnansaari, and R. Allen Curry. 2019. Looking for Striped Bass in Atlantic Canada: The reconciliation of local, scientific, and historical knowledge. *Northeastern Naturalist* 26(1): 1-30. <https://doi.org/10.1656/045.026.0105>
- Andrews, SN, Linnansaari, T, Leblanc, N, Pavey, SA, Curry, RA. 2020. Interannual variation in spawning success of striped bass (*Morone saxatilis*) in the Saint John River, New Brunswick. *River Research and Applications* 36: 13- 24. <https://doi.org/10.1002/rra.3545>
- Bard, Brittany, and James D. Kieffer, 2019. The effects of repeat acute thermal stress on the critical thermal maximum (CTmax) and physiology of juvenile shortnose sturgeon (*Acipenser brevirostrum*). *Canadian Journal of Zoology*, 2019, 97:567-572, <https://doi.org/10.1139/cjz-2018-0157>
- Barnes, Joseph G., Gregg E. Doney, Michael A. Yates, William S. Seegar, Shawn L. Gerstenberger. 2019. A broadscale assessment of mercury contamination in Peregrine Falcons across the northern latitudes of North America. *Journal of Raptor Research*, 53(1): 1-13. <https://doi.org/10.3356/JRR-18-0003>
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Read about roseroot (*Rhodiola rosea*), a culturally significant medicinal plant in Ford & Hermanutz. (2019).
Photo by Diane Griffin.

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Canada Warbler (*Cardellina canadensis*) with insect prey
Photo submitted by John Brazner

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In these trying times, it is easy to feel disconnected. But the world is still turning. Birds are migrating and even nesting in some locations. Below are some resources to help you feel connected to nature and each other. Many of the links below will help you learn about new aspects of nature, connect with fellow researchers or naturalists, and contribute to scientific data gathering too!

See you out in the field—eventually!



Cornell University Lab Cams

www.allaboutbirds.org/cams/

Can't get out to your favourite park? Take a look at the wide range of live-feed cameras from around the world hosted by Cornell University. Check out Nesting Albatrosses in New Zealand, Barred Owls in Indianapolis or Bermuda Petrels in Bermuda!

City Nature Challenge

itynaturechallenge.org/

The City Nature Challenge is an international event where people find and document plants and wildlife in cities across the globe. The competition aspect of the event has been eliminated from the event this year due to global events. The event is run through iNaturalist and observations made from April 24-27, and uploaded and identified from April 28-May 3.

Lichen Resource - NS

ojs.library.dal.ca/NSM/article/view/9969/8803

This is a beginner guide to studying lichens. Lichens are an exciting and rewarding group to turn your attention to as a naturalist, but they can still, at times, be challenging to learn. The guide also provides good examples of field guides and equipment to make the identification process easier.

ACCDC Orchid Guide for PEI

accdc.com/peiflora/orchidaceae/s1.htm

The illustrated, online key is designed to make identification accessible by providing visual examples of the characters in each step. Though it is focused on PEI, many of these plants can also be found in other provinces.

iNaturalist

www.inaturalist.org

One of the world's most popular nature apps, iNaturalist helps you identify the plants and animals around you. Get connected with a community of over 750,000 scientists and naturalists who can help you learn more about nature! What's more, by recording and sharing your observations, you'll create research quality data for scientists working to better understand and protect nature.

eBird

www.ebird.org

Our goal is to gather this information in the form of checklists of birds, archive it, and freely share it to power new data-driven approaches to science, conservation and education. eBird is the world's largest biodiversity-related citizen science project, with more than 100 million bird sightings contributed each year by eBirders around the world. Birders enter when, where, and how they went birding, and then fill out a checklist of all the birds seen and heard during the outing.

Bumble Bee Watch

www.bumblebeewatch.org

Bumble Bee Watch is a collaborative effort to track and conserve North America's bumble bees. We need your help! Because these animals are widely distributed the best way to keep track of them is with a group of volunteers across the country equipped with cameras.

Maritime Butterfly Atlas

accdc.com/mba/en/about.html

The Maritimes Butterfly Atlas is the first comprehensive and systematic survey of butterflies in Atlantic Canada. Species checklist, flight times, and identification resources for butterflies across the Maritimes can be found here.

Zooniverse

www.zooniverse.org

A website that allows individuals to participate in research in a citizen science style. Our goal is to enable research that would not be possible, or practical, otherwise. You don't need any specialised background, training, or expertise to participate in any Zooniverse projects. We make it easy for anyone to contribute to real academic research, on their own computer, at their own convenience.

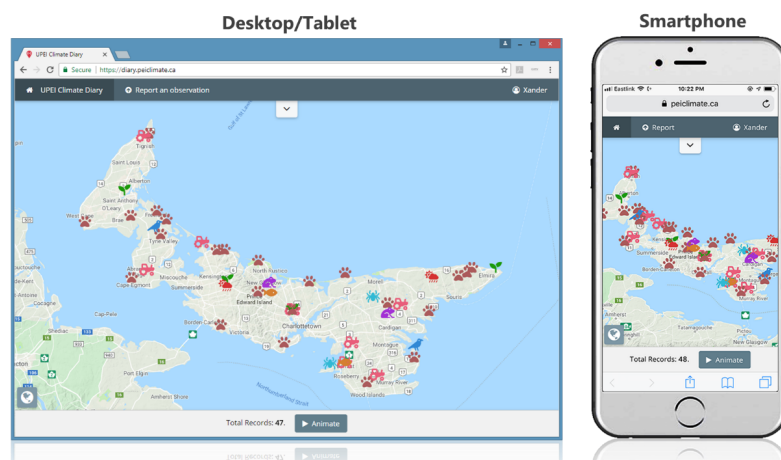
Climate Diary App: Tracking Climate Change in PEI Through Citizen Science

Submitted By Xander Wang, Ph.D., P.Eng., School of Climate Change and Adaptation, University of Prince Edward Island

Climate Diary App is a web and GIS-based tool which helps the observers to familiarize themselves with a number of environmental changes on Prince Edward Island (PEI) while providing an easy and intuitive way to record these events as they occur year-to-year. It is developed to identify and record observations of naturally-occurring plant and animal life cycle events over time. As the years roll on, this tool will provide a long-term record of changes in the environment. These records will help scientists understand changes in the local climate system and how these events are influenced by seasonal and interannual variations in climate. And eventually, these records will be a written testament to the effects of global climate change in PEI as temperatures warm up and precipitation patterns change.

The Climate Diary App is developed with the latest advances in geographical information systems and web-based techniques and is available to the public at: <https://diary.peiclimat.ca>. Users can use this app with any Internet-enabled devices, such as desktop computers, laptops, tablets, and smartphones.

The app allows users to report different species from amphibians/reptiles, birds, fish, insects, mammals, and plants, as well as agricultural activities and extreme weather events.



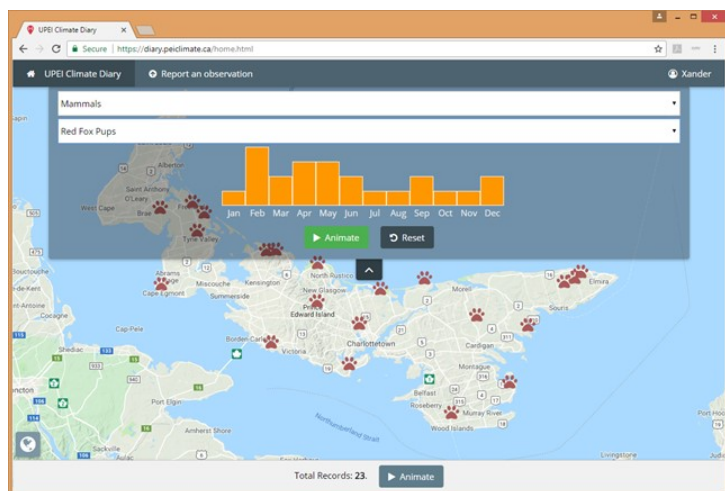
Homepage of Climate Diary App.

To report an observation, the users need to create an account with their name and an email address. No password is required for registration. Users can start to report an observation by selecting an existing species, agricultural activity, or extreme weather event. Next, they should tell the app when and where did this observation take place to complete the report.

The app also provides an advanced function that allows users to report something new. Users can report any new species, agriculture activities, or extreme weather events that they have never seen before in PEI. They also have an option to upload a photo about the new observation.

The homepage of this app provides a number of functions to allow users to explore the current reported observations. Users can click on the small icons to display the detailed information about this observation; they can filter all the observations by categories and species/activities/events; they can also see the monthly statistics for all observations; most importantly, the authors can animate these observations by month to better understand the temporal patterns associated with weather seasonality.

In addition, the users can switch the basemap of the app between terrain and satellite in order to better understand where these observations are reported and their surrounding environment.



Some homepage functions to help explore the existing observations.

City Nature Challenge, April 24-27

Submitted By Danielle Horne, Nature Conservancy of Canada

The City Nature Challenge began in 2016 as a citizen science competition between Los Angeles and California residents and visitors in documenting nature to better understand urban biodiversity. Dreamed up by the Natural History Museum of Los Angeles County and California Academy of Sciences, it has since expanded globally as an international initiative that celebrates the diversity of nature in urban areas around the world.

Over the past 4 years, cities from multiple countries challenge each other to see who can make the most observations of nature, find the most species, and engage the most people during the event. In 2019, Halifax Regional Municipality debuted as the first city in Atlantic Canada to take part. In 2020, five locations in Atlantic Canada were gearing up to take on the challenge. Except now there is a pandemic.

Feeling connected to each other and nature is key to this initiative and is doubly important in these challenging times. To honour this goal, City Nature Challenge is adapting. The competition aspect of the City Nature Challenge has been removed and instead people are encouraged to explore their backyard. #BackyardBioBlitz

Citizens are encouraged to follow the guidelines and instructions from your local Health Authority. Canadians are being asked to practice social dis-

tancing (or, more appropriately, physical distancing) to decrease the spread of COVID-19 in the community. This means limiting the number of people you come into close contact with and requires a minimum of 2 metre distance. Unless you are told to self-isolate, practicing physical distancing does NOT preclude going outdoors. In fact, Health Authorities suggest daily outdoor time in your backyard or around your neighbourhood can alleviate anxiety, depression, and other mental health issues associated with isolation and the COVID-19 pandemic. It is important that you only participate with those within your household. Do not participate or congregate with anyone outside your household environment.

There is a naturalist in all of us, from those of us viewing birds and squirrels in our backyards to biologists, from hikers to city strollers, from school kids collecting leaves or rocks to experts collecting museum specimens. iNaturalist.ca is a place where you can record and share what you see in nature, meet other nature watchers, and learn about Canada's wildlife. For more info see <https://inaturalist.ca/pages/about-inaturalist-canada-en>

If you are up for the challenge, go to the iNaturalist website or app and join the project, "City Nature Challenge 2020: Halifax Regional Municipality". Observations of any species, big or small, can be added to the pro-



ject during the challenge, from April 24-27th. Simply go outside, find a lichen, bird or tree and snap a picture. Having fun? It doesn't stop there. From April 28-May 3, we need your help to identify all the species that were found.

By participating as a citizen scientist you can contribute to a growing wealth of knowledge of Canadian species and help conserve our natural world. Visit 'City Nature Challenge - The Maritimes' on Facebook or visit <https://citynaturechallenge.org/> for more tips, tricks and information. Curious about what people are finding? Check out #CityNatureChallenge and #BackyardBioBlitz for some great photos and insights.

Mark Your Calendars! 57th ASFWB AGM 2020

The 57th Annual General Meeting of the ASFWB will take place in cooperation with the PEI Watershed Alliance from October 21-23, 2020 at Rodd Brudenell River Resort, 86 Dewar's Lane, Cardigan PEI. It features reception and registration on the evening of the 21st, program on the 22nd and 23rd, with conclusion at noon on the 23rd after the awarding of prizes for student papers. This ASFWB conference could be a breakthrough event after we've been confused, confined, coddled and stir-crazy for more months than we can predict at the moment. We envisage a conference covering many wildlife topics with special sessions on watershed ecology and citizen science programs.

ASFWB Fish and Wildlife Research Grant

The ASFWB Fish and Wildlife Research Grant was established in the fall of 1994 to assist members who are conducting or supervising wildlife or fisheries research in Atlantic Canada. The grant provides funding up to **\$500 annually for research projects**. Any aspect of fish and wildlife research will be considered, but projects with applied management goals will receive preference. Applicants must be members of ASFWB. Projects that are largely government sponsored or funded are not eligible for this award.

Applications of this Grant are closed (**Deadline is March 31 each year**). For more information, go to: <http://www.chebucto.ns.ca/environment/ASFWB/researchgrant.html>

Supporting Students in Atlantic Canada

ASFWB members have always been committed to helping **advance the careers of Atlantic Canadian students** in the field of biology. To this end, ASFWB has been integral in setting up scholarships that directly support top biology students at three universities in Atlantic Canada.

The **David J. Cartwright Memorial Scholarship** was established in 1991 at the University of New Brunswick, to honour David J. Cartwright who was a member and strong supporter of the ASFWB for many years and contributed to wildlife management in Atlantic Canada. The Cartwright scholarship is for students entering the final year of Forestry (Wildlife Option) or Science (Biology Option). The **Donald G. Dodds Scholarship** was established in 2010 at Acadia University with preference for graduate students in the Biology Department, though honours and undergraduate students are considered. Potential candidates for all scholarships should have combined scholastic ability with a demonstrated interest in biology and/or wildlife management. Disbursement is approximately \$1000/ year and are awarded by each respective faculty department.

Funds are currently being raised for the **Gilbert R. Clements Scholarship** at Holland College for graduating students entering the University of Prince Edward Island Wildlife Conservation Program. If you would like to **support our students**, consider making a donation –we're almost **halfway to our goal!** Contact Holland College today! <https://hollandcollege.com/foundation/how-to-make-a-gift.html>

Below are the most recent recipients of the award and scholarships

DATE	STUDENT	AWARD/ SCHOLARSHIP
2019	Kaylee MacLeod	David J. Cartwright Memorial Scholarship
2019	Michael Thomas Light	Donald G. Dodds Scholarship
n/a	FUNDS STILL TO BE RAISED	Gilbert R. Clements Scholarship
2019	Delaney Brooks	Fish and Wildlife Research Grant



For more information on scholarships and recipients, visit www.asfwb.ca