

Biolink

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ATLANTIC SOCIETY OF FISH AND WILDLIFE BIOLOGISTS



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FALL 2021

A Review of the 2021 ASFWB Annual General Meeting in PEI

The 58th Annual General Meeting of the ASFWB took place at the Rodd Brudenell River Resort in Cardigan, Prince Edward Island October 19 to 21, 2021. The meeting was well attended by a mix of new and familiar faces. Approximately 60 people were able to attend with space restrictions due to Covid-19 protocols. Thanks to VP Program, Rosemary Curley, for tackling the organization of the event. Rosemary was supported by staff at the PEI Fish and Wildlife Division.

We were pleased to have a wide variety of talks and posters from industry professionals, academics, government employees, and students from across Atlantic Canada. Day one of the AGM hosted 14 presentations with topics ranging from Sarcophaga mangle in Prince Edward Island canids to re-Indigenization principles for transforming biodiversity conservation to Brook Trout and DDT. Nine presentations occurred on the second day of the AGM and included topics such as culvert assessment for fish passage, winter habitat use of moose, and information on the Nova Scotia Invasive Species Council. The poster session was a great success and included posters on fish habitat restoration and enhancement, investigating alternative roosting and hibernation structures of at-risk bats, and arboreal lichens and bryophytes of old growth forest canopies.

Awards for presentations were presented to Courtney Burk (University of New Brunswick), Sarah Fensore (University of New Brunswick), and Meghan Fraser (Mount Allison University) for first,

second, and third place respectively. K. Devon Lynn (University of Prince Edward Island) received an honourable mention for their presentation.

Congratulations to all of you on your continued success and we look forward to seeing you at future ASFWB events.

We would like to thank everyone who attended and to all those who contributed to another year of fascinating presentations and posters. We would also like to thank our sponsors, PEI Department of Environment, Energy and Climate Action, Fish and Wildlife Division, Ducks Unlimited Canada, and Nature Conservancy of Canada for their support. We look forward to seeing you all at our Spring Seminar in 2022 in Sackville, New Brunswick.



Above: Winners of the presentation awards from left to right, Sarah Fensore, Courtney Burk, Meghan Fraser

We hope to see you at our Spring Seminar in April 2022!

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BioLink Information and Updates

The ASFWB 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!

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Vacant position



ASFWB Executive Committee

The majority of the executive committee continues to fulfil their roles and maintain their positions.

Bruce Moore has returned to the executive committee taking on the Presidents Role. We thank Rosanne MacFarlane for her contributions and leadership to the Society and will look forward to her advice and on-going presence on the executive committee in the Past Presidents role. We hope to see you at future Seminars and AGMs!

Find Us Online at www.asfwb.ca



Atlantic Society of Fish and Wildlife Biologists (ASFWB)



@asfwb_atlantic



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Check out our website at www.asfwb.ca:

- register for upcoming events,
- read 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 2022 Spring Seminar**



Annapolis River, NS. (Photo: Sarah Cusack)

Become an ASFWB Member

Regular Membership: \$20/year

Student Membership: 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.

Your membership supports:

- Hosting the Annual General Meeting,
- Disbursement of the ASFWB Research Grant,
 - Scholarship Contributions

See you at our 2022 Spring Seminar in Sackville, New Brunswick!

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 priority. Applicants must be members of the ASFWB. Projects that are largely government sponsored or funded are not eligible for this award.

Applications are OPEN (Deadline is March 31 each year).

For more information or **TO APPLY**, visit: <http://asfwb.ca/the-asfwb-wall-of-fame/asfwb-fish-wildlife-research-grant/>

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.

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 over 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
2021	Breagh Hogan	David J. Cartwright Memorial Scholarship
2021		ASFWB Donald G. Dodds Scholarship
n/a	FUNDS BEING RAISED	ASFWB Gilbert R. Clements Scholarship
2021		ASFWB Fish and Wildlife Research Grant



You can donate to our student scholarships online at www.asfwb.ca

Hear from a Scholarship Recipient

David J. Cartwright Memorial Scholarship 2021 Recipient



Hello! My name is Breagh, and I am a 4th year BSc Environment and Natural Resource student majoring in wildlife conservation at the University of New Brunswick. I have had the pleasure of growing up in a small rural village in Cape Breton surrounded by nature, and I genuinely believe that this has inspired my passion for the outdoors and wildlife. Through my undergraduate degree and summer work experiences, I have gained a strong interest in wildlife ecology, species at risk management, and human-wildlife coexistence. Once I finish my degree, I plan to pursue my education further in these fields.

I am honoured to be this year's recipient of the David J. Cartwright Memorial Scholarship. Post-secondary education can be costly. As such, this scholarship will help with my studies tremendously as it will remove financial stress and allow me to fully immerse myself in my course work and additional training that will help me construct a strong foundation on which I can further build upon my interests.

- Breagh Leanne Hogan



Social Media Coordinator

We're looking for you!

We are looking for a talented Social Media Coordinator to continue to raise the online presence of the Society and elevate social traffic and overall community engagement. If you are a tech-savvy student or young professional with an interest in communication strategies and interacting with members through online channels, we would like to hear from you.

This will be a volunteer-based position and require a maximum commitment of approximately 5 hours each month. The position is a 10-month term, with an anticipated start date of January 2021 and an end date of October 2021. You will be working with other members of the executive council, collaborating with the Newsletter Editor, and our Website Manager to create messaging and content. The exec team is there to support you and will send you relevant content that they come across.

Responsibilities:

- Repost relevant content from other groups to ASFWSB social accounts.
- Review, schedule, and publish social content - to Facebook, Twitter, and Instagram.
- Create graphics using Canva or other editing programs.
- Create engaging content by sourcing images, writing compelling content, and connecting with other organizations within Atlantic Canada.
- Respond to audience comments, questions, and requests on social media platforms.
- Design posts to sustain readers' curiosity and generate interest around events (to be included in the annual Newsletters, Spring meetings, and AGMs, etc.)

This is a great opportunity to build up your experience working with different online platforms as well as network within ASFWSB members from all around Atlantic Canada. You will be working with the executive council who have a wide range of expertise and work around Atlantic Canada. This is a great opportunity to expand your contacts, gain experience in public communication, and contribute to a volunteer-based Society focused on fisheries and wildlife biology in Atlantic Canada.

Please submit a short paragraph explaining why you are interested in the position and explain in detail the level of experience you have related social media, a CV is also required. Applications are due by **December 31, 2021**, to asfwb.biolink@gmail.com.

Sharing Research from our 2021 AGM

A present-day connectivity analysis of native New Brunswick forest dependent vertebrates

*Courtney C. Burk, Graham J. Forbes, and Josh Noseworthy
Abstract from 2021 AGM*

Connectivity planning addresses habitat loss and fragmentation associated with development and has the potential to enhance species resiliency to climate change. Due to its size and amount of extant forest, the interior of New Brunswick is a critical connection point within the Acadian Forest region and various connectivity programmes, such as the 2 Countries 1 Forest Initiative, have identified it as such. The Nature Conservancy of Canada (NCC) has conducted several wildlife corridor identification analyses in New Brunswick, such as in the Chignecto Isthmus and “Three Borders” region of the province; however, wildlife corridor models have not been developed for the interior of New Brunswick. My primary objective was to determine where prominent hotspots for vertebrate connectivity likely occur, based on least-cost path analysis and a tiled Circuitscape analysis of the province using habitat suitability index values of vertebrate species that reflect different vagility. I assess the present-day habitat connectivity of 29 forest-dependent vertebrates that represent one or more of, (i) indicator species, (ii) climate susceptible species, (iii) large mammals, (iv) game species, (v) small or medium mammals, or (vi) species listed under the Species at Risk Act (SARA). This method identified connectivity pinch points, which represent the best remaining habitat where wildlife movement is funnelled, and if lost, could significantly reduce species movement now and into the future. By mapping connectivity across the forest of New Brunswick, the long-term goal is to inform landscape and resource management decision-making in the province, as well as provide guidance to future land conservation initiatives.

Identifying key roost sites and their connectivity for swallows

*Sarah C. Fensore, Joseph J. Nocera
Abstract from 2021 AGM*

The causes for population decline in many species of aerial insectivore remain hypothetical and are likely to be multi-faceted. I seek to explore one of those facets, roost ecology, to fill in key knowledge gaps about two species of aerial insectivore experiencing significant population declines: Barn Swallow (*Hirundo rustica*), and Bank Swallow (*Riparia riparia*). I will use automated radio telemetry to gather movement data during the breeding and post-breeding seasons to identify key roost sites for these species in New Brunswick, Canada. Roost sites act as important refugia and refueling sites for these communally roosting species, but little is known about movement between roosts. I plan to analyze movement data using graph-theory based social network analysis to 1) identify roost sites within the study area and 2) determine which roost sites within the networks would have the greatest impact on the network connectivity if lost.



Barn Swallow (https://www.allaboutbirds.org/guide/Barn_Swallow/photo-gallery/312652671)

Brook trout and DDT: a connection between aquatic food-webs and legacy contaminants

Meghan Fraser, Joshua Kurek, Karen Kidd, Christopher Edge
Abstract from 2021 AGM

Legacy contaminants, such as organochlorine pesticides, can persist in the aquatic environment for a prolonged period of time with adverse effects to exposed biota. DDTs are persistent legacy contaminants that impact the environment through bioaccumulation, biomagnification, and chronic toxic effects in wildlife. DDT was applied aerially on large scales to the conifer forests in north-central New Brunswick, Canada between ~1950 and ~1970. Presently, DDT concentrations in New Brunswick lake surface sediments can exceed probable effect levels by ~16 times. To investigate whether the observed concentrations could lead to effects on present day organisms, we sampled five impact lakes in the sprayed north-central region, and two reference lakes in the unsprayed southern region in the summers of 2020 and 2021. We collected brook trout, aquatic invertebrates from gut contents and benthic sampling of the littoral and profundal zones, zooplankton, and surface sediments. Preliminary results show that concentrations of DDT breakdown products, DDE and DDD, are up to ~14 times higher in brook trout from impact lakes compared to brook trout from reference lakes. Ongoing efforts are focused on the use of carbon and nitrogen stable isotopes to assess and contrast food web structures among lakes and further our understanding of legacy DDT impacts on these ecosystems. Future GIS mapping will investigate the scope of historic DDT applications on a provincial scale in relation to New Brunswick lakes.

The influence of light pollution on the behaviour and ecology of coastal crustaceans

K. Devon Lynn, Diego Quintanilla-Ahumada, Pedro A. Quijón
Abstract from 2021 AGM

Sandy beach ecosystems have seen a significant increase in artificial light pollution in recent years. Light from boardwalks, wharfs, and streetlights can affect the natural day/night cycle of coastal organisms. Nocturnal organisms are especially susceptible to the increase of light at night due to the dependence on darkness for preventing predation and desiccation while feeding. Hence, the aim of this study was to evaluate the effect of artificial light pollution at night (ALAN) on sandy beach amphipods in a natural system with little light pollution at night, Prince Edward Island's north shore. Animals were surveyed using biweekly sampling to determine species number and population composition. To analyze the effect of light pollution animals were kept in two alternated environmental chambers which replicated natural conditions for one week. One chamber served as a control and the other as an experimental setting. The experimental group was exposed to 100 lux lights during the night whereas the control group was left in darkness. Amphipod activity was recorded using actographs and infrared light beams to detect movement. The results of the survey sampling showed *Americorchestia longicornis* to be the most abundant species and was therefore used as a model species. For the light pollution study the experimental group showed a marked decrease and disruption in locomotor activity when compared with the control during the night hours. The data also showed a further reduction of activity in colder conditions. These results suggest that ALAN has a detrimental effect on amphipod survivability in light pollution-affected areas.

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.

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Goldie's Fern

https://www.illinoiswildflowers.info/grasses/plants/goldie_fern.html

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Fucus serratus

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Eastern floater (*Pyganodon cataracta*)

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