

# BioLink

The Official Newsletter of the  
Atlantic Society of Fish and Wildlife Biologists



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## How Fishing and Mink Industries May Be Influencing Herring Gull Distributions in Atlantic Canada

Written by Kate Shlepr

Having a wingspan of 1.5 meters and being starkly white, social creatures that pervade our shorelines, Herring Gulls (*Larus argentatus*) are among the most noticeable seabirds in eastern North America. In Atlantic Canada, we often take their presence for granted, even proclaiming their overabundance for all the effort it takes to keep their aggressive bills out of our picnic lunches, working waterfronts, airports and waste sites. Perhaps it is their assertive nature, along with their tendency to congregate (sometimes by the thousands) where people readily see them that has masked over 30 years of continuous population decline (Nisbet *et al.* 2013). In



A Herring Gull, *Larus argentatus* on Brier Island, NS.

the United Kingdom, the familiar “seagull” has even made it to the Red List.

Change in food availability is thought to be one of the primary causes of the recent species

decline. Policy regulations have eliminated most of the human waste that was once available to gulls at open landfills and fisheries, so perhaps we should expect a decline in

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### Don't miss this!

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Do you have a research project, wildlife topic, event, photos, or other related information that you would like to see included in BioLink? If so, email Danielle Quinn ([danielle.quinn@acadiau.ca](mailto:danielle.quinn@acadiau.ca)) or Holly Lightfoot ([hlightfoot@birdscanada.org](mailto:hlightfoot@birdscanada.org))! We're always looking for content ideas and photos from our membership!

## Herring Gull Distributions *(continued)*



Herring gulls are often seen near fishing vessels. (Photo: H.Pinera)

reproductive success since parent gulls are forced to spend more energy foraging for less predictable and accessible natural prey types (Wilhelm *et al.* 2016). My Master's research at the University of New Brunswick aimed to quantify the use of anthropogenic food sources at two neighboring colonies in the Bay of Fundy.

Located only 40 km apart, Brier Island, NS and Kent Island, NB are two of the largest Herring Gull colonies in all of Atlantic Canada at > 3,000 nesting pairs each. The near-shore colony at Brier Island is only about 40 years old, and has grown rapidly

over those decades as habitat became available following the draining of a bog on this island. Conversely, Kent Island is located further offshore and was a large colony (containing up to 30,000 nests!) even before gulls were abundant along the rest of the east coast of North America. The Kent Island colony has been declining slowly since the 1970s (Ronconi and Wong 2003).

In the summers of 2014-2016, I worked with partners at the Canadian Wildlife Service, Bowdoin College (Brunswick, ME), and the Mersey Tobeatic Research Institute (Kempt, NS) to collect blood and feather samples from nesting Herring Gulls, and

*Continued on page 3*

**We would like to thank all those who participated in the 2016 Fall AGM in Summerside!**

**Please welcome new VP Programming Christa Dubreuil from AMEC Moncton and stay tuned for more details on the Fall AGM in Moncton!**

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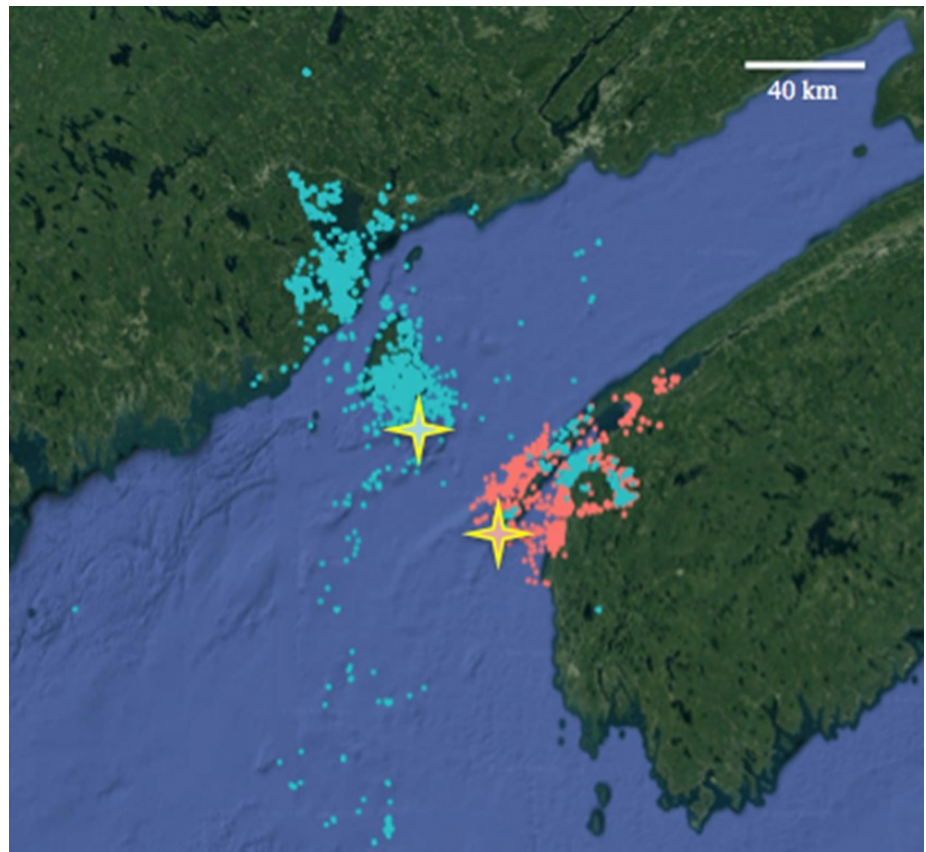
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## Herring Gull Distributions (*continued*)

equipped some of these individuals ( $n_{\text{Brier}} = 16$ ,  $n_{\text{Kent}} = 11$ ) with solar-powered GPS loggers. We analyzed stable isotopes (Carbon and Nitrogen) from the blood and feather samples to determine *what* gulls at each colony were eating, and combined those results with a GPS analysis that determined *where* gulls at each colony were finding their food. We found that gulls on Brier Island rely heavily on anthropogenic sources of food ( $63 \pm 20\%$ ), especially mink farms, and spend almost no time foraging offshore during the breeding season (Figure 1). On Kent Island, gulls on average used fewer anthropogenic resources ( $33 \pm 23\%$ ; primarily fisheries) but were much more diversified in their foraging strategies. We have yet to verify whether the differences we found in diet explain the differences in colony population trends.

Wildlife managers are concerned about gulls not only for their widespread decline but for the nuisance they can create for the public by damaging property and agricultural crops, posing hazards at airports, spreading contaminants across water reservoirs, and threatening



GPS locations recorded during the breeding season for Herring Gulls on Kent Island (left star;  $n = 11$ ) and Brier Island (right star;  $n = 16$ ), from 2014 to 2016. Records are filtered for speeds  $< 2$  km/hr.

populations of other species like eiders, terns, puffins, and the endangered Eastern Mountain Avens (*Geum peckii*). The results of our project suggest that anthropogenic food sources are attractive to gulls and may even influence where gulls choose to nest. We have the means to regulate the amount of food accessible to gulls at

mink and fisheries sites, so continued research on the link between gull diet and population dynamics may generate new ideas for to protect gulls while alleviating some of their effects as “nuisance” animals.

*Kate is a MSc Candidate at UNB in the Atlantic Lab for Avian Research.*

Nisbet, I.C.T., R.R. Veit., S.A. Auer, and T.P. White. 2013. Marine Birds of the Eastern United States and the Bay of Fundy. Nuttall Ornithological Monographs, No. 29. Nuttall Ornithological Club, Cambridge, Massachusetts.

Ronconi, R.A. and S.N.P. Wong. 2003. Estimates of changes in seabird numbers in the Grand Manan Archipelago, New Brunswick, Canada. *Waterbirds* 26: 462-472.

Wilhelm, S.I., J.-F. Rail, P.M. Regular, C. Gjerdrum, and G.J. Robertson. 2016. Large-scale changes in abundance of breeding Herring Gulls (*Larus argentatus*) and Great Black-backed gulls (*Larus marinus*) relative to reduced fishing activities in southeastern Canada. *Waterbirds* 39 (Special Publication 1): 136-142.



## A New Species of Tick in New Brunswick May Impact the Spread of Lyme Disease

Vett Lloyd, a biology professor at Mount Allison University has discovered the bacteria that causes Lyme disease in a new hybrid tick. “The incoming ticks are breeding with local ticks; they are fertile, seem very well adapted to New Brunswick and they certainly do carry the bacteria,” said Lloyd.

Lloyd said this hybrid tick isn’t being tracked in other provinces yet, but both of the parental species are found throughout Canada, so it spread across the country is likely inevitable. Compounding this potential spread, are mild falls and winters. This year Lloyd’s lab received their first tick submission on January 23, a month and a half earlier than

usual. With these conditions Lloyd expects to see at least a 30 per cent increase in tick populations this year. “A lot of the ticks that should have died haven’t.”

According to a Health Canada report, the number of people diagnosed with Lyme disease has more than doubled in Canada since 2012, from 338 cases with the preliminary number for 2016 now sitting at 814 cases. However, “reported cases are only the tip of the iceberg,” said Lloyd, who says thousands of people across Canada are going undiagnosed. Proper Lyme disease diagnosis is challenging because symptoms are non-specific and highly variable. Health Canada is

currently working on developing a federal framework on Lyme disease; however, it is not expected to be released until May.

For now, NB Medical Officer of Health, Dr. Jennifer Russell, said prevention is key.

“Make sure you are wearing closed-toed shoes and long pants and make sure you are wearing insect repellent and for sure check yourself after you coming in from an activity.”

Lloyd’s advice, “If there is something that looks like a freckle with legs, remove it”!

*Adapted from Global News article.*

**For more information on the Lloyd Lab research projects visit:**

**[www.lloydticklab.ca](http://www.lloydticklab.ca)**

**To learn more about Lyme disease visit:**

**[www.canada.ca/en/public-health/services/diseases/lyme-disease.html](http://www.canada.ca/en/public-health/services/diseases/lyme-disease.html)**

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## Science Atlantic Aquaculture and Fisheries and Biology Conference

ASFWSB was pleased to be able to support this year’s Science Atlantic Aquaculture and Fisheries and Biology Conference, held at St. Francis Xavier University from March 10-12. This annual student conference brings together undergraduate and graduate students from across Atlantic Canada to share their research.

In recognition of their work and a wide variety of well-delivered presentations and posters, we were excited to choose a student from the conference to be featured in this issue of BioLink. Crystal Prieur is an Honours student from University of New Brunswick, under the supervision of Dr. John Terhune. You can read about her interesting work with Weddell seals on page 6!

## Forestry Practices May Impact Bird Populations

Université du Québec à Rimouski researcher Marc-André Villard and his students have been looking at the impacts of landscape change on biodiversity by using bird populations as indicators. Specifically the team has been examining the impact of clear-cutting and new plantations on birds mobility and their ability to find food and appropriate habitat. As mixed forests of red spruce and deciduous trees in the province are replaced with spruce plantations, bird biodiversity also decreases; those species associated with larger trees and deadwood declines. These changes can have wide-reaching effects, for example when woodpeckers do not have

access to large trees they cannot create nesting cavities. This will impact this species productivity, but also other

Ovenbirds prefer the ground invertebrates found in deciduous forests. In plantation forests there are less opportunities to find food and they are subsequently more likely to return to their original habitat.



Ovenbird, a ground nesting species.

species who use the cavities when the woodpeckers vacate. These habitat changes are also impacting ground nesting species like the Ovenbird. Named after the dome-like nests they build on the ground,

However, Villard says it's never too late to help birds in the province. Even with the current levels of harvesting there are still plenty of forests that haven't been harvested and could be maintained. The question of forest management is an important one and Villard encourages the public to ask questions about how their forests are managed.

*Adapted from CBC News Article.*

## Seeking Volunteers for Landbird at Risk Conservation!

The Landbirds at Risk in Forested Wetlands project is looking for volunteers to help locate breeding populations of three species at risk (Canada Warbler, Olive-sided Flycatcher and Rusty Blackbird) in Nova Scotia. The objectives of this project based at Dalhousie University include identifying areas of high-quality habitat and sites of importance for these species. Volunteers can contribute by helping to re-visit sites where these birds have been found in the past in order to determine which sites still support these birds in Nova Scotia.

Volunteers who are interested in conducting short surveys for these birds at specific sites in May-July 2017, or even just in reporting their casual sightings of these species, can sign up and learn more at:  
**[landbirdsar.merseytobeatic.ca](http://landbirdsar.merseytobeatic.ca)**

or by emailing:  
**[landbirdsar@merseytobeatic.ca](mailto:landbirdsar@merseytobeatic.ca)**.



## Sealing the Deal: The Soundscape of Weddell Seals

*Written by Crystal Prieur*

Weddell seals (*Leptonychotes weddellii*) are known to be very vocal animals. Communication is extremely important to these seals because it is involved in everything they do above and below water; they vocalize to communicate with each other, to court the other sex, and males use it to defend their territories from other males. They live in Antarctica, which in itself is a pristine environment with relatively few anthropogenic sounds affecting it, unlike most other areas on the planet. Furthermore because Weddell seals live on landfast ice which is attached to the continent and not in open water, like most other species of seals, they are not subject to

anthropogenic noises. Beginning to understanding the soundscape (a fancy way of saying the noise levels found in an environment) that these seals live in is important. Very little is known about the soundscape in the Antarctic. Most of this kind of research is done on pack ice in the Arctic or other areas closer to civilization. We have no idea what kind of sounds the seals deal with on a daily basis and what kind of impacts we, as humans, could potentially add to that by increasing the noise in the soundscape.

Unfortunately, I did not have the pleasure of going to Antarctica to do the research; a UNB masters student from 2002 on an expedition to the Antarctic made the recordings

of Weddell seals which I analyzed. Recordings were collected over five months (July to November) and covered the full 24h period.

In the Arctic it is known that wind speed, in-air temperature and the tides can all affect the soundscape for marine mammals living there, so I chose to examine the effects of these abiotic factors on my recordings; specifically I wanted to test if the abiotic factors were impacting background noise in the environment. The calling rates of the seals themselves was also used to see if they contributed to the overall frequencies observed.

I discovered that the soundscape was actually pretty quiet for the most part. The seals had a very open communication channel, meaning they could communicate freely. However, during the breeding season (October-November) the seals became very vocal and masked each other leading to increased

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Weddell seals, resting on the ice in Antarctica.

(Photos: John Terhune)





## Weddell Seals (*continued*)

noise levels. Unlike the Arctic, the wind speed and in-air temperature had no effect on noise levels found; however the number of ice cracks that occurred did. Ice cracks are affected by tidal pressure; increased tidal pressure, brings up the ice causing a lot

of cracking to occur.

Results from this work suggest that this very quiet environment in the Antarctic could be severely impacted if there were an increase in anthropogenic noise such as vessels.

*Crystal is a Honours student under the supervision of Dr. John Terhune at the University of New Brunswick. She presented a poster of her work at this year's Science Atlantic Aquaculture and Fisheries and Biology Conference.*

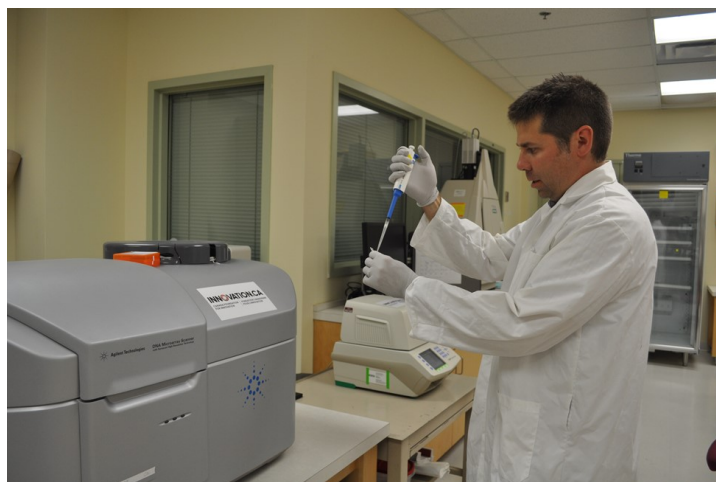
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## Using Genomics to Solve Science Mysteries

By utilizing DNA barcoding to determine species, Canadian River Institute (CRI) Genomics is offering customized genomic services for non-profits, government agencies, and private companies on a fee-for-service basis.

They have worked with the New Brunswick Museum to analyze samples of hair and scat gathered in New Brunswick to determine the species identification of cougar sightings and with the Atlantic Reference Centre at the Huntsman Marine Science Centre to help identify marine sponges, which are extremely difficult to identify based on phenotype.

Services offered include: DNA species identification, environmental DNA analysis, population genomics, and basic genetic services including field sampling kits, deep freeze storage, inventory, and DNA extraction. Please contact Dr. Scott Pavey at [scott.pavey@unb.ca](mailto:scott.pavey@unb.ca) or 506-638-2434 for more information or to request services.



Dr. Scott Pavey in the CRI Genomics laboratory. The laboratory, based at the University of New Brunswick Saint John, is equipped with \$1 M of the most modern wet-lab analytical infrastructure and supercomputers.

For more on this fascinating topic, see “Ecogenomics Technology is Answering Complex Questions of Aquatic Ecosystem Composition for Conservation of Fisheries”, on page 18!

Remember, we've moved!

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## Tracking Song Variation in White-Throated Sparrows: Next Stop Atlantic Canada?

*Written by Steffi LaZerte, Alex McKenna, Ken Otter, and Scott Ramsay*

### **“Ohhhh sweeeeet Ca-na-da Ca-na-da Ca-na-da”**

The mnemonic for white-throated sparrow song is a distinctive (if patriotic) one. However, if you were in Prince George, British Columbia, you might be a bit confused.

### **“Ohhhh sweeeeet Ca-na-Ca-na-Ca-na da”**

Back in 2002, Drs. Ken Otter (University of Northern BC) and Scott Ramsay (Wilfrid Laurier University) realized that their two populations of white-throated sparrows were singing different song variants; like most white-throated sparrows, Scott’s birds in Algonquin Park (ON) sang songs with triplet endings, but Ken’s birds in Prince George (BC) were singing doublet endings.

Curious, Ken and Scott started

surveying white-throated sparrow songs at different locations across Canada to determine how prolific this variant was. They started by running a transect from Prince George east through Alberta, and comparing these recordings to ones made in Ontario. They found that the doublet song ending was gradually replaced with the triplet; starting with all birds west of the Rockies around Prince George singing doublets to about 2/3 of the birds in eastern Alberta singing triplets. Algonquin Park, Ontario, was nearly all triplet songs<sup>1</sup>. Interestingly this shift must have happened pretty quickly as historical recordings from the 1950’s suggest that western birds used to sing triplets too<sup>2</sup>.

As the variant seemed to be moving fast, Dr. Steffi LaZerte

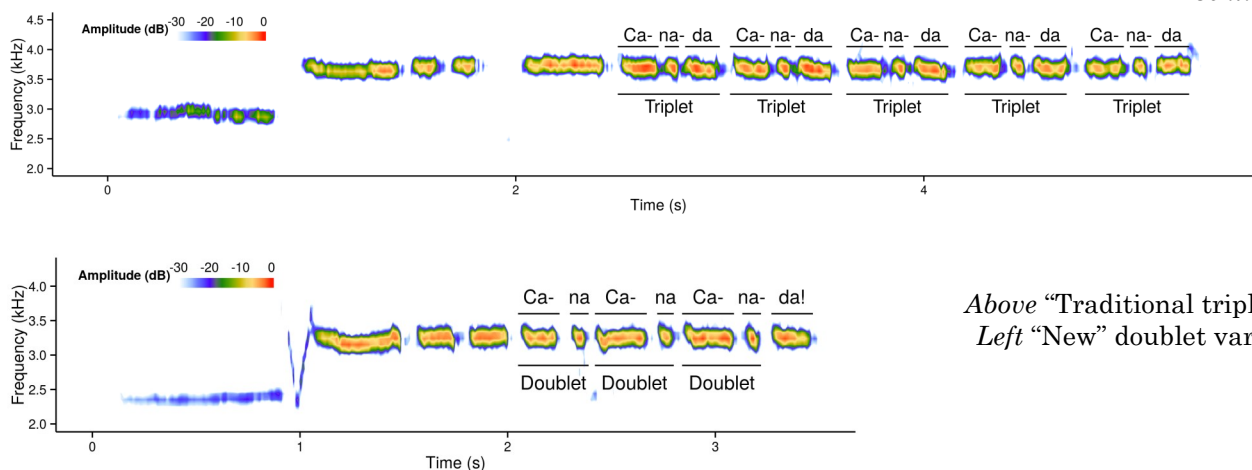


Singing white-throated sparrow.  
Photo: S. Ramsay)

was brought on board in 2015 to help launch a citizen science project aiming to collect more song recordings across North America in an effort to track the progression of the song variant.

Fast forward a couple of years and we have more song recordings collected from

*Continued on page 7*



*Above “Traditional triplet call.  
Left “New” doublet variation*



## White-Throated Sparrows (*continued*)

our citizen science project as well as songs uploaded to xeno-canto (<http://xeno-canto.org>) and collected as part of the Avichorus project (led by the Canadian Wildlife Service). Alex McKenna undertook the task of classifying all these new songs and came up with some surprising results. Expecting the doublet endings to perhaps have made it to Saskatchewan, we were astonished to see that the song variant has already made it to Ontario!

### Why doublets?

The doublet-ending song variant spread across Canada

at a rate of 2000km over 10 years. This is fast! So what is it about doublets that make all the males want to sing them? Well, we're not really sure. Among other species, songs with more strophes are considered more aggressive, so possibly, doublet-endings allow males to squeeze in more strophes with less effort. Our playback studies suggest that it probably isn't related to male-male interactions, and the next step is to determine what females think. Previous studies have suggested females prefer males which sing more and which sing longer songs with more strophes<sup>3</sup>, so

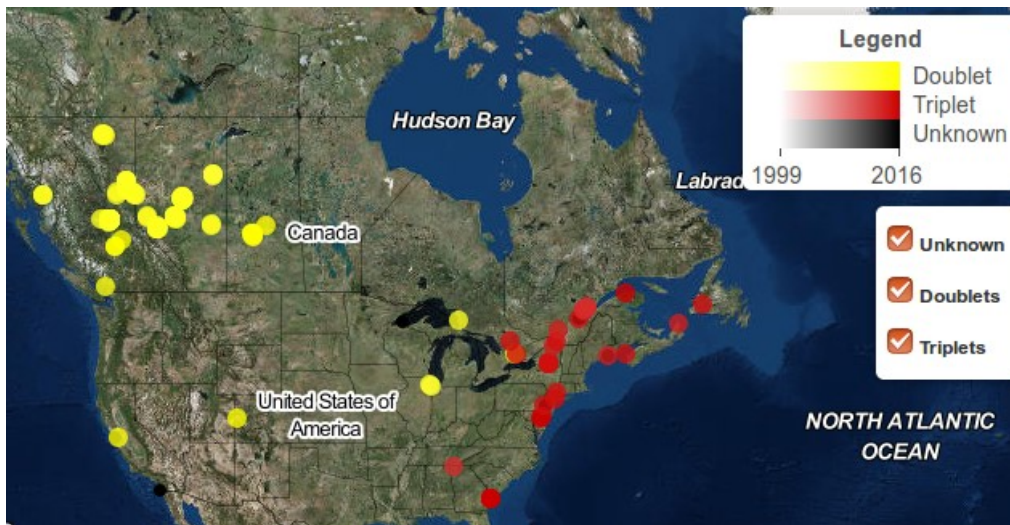
perhaps singing doublets allow males to sing more strophes without sacrificing song output.

### Our plea!

If we want to track this variant as it moves, we need recordings of white-throated sparrows in Quebec and the Atlantic provinces. Steffi, now located in Fredericton, NB will be setting out some Automatic Recording Units (ARUs) in an effort to nab a couple of song samples, but we're really hoping that if any ASFWB members hear a white-throated sparrow they might make a quick recording on their cell phone and send it our way!

### Explore the project's interactive map!

<http://whitethroatsong.ca/about-project/#map>



You can either email Steffi directly: [stefanie.lazerte@unbc.ca](mailto:stefanie.lazerte@unbc.ca) or post it on <http://xeno-canto.org> with the comment "For the whitethroatsong.ca project"

**For more information on our project, check out the project website: <http://whitethroatsong.ca>**

<sup>1</sup> Ramsay SM, Otter KA. 2015. Geographic variation in white-throated sparrow song may arise through cultural drift. *J Ornithol* 156:763–773.

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<sup>3</sup> Wasserman FE, Cigliano JA. 1991. Song output and stimulation of the female in white-throated sparrows. *Behavioral Ecology and Sociobiology* 29:55–59.

## Recent Literature

Headed to the field and need some reading material? Keep up to date with fish and wildlife research publications from Atlantic Canada and beyond.

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Striped Bass (Virginia State Parks)

## Recent Literature *(continued)*

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## Recent Literature *(continued)*

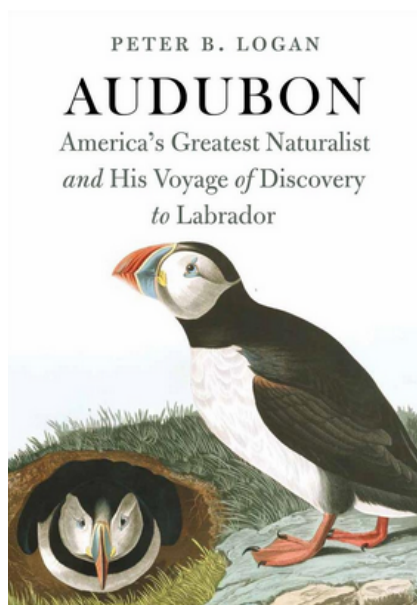
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Canada Warbler (Photo: M. MacGillivray)

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Sable Island (Photo: NASA Johnson)

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Lowbush Blueberry (Photo: L. Enking)

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North Atlantic Right Whale (Photo: L. Packard)

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## Ecogenomics Technology is Answering Complex Questions of Aquatic Ecosystem Composition for Conservation of Fisheries

April 25<sup>th</sup> is International DNA and Genome Day, first celebrated in 2003 by the National Human Genome Research Institute in the United States, to mark the 50<sup>th</sup> anniversary of the first journal publications on the double helix structure of DNA. It is a world-wide celebration to provide an opportunity to learn about the latest advances in genomic research and explore how those advances might impact society.

Today, the study of ecogenomics has evolved tremendously, providing an advanced scientific method that builds on fields ecology and evolution. Dr. Scott Pavey, one of the Canadian Rivers Institute's (CRI) newest Science Directors, based at the University of New Brunswick Saint John (UNBSJ) is an emerging leader in the innovative field. He uses 'big data' supercomputers to scan entire genomes from individual animals and fish as well as environmental samples (water and soil). This allows him to investigate at high resolution both the species present in aquatic ecosystems as well as how populations are connected and locally adapted to their environments. Canada has one-fifth of the world's freshwater, and there still remain many complex questions about freshwater ecosystems. "The scientific methods we previously used to understand the ecological world are often very time intensive and do not

easily scale-up to the enormous need," says Dr. Pavey.

"As researchers, we can sample 10 lakes for fish species in a summer with a field crew, and we can sample 400 lakes for a water sample, analyze its environmental DNA and know their entire species composition," he explains.

While ecogenomic methods can help answer more complex questions in a shorter period of time, it also allows scientists to draw conclusions about specific genes in species of interest and their relation to their environments. By analyzing DNA, Dr. Pavey is able to determine the exact gene that is responsible for a specific phenotypic adaptation that may be critical to a population's survival.

Through his research on American Eel, in collaboration with Dr. Louis Bernatchez at Laval University, he was able to identify what genes were responsible for their survival in freshwater versus saltwater environments. Through the genetic analysis of the all-female eels in the Upper St. Lawrence River, he concluded that they have adaptive genetic traits that are unique to that rearing group as compared to groups in brackish or saltwater.

Knowing that a sub-population has unique genetic traits that enable them to adapt to their local environmental conditions gives decision makers

important information that can inform changes or new regulations and policies to protect their habitats or migration routes.

"Now we know that the Upper St. Lawrence population is unique, it is even more critical for this population's survival that we pass those maturing adult eels around dams so that they can go to the Sargasso Sea to spawn," says Dr. Pavey.

These innovative research methods being forged by Dr. Pavey are helping to advise the management economically important commercial fisheries of Atlantic Cod, Striped Bass, Atlantic Bluefin Tuna and American Eel – all listed as varying levels of concern in the Canadian Species at Risk Act. Dr. Pavey and his team are working closely with Fisheries and Oceans Canada to ensure that species' critical genetic considerations are incorporated into the development of species recovery plans.

Since joining the CRI in 2015, Dr. Pavey has built strong research partnerships. In collaboration with CRI Science Director Dr. Donald Baird (UNB), he is using new genomics techniques to expand on research with new certainty, such as DNA barcoding on aquatic insects. He is also exploring new areas of discovery, such as describing the microbiome of aquatic insects that has never

*Continued on page 19*

## Ecogenomics *(continued)*

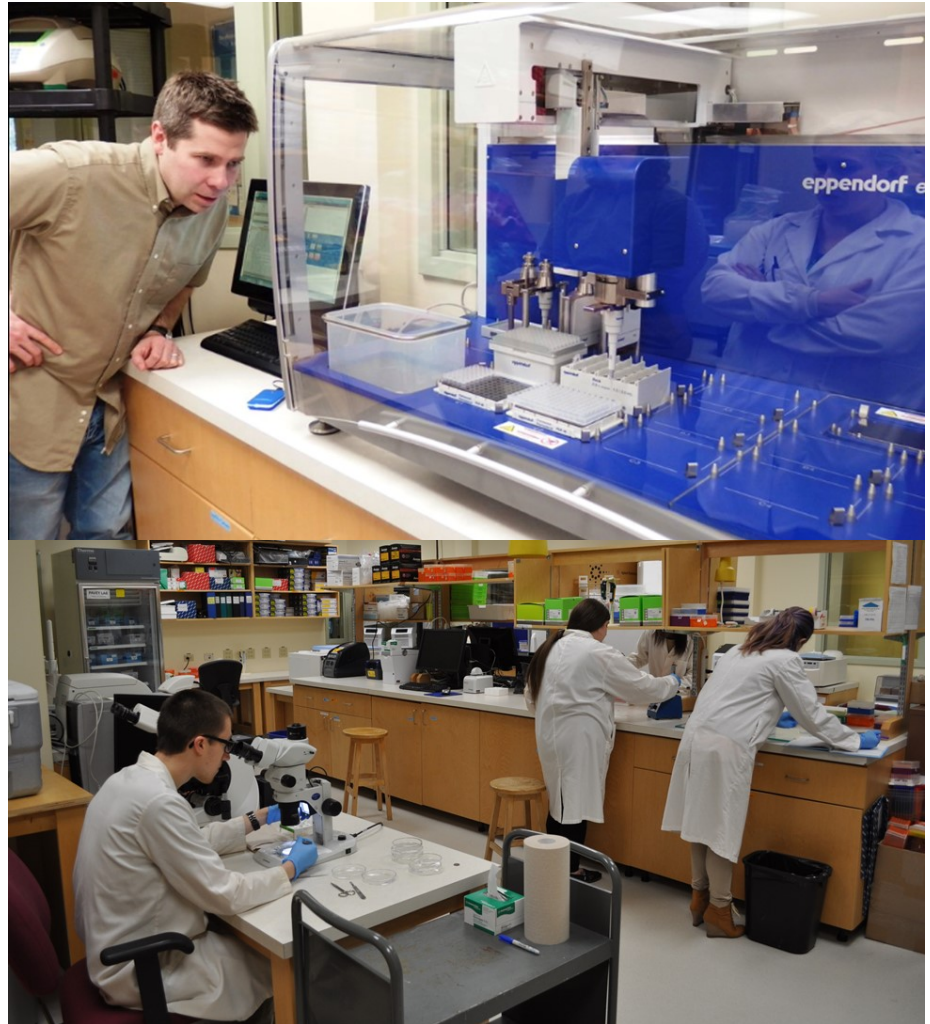
been done before, with another CRI Science Director, Dr. Karen Kidd (UNBSJ). He also has an Atlantic Cod genomics project which is a collaboration with Dr. Sherrylynn Rowe at the Fisheries and Marine Institute of Memorial University of Newfoundland, and CRI Associate and Postdoctoral Fellow, Dr. Gregory Puncher (UNBSJ).

He does this technologically innovative work in the CRI Genomics Laboratory based at UNBSJ— the most advanced ecological genomics facility in New Brunswick. The laboratory has \$1-M of the most modern infrastructure, both in wet-lab analytical equipment and supercomputers.

Because much of the research field combines biological methods and supercomputer programming, Dr. Pavey's research is also leading the way in developing a next generation of scientists with unique and specialized skills. His 7 graduate and honours students, 2 research associates, and 1 technician are encouraged to learn computer-programming languages in order to work with the large raw data files. He is increasingly supervising students in joint biology and computer science academic programs.

This interdisciplinary research, along with the chance to work and train in an advanced ecology-based genomics laboratory, entices

Dr. Pavey (top; photo: Greg Puncher) and his team of students and research associates (bottom; photo: Scott Pavey) conducting genetic analysis using state-of-the-art technologies in the CRI Genomics laboratory.



students to his research.

“Genomics is a rapidly growing field and with even more potential but there’s currently a shortage of people with those skills. My students learn a lot of modern skills that are in high demand and I think they’re really attracted to that,” says Dr. Pavey.

The ability to solve problems and answer questions of big proportion that only genetic

analysis can answer is also enticing to academic, industry and government collaborators. Dr. Pavey and his team at CRI Genomics are the only regional researchers and facilities offering these customized services. They are currently working with the NB Museum, the Huntsman Marine Science Centre, Memorial University, Fisheries and Oceans Canada, University of Massachusetts and NovaEel, an aquaculture startup company in NS.

## Canada's National Bird - the Gray Jay!

Despite 450 species to choose from, the competition to pick Canada's National Bird was close. After tens of thousands of votes, and weighing opinions from partners, ornithologists, conservationists, cultural experts and Indigenous Peoples, the short list was narrowed down to a single winner - the GRAY JAY!

Also known as the whiskey jack and Canada jay, the Gray Jay was chosen as Canadian Geographic's official recommendation for Canada's National Bird.

### Why the Gray Jay?

- This member of the corvid family (along with crows, ravens and blue jays) was known as the "Canada Jay" to English speakers for 200 years. In 1957, the American Ornithologists' Union decided that, based on a nomenclatural system they no longer use, the species should be called "Gray Jay" - at least for scientific literature and field guides. Meanwhile, its Latin name is *Perisoreus canadensis*, and in French it is *Mésangeai du Canada*.
- The gray jay is found in every province and territory, but is not already a provincial or territorial bird. Several of the other front-runners in the National Bird Project, meanwhile, already had this designation, including the common loon (Ontario), the snowy owl (Quebec),



Canada's National Bird, the Gray Jay! (Photo: T Harding)

- the black-capped chickadee (New Brunswick) and the common raven (Yukon).
- Not only has the gray jay never been recorded outside of North America, the vast majority of its range is in Canada, with only a small percentage crossing into Alaska and the western mountains of the United States. The species' preferred habitat is Canada's boreal and mountain forests - ecozones that stretch from coast to coast and into the North, blanketing nearly two-thirds of the country.
- Historically, the companions of First Nations hunters and trappers and European explorers and voyageurs, gray jays are today common visitors in mining and lumber camps and research stations, and follow hikers and skiers down trails in provincial, territorial and national parks.
- Gray jays are year-round residents of Canada - remaining in the northern forest when the majority of loons and Canada Geese have flown south and even Snowy Owls have descended from the Arctic - and they are astonishingly good at making the most of even the coldest, darkest winter months. These tough birds are unique for nesting as early as February, while the forests are still thick with snow, and have been recorded

*Continued on page 21*



## Canada's National Bird - the Gray Jay!

incubating eggs in snowstorms and at temperatures as cold as -30°C.

- They are important to Indigenous Peoples. The common moniker “whiskey jack” has nothing to do with the grain-based alcohols, but is rather an anglicization of the Cree *Wisakedjak* and similar variations used by nations in the Algonquian language family, which makes the gray jay Canada's only bird commonly referred to by a traditional Indigenous name.
- In some traditional Ojibwa stories, the trickster *Nanabozho* takes the gray jay's form and leaves it with a playful, generous spirit. But it's to the Cree peoples especially that *Wisakedjak* is a shape-shifter who frequently appears as the gray jay, a benevolent trickster, teacher and messenger of the forest. To many western First Nations, the appearance of a gray jay in the morning is a good omen, and its chattering and whistles an early warning to hunters of nearby predators. There are even Gwich'in guides in the Yukon who tell of gray jays singing from tree to tree to lead a lost and starving hunter home.
- Like other corvids, gray jays are among the world's smartest birds, and have nearly the same body-to-brain ratio as humans. This

means they're not only experts at recalling the locations of numerous winter food stashes hidden throughout their territories, but that they're instinctually curious and quite bold in their interactions with humans. Canadians eager to visit the country's national and provincial/territorial parks to see this national symbol may encounter birds just as likely to seek *them* out in the forest.

- Gray jays are neither hunted nor endangered, but they are prime indicators of the health of the boreal and mountain forest ecozones and of climate change - in a prime position to inspire a conservation philosophy for all kinds of northern land uses.

Like the Canadian flag when it was selected in 1965, the gray jay is fresh and new and fitting. To quote David Bird, ornithologist and professor emeritus of wildlife biology at Montreal's McGill University, “we cannot think of a more Canadian bird”.

*Left* Other contenders for the title included the black-capped chickadee (Photo: Lee Barnes), the snowy owl (Photo: Joseph V. Higbee), the common loon (Photo: Joseph V. Higbee), and the common raven (Photo: Glen Tepke)



## Get Certified!

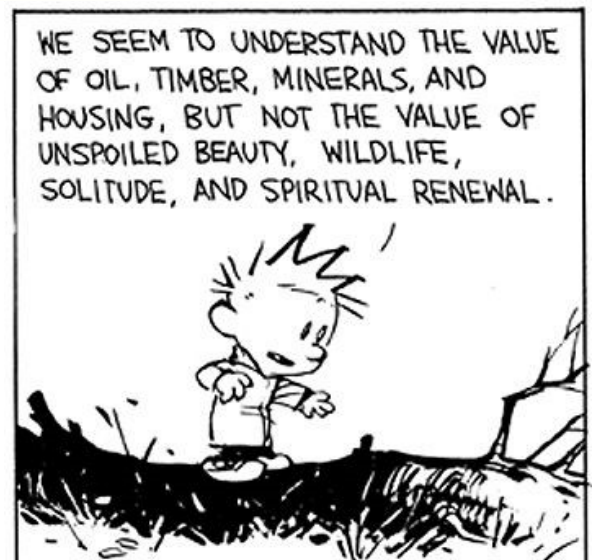
### CWF's Backyard Habitat Certification Program

Canadian Wildlife Federation's Backyard Habitat Certification Program recognizes the amazing efforts Canadians are taking to meet the habitat needs of wildlife, and allows individuals to have their property certified by officially designating their gardens as wildlife friendly. Whether you have a small patio or acres of land, your property may receive certification once specific criteria and established best practices are met.

**For more information, and to apply to certify your property, go to**

<http://cwf-fcf.org/en/explore-our-work/connecting-with-nature/in-the-garden/get-certified/>

SAFELY ENDANGERED



## 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.

For more information, go to:

**[www.asfwb.ca/the-asfwb-wall-of-fame/asfwb-fish-wildlife-research-grant/](http://www.asfwb.ca/the-asfwb-wall-of-fame/asfwb-fish-wildlife-research-grant/)**

## Upcoming Events

Every year, Ducks Unlimited Canada holds hundreds of fundraising events that are open to the public, and encourage everyone to attend. For more information, go to [www.ducks.ca/events](http://www.ducks.ca/events)

**Stay tuned for information on the ASFWB Fall AGM in New Brunswick!**

## ASFWB MEMBERSHIP APPLICATION / RENEWAL FORM

Date.....

Name.....

Title.....

Affiliation.....

Telephone (H) ..... (O) .....

Mailing Address.....

.....

Email.....

Regular Member (\$20) \_\_\_\_\_ Student (\$5) \_\_\_\_\_

I would like to receive newsletters, notices, announcements, etc. by email ☐ regular mail ☐

Visit our website ([www.asfwb.ca](http://www.asfwb.ca)) to with PayPal. For other options please contact the Society's Treasurer Lee Millett ([l\\_millett@ducks.ca](mailto:l_millett@ducks.ca) or 902-667-8726).