



Canada Jay (*Perisoreus canadensis*). // Mésangeai du Canada. Photo: Malcolm Robertson.

TABLE OF CONTENTS

Editors' Message/Message des éditeurs	1	Feature Articles	14
President's Message/Message du président	3	Ornithological News and Announcements	26
SCO-SOC Election Results	4	Bird Artwork	34
2024 Early Career Researcher Award Research Synopsis	6	Avian Conservation and Ecology Articles	35
Student Presentation Award Winners 2024	8	SCO-SOC Information	36
In Memoriam	11		

Editors' Message

Rob Warnock and Barbara Bleho

Welcome to the third and final issue of *Picoides* in 2024. We hope everyone had a great summer and start to autumn.

In Daneille Ethier's inaugural President's Message, she discusses her long-standing involvement with the SCO-SOC Council. She thanks Matt Reudink for his exemplary leadership, welcomes new members of the SCO-SOC council, and the remarkable success of the SCO-SOC conference with Wilson Ornithological Society (WOS) and the Association of Field Ornithologists (AFO) last August. Danielle encourages SCO-SOC members to volunteer for committees and initiatives including for the upcoming SCO-SOC conference in Saskatchewan in August 2025.

We also want to welcome our new SCO-SOC executives, Ann McKellar as President-elect, and Francis van Oordt as our new Membership Secretary. Welcome to new SCO-SOC Councilors: Emily Choy, Carrie Branch and Steffi LaZerte! We thank Matt Reudink and Beth MacDougall-Shackleton for their leadership and their support and help with *Picoides*. In addition, we thank the retiring SCO-SOC Councilors: Sam Heche, Brendan Casey and Amélie Roberto-Charron and their many contributions to the Society and the SCO-SOC Council.

We strongly encourage all eligible students from all Canadian universities to apply for SCO-SOC Student Research Awards this school year. Application details are in the issue on page 32. In addition, nominations for the 2025 Jamie Smith Memorial Award 2025 and the Early Career Researcher Award (ECRA) are now open. See pages 30 and 31.

Congratulations to SCO-SOC student presentation winners at the SCO-SOC-AFO-WOS conference last August: Connor Acorn, Lorena Munoz, Sunny Tseng, and Tharindu Kalukapug. Check out the synopses of their award-winning research on page 8.

In this issue, we have a memorial for long-time SCO-SOC member, former SCO-SOC council member, Doris Huestis Speirs Award recipient and former editor of *Avian Conservation and Ecology*, Keith Hobson. We offer our deepest condolences to his family and friends.

There are several interesting articles in this issue. They include Spencer Sealy's new article on Thomas Blakiston's work in Saskatchewan, historical seabird research in the Indian Ocean by Tony Diamond, and a research update from ECRA recipient Matt Furst. Birds Canada and Environment and Climate Change Canada have released the latest State of Birds report in a new interactive online format (page 28) and there are Canadian Wildlife Habitat Conservation Stamps available for purchase (page 27). New outstanding bird artwork from Olivia Maillet and Vidya Padmakumar are in this issue. And of course, the latest *Avian Conservation and Ecology* Table of Contents is included in the issue. Check them all out!

The next *Picoides* deadline is February 15, 2025. We look forward to your next submission, especially from students and bird labs. Without submissions, there is no *Picoides*. We also welcome your feedback as it is your publication, and we wish everyone a safe, healthy fall, winter, and holiday season!

FRANÇAIS—Message des éditeurs – Rob Warnock et Barbara Bleho

Bienvenue dans ce troisième et dernier numéro des *Picoides* de 2024. Nous espérons que vous avez tous passé un bel été et un bon début d'automne.

Dans son premier message de présidente, Danielle Ethier évoque son engagement de longue date au sein du Conseil de la SCO-SOC. Elle remercie Matt Reudink pour son leadership exemplaire, souhaite la bienvenue aux nouveaux membres du Conseil de la SCO-SOC, et souligne le grand succès de la conférence conjointe entre SCO-SOC, Wilson Ornithological Society (WOS) et Association of Field Ornithologists (AFO) en août dernier. Danielle encourage les membres de la SCO-SOC à contribuer aux différents comités et initiatives, y compris pour planifier la prochaine conférence de la SCO-SOC qui aura lieu en Saskatchewan en août 2025.

Nous souhaitons également la bienvenue aux nouveaux dirigeants de la SCO-SOC, Ann McKellar en tant que présidente élue et Francis van Oordt en tant que secrétaire aux adhésions. Bienvenue aux nouveaux conseillers de la SCO-SOC : Emily Choy, Carrie Branch et Steffi LaZerte! Nous remercions Matt Reudink et Beth MacDougall-Shackleton pour leur leadership, leur soutien et leur aide pour faire de *Picoides* une réussite. Nous remercions également les conseillers sortants de la SCO-SOC : Sam Heche, Brendan Casey et Amélie Roberto-Charron pour leurs nombreuses contributions à la Société et au Conseil de la SCO-SOC.

Nous encourageons vivement tous les étudiants éligibles de toutes universités canadiennes à poser leur candidature pour les bourses de recherche étudiante SCO-SOC pour cette année scolaire. Les détails concernant les candidatures se trouvent dans ce numéro à la page 33. En outre, les nominations pour la bourse commémorative Jamie Smith 2025 et la bourse de chercheur en début de carrière 2025 (ECRA) sont maintenant ouvertes. Voir pages 30 et 31.

Félicitations aux lauréats des présentations étudiantes de la SCO-SOC lors de la conférence SCO-SOC-AFO-WOS d'août dernier: Connor Acorn, Lorena Munoz, Sunny Tseng et Tharindu Kalukapug. Consultez le résumé de leurs recherches à la page 9.

Dans ce numéro, nous rendons hommage à Keith Hobson, membre de longue date de la SCO-SOC, ancien membre du conseil de la SCO-SOC, lauréat du prix Doris Huestis Speirs et ancien rédacteur en chef d'*Avian Conservation and Ecology*. Nous présentons nos plus sincères condoléances à sa famille et à ses amis.

Ce numéro contient plusieurs articles d'intérêts. Vous y retrouverez, entre autres, le nouvel article de Spencer Sealy sur le travail de Thomas Blakiston en Saskatchewan, un article sur les recherches historiques sur les oiseaux de mer dans l'océan Indien par Tony Diamond, et une mise à jour sur les recherches de Matt Furst, récipiendaire du prix ECRA. Oiseaux Canada et Environnement et Changement Climatique Canada ont publié le dernier rapport sur l'état des oiseaux dans un nouveau format interactif en ligne (page 29) et des timbres sur la conservation des habitats fauniques canadiens sont disponibles à l'achat (page 27). De nouvelles œuvres d'art exceptionnelles d'Olivia Maillet et de Vidya Padmakumar sont présentées dans ce numéro. Et bien sûr, la table des matières du plus récent *Avian Conservation and Ecology* est incluse dans le numéro. Jetez-y un coup d'œil!

La prochaine date limite de publication dans *Picoides* est le 15 février 2025. Nous avons hâte de lire vos prochaines contributions, en particulier celles d'étudiants et de laboratoires ornithologiques. Sans soumissions, il n'y a pas de *Picoides*. Nous vous invitons également à nous faire part de vos commentaires, car il s'agit de votre publication, et nous souhaitons à tous un automne, un hiver et des vacances dans la santé et la joie.

Follow SCO on social media for news, exciting research, updates from members, and more!

Suivez SOC pour les nouvelles, la recherche passionnante, mises à jour des membres, et plus encore!



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STUDENT CONTRIBUTIONS WANTED FOR PICOIDES

SCO-SOC encourages students to submit material for *Picoides*. In particular, we would like each issue to feature abstracts of at least one or two recently published theses. They must be from students at a Canadian university, but need not necessarily focus on Canadian birds. Abstracts should be 250-400 words long, preferably accompanied by one or two relevant photos.

We also welcome articles describing aspects of student research in greater detail; these should focus on a subject relevant to Canadian ornithology, require references, and may be up to 1,000 words long, again preferably accompanied by one or two photos. See the SCO-SOC Information page for submission details.

President's Message

Danielle Ethier

It is exciting to write my first President's Message in *Picoïdes* for our SCO-SOC membership. I've been a member of council since 2020, joining shortly after starting my first permanent career job with Birds Canada and attending my first SCO-SOC conference in Quebec City. I knew instantly that this was a community that I wanted to be part of in a meaningful way. My involvement with SCO-SOC has grown steadily over the years, and it is now time for me to help keep the momentum of growth moving forward. Thankfully, I will not be doing this alone, as I have a wonderful complement of supporting councilors at my side, and an energetic and dedicated membership.

First, I want to send a special thanks to Matt Reudink for his leadership during his presidency over the past 2 years. Matt has been instrumental in several of our fundraising efforts for EDI initiatives, conference planning, and mentorship program development, among many other important tasks.

Matt has been a member of SCO-SOC since his early graduate years and has worked hard to ensure that our society is an open and welcoming home to everyone in ornithology. I also want to welcome our new executives, including Ann McKellar as President-elect and Francis van Oordt as our Membership Secretary. We also have several new councilors which you will meet in this issue of *Picoïdes*.

Our joint meeting with the Association of Field Ornithologists and the Wilson Ornithological Society took place July 29-August 1, 2024, in Peoria, Illinois. This was a fantastic event which was well attended by our SCO-SOC membership. You can read about the winners of our student presentation awards in this issue of *Picoïdes* and how you can contribute to support our student awards into the future. SCO-SOC will be hosting a standalone conference in Saskatchewan in August 2025! If you wish to get involved or be a sponsor of the event, don't hesitate to contact me directly. I look forward to seeing many of you next summer in the beautiful expanse of the Canadian Prairies to share our research and build our community.

FRANÇAIS— Message de la présidente – Danielle Ethier

C'est avec enthousiasme que je vous écris ce premier message dans *Picoïdes* en tant que présidente de la SCO-SOC. Je suis membre du conseil depuis 2020, depuis que j'ai commencé mon premier emploi permanent chez Oiseaux Canada et après avoir assisté à ma première conférence de la SCO-SOC à Québec. J'ai tout de suite su qu'il s'agissait d'une communauté à laquelle je voulais appartenir et contribuer. Mon implication dans la SCO-SOC s'est accrue régulièrement au fil des ans et il est maintenant temps pour moi d'aider à maintenir cet élan de croissance. Heureusement, je ne le ferai pas seule, car j'ai à mes côtés une merveilleuse équipe de conseillers, ainsi que des membres énergiques et dévoués.

Tout d'abord, je tiens à remercier tout particulièrement Matt Reudink pour le leadership dont il a fait preuve durant sa présidence au cours des deux dernières années. Matt a joué un rôle déterminant dans plusieurs de nos efforts de collecte de fonds pour les initiatives EDI, dans la planification de la conférence et dans le développement du programme de mentorat, parmi de nombreuses autres tâches tout aussi importantes. Matt est membre de la SCO-SOC depuis ses premières années d'études et a travaillé dur pour s'assurer que notre société soit ouverte et accueillante pour tous les ornithologues. Je tiens également à souhaiter la bienvenue à nos nouveaux dirigeants, notamment Ann McKellar en tant que présidente élue et Francis van Oordt en tant que secrétaire aux adhésions. Nous avons également plusieurs nouveaux conseillers que vous rencontrerez dans ce numéro de *Picoïdes*.

Notre réunion conjointe avec l'Association of Field Ornithologists et la Wilson Ornithological Society s'est tenue du 29 juillet au 1er août 2024 à Peoria, dans l'Illinois. Il s'agissait d'un événement fantastique auquel les membres de la SCO-SOC ont assisté en grand nombre. Vous pouvez lire dans ce numéro de *Picoïdes* le nom des lauréats de prix décernés aux présentations étudiantes en plus d'y trouver la manière dont vous pouvez contribuer à soutenir nos prochains prix d'étudiants. La SCO-SOC organisera une conférence indépendante en Saskatchewan en août 2025! Si vous souhaitez vous impliquer ou parrainer l'événement, n'hésitez pas à me contacter directement. Je me réjouis déjà de vous y voir en grand nombre l'été prochain dans la magnifique étendue des Prairies canadiennes pour se partager nos recherches et contribuer à notre communauté.

SCO-SOC Election Results

Meet SCO-SOC's new executives and members of council / Rencontrez les nouveaux dirigeants et membres du conseil de la SCO-SOC

President Elect / Présidente élue



Dr. Ann E. McKellar is a Research Scientist with Environment and Climate Change Canada and Adjunct Professor at the University of Saskatchewan and Thompson Rivers University. She has over 15 years of experience planning, implementing, and overseeing research and monitoring programs for wild birds, with a specialization in the research and conservation of waterbirds and shorebirds in agroecosystems and other human-dominated landscapes. Dr McKellar is also a member of the society's Equity, Diversity, and Inclusion (EDI) Committee.

Dr. Ann E. McKellar est chercheuse scientifique à Environnement et Changement Climatique Canada et professeure adjointe à l'Université de Saskatchewan et à l'Université Thompson Rivers. Elle a plus de 15 ans d'expérience dans la planification, la mise en œuvre et la supervision de programmes de recherche et de surveillance des oiseaux sauvages, avec une spécialisation pour

la recherche et la conservation des oiseaux aquatiques et limicoles dans les agroécosystèmes et autres paysages dominés par l'humain. Dr McKellar est également membre du Comité pour l'équité, la diversité et l'inclusion (EDI) de la société.

Membership Secretary / Secrétaire aux adhésions



Dr. Francis van Oordt was born and raised in Peru, and recently obtained a doctoral degree in Canada at McGill University, in the Department of Natural Resource Sciences working on seabirds in the neotropics and Canada. His research investigated many aspects of the ecology of several species ranging from isotopic niches to movement and energy expenditure. Dr van Oordt is currently working as a postdoc in the Department of Biology at McGill in an initiative to develop a Canadian Biodiversity Observation Network, especially on topics of spatial design and analysis.

Dr. Francis van Oordt est né et a grandi au Pérou. Il a récemment obtenu un doctorat au Canada, à l'université McGill, dans le département des sciences des ressources naturelles, où il a travaillé sur les oiseaux marins dans les régions néotropicales et au Canada. Ses recherches ont porté sur de nombreux aspects de l'écologie de plusieurs espèces, allant des niches isotopiques aux mouvements et à la dépense énergétique. Dr van Oordt travaille actuellement en tant que post-doctorant au département de biologie de McGill dans le cadre d'une initiative visant à développer un réseau canadien d'observation de la biodiversité, en particulier dans les domaines de la conception et de l'analyse spatiales.

Council / Conseil



Dr. Carrie Branch is an Assistant Professor at the University of Western Ontario. She received her PhD from the University of Nevada Reno (2018), then started a postdoctoral fellowship at the Cornell Lab of Ornithology. She is a behavioral ecologist interested in the evolution of communication and cognition. Dr. Branch is an elective member of the AOS, Chair of their Kessel Fellowship Award committee, and recipient of the 2023 AOS Early Investigator Award. She also served on the Diversity Crew Liaison Team at the Cornell Lab of Ornithology, where she worked with external consultants to enhance DEI efforts.

Dr. Carrie Branch est professeure adjointe à l'Université Western en Ontario. Elle a obtenu son doctorat à l'Université du Nevada à Reno (2018), puis a commencé un stage postdoctoral au laboratoire d'ornithologie de Cornell. En tant qu'écologiste comportementale, elle s'intéresse à l'évolution de la communication et de la cognition. Dr Branch est membre électif

de l'AOS, présidente du comité du prix Kessel Fellowship et lauréate du prix Early Investigator Award 2023 de l'AOS. Elle a également fait partie de l'équipe de liaison du laboratoire ornithologique de Cornell où elle a travaillé avec des consultants pour faire progresser les efforts de l'EDI.



Dr. Elizabeth A Gow is a Research Scientist in the Wildlife Research with Environment and Climate Change Canada, and Adjunct Professor at the University of Guelph and Simon Fraser University. Dr. Gow's research focuses on the movement, ecology, and conservation of songbirds and woodpeckers in urban and forests environments in western Canada. Dr. Gow is a former recipient of the 2019 SCO-SOC Early Career Researcher Award, has been a member of the SCO-SOC since 2008, and was a recipient of SCO-SOC graduate student awards. Dr. Gow has been actively involved with the society's EDI committee since 2022 and is the current co-chair of the committee.

Dr. Elizabeth A. Gow est chercheuse scientifique au sein du service de recherche sur la faune d'Environnement et Changement Climatique Canada, en plus d'être professeure adjointe à l'Université de Guelph et à l'Université Simon Fraser. Les recherches de Dr Gow portent sur les déplacements, l'écologie et la conservation des oiseaux chanteurs et des pics dans les environnements urbains et forestiers de l'ouest du Canada. Dr Gow a été lauréate de la bourse pour chercheurs en début de carrière de la SCO-SOC en 2019, est membre de la SCO-SOC depuis 2008 et a été lauréate de bourses d'études supérieures de la SCO-SOC. Dr Gow est activement impliquée dans le comité EDI de la société depuis 2022 et est présentement co-présidente du comité.



Dr. Emily Choy is a new assistant professor at McMaster University, studying the effects of climate change and pollution on Arctic seabirds (thick-billed murrets and kittiwakes) and aerial insectivores (tree swallows). Dr. Choy was the 2023 recipient of the Early Career Research Award from the SCO-SOC and was a nominee for the 2020 British Ornithologists' Union Social Media SciComm Award.

Dr. Emily Choy est nouvellement professeure adjointe à l'Université McMaster et étudie les effets des changements climatiques et de la pollution sur les oiseaux marins de l'Arctique (guillemots de Brünnich et mouettes tridactyles) et sur les insectivores aériens (hirondelles bicolors). Dr Choy a reçu en 2023 la bourse de recherche de début de carrière de la SCO-SOC et a été nommée pour le prix SciComm 2020 de la British Ornithologists' Union Social Media.



Dr. Steffi LaZerte is an ornithologist by training and an R programmer and biological consultant. Dr. LaZerte works on a variety of projects developing R packages and workflows to support other ornithologists and scientists in the natural sciences. In the past, Steffi has donated workshops to the annual fundraiser, helped out at conferences on committees or by organizing workshops/symposia, and has participated in the Mentoring program as a Mentor, workshop facilitator, and this year, as an organizer.

Dr. Steffi LaZerte est ornithologue de formation, programmeuse R et consultante en biologie. Dr LaZerte travaille sur une variété de projets en développant des programmes R et des flux de travail pour aider d'autres ornithologues et scientifiques dans le domaine des sciences naturelles. Par le passé, Steffi a offert des ateliers pour la collecte de fonds annuelle, a participé à des conférences au sein de comités ou en organisant des ateliers/symposiums, et a participé au programme de mentorat en tant que mentore, animatrice d'atelier et, cette année, en tant qu'organisatrice.

2024 Early Career Researcher Award Research Synopsis

Matthew Fuirst

I feel extremely honoured to have received the 2024 Early Career Research Award from the Society of Canadian Ornithologists. Thank you for this recognition and for the opportunity to present my research at the joint meeting between the Society of Canadian Ornithologists, Association of Field Ornithologists, and Wilson Ornithological Society in Peoria, Illinois. The conference was a fantastic opportunity to share my research with the larger community. As a part of this award, I was given the opportunity to write about my research and in this article, I will share the story of how my research focus came to be.

From an early age, I had a clear passion for wildlife and all things nature. My childhood routine was to walk down the street to the local creek where I would visit what I called “bug rock” and explored what was buried in the soil with the hopes of finding new insects I could sort and identify. Throughout my entire childhood I gravitated to activities that allowed me to surround myself with nature and wildlife. I enjoyed canoeing and fishing adventures on camping trips, visiting our local zoo, and going on hikes where I could scan for birds and other wildlife.

Fast forward to university, where I finally got my first formal introduction to birding and field ornithology. As part of a student chapter of The Wildlife Society, I participated in a volunteer opportunity to help a local biologist monitor the effects of forest management on migratory connectivity of American Woodcocks (*Scolopax minor*) in the Adirondack State Park, New York. I loved every moment of this field work opportunity. Having never heard of an American Woodcock before, I found it exhilarating to set up mist nets to attempt to capture adults on the display grounds in spring. We would sit on the edge of a woodlot at twilight waiting for the signature “peent” sound to emerge from the forest and then attempt to flush the bird into the nets. After capture, we had the opportunity to watch the biologists deploy radio transmitters on the birds. This experience then motivated me to join a friend on a Birding Club walk through boreal bogs where we saw Canada Jays (*Perisoreus canadensis*), Yellow-bellied Flycatchers (*Empidonax flaviventris*), and my first Common Yellowthroat (*Geothlypis trichas*). From then on, I was hooked.

After numerous field positions where I got the chance to learn about field ornithology and collect data in field systems such as grasslands, salt marshes, and oak scrub, I discovered an interest in spatial ecology and the individual- and population-level

consequences of movement strategies I decided to pursue a master’s thesis with Dr. Lesley Thorne. During this degree, I spearheaded a new project in the Thorne lab that used GPS-tracking to explore the effects of urbanization on variation in foraging ecology, contaminant loads and microbiome composition of Herring Gulls (*Larus argentatus*) along the eastern seaboard (Fuirst et al. 2018). Through this project, we had the exciting opportunity to integrate movement data with blood samples and nest contents collected from Herring Gulls to explore the influence of foraging and breeding habitat on mercury contaminant loads (Thorne et al. 2020) and microplastic abundance (Lato et al. 2021). We also were able to use GPS-tracking data and dietary signatures from stable isotopes to determine the influence of the degree of urbanization on trophic niche size and overlap in Herring Gulls and Great black-backed Gulls (*Larus marinus*; Lato et al. 2023).



Herring Gulls. Photo by Matt Fuirst.



Canada Jay. Photo by Matt Furst.

With an interest in movement ecology and population demographics, I went to the University of Guelph to begin a PhD with Dr. Ryan Norris. Here, I was keen to understand the causes and consequences of adult and juvenile dispersal in Canada Jays. One of the most ubiquitous and understudied life history processes in ecology is the dispersal of juveniles and adults. My research filled a critical gap in our understanding of this process by using a novel approach by integrating radio telemetry and long-term breeding data from Algonquin Provincial Park, Ontario to determine the mechanisms driving natal and breeding dispersal and the impacts of dispersal decisions on individual fitness. The first study I conducted found that, while it is an uncommon strategy in adults, mate loss and occupancy of low-quality habitat increases the probability of breeding

dispersal (Furst et al. 2021a). A second study showed that when adults do disperse it leads to short- and long-term improvements in reproductive performance, but this improvement is weak if individuals disperse in the fall-winter season after they have already initiated the accumulation of stored food for overwinter survival (Furst et al. 2021b). These studies were novel because they utilized 55 years of demographic data and were one of few studies to demonstrate that breeding dispersal can provide reproductive benefits.

Additionally, I found that for first-year Canada Jays, natal dispersal is associated with significant fitness costs (Furst et al. 2024). I demonstrated that individuals that disperse in their first year are of lower body condition and social rank, while socially dominant individuals delayed natal dispersal, thus leading to substantially higher survival (Furst et al. 2024). I also provided evidence that delayed dispersal leads to increased direct and inclusive fitness (Furst et al. 2023). With collaborations with other Canada Jay researchers, we also conducted a study which found that early-life social status contributes to differential patterns of reproductive senescence (Sorensen et al. 2022). Together, this work highlighted how dispersal can carry-over to influence individual fitness, but also demonstrates that the causes and consequences of dispersal vary between juveniles and adults and according to social and environmental conditions.

Throughout my PhD, I had the opportunity to supervise numerous student co-op interns in the field. Each year, co-op students would participate in annual monitoring of the breeding ecology of Canada Jays in Algonquin Park. This research allowed students to get directly involved in long-term field studies and better understand the application of field ecology. Undergraduate students also have the opportunity to pursue a thesis project using the data collected in the field. Under my supervision, one student of mine studied the non-breeding movements of adult Canada Jays and discovered some novel insights on what habitats and food resources Canada Jays use in summer (Furst et al. 2022). Since the completion of my PhD, I have continued to mentor graduate students that are continuing to study the ecology of Canada Jays in Algonquin Park.

Soon after my PhD, I began a dual role at Birds Canada as a Manager and Postdoc. As the Manager of Observatory Operations, I am responsible for overseeing the research and migration monitoring at Long Point Bird Observatory and its many keystone programs such as the Marsh Monitoring Program, Youth Ornithologist' Workshop, Tree Swallow Project, Latin American Training Program, and the Breeding Bird Census. As a postdoc (Mitacs) with Dr. Doug Tozer, the Director of Waterbirds and Wetlands at Birds Canada and Dr. Mark Mallory at Acadia University, I am studying the range-wide patterns of productivity in Common Loons (*Gavia immer*). Using a network of Common Loon researchers across North America, I am using monitoring data from across the breeding range to examine the mechanisms driving regional variation in clutch size and fledgling success. This study will hopefully provide insights into why Common Loons are declining in some portions of their breeding range and thriving in others.

Like many ornithologists and biologists, careers paths are not always linear. I've had the great opportunity to work on a variety of different projects and taxonomic groups, eventually guiding me towards an incredible career in ecology. I am truly grateful for the mentorship of incredible ornithologists such as Dr. Lesley Thorne, Dr. Amy Newman, Dr. Ryan Norris, Dr. Reed Bowman, and Dan Strickland. I look forward to sharing my exciting new research at the next Society of Canadian Ornithologists conference in 2025.

Student Presentation Award Winners 2024

Le texte traduit en français suit.

Student presentation awards are given each year at the society's annual conference in recognition of outstanding oral and poster presentations. This year, four students from Canadian universities were proud recipients of these awards at the joint conference of the AFO-SCO-WOS in Peoria, Illinois.



Student presentation award recipients from left to right: Connor Acorn, Lorena Munoz, Sunny Tseng, Tharindu Kalukapug. Photo credit: Danielle Ethier.

Les lauréats des prix de présentation des étudiants, de gauche à droite : Connor Acorn, Lorena Munoz, Sunny Tseng, Tharindu Kalukapug. Crédit photo : Danielle Ethier.

Outstanding Poster Presentations

Connor Acorn, a MSc candidate from the University of Windsor, presented a poster entitled: *Vocal Amplitude of Ovenbirds: Amplifying our understanding of an overlooked trait*. His research focuses on measuring the song amplitude of territorial male Ovenbirds and comparing amplitude made during different singing contexts to see if it is related to social interactions. Connor "had a great time at the conference! I enjoyed meeting with other young researchers in my field and seeing what they are working on." Connor is co-advised by Dr. Dan Mennill and Dr. Jenn Foote.

Lorena Munoz, a BSc student from Thompson Rivers University, presented a poster entitled: *Tail plumage signaling in Grey Fantails: Exploring age and sex-based variation*. Lorena's research focuses on investigating the highly variable proportions of black and white demonstrated across the tail feathers of a small insectivorous bird found in Australia called Grey Fantail (*Rhipidura albiscap*). These birds are immensely understudied, and to our knowledge, this is the first research done on their plumage! Lorena's goal is to provide baseline information on potential signaling functions derived from their tails and commence the much-needed investigation of ornamentation within Grey Fantails. Lorena described her experience at the conference as "Incredible! I enjoyed reconnecting with fellow researchers from last year's SCO-SOC meeting and making amazing new friends that I hope to see again at future conferences. The SCO, alongside the other societies involved in organizing this conference, did an excellent job at creating a comfortable space to learn, network, and collaborate with so many wonderful ornithologists!" Lorena is co-advised by Dr. Christa Beckmann and Dr. Matt Reudink.

Outstanding Oral Presentations

Sunny Tseng, a PhD Candidate from the University of Northern British Columbia, delivered a talk entitled: *Setting BirdNET threshold: species-specific vs. universal approaches*. Sunny's research focuses on evaluating the species-specific performance of a machine learning algorithm, BirdNET, which can identify bird species based on their vocalization. She provides a standard workflow and recommendations to achieve an unbiased use of BirdNET. Sunny describes her conference experience as "Wonderful, as it always is. I contributed to this meeting as a presenter sharing my PhD research, a student volunteer moderating sessions, and a moderator for the storytelling event, which was a sudden but amazing experience! My favourite part is the beautiful friendship that grew out of the conference. I have reconnected with friends I knew from last year's conference and made new connections this year - where we visited a trampoline park and shared our experience working with BirdNET! I'm looking forward to next year's SCO meeting in Canada!" Sunny is advised by Dr. Ken Otter.

Tharindu Kalukapuge, a PhD Candidate from the University of Alberta, delivered a talk entitled: *Birds and Energy Development: Response of songbirds to linear features of varying width in the boreal forest of Alberta*. Tharindu describes his conference experience as "Great. I had the opportunity to present my research to a larger ornithology community and receive valuable feedback. I also contributed to organizing the workshop *Careers in Ornithology*. Overall, I gained a lot of new knowledge and experience and enjoyed connecting with fellow attendees." Tharindu is advised by Dr. Erin Bayne.

Congratulations to this year's award winners!! If you wish to support our student awards, please consider making a monetary contribution when you renew your annual membership or consider sponsoring our 2025 conference by contacting dethier@birdscanada.org. Your contributions directly support students, which helps build a stronger foundation for ornithological research and conservation in Canada, and beyond.

Article Author: Danielle Ethier, with contributions from each award recipient.

Lauréats des prix de présentations étudiantes 2024

Les prix de présentations étudiantes sont décernés chaque année lors de la conférence annuelle de la société en reconnaissance de présentations orales et d'affiches exceptionnelles. Cette année, quatre étudiants d'universités canadiennes ont été les fiers récipiendaires de ces prix lors de la conférence conjointe de l'AFO-SCO-WOS à Peoria, dans l'Illinois.

Présentations d'affiches exceptionnelles

Connor Acorn, candidat à la maîtrise à l'Université de Windsor, a présenté un poster intitulé : *Vocal Amplitude of Ovenbirds: Amplifying our understanding of an overlooked trait* (Amplitude vocale des Paruline couronnée : Amplifier notre compréhension d'un trait négligé). Ses recherches portent sur la mesure de l'amplitude du chant des mâles territoriaux et sur la comparaison de l'amplitude vocale dans

différents contextes de chant afin de déterminer si elle est liée aux interactions sociales. Connor « a passé un excellent moment à la conférence! J'ai apprécié de rencontrer d'autres jeunes chercheurs dans mon domaine et de voir sur quoi ils travaillent ». Connor est supervisé par Dr Dan Mennill et Dr Jenn Foote.

Lorena Munoz, étudiante au baccalauréat à l'Université Thompson Rivers, a présenté un poster intitulé: *Tail plumage signaling in Grey Fantails: Exploring age and sex-based variation* (Signalisation du plumage de la queue chez le Rhipidure gris: Exploration de variations liées à l'âge et au sexe). Les recherches de Lorena portent sur les proportions très variables de noir et de blanc sur les plumes de la queue d'un petit oiseau insectivore d'Australie, le *Rhipidura albiscap*. Ces oiseaux sont très peu étudiés et, à notre connaissance, il s'agit de la première recherche effectuée sur leur plumage! L'objectif de Lorena est de fournir des informations de base sur les fonctions de signalisation potentielles dérivées de leurs queues et d'entamer l'étude indispensable de l'ornementation chez le *Rhipidura albiscap*. Lorena a décrit son expérience à la conférence comme étant « incroyable! J'ai apprécié de retrouver des collègues chercheurs de la conférence SCO-SOC de l'année dernière et de me faire de nouveaux amis extraordinaires que j'espère revoir lors de futures conférences. La SCO, ainsi que les autres sociétés impliquées dans l'organisation de cette conférence, ont fait un excellent travail en créant un espace confortable pour apprendre, réseauter et collaborer avec tant de merveilleux ornithologues! ». Lorena est supervisée par Dr Christa Beckmann et Dr Matt Reudink.

Présentations orales exceptionnelles

Sunny Tseng, candidate au doctorat de l'Université Northern British Columbia, a présenté un exposé intitulé: *Setting BirdNET threshold: species-specific vs. universal approaches* (Établir un seuil de BirdNET: approches spécifiques aux espèces versus approches universelles). Les recherches de Sunny portent sur l'évaluation des performances spécifiques aux espèces d'un algorithme d'apprentissage automatique, BirdNET, qui permet d'identifier les espèces d'oiseaux sur la base de leurs vocalisations. Elle propose un flux de travail standard et des recommandations pour parvenir à une utilisation impartiale de BirdNET. Sunny décrit son expérience de la conférence comme « merveilleuse, comme toujours. J'ai contribué à cette réunion en tant que présentatrice de ma recherche doctorale, étudiante bénévole modérant des sessions, et modératrice de l'événement de narration, ce qui a été une expérience précipitée mais incroyable! Ce que je préfère, ce sont les belles amitiés qui se sont développées à l'occasion de la conférence. J'ai renoué avec des amis que j'avais connus lors de la conférence de l'année dernière et j'ai noué de nouveaux liens cette année - où nous avons visité un parc de trampolines et partagé notre expérience de travail avec BirdNET! J'ai hâte à la conférence SCO de l'année prochaine au Canada! Sunny est conseillée par le Dr. Ken Otter.

Tharindu Kalukapuge, doctorant à l'Université d'Alberta, a présenté un exposé intitulé: *Birds and Energy Development: Response of songbirds to linear features of varying width in the boreal forest of Alberta* (Oiseaux et Développement Énergétique: Réponse des oiseaux chanteurs aux traits linéaires de largeur variable dans la forêt boréale de l'Alberta). Tharindu décrit son expérience de la conférence comme « géniale! J'ai eu l'occasion de présenter mes recherches à une communauté ornithologique plus large et de recevoir des commentaires précieux. J'ai également contribué à l'organisation de l'atelier sur les carrières en ornithologie. Dans l'ensemble, j'ai acquis beaucoup de nouvelles connaissances et d'expérience et j'ai apprécié les contacts avec les autres participants ». Tharindu est supervisé par Dr Erin Bayne.

Félicitations aux lauréats de cette année! Si vous souhaitez soutenir nos prix étudiants, pensez à faire une contribution monétaire lorsque vous renouvelez votre adhésion annuelle ou envisagez de parrainer notre conférence de 2025 en contactant dethier@birdscanada.org. Vos contributions soutiennent directement les étudiants, ce qui aide à construire une base plus solide pour la recherche ornithologique et la conservation au Canada, et au-delà.

Auteur de l'article : Danielle Ethier, avec la contribution de chaque lauréat.

In Memoriam

Dr. Keith Alan Hobson (1954 – 2024)

By Kevin J. Kardynal, Steven L. Van Wilgenburg and Xiomara Alvarez



Keith Hobson canoeing Mud Creek in Prince Albert National Park. Photo by Kevin Kardynal.

It is with profound sadness that we announce the passing of Dr. Keith Alan Hobson, a distinguished Canadian research scientist, on October 2, 2024, at the age of 70. Keith dedicated his life to applying science to the conservation of migratory birds and other wildlife, leaving an indelible mark on many fields but particularly on ornithology, migration ecology and the application of stable isotopes in wildlife ecology. Keith's interest in migration eventually led to research on Monarch Butterflies including fieldwork in Mexico where he met his soulmate B. Xiomara Mora Alvarez. They married in 2004, and together, they continued to dedicate themselves to studying the ecology and conservation of pollinators including the Monarch Butterfly in Mexico and Canada and established a pollinator garden at Western University in London, Ontario.

Keith was a senior research scientist with Environment & Climate Change Canada for over 30 years (1992-2024), professor at Western University (2015-2024) and had affiliations with several other institutions including as adjunct professor at the University of Saskatchewan

(1994-2024) and Dalhousie University (2017-2024). Keith's innovative approaches, diverse expertise and highly cooperative nature resulted in collaborations across the globe, and as a result his research spanned ecosystems from the Arctic to the Antarctic, and every province and territory in Canada. The global impact of his work led to many accolades, and he was inducted as a Fellow of the American Ornithological Society (2004), the Royal Society of Canada (2013), and the International Ornithological Union (2018), in addition to being a long-standing member of the Society of Canadian Ornithologists, the German Ornithologist's Society, and the Waterbird Society. He was also editor of SCO's flagship journal, *Avian Conservation and Ecology*, from 2012 to 2020, and helped raise the profile and impact of the journal.

Born on July 10, 1954, in Harrow, England, to Harold Hobson of Elsecar, Yorkshire, and Eleanor Violet of London, UK, Keith had an early passion for ornithology and spent inordinate amounts of time outdoors and watching birds. In 1966, Keith moved to Vancouver, British Columbia, with his family, where he spent much of his time exploring the forests and coasts. Keith pursued a degree in Physics at Simon Fraser University (SFU) in Burnaby, British Columbia, where he graduated with a Bachelor of Science in 1977. He then worked in SFU's Archaeology Department's Radiocarbon dating lab for seven years. The time Keith spent in the radiocarbon lab developed many skills and lines of thinking that would later form much of the basis for his pioneering applications of stable isotopes in ecological research.

Keith eventually followed his interest in ornithology by pursuing graduate studies at the University of Manitoba with Dr. Spencer Sealy, where he investigated the protection of genetic parentage in Yellow Warblers, which he completed in 1988. Keith conducted his M.Sc. at Delta Marsh on the south shore of Lake Manitoba, during which time Keith and his colleagues recognized the importance of Delta Marsh as a significant stopover site for migrating boreal birds. As such, he became a Founding Member and Executive Board Member of the Delta Marsh Bird Observatory. This effort led Keith and colleagues to investigations using Canadian Migration Monitoring Network stations to assess key aspects of migration phenology and origins of birds migrating through those areas.

Following his Masters, Keith completed a Ph.D. with Dr. Malcolm Ramsay at the University of Saskatchewan (1991). Keith's Ph.D. combined his expertise in the use of stable isotopes with ecological investigations into the trophic relationships between Arctic biota to quantify the flow of nutrients from primary producers to top carnivores (polar bears). Publications from Keith's Ph.D. formed one of the early starting points for the eventual wide-spread use of stable isotopes in elucidating trophic ecology research. Keith continued his research on Arctic food webs during a Post-Doctorate with the Freshwater Institute in Winnipeg, MB, and this work further highlighted the possibilities of using stable isotopes in food web studies and laid the foundation for much of his pioneering research using this tool.

Keith was hired as a Research Scientist with Environment & Climate Change Canada (ECCC) in 1992 in Saskatoon, Saskatchewan, Canada. During his tenure with ECCC, he provided important expertise towards government science teams addressing priority issues such as declines of aerial insectivores, incidental take of bird nests by industrial sectors, and the conservation of many Species at Risk including Golden-winged Warblers, Monarch Butterflies and Polar Bears. Keith's research in the boreal forest highlighted the impacts of anthropogenic disturbances including forestry, agriculture and oil-and-gas development on songbirds and provided the foundations for our understanding of how forest harvesting practices could be altered to reduce their impacts on boreal birds. He also continued to work collaboratively with other federal and academic scientists on trophic ecology and contaminant dynamics of Arctic and Pacific seabirds.

Keith was perhaps best known for his work on tracking wildlife using stable isotopes. His and Dr. Len Wassenaar's 1997 paper "Linking breeding and wintering grounds of Neotropical migrant songbirds using stable hydrogen isotopic analysis of feathers" and the laboratory methods they developed were breakthroughs that had implications well beyond ornithology. Indeed, these methods have proven valuable in human forensics, wildlife trafficking and food adulteration studies. For small-bodied insects, like butterflies and dragonflies, tracking using stable isotopes were indeed some of the only ways to study long-distance migratory movements. Keith and others have since successfully applied these methods to gain insights into disease dynamics and parasite spread including to understand risks around the transmission of avian influenza and the spread of black-legged ticks

Keith was one of the first researchers to emphasize the importance of the non-breeding grounds on population dynamics of migratory wildlife. To this end, he dedicated a significant portion of his scientific career to determining factors influencing survival and habitat use of many of Canada's Species at Risk during the non-breeding season, particularly in Central and South America, and the Caribbean. The stable isotope methods pioneered by Dr. Hobson and colleagues helped to fuel research in migration ecology examining how factors

affecting individuals in one portion of their annual migratory cycle can carry-over to influence their fitness during other portions of their annual cycle. In a 1998 paper co-authored with Dr. Peter Marra entitled "Linking winter and summer events in a migratory bird using stable carbon isotopes", they demonstrated that birds spending the non-breeding season in wetter habitats departed for, and arrived to, the breeding grounds sooner than birds relegated to dry wintering habitats. This finding was important because time of arrival on the breeding grounds was previously shown to be a major determinant of reproductive fitness in migratory birds. Along with the newfound ability to link populations between their breeding, migratory stopover and non-breeding sites and potentially infer information about habitat use at distant points in space and time, spurred a major increase in work on seasonal carry-over effects.

Keith believed in collaborative approaches to conducting research, particularly in a time of major global environmental changes, and his expertise was therefore sought by scientists the world over. He elevated scientists and their research programs in many countries through mentorship and collaboration. For example, his work with scientists in Cuba has enabled them to develop research programs centered on migratory birds in a globally important biodiversity hotspot where research is difficult to conduct. There, he connected with several exceptional scientists and graduate students who otherwise would not have had the resources to conduct the research. Along with many North American graduate students, he also supervised and mentored several international graduate students that were able to conduct conservation and ecology research in their home countries while addressing key research questions for migratory fauna. Keith's empowerment of his students and collaborators has enabled them to further build capacity for local institutions and communities and broaden their expertise.

Keith's research in Latin America and the Caribbean was vast and varied. His graduate students from Colombia examined whether shade-coffee plantations provide similar habitat quality for over-wintering migrant birds compared to native forest in the Andes Mountains, migration 'bottlenecks' for migratory bird species, and non-breeding habitat use and survival of Blackpoll Warblers. Other studies on the Tropical non-breeding grounds of several migratory avian species included understanding the importance of stopovers for migratory refueling, the origins and population impacts of shorebird harvest in the Caribbean, migratory connectivity of Loggerhead Shrikes in Mexico, and responses of declining species to land cover change.

While Keith's primary passion was with the avian world, he dedicated part of his career to understanding insect migration using stable isotopes and new methods such as compound-specific stable isotope analysis. Much of this research was focussed on the iconic Monarch Butterfly, for which Keith's recent work highlighted the importance of conserving nectaring sources during fall migration. His contributions also helped to uncover patterns of transoceanic movements of Wandering Glider dragonflies, providing some of the first evidence of migratory movements in North American hoverflies, and highlighted the vulnerability of migratory butterflies to highway crossings in Mexico, where large numbers of individuals are frequently killed.

Keith had a particular fondness for the boreal forest in Prince Albert National Park (PANP), Saskatchewan. There, Keith enjoyed listening for old-growth forest warblers, or waving a bug net catching chironomid midges after a large hatch, or other insects, as part of his research. It was in PANP where Keith's first graduate student (Dr. Erin Bayne) conducted research for both his M.Sc. and Ph.D. After Erin successfully completed his final Ph.D. field season, they hiked to Grey Owl's Cabin failing to realize just how far the hike was, arriving back at their vehicle around midnight, exhausted and hungry. He told this story to another one of his Ph.D. students during his final trip to PANP in 2024 as he did many times before. Keith served on the scientific advisory board for PANP, and his boreal bird research there still serves as an important baseline for our understanding of boreal bird community dynamics.

Beyond his impressive professional achievements, Keith was known for his generosity, humility, and sharp sense of humor. His playful impressions of both humans and animals, particularly his favorite bird group, cormorants, brought joy to those around him. Keith's animated persona made him a great storyteller whom people listened to in awe, and which spurred him on even more, with many of his anecdotes deriving from his experiences in the field. His dedication to science and conservation were evident to his final days as he continued to work on manuscripts and ensure that his projects would be completed by his colleagues.

Dr. Hobson's legacy will continue to influence and inspire students, researchers, and science for years to come who had the privilege of knowing him. He will be deeply missed as a scientist, colleague, mentor, and friend.

Feature Articles

Finding Boob

Tony Diamond, e-mail: tonydiamond49@gmail.com

In a previous article (Picoides 36(2), June 2023) Tony Diamond (tonydiamond49@gmail.com) told the story of being bitten by a shark during his Ph.D. work on Aldabra Atoll, Indian Ocean, on the Royal Society Expedition to Aldabra of 1967-69. Here he tells how succumbing to a soft spot for an orphan Red-footed Booby chick led to some insights into booby growth, nesting and feeding behaviour, and teaching a bird how to fly.

Travel around the lagoon in pursuit of my various seabird goals was occasionally enlivened by the unexpected. One day in November, after a brief rainstorm when we were patrolling the mangroves of Malabar Island counting frigatebirds and boobies, we spotted a soggy white ball of down on the curved prop-root of a red mangrove, just above the rising tide. On closer inspection this proved to be a young Red-footed Booby chick that had evidently fallen out of its nest. We could not see a candidate nest to return it to nearby, so my friend Harry and I took pity on this sodden wretch and wrapped her in a towel before sitting her on the dinghy pontoon to dry out as we continued the count. As the bird's down dried out in the sun it seemed to double in size; before we were back in camp, Boob – as she came inevitably to be known – was standing up proudly, the fluffy white down broken only by the black of the face and bill, and pale greyish feet. The big blue eyes and long eyelashes, fluttered flirtingly when approached (I had been a long time without feminine company), left me in no doubt that Boob was female, but this was not confirmed until a while later when she built any offered twig into the makeshift nest we made for her on the camp Casuarina tree.

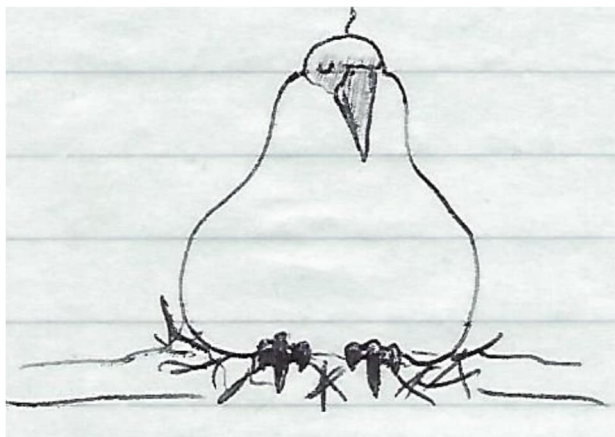
It was quite easy to find a scientific excuse for such sentimentality; I weighed and measured her regularly and weighed the locally caught fish I gave her, which told me about the growth rate of a chick fed to satiation. I did the same with a frigatebird chick, which was christened not 'Frig' as you might expect but, in a nod to nominative determinism, 'Nosher' from his ability to consume astonishing amounts of food. Nosher was a wild chick I took into captivity so that I could measure his growth rate with known amounts of food; the idea to do this came from the lucky accident of acquiring Boob and putting her to the same purpose of helping to calibrate field measurements of wild chicks.

I learned quite a lot from raising Boob that I could not have learned any other way. We built her a ramshackle nest at Settlement as well as at my camp 25 km away at the other end of the lagoon, for times that I spent there, but brought her under cover at night or in heavy rain. Her diet was mostly locally caught fish supplemented, when fishing was poor, by canned sardines from the expedition ration boxes. Only once did I attempt to feed her under cover, in the mess tent at Middle Camp; she signalled that she had had enough by shaking her head very rapidly, spraying the inside of the tent with a horizontal line of semi-digested oily fish-paste. Perhaps she thought "Hey, you do call it a mess tent"? From then on, she was fed firmly outside. If she was reluctant to eat, especially early on before she became accustomed to the routine, I learned to make a ring of my thumb and finger and squeeze it around the base of her bill; this evidently gave much the same sensation as a wild chick gets from thrusting its bill into the open throat of the adult, and usually caused her to open wide and swallow the food.



The rescue booby: the bandage on my right leg marks the recent shark bite.

I measured Boob's growth the same as way I did with wild chicks, and comparing her wing and bill lengths with wild chicks of known age told me that she was about seven weeks old when we found her. She was lighter than wild chicks of that age, so had probably been out of the nest for some time when we rescued her. She did not reach wild chicks' weight until about 12 weeks old, by which time she was fully feathered in a dusty light brown all over, with pale flesh-coloured legs and feet and grey facial skin. At this point she could be considered fully grown, but she still required feeding by a 'parent' for several months after fledging, as wild boobies proved to do.



Boob's post-prandial posture.

I was at Settlement, sharing Boob-feeding duties with a young Seychellois boy who brought fish that relatives had caught, when we started trying to teach Boob to first take a fish dangled in front of her beak, and then to catch one thrown to her. We tried lobbing the fish gently, to give her time to figure out the speed and trajectory, but every time she just watched it drop to the sand without making much effort to take it. This meant I had to lean down to retrieve each fish and wash the sand off before presenting it again. It didn't take long for me to lose patience and shout, 'here take it you stupid bloody bird' and fling the fish right at her, at which point she snapped it cleanly and swallowed it with no trouble. This made me think about how adult Red-footed Boobies catch their prey of flying-fish and flying-squid; often they plunge-dived below the

surface from the air, but I had also seen them skimming low over the water and snatching prey in the air as they tried to escape from underwater predators such as tuna or dolphins. It seems that the ability to snatch fast-moving fish in the air develops very early in this

species. From then on, we respected her preference for fast food as best we could.



Boob's other sleeping posture (left), adopted in hot weather, and shown also by resting adults (right).

Boob's ability to fly did not develop so early; I had to encourage her to give it a try. Although she had been flapping her wings vigorously on her nest long before she could be expected to fly, now she was fully feathered she seemed reluctant to graduate to actual flight. She liked to stand on my shoulder and preen my beard, so I started to take her for walks on the beach, then put her on my outstretched arm and start running. This got the air

flowing past her wings, and when she was flapping hard, I would just stop dead. At first, she just plummeted to the ground, looking most offended, but after a few trials she got the idea and started to lumber into the air, though she would always try and get back on my shoulder at the first opportunity, so I had to turn and run the other way to prolong her time in the air. I had to leave Aldabra before she became sufficiently proficient to join the gangs of 'teenage' juveniles we frequently met around the lagoon, so Jack Frazier, who was studying sea turtles, looked after her when I left and apparently, she did eventually become independent. When I came back to Middle Camp a year after I had left, some young boobies still in the brown plumage dropped by, and one landed on the boat for a while on its own before circling around and leaving to join the others. I like to think that was Boob.

By the time Boob had completed her full juvenile plumage, I had also changed appearance somewhat by growing a thick beard. Somebody had a Polaroid camera, and I thought my girlfriend back in London should see what I looked like after several months without the hairbrush she was looking after for me. For my portrait I thought it appropriate to adopt the pose of a pirate, with a wooden leg and a booby instead of a parrot on my shoulder. Between balancing one knee on the stick, the grip of Boob's sharp claws on my shoulder, and the strain of trying to keep up the shorts whose elastic was long gone, my expression was a little strange – the pink scribbles around the edge of the print are my attempt to explain this. Liz had told her friends about my shark bite and when they saw this photo they naturally assumed I had lost my leg as well as my sanity.

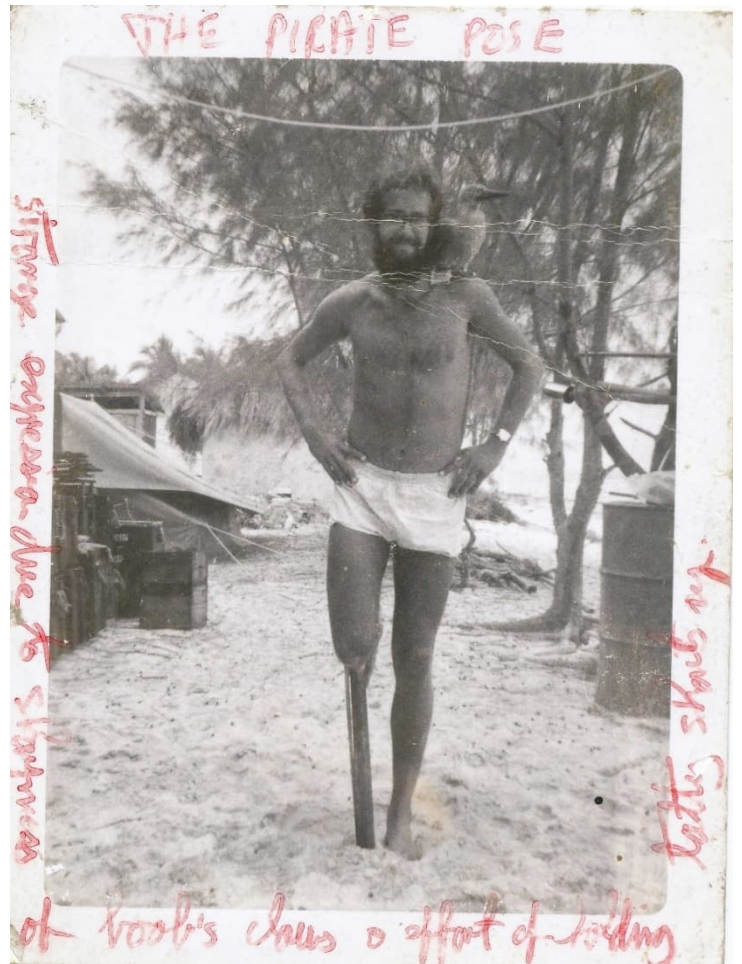


Boob begging for food, at Settlement. She is now in fully feathered juvenile plumage.





A ride on my friend Harry's shoulder; and another on mine.



Captain Thomas Blakiston: Natural History Meets Eloquence in Early Saskatchewan

Spencer G. Sealy

Department of Biological Sciences, University of Manitoba, Winnipeg, MB R3T 2N2, Canada

E-mail: Spencer.Sealy@umanitoba.ca

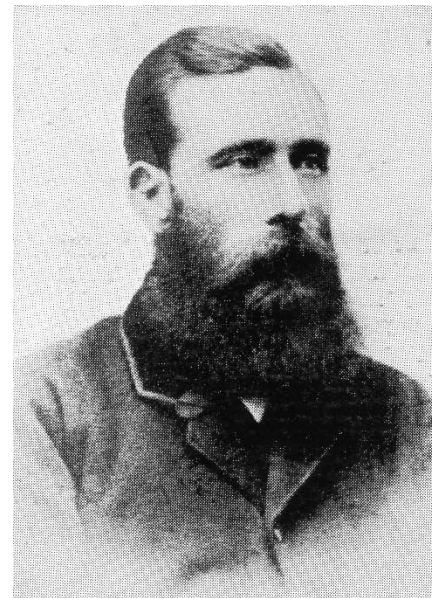
It was not only the geographical distribution pure and simple that attracted his attention. With true scientific tact and accuracy, he investigated the changes of plumages, the migrations, and the habits of the birds he came in contact with, and many an intricate question has been solved which without his untiring energy and loving understanding would have remained unsolved to this day.

– Leonhard Stejneger commenting on the breadth of Capt. Blakiston's contributions (1892).

Introduction

Thomas Wright Blakiston was the first oologist to visit the Northern Plains. Then a Lieutenant in the Royal Artillery (and later a Captain), he was the magnetic observer to the exploring expedition sent by the British Government under the command of Captain John Palliser.^{1,2} Born in England on December 27, 1832, Blakiston sailed to York Factory in August 1857, arrived at Cumberland House on October 4 of the same year and at Carlton House (Fort Carlton) on October 23. Here, he overwintered and remained until early June 1858, before the expedition set out to explore as far west as the Rocky Mountains (Houston and Street 1959, Houston 1976). Working in his spare time, Blakiston collected eggs and specimens at old Fort Carlton (52°52' N, 106°32' W), north of present-day Saskatoon, and in the Prince Albert region, from October 23, 1857, through early June 1858. He was credited with providing the first ornithological information for Saskatchewan (Mitchell 1924), although that credit actually belongs to Sir John Richardson (Houston 1988, 2010). Nevertheless, Blakiston's observations and specimens complemented Richardson's contributions — as well as those of Thomas Drummond, made in the 1820s — and also included the first sets of birds' eggs collected on the Canadian Prairies. Blakiston published his observations in an impressive series of letters and papers that were enhanced in many cases by eloquent descriptions of birds and their habitats, and behaviour (Blakiston 1859a, b; 1861, 1862, 1863a, b). Blakiston was an enthusiastic amateur ornithologist, "in the days when birdwatching was the hobby of a select few" (Houston 1976), and "... his contributions to ornithology stand out at a time when that science was still young" (Holmgren 1976).

Blakiston collected 100 specimens of birds and observed 29 additional species in the region known today as Saskatchewan.³ Houston and Street (1959) clarified that most, if not all, of Blakiston's specimens were collected at the "Forks of the Saskatchewan", the site synonymous with "Fort Carlton." His preliminary notes were published in *The Zoologist* in two instalments in 1859, and his most important paper was published in *The Ibis* in four instalments between 1861 and 1863. Most of Blakiston's specimens of birds collected in North America were deposited in the Royal Artillery Institution at Woolwich (Sharpe 1906), but those specimens are no longer extant (Houston and Street 1959). Some specimens, including eggs of seven species taken in 1858, were sent to the Smithsonian Institution, Washington, D.C., and catalogued in the United States National Museum (USNM). A few specimens acquired by private collectors were registered in the American Museum of Natural History (AMNH), New York, and the Natural History Museum (NHMUK), Tring, UK.⁴



Thomas Wright Blakiston (1832–1891).
Courtesy of the Provincial Archives of
Saskatchewan, R-A4983.

Blakiston not only described the birds observed, he provided details of their habitats and in some cases included notes on taxonomic status, as best he could with the knowledge that was available at the time. Many accounts included eloquent descriptions of the birds' behaviour⁵ and glimpses into the difficult conditions under which he and other naturalists worked. As the observations of the early naturalists should not be forgotten, I have revisited the accounts and quoted passages from Blakiston's observations of five species recorded on the Saskatchewan plains, backed by specimens from four species that have survived.

Ferruginous Hawk (*Buteo regalis*)

Blakiston's discoveries of the first two nests of Ferruginous Hawk in what became known as Saskatchewan were heralded by Bendire (1892, p. 262), who stated, "The first eggs of the Ferruginous Rough-leg brought to scientific notice are a set of four, taken by Capt. T. Blakiston during a buffalo hunt, on April 30, 1858... [The nest] was found between the north and south branches of the Saskatchewan River." Bendire (1892, pl. 9, fig. 2) illustrated the single egg from this clutch (USNM B 2662), but the locality was given only as "plains of the Saskatchewan." A second clutch of five eggs, was taken from another nest near the same locality on the same day or a day earlier (Blakiston 1861, also see Bendire 1892). One egg from this set is catalogued in the Natural History Museum, London (NHMUK 1884.9.2.121), but it is labeled erroneously as "Carlton, Saskatchewan, North America" (Figure 1). Based on archived letters written by Blakiston, Houston (1976) pinpointed the exact location of these nests near the Anerley Lakes, south of Fort Carlton (see below). The latter egg formed part of the Salvin-Goodman collection donated to the Natural History Museum in 1884 (Oates 1902), in which the nest's location was given, also incorrectly, as "a few miles SW of Carlton" (Figure 1). The stomach of the female that Blakiston collected contained "Remains of Ground-Squirrel". Further observations led Blakiston (1861) to note, "[The Ferruginous Hawk] feeds on the Ground-Squirrels so common on the prairies; hence, I suppose, its name of "Californian Squirrel-Hawk"." Blakiston's (1861, p. 319) final comments focused on the Ferruginous Hawk are worth repeating:

It is a fine powerful bird, and, in distinction from other hawks, is known to the Cree Indians by the name of Sa-qua-ta-mov, of which word I can find no interpretation; but they have shown their knowledge by classing the Black Hawk [American Rough-legged Hawk, *Buteo lagopus*], last mentioned, along with this one, and calling it the black Sa-qua-ta-mov... The way in which birds adapt their habits to circumstances is strikingly shown on the prairie, where hawks and ravens will build even on low bushes; and, again, along rivers where wolves are numerous, Canada Geese sometimes lay their eggs in the old nests of eagles.

After scrutinizing the description of the nest sites provided by Blakiston, which were detailed in a letter written at Fort Carlton to John Matthew Jones, one of the founders of the Nova Scotia Institute of Science, on 6 May 1858 —, Stuart Houston (1976) organized an attempt, albeit inconclusive, to pinpoint more precisely the location of the sites during an outing of the Saskatoon Natural History Society some 117 years later, on April 27, 1975. The group observed several species of birds that Blakiston had recorded, but "... the ferruginous hawk, raven and antelope, as well as the buffalo, were no longer to be seen" (Houston 1976). Three days later, Houston's party was flown over the area in a small aircraft in search of the "large boulder stone" mentioned by Blakiston, which sat on the summit of a hill along the valley of the Anerley lakes. Only after discussion with a local resident, however, was it revealed that the boulder had been toppled into the valley along the south shore of the most westerly of the three Anerley lakes, near the present village of Dinsmore (51°19' N, 107°23' W). Those records provided a starting point for Houston and Bechard's (1984) assessment of the decline of the Ferruginous Hawk in Saskatchewan and revealed how much the species' range had contracted; the last nesting was recorded in that area in 1939.



Figure 1. Ferruginous Hawk egg (NHMUK 1884.9.2.121); one of a clutch of five eggs collected by Thomas Blakiston, on April 30, 1858, erroneously labeled Fort Carlton, Saskatchewan. Blakiston's measurements: 6.35 cm x 5.08 cm. Courtesy of the Natural History Museum.



Figure 2. A pre-1960 nest and eggs of the Ferruginous Hawk (sensu Houston and Bechard 1984), showing variation in colour and pattern among the eggs. West of Kindersley and Teo Lake, Saskatchewan. Photo credit: S.G. Sealy.

Blakiston (1861) had written all he intended about the Ferruginous Hawk, but while completing the penultimate instalment of his list of birds observed in Saskatchewan, and after scrutinizing an egg identified as having been laid by this species, which was measured and figured in Brewer's "Oology" (1859, p. 37, pl. 3, fig. 26), Blakiston (1863a) felt compelled to express his doubt regarding what species laid this egg. He referred to "... the case of the "California Squirrel-Hawk," ... the supposed egg of which [Brewer] had figured from a specimen said to have been obtained... in California." Comparing measurements of the eggs from California and those taken in Saskatchewan, Blakiston (1863a, p. 47) concluded Ferruginous Hawk eggs are "... considerably larger... besides being quite differently coloured." But Blakiston (1863a) acknowledged that "variations" in colour and pattern of the eggs of these species, including those within the same clutch (Figure 2), rendered identification untenable. He wrote, "One of [the eggs] is white, with large distinct blotches and smaller specks of two shades of brown; another is more obscurely blotched with paler brown, and at the same time freckled nearly all over." In this connection, the problem of variation in egg pattern among the species of hawk was addressed in a review

published soon after Brewer's "Oology" (Anonymous 1859). Blakiston stood by the fact his eggs were larger and, in the end, the eggs described by Brewer (1859) were deduced to have been laid by Swainson's Hawk (*B. swainsoni*), which nests in central California (Dawson 1923).

Great Horned Owl (*Bubo virginianus*)

Observations and two specimens of the Great Horned Owl were enough for Blakiston to acknowledge this species' variation in colouration⁶, and possibly that there was more than one species. Blakiston (1861) initially referred to the "light-coloured variety" of the Great Horned Owl as a distinct species, but later (1863a) doubted "... the correctness of this view, and consequently [preferred] keeping it under the original name [*Bubo virginianus*]; otherwise, we shall have to allow at least three species, all differing from the type [specimen]." Blakiston's change of mind was influenced by the results of Baird's (1858, p. 50) examination of a series of specimens and his summary of the taxonomic status of the Great Horned Owl. Baird wrote, "We have, therefore, to regard them all as *B. virginianus*, and to attribute the differences in their colors to variety only, either local or caused by accidental circumstances."

Blakiston's (1861, p. 49) first specimen of Great Horned Owl was taken by a local trapper, whereas the collection and his description of the second specimen provided a colourful glimpse into the life of the early field collector:

I had a pointer-dog with me, which I allowed to beat the ground, thinking perhaps he might attract the attention of the Owl from me; and I was already so angry with the length of the chase that I determined to blaze even if he rose a hundred yards from me. But to the point at once: as I steadily made my way through the little wood, up started friend "Arcticus," as unexpectedly as a snipe, among the tops of the small aspens. My gun rose to my shoulder as quickly as if I had been on a bog in the "auld country," and down dropped the quarry to a touch of No. 3 shot at thirty-two yards. I need hardly say how delighted I was as I trudged homeward to the fort, with a fine but very light-coloured specimen of a Great Horned Owl tied by my pocket-handkerchief to the barrel of the gun over my shoulder... The final [identification] will be of importance to the progress of ornithology, as it will define the limit to which we may go in varieties—local, accidental, or, if we may so term them, permanent. In the meantime I shall assume that the Great Horned Owls of North America are all *B. virginianus*. The Great Horned Owl appears to be a common inhabitant of the interior of North America, from Hudson's Bay to the Rocky Mountains, and north to the Arctic Circle—in fact, the whole of North America.

The subspecific name for the population of *B. virginianus* from Mackenzie to central-eastern British Columbia and northern Ontario should be *B. v. subarcticus* Hoy (Browning and Banks 1990).

Sprague's Pipit (*Anthus spragueii*)

Noting that Sprague's Pipit was "Common on the plains of Saskatchewan", Blakiston (1862) collected the second specimen of this species on May 7, 1858 (USNM A 16766, Figure 3), about 15 years after the type specimen was collected near Fort Union, Upper Missouri (North Dakota). Credit for collection of the type specimen was initially given to John James Audubon but following careful scrutiny of the journals

and diaries prepared by several early explorers, credit was later given to John Graham Bell and Edward Harris (Allen 1951). Blakiston did not find a pipit's nest, but he was so impressed by the species' prolonged flight displays that he described them in great detail (Blakiston 1863a, p. 61):

The Missouri Skylark, hitherto looked on as a rare bird, is common on the prairies of the Saskatchewan during the breeding-season. The first occasion on which I found it was in the neighbourhood of Fort Carlton, on May 6th. When disturbed from the prairie grass, which is its general haunt, it utters a single chirp, and immediately mounts in the air by a circuitous course, with a very undulating flight, to a great height, where it rests in a peculiar manner on its outstretched wings, and utters a very striking song, which it is difficult to describe, and I can liken to nothing I know. The sound is repeated in a quick succession of notes in the descending scale, each note being lower than the preceding. The bird then usually descends to the ground with great rapidity, almost like a stone, and something similar to a hawk swooping on its prey. These striking manners, if once seen, are not to be forgotten; and I should recognize the note instantly, even if I heard it in the depths of a mangrove-swamp in the tropics. I found it rather difficult to approach, and hard to shoot. How this bird should have been so long overlooked seems marvelous, for I do not know a more common bird on the buffalo plains of the Saskatchewan during summer, and it must consequently be a visitor to the southern prairies.

Equally detailed was Blakiston's (1863a, p. 61) description of the plumage and measurements of the bird: "I find also, by my note-books, that I observed [Sprague's Pipit] in Northern Minnesota on the 4th day of May, 1859. My specimen from Fort Carlton was a male; it measured in length $6\frac{3}{4}$ inches, the wing was $3\frac{3}{4}$ inches, and bill along the ridge scarcely half an inch; the eye was hazel; feet dull flesh-colour, tinged with yellowish underneath; bill above and at the point dusky, remainder of under mandible flesh. The first four quill-feathers were nearly equal and the longest, the fifth being $\frac{3}{4}$ ths of an inch shorter; greater coverts tipped with dull white. It differs from *Anthus ludovicianus* [*rubescens*] principally in the bill, legs, chin, line over the eye, and tail-feathers."

Confined to the grasslands, an endangered landscape, Sprague's Pipit has been the subject of considerable research in Saskatchewan (Davis and Sawatzky 2019), focused on this species' habitat use, breeding biology and conservation concerns.



Figure 3. Male Sprague's Pipit (USNM A 16766) collected by Thomas Blakiston near Fort Carlton, Saskatchewan, May 7, 1858. Courtesy of the United States National Museum.

Redpoll (*Acanthis flammea*)

Not surprisingly, Blakiston was uncertain of the identification of the redpoll. Of the five Redpoll specimens he collected, only one can be located (AMNH 41794, Figure 4), catalogued as *Acanthis linaria*. Blakiston initially listed this species as *Fringilla linaria*, as originally described, writing, "Fringilla linaria,—or whatever it may be called, for there seems much confusion concerning the different species of this genus,—at any rate the American lesser redpole, is here during winter, but not numerous. I have several specimens for comparison" (Blakiston 1859b). Blakiston (1863a, p. 71) later listed the redpolls under two species in the genus *Ægiothus* (*linaria* and *canescens*), and

acknowledged his omission of the specimens in an earlier paper, "... on account of the difficulty of deciding to which species they belonged." He finally conceded, "I think the best I can do is to say only that a species of Redpoll is a winter resident on the Saskatchewan, where it is common enough, and leave this much-disputed question alone." In a footnote, the editor of *Ibis* suggested that readers consult Coues's (1862) monograph of the redpolls, which suggests Blakiston's specimens "... may be referable to *Æ. exillipes*, Mr. Coues's new species."



Figure 4. One of five specimens of Redpoll (AMNH 417940), and the only one extant, collected by Thomas Blakiston at Fort Carlton, Saskatchewan. Courtesy of the American Museum of Natural History.

Blakiston's doubts regarding the identification of redpolls have occupied the attention of ornithologists for many decades. Although two subspecies of Redpoll (*A. f. flammea* and *A. f. rostrata*) are recognized in Saskatchewan (Beland 2019), recent studies of phenotypic variation in the redpolls, including genomic studies (e.g., Troy 1988, Knox 1988, Mason and Taylor 2015), have blurred the taxa despite phenotypic differences, and most recently Redpoll subspecies have been merged into a single species (Funk et al. 2021) and officially registered by Chesser, Billerman, Burns, and others (2024).

Evening Grosbeak (*Coccothraustes vespertinus*)

Taverner (1921) was captivated by the Evening Grosbeak, as revealed in a summary of the status of this species in Canada:

Perhaps to no American bird is there greater interest attached, aesthetic or scientific, than to the Evening Grosbeak, *Hesperiphona vespertina*. Appearing as it does in the dreariest season of the year, when birds are few and color absent from the landscape, its wonderful yellow color and plaintive whistle always attract attention and interest... and the winters of its occurrence always call forth letters in the papers and floods of enquiry of the local ornithologist... the very mystery that surrounds the bird piques our curiosity. For it comes only at irregular and unexpected intervals, and, after tarrying awhile, disappears into the unknown; nor with all our present knowledge of the movements of birds can we yet say authoritatively whence it comes or wither it goes.

It was the Evening Grosbeak's movements into a region in one winter, and absence the next, in particular, which prompted Taverner's review. But Taverner (1921), and later Brunton (1994), overlooked observations of this species at Carlton House and the Saskatchewan plains that Blakiston had so eloquently described more than 60 years earlier.

Despite not recognizing the Evening Grosbeak when initially encountered, Blakiston eventually wrote about aspects of its life history, noting particularly its reliance on seeds of the Manitoba Maple (*Acer negundo*). In his letter to the editor of the *Zoologist*, written from Fort Carlton on January 14, 1858, Blakiston (1859a) noted "There is a species of grosbeak, which, as well as the pine grosbeak [*Pinicola enucleator*], has been here all winter, but it is not so numerous as the latter; I cannot identify it by Wilson [1810] or Brewer's [1859] Synopsis, and in my Journal have therefore called it for distinction "yellow-fronted grosbeak", however, if as you wish, and I hope for your sake, you are at present stationed in Dublin, you will have no difficulty in procuring the 'Fauna Boreali-Americana' from the Dublin Society's library, and no doubt make the bird out." The bird was the Evening Grosbeak (Figure 5).



Figure 5. One of four Evening Grosbeaks (AMNH 41785) collected in "Arctic America" (Fort Carlton), Saskatchewan, by Thomas Blakiston, probably on November 17, 1857 (see Blakiston 1862, pp. 5-6). Courtesy of the American Museum of Natural History.

By the fall of 1857, Blakiston (1859b) noted that the Pine Grosbeak was "In considerable numbers from the 7th of November, and another species supposed to be the Evening Grosbeak (*Coccothraustes vespertina*?), was first observed about a week later, but it never was so numerous as the other. Both were generally to be found about maple trees (*Acer fraxinifolium*), the seeds of which they eat." Blakiston (1863a, pp. 69-70) provided ecological notes on the Evening Grosbeak in his journal, and corrected a statement made earlier by Richardson:

The authors of the 'Fauna Bor.-Am.'⁷ were mistaken in considering the Evening Grosbeak as a summer visitor to the Saskatchewan. The fact is, it only inhabits that region during the winter season, and was not observed by me subsequent to the 22nd of April; its breeding-country must consequently be far to the north, whence it arrived at Fort Carlton in the middle of November. The four specimens recorded ('Ibis,' vol. iv. Pp. 5 & 6) were shot in a grove of maple-trees just offside the stockades of Fort Carlton. The maple is by no means a common tree on the Saskatchewan, one species only, the Ash-leaved (*Acer fraxinifolium*), reaching so far north and west. It is found in small groves in sheltered situations in the river valley, and these places are resorted to in the spring by the Indian women for the purpose of sugar-making [see below]...⁸ But to return to the Grosbeaks [after describing the process of sugar-making]: both species, the Evening (*H. vespertina*) and the Pine (*Pinicola canadensis*), were to be found, on and off, in small parties in the maple-trees I have mentioned, near Fort Carlton, during the whole winter; but

the former were never as numerous as the latter. They appeared to feed alike on the seeds of the maple. For some days early in March, I lost sight of my friends; but on the 14th I was again allowed the gratifying sight of a flock of about five-and-twenty Evening Grosbeaks, which I took to be some that had wintered more to the south, and were merely passing on their northward journey, having only stopped for the purpose of making a meal on their favourite food.

Curious about the apparent difference in the sex ratio of the grosbeaks, Blakiston (1863a) questioned whether "... the young birds [are] longer in coming to maturity in the [Pine Grosbeak] than the [Evening Grosbeak]?"

Again, on the 24th of the same month [April 1858], I found another travelling party, one-third of which only were females. This singularity I had moreover invariably noticed during the winter, that while of the Pine Grosbeaks those in the female plumage predominated, among the Evening Grosbeaks there were always as many, and usually more, in the brilliant dress of the males.

Several researchers have reported a skewed sex ratio among wintering Evening Grosbeaks in different regions, with a preponderance of females (e.g., Balph and Balph 1976) or of males (e.g., Prescott 1994). Although complex, differential migration of the sexes has been suggested to underlie this disparity. Contrary to Blakiston's suggestion, however, first-year and adult Evening Grosbeaks are distributed similarly in winter (Prescott 1991). Results of a multi-year banding study of the Pine Grosbeak in Alaska revealed that adults comprised one-third of the population with females slightly outnumbering males (North 2020).

Epilogue

Noted earlier, Blakiston's observations were made in his spare time, a fact he reminded readers as his final paper came to close, but in doing so he sold himself short (Blakiston 1863b, p. 155):

Thus I bring to an end a list which, although it does not carry on its face a circular note of credit to general ornithologists, yet, from the labour bestowed upon it, may, I hope prove useful to future inquirers on North American birds. To say that I am aware of its defects would be to criminate myself, because it might in justice remarked, why did not I rectify them? I will therefore observe that I have drawn from every reliable authority within my reach, but have never given the information so gained as if it were my own, the scantiness of which is, I am afraid, too apparent. When remarking on my own labours in the field, I would ask the reader to bear in mind that, as a member of a Government Exploring Expedition, my duties were widely different from those of a zoologist; in fact, I had properly nothing to do with natural history, my work being of a nature which required the use of the sextant more than the fowling-piece, the pen and pencil instead of the dissecting-knife, and observations of the movements of magnets rather than of birds. It was consequently only spare moments at uncertain times that I was able to devote to my favorite pursuit, ornithology...

Endnotes

1. Information on the life, travels and breadth of contributions to natural history in Saskatchewan by Thomas Wright Blakiston is provided by Stejneger (1892), Houston and Street (1959), Holmgren (1976), Houston (1976), Houston and Bechard (1982), and Sealy (2020).
2. Before joining the Palliser Expedition, Blakiston served with the Royal Artillery, with his regiment serving in Nova Scotia from September 1852 through 1854 and then in Crimea in 1855-56.
3. Highlights of many of Blakiston's specimens of birds in relation to his itinerary are given in Houston and Street (1959) and Houston (1976).
4. Specimens of Black-capped Chickadee, Redpoll and Evening Grosbeak were acquired by the American Museum of Natural History as part of a collection of more than 8000 bird skins donated by George N. Lawrence. Lawrence was an amateur ornithologist and author, who under the influence of Spencer F. Baird of the Smithsonian Institution, in 1841, devoted his full time and energy to the study and classification of birds. I did not uncover correspondence that lead to Lawrence's acquisition of these specimens. Additional Blakiston specimens were acquired by the Smithsonian Institution and the Natural History Museum.

5. Houston (1959) was so impressed by Blakiston's description of courtship behaviour of the Sharp-tailed Grouse (*Tympanuchus phasianellus*), published by Blakiston in the April 1863 issue of *The Ibis*, he reproduced it in full in *Blue Jay* (see Houston 1976).
6. Blakiston's (1861) specimens of Great Horned Owl were initially recorded as distinct species: *Bubo virginianus* (female, January 29, 1858) and *Bubo arcticus* (male, March 25, 1858). Neither specimen can be located.
7. Swainson, W., and J. Richardson. 1832. *Fauna boreali-Americana*, Volume 2, the birds. John Murray, London, UK. Blakiston was not the first naturalist to observe and study the Evening Grosbeak. This credit goes to the naturalists that served during the first Franklin Overland expedition, where the bird was known as the "sugar-bird." Although most of the expedition's floral and faunal specimens, including Robert Hood's paintings, and his life, were lost in a tragic accident, Hood's painting of a male Evening Grosbeak, which he called 'Yellow Grosbeak', was not published until 150 years later (Houston 1974). By that time, however, the species had been described based on specimens, including the type specimen collected on April 7, 1823 near Sault Ste. Marie, Michigan (Cooper 1825). Hood's painting, however, represented the first authentic record of this species (Houston 1974). Commenting on Swainson's water colour of a male Evening Grosbeak (facing p. 269), Blakiston's (1863a, p. 70) stated succinctly, "The figure in the 'Fauna Bor.-Am.', is good."
8. Buried in the midst of the description of the Evening Grosbeak's apparent preference for seeds of the Manitoba Maple, Blakiston (1863a, p. 69) provided an early, and overlooked, description of the extraction of sap by Indigenous women and the production of maple sugar on the Canadian prairies.

The maple is by no means a common tree on the Saskatchewan, one species only, the Ash-leaved (*Acer fraxinifolium*), reaching so far north and west. It is found in small groves in sheltered situations in the river valley, and these places are resorted to in the spring by the Indian women for the purpose of sugar-making. This operation is carried on in a very primitive manner, the tree being simply notched, and a piece of wood driven in just below the notch, to lead the sap, from the end of which it drips into little pannikans of birch bark laid at the foot of the tree to receive it. These are visited once or twice a day, according to the yield, which depends very much on the weather, frosty nights and warm days being the best. The syrup thus collected being boiled down in kettles, sugar is produced in the form of a hard cake—very pleasant to eat by itself, but nothing to be compared to cane-sugar in its sweetening property. The maples commenced to "run," or rather drip, on the 28th of March—the spring (1858—a rather early one) that I resided at Fort Carlton. Any unusually cold weather occurring will put a stop to the flow of sap...

Blakiston's description of sugar making in Saskatchewan was among the earliest, but it was overlooked by authors of historical summaries of maple sugar production on the Canadian prairies (e.g., Blouin 1992, Kort and Michiels 1997). In 1805, Alexander Henry noted that "[t]he sap yields a fine white sugar; but it is not so sweet as that of real sugar... and more is required to make the same quantity of sugar" (Coues 1897, p. 172). Harmon (1911, pp. 31-32) noted in passing that the sap of the Manitoba maple was used to produce sugar by Indigenous people in Manitoba, but that "... its quality is not equal to that, produced from the real maple." More recently, Friesen (2008) noted that some of the Manitoba Maples planted earlier at Fort Carlton by Indigenous people to be tapped for syrup still survive. In *Under Prairie Skies*, Shay (2022, p. 121) acknowledged the importance to Indigenous people of the annual collection of sap from prairie trees, but it was the maple with, "[i]ts sugar and syrup... so appealing that families still converge on their favorite sugar bush every spring."

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Doug Tozer, Birds Canada, Port Rowan, Ontario

By supporting SCO-SOC, you contribute in very important ways to bird habitat conservation in Canada and beyond. One of the goals of the society is to promote the global conservation of birds, and the society's conservation committee works on current and upcoming concerns and developments that could influence the conservation status of Canadian birds in the wild. So, thank you very much for your dedication to the cause!

To extend your contribution, you might like to purchase a Canadian Wildlife Habitat Conservation Stamp? If you're not familiar, the funds raised through the purchase of the stamp go to Wildlife Habitat Canada, a national non-profit charity that provides funding for wildlife habitat conservation projects across the country. Although often referred to as "the duck stamp," the funds support much more than conservation and management of waterfowl (ducks, geese, and swans) and wetlands. Investments contribute to community engagement, education, and research involving migratory birds, and help conserve habitat, including upland habitat, for other bird groups, such as grassland birds, aerial insectivores, and shorebirds.

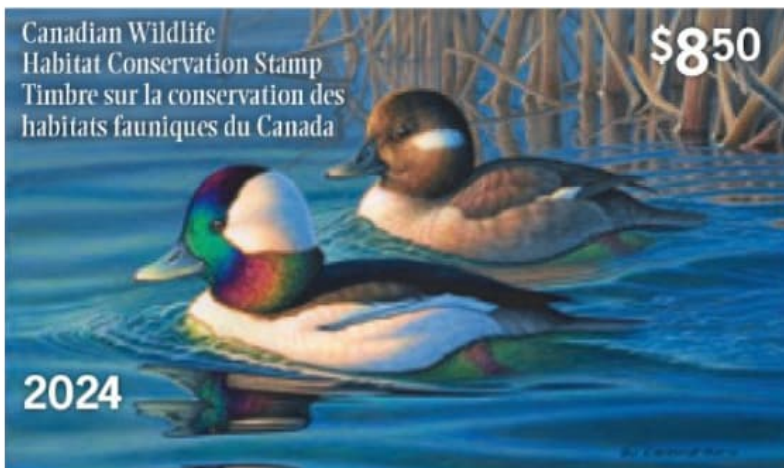
The stamps are CAD \$8.50 each and make excellent gifts. There is even a paperless option: you receive a pdf by email instead of a paper stamp via snail mail, which maximizes the impact of your donation. You might consider purchasing 2-3 stamps annually to make a more impactful contribution. You can purchase stamps at the links provided below. Thank you very much again for supporting SCO-SOC and for your dedication to conservation of birds and other wildlife and their habitats in Canada.

Paperless stamp: <https://whc.org/product/2024-symbolic-stamp/>

Paper stamp: <https://www.rousseaucollections.com/en/product-category/conservation-stamps/canadian-wildlife-habitat-conservation-stamp/2024-can-en/>

More about the stamp: <https://whc.org/the-stamp/>

More about Wildlife Habitat Canada: <https://whc.org/who-we-are/>



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Introducing The State of Canada's Birds

Kyle Horner, Birds Canada

The newly released State of Canada's Birds is a partnership between Birds Canada and Environment and Climate Change Canada. It is built on over 50 years of bird monitoring data, much of it collected by Citizen Scientists. It combines the data with expert analysis to answer one, simple question: **how are Canada's birds doing?**

The State of Canada's Birds addresses this question in two ways: a species account for every bird that regularly occurs in Canada, and a rolled-up summary report. The accounts provide population trends, distribution, occurrence, and conservation goals for each species based on the best data currently available. The report presents trends for groups of birds that tell important stories, and urges all people in Canada to take action for birds.

The report builds upon similar reports from 2012 and 2019, but the analysis is new and improved, and it includes data on more species than ever before.



Art by Shaylena Stenback

Here are five big stories from The State of Canada's Birds:



Canada's **grassland birds** have declined by 67% since 1970. Some, like Chestnut-collared and Thick-billed Longspur, have declined by over 95%. These birds are in serious trouble. The single biggest threat is the destruction and degradation of native grasslands, and action is urgently needed.



Shorebirds in Canada have declined by 42% since 1980. Many nest in the Arctic or the Prairies, where climate change is altering the timing of seasonal events and the frequency of floods and droughts. Habitat loss on migration and in their nonbreeding ranges also threatens this vulnerable group.



Aerial insectivores have declined by 43% since 1970, but that decline seems to be leveling off. For some species, populations may even be starting to rise. This is hopeful, but there are still far fewer of these birds than there once were. Continued efforts to recover populations are essential.



Arctic birds and **long-distance migrants** are both presented for the first time in this report, and they have declined by 29% and 28% respectively. Climate change is likely affecting both groups, and the perilous journeys of far-flying migrants expose them to additional risks.



Three groups – **waterfowl**, **birds of prey**, and **wetland birds** – have increased in population since 1970. Many of these species had declined by the mid-1900s, so these increases represent recoveries. They are proof that deliberate, informed conservation action can work.

The State of Canada's Birds is built on rigorous, transparent methods. It is versioned and citable, with DOIs assigned to both the species accounts and the report. The trend data used in the accounts can be downloaded directly, and the raw occurrence data are available from www.naturecounts.ca. The State of Canada's Birds is a living resource, with regular updates planned to ensure it continues to reflect the best state of knowledge about the birds that live in Canada.

Visit The State of Canada's Birds at www.stateofcanadasbirds.org.

L'état des populations d'oiseaux du Canada 2024

Kyle Horner, Oiseaux Canada

L'état des populations d'oiseaux du Canada est le fruit d'un partenariat entre Oiseaux Canada et Environnement et Changement climatique Canada. Il repose sur plus de 50 ans de données de surveillance, la majorité récoltées par des citoyens scientifiques. Il combine ces données et l'analyse d'experts pour répondre à cette question : comment se portent les oiseaux du Canada ?

Le document comprend deux parties : un compte rendu sur chaque espèce présente régulièrement au pays et un rapport sommaire récapitulatif. Les comptes rendus indiquent les tendances démographiques, la répartition, l'occurrence et les objectifs de conservation pour chaque espèce à partir des meilleures données disponibles. Le rapport récapitulatif présente les tendances, qui en disent beaucoup sur divers groupes d'oiseaux, et invite tous les citoyens à agir pour les préserver.

Le rapport fait suite aux éditions de 2012 et 2019, mais l'analyse, actualisée et bonifiée, porte sur plus d'espèces que jamais auparavant.



Art par Shaylena Stenback

Cinq constatations majeures ressortent :



Au Canada, les effectifs des **oiseaux des prairies** ont chuté de 67% depuis 1970 (plus de 95% chez les *Plectrophanes* à ventre noir et à ventre gris, en grand danger). La plus grande menace est la destruction et la dégradation des prairies naturelles ; il est urgent d'agir.

Les **limicoles** sont 42% moins nombreux qu'en 1980. Beaucoup nichent dans l'Arctique ou les Prairies, où les changements climatiques perturbent le calendrier des phénomènes saisonniers et la fréquence des inondations et sécheresses. La perte d'habitats le long des voies migratoires et dans les quartiers d'hiver menace également.

Les populations d'**insectivores aériens** ont diminué de 43% depuis 1970, mais semblent se stabiliser. Les effectifs de certaines espèces commenceraient même à remonter. C'est source d'espoir, mais il y a encore beaucoup moins d'oiseaux qu'avant. Il est impératif de poursuivre les efforts de rétablissement des populations.

Les **oiseaux de l'Arctique** et les **migrateurs de longue distance**, présentés pour la première fois dans le rapport, ont vu leurs effectifs chuter respectivement de 29 et 28%. Les changements climatiques pourraient les affecter, comme les dangers qui les guettent lors de leurs périlleux périples.

Trois groupes, la **sauvagine**, les **oiseaux de proie** et les **oiseaux de milieux humides**, ont augmenté en nombre depuis 1970. Bonne nouvelle, car beaucoup d'espèces s'étaient raréfiées vers le milieu des années 1900. C'est la preuve que des mesures de conservation ciblées et éclairées portent fruit.

L'état des populations d'oiseaux du Canada repose sur des méthodes rigoureuses et transparentes. Il est versionné et citable, des Identificateurs d'objets numériques (DOI) étant assignés tant aux comptes rendus sur les espèces qu'au rapport récapitulatif. Les données sur les tendances utilisées pour les comptes rendus peuvent être téléchargées directement et les données brutes sur l'occurrence, depuis www.naturecounts.ca. Le rapport est une ressource évolutive qui sera mise à jour régulièrement pour continuer de présenter l'état le plus récent de l'avifaune canadienne.

Rendez-vous à www.EtatDesOiseauxCanada.org.

Jamie Smith Memorial Award for Mentoring Prix Memorial de Jamie Smith pour le mentorat

CALL FOR NOMINATIONS / APPEL DE NOMINATIONS - 2025

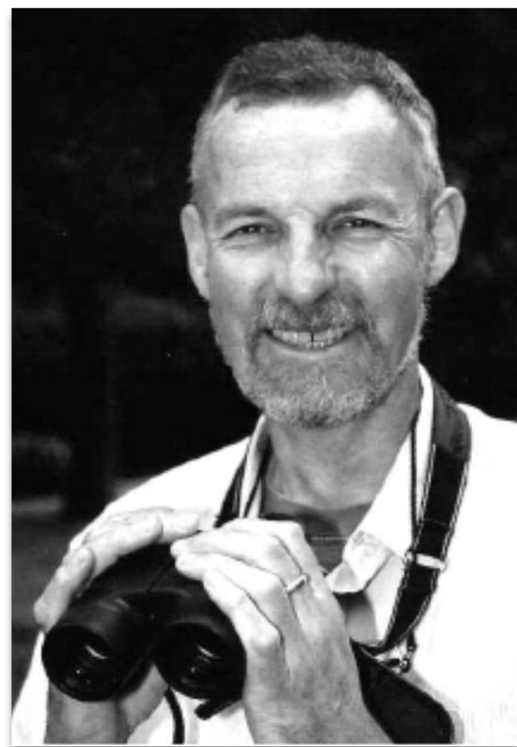
In recognition of Jamie Smith's contribution to fostering ornithological research, the Society of Canadian Ornithologists has created The Jamie Smith Memorial Award for Mentoring in Ornithology. This award honours established ornithologists - either in academia, industry, non-government, or government agencies - nominated by students, colleagues, and/or peers to have displayed excellence in mentoring a new generation of professional or amateur biologists. The award will be presented to the recipient at the Society's annual meeting.

Nomination: Details concerning nominations can be found online at www.sco-soc.ca/smith-award. A cover letter (max 1,000 words) outlining why the nominee should receive the distinction should accompany the nomination. The nomination must be accompanied by at least two additional letters of support (max 500 words) that indicate they have seen and support the nomination letter. They may then add their own comments on the nominee.

Deadline for submission of nominations is 1 February 2025.

Nominations should be sent, by email, to:

Oliver Love
Chair - Jamie Smith Memorial Mentoring Award Committee
Email : olove@uwindsor.ca



En reconnaissance pour la contribution de Jamie Smith à la recherche en ornithologie au Canada, la Société des ornithologistes du Canada a créé le Prix Mémorial de Jamie Smith pour le mentorat en ornithologie. Le prix est remis à un(e) ornithologiste établi(e), soit dans le domaine académique, industriel, gouvernemental ou ONG, nommé par des étudiants ou collègues pour avoir excellé dans le mentorat d'une nouvelle génération de biologistes amateurs ou professionnels. Le prix sera présenté au récipiendaire à la réunion annuelle de la Société.

Nomination : Les détails concernant les nominations peuvent être trouvés au site de la SCO-SOC (www.sco-soc.ca/smith-award). Une lettre (max 1 000 mots) expliquant pourquoi la personne nommée devrait recevoir ce prix doit accompagner la nomination. La nomination devrait aussi inclure au moins deux autres lettres de support (max 500 mots) dans lesquelles il est indiqué que ces personnes ont lu la lettre de nomination et qu'ils la supportent. Ils peuvent également ajouter leurs propres commentaires sur le nommé.

Date limite pour la remise des nominations est le 1 février 2025.

Les nominations devraient être envoyé, par courriel, à :

Oliver Love
Comité pour le Prix Mémorial de Jamie Smith pour le mentorat
Courriel : olove@uwindsor.ca



Society of Canadian Ornithologists
Société des ornithologistes du Canada

Early Career Researcher Award

Prix de recherche en début de carrière

CALL FOR NOMINATIONS / APPEL DE NOMINATIONS - 2025

The Early Career Researcher Award honours fledgling ornithologists - in academia, industry, non-government or government agencies – that show strong potential for future leadership in Canadian ornithology. The award will be presented to the recipient at the Society's annual meeting where they will be invited to give a 30 minute keynote address, and travel to the meeting will be subsidized. The recipient will also be asked to provide a synopsis of their work to appear as a multi-page colour feature in the Society's *Picoides* newsletter. // Le prix de recherche en début de carrière honore les jeunes ornithologistes – en milieu universitaire, dans l'industrie et en agences gouvernementales ou non-gouvernementales – qui démontrent un fort potentiel pour le futur de l'ornithologie canadienne. Le prix sera présenté au récipiendaire à la conférence annuelle de la société où il sera invité à donner un discours d'ouverture de 30 minutes, et le voyage à la conférence sera subventionné. Le récipiendaire devra également fournir un résumé de son travail qui sera publié en article de plusieurs pages avec photos dans le bulletin de la société, *Picoides*.

Nomination: Candidates can be nominated by themselves, former/current supervisors, colleagues and/or peers. A nomination letter should include a short statement (max 1000 words) describing the nominee's accomplishments in the following three areas: academic accomplishments, service contributions, and leadership. If self-nominating, a reference letter from a former supervisor is recommended. The candidate's CV should also be submitted with the application package. To be eligible, the candidate must have received their PhD from or currently working at a Canadian institution. The researcher should have obtained her or his PhD no more than five years prior to the SCO-SOC meeting where the award is to be given (Aug 2025). Periods where the researcher has not been active due to parental or personal leave would be excluded from the five years. // Les candidats peuvent s'auto-nommer ou être nommés par leurs superviseurs actuels ou passés, par leurs collègues et/ou par leurs pairs. La lettre de mise en candidature doit inclure une courte déclaration (max 1000 mots) décrivant les réalisations du candidat dans les trois domaines suivants: réalisations académiques, contributions au service et leadership. En cas d'auto-nomination, une lettre de recommandation d'un ancien superviseur est recommandée. Le CV du candidat doit également être soumis avec le reste de leur candidature. Pour être admissible, les candidats doivent avoir obtenu leur doctorat d'un établissement canadien ou y travailler présentement. Un chercheur ne devrait pas avoir obtenu son doctorat plus de cinq ans avant la conférence de la SOC-SCO lors de laquelle le prix sera décerné (Août 2025). Les périodes de temps où le candidat n'a pas été actif en raison d'un congé parental ou personnel sont exclues des cinq années.

Deadline for submission of nominations is 31 January 2025.

Date limite pour les nominations est le 31 janvier 2025.

Nominations should be sent, by email, to :

Les candidatures doivent être envoyées, par courriel, à l'adresse suivante :

Danielle Ethier, Chair/Chaire

Early Career Researcher Award Committee/ Comité de prix de recherche en début de carrière

email/courriel: dethier@birdscanada.org



Society of Canadian Ornithologists
Société des ornithologistes du Canada

STUDENT RESEARCH AWARDS

TAVERNER AWARDS

Taverner Awards are offered by the SCO-SOC to honour Percy A. Taverner and to further his accomplishments in increasing the knowledge of Canadian birds through research, conservation, and public education. The awards are aimed at people with limited or no access to major funding, regardless of professional status, who are undertaking ornithological work in Canada. Two awards of up to \$2,000 each are made annually.

STUDENT DISCOVERY AWARD

The SCO-SOC is committed to removing barriers and promoting diversity and inclusion within the ornithology community in Canada. The Student Discovery Award is offered to students who self-identify as being from equity-denied groups, including but not limited to visible minorities (e.g., Black, Indigenous, and/or members of other racialized groups), minority sexual orientations or gender identities (e.g., 2SLGBTQIA+), and individuals with disabilities. One award of up to \$500 is made annually.

FRED COOKE AWARD

The Fred Cooke Student Award is offered jointly by the SCO-SOC and Birds Canada to honour the contributions of Professor Fred Cooke to Canadian ornithology. It supports ornithological conference travel or research activities by a student. The award shall be open to any student conducting ornithological research at a Canadian university, except that previous recipients of the award shall not be eligible. The award shall be for travel to ornithological conferences at which the student will make an oral or poster presentation, or research in any aspect of ornithology anywhere in the world. One award of up to \$1,000 is made annually.

AVIAN CONSERVATION AWARD

The Avian Conservation Award (previously the James L. Baillie Student Research Award) is open to any student undertaking ornithological research that will make a substantial contribution towards the conservation of birds in Canada. Funds are granted for student stipend, research or travel costs associated with the project. The award is funded with revenue generated by participants of Birds Canada's Birdathon and is administered by SCO-SOC. One award of up to \$2000 is made annually.

FOR FULL DESCRIPTIONS/APPLICATION FORMS, VISIT:

<https://www.sco-soc.ca/student-awards>

- Applicants must be members of the SCO-SOC to be eligible
- Application Deadline: 1 Mar 2025

For further information, contact:

Dr. Sarah Gutowsky, Chair, SCO-SOC Student Awards Committee

e-mail: sarahgutowsky@gmail.com



Society of Canadian Ornithologists
Société des ornithologistes du Canada



BIRDS CANADA **OISEAUX CANADA**

BOURSES ÉTUDIANTES DE RECHERCHE

PRIX TAVERNER

Les prix Taverner sont offerts par la SCO-SOC pour honorer Percy A. Taverner et pour contribuer à l'accroissement des connaissances sur les oiseaux canadiens grâce à la recherche, à la conservation et à l'éducation du public. Les prix s'adressent aux personnes qui ont peu ou pas d'accès à un important financement, peu importe leur statut professionnel, et qui entreprennent des travaux ornithologiques au Canada. Deux prix allant jusqu'à 2 000 \$ chacun seront décernés chaque année.

PRIX DÉCOUVERTE

La SOC-SCO s'est engagée à éliminer les obstacles et à promouvoir la diversité et l'inclusion au sein de la communauté ornithologique au Canada. Le prix Découverte Étudiante est offert aux étudiants s'identifiant comme appartenant à des groupes privés d'équité, comprenant sans s'y limiter: les minorités visibles (ex. Noirs, Autochtones et / ou membres d'autres groupes racialisés), les orientations sexuelles ou les identités de genre minoritaires (ex. 2SLGBTQIA+) et les personnes handicapées. Un prix allant jusqu'à 500 \$ sera versé chaque année.

PRIX FRED COOKE

Le prix étudiant Fred Cooke est offert conjointement par la SOC-SCO et Oiseaux Canada pour honorer les contributions du professeur Fred Cooke à l'ornithologie canadienne. Ce prix a pour but de soutenir les voyages pour aller à une conférence ornithologique ou les activités de recherche d'un étudiant. Le prix est ouvert à tout étudiant qui effectue des recherches ornithologiques dans une université canadienne, à l'exception des anciens récipiendaires de la bourse. Le prix doit être utilisé pour payer un voyage permettant d'assister à une conférence ornithologique au cours de laquelle l'étudiant fera une présentation orale ou présentera un poster, ou peut être utilisé pour contribuer à la recherche de l'étudiant dans n'importe quel aspect de l'ornithologie n'importe où dans le monde. Un prix pouvant atteindre 1 000 \$ est accordé chaque année.

PRIX CONSERVATION DE L'AVIFAUNE

La bourse de conservation des oiseaux (anciennement la bourse de recherche James L. Baillie) est ouverte à tout étudiant entreprenant une recherche ornithologique qui contribuera de manière substantielle à la conservation des oiseaux au Canada. Les fonds sont accordés pour contribuer à une allocation étudiante, des frais de recherche ou des frais de déplacement associés au projet. Cette bourse est financée grâce aux revenus générés par les participants au Birdathon d'Oiseaux Canada et est administrée par la SCO-SOC. Un prix pouvant atteindre 2 000 \$ est accordé chaque année.

POUR LES DESCRIPTIONS COMPLÈTES/FORMULAIRE DE DEMANDE, VISITEZ:

<https://www.sco-soc.ca/prix-etudiants>

- Les candidats doivent être membres de la SCO-SOC pour être éligible
- Date limite d'inscription: 1 mars 2025

Pour de plus amples renseignements, veuillez communiquer avec:

Dr. Sarah Gutowsky, Chaire du Comité de SCO-SOC bourses de recherche pour étudiant(e)s

Courriel: sarahgutowsky@gmail.com

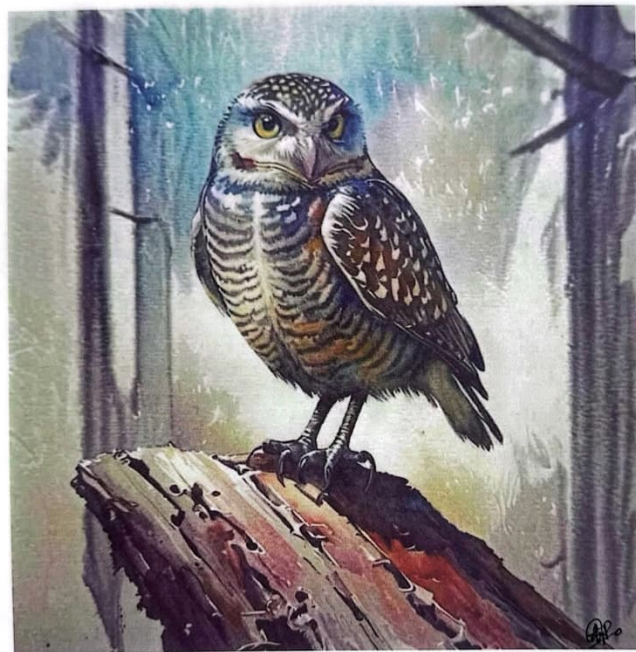
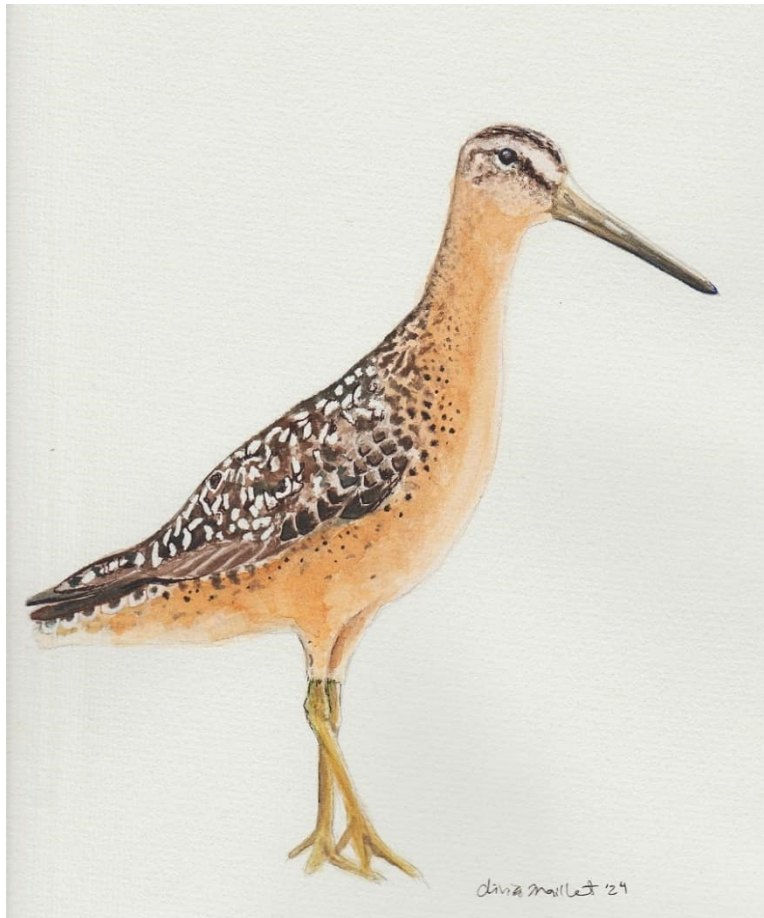


Society of Canadian Ornithologists
Société des ornithologistes du Canada



BIRDS CANADA **OISEAUX CANADA**

Bird Artwork



BURROWING OWL - *Athene cunicularia*

ART BY: DR. VIDYA PADMAKUMAR

Avian Conservation and Ecology Articles

Volume 19, Issue 2

RESEARCH PAPERS

[Modeling forest bird population trends at U.S. Army Garrison Pōhakuloa Training Area, Hawai'i](#)

Brian T. Leo, Lena D. Schnell

[Breeding habitat loss linked to declines in Rufous Hummingbirds](#)

Kendall M. Jefferys, Matthew G. Betts, W. Douglas Robinson, Jenna R. F. Curtis, Tyler A. Hallman, Adam C. Smith, Chloë Strevens, Jesús Aguirre-Gutiérrez

[Asynchronous movement patterns between breeding and stopover locations in a long-distance migratory songbird](#)

Theodore J. Zenzal, Jr., Andrea Contina, Hannah B. Vander Zanden, Leanne K. Kuwahara, Daniel C. Allen, Kristen M. Covino

[Bias-corrected natal dispersal estimates fill information gaps for White-headed Woodpecker conservation](#)

Teresa J. Lorenz, Andrew N. Stillman, Jeffrey M. Kozma, Philip C. Fischer

[Weather and regional effects on winter counts of Rusty Blackbirds \(*Euphagus carolinus*\)](#)

Chris J. Kellner, Weijia Jia, Araks Ohanyan

[Annual migratory movement, apparent molt-migration, migration schedule, and diffuse migratory connectivity of Hermit Warblers](#)

Hankyu Kim, Rodney B. Siegel, Jaime L. Stephens, Joan C. Hagar, Brett J. Furnas, Min-Su Jeong, Brenda C. McComb, Matthew G. Betts

[Using an ensemble approach to predict habitat of Dusky Grouse \(*Dendragapus obscurus*\) in Montana, USA](#)

Elizabeth A. Leibold, Claire N. Gower, Lance McNew

[High post-fledging survival and site persistence using mark-resight methodology for Oregon Vesper Sparrows in the Willamette Valley, Oregon](#)

Bob Altman, Joel Geier, Sarah M. Rockwell

[Factors influencing home range size and overlap in nonbreeding Kirtland's Warblers on Eleuthera, The Bahamas](#)

Joseph M. Wunderle, Jr., Michael E. Akresh, Dave Currie, Javier E. Mercado, Eileen H. Helmer, David N. Ewert

[Field-validated species distribution model of Canada Warbler \(*Cardellina canadensis*\) in Northwestern Ontario](#)

Vianney J. Cupiche-Herrera, Alana R. Westwood, Brian E. McLaren

[An ecological perspective on the temporal variation in Pileated Woodpecker \(*Dryocopus pileatus*\) drumming behavior in Alberta, Canada](#)

Austin C. Zeller, Erin M. Bayne, C. Lisa Mahon

[Haemosporidian parasites of Canada Warblers \(*Cardellina canadensis*\) and Black-throated Blue Warblers \(*Setophaga caerulescens*\): prevalence, diversity, and associations with physiological condition during migration](#)

Gabriella L. Orfanides, Susan S. Pagan

SCO – SOC Information

Name	Title	E-mail
Officers for 2024/25		
Dr. Danielle Ethier	President	dethier@birdscanada.org
Dr. Ann McKellar	Vice-President/President-elect	ann.mckellar@canada.ca
Dr. Matt Reudink	Past President	mreudink@tru.ca
Dr. Lisha Berzins	Treasurer	lisha.berzins@usask.ca
Dr. Francis van Oordt	Membership Secretary	francis.vanoordt@haz@mail.mcgill.ca
Dr. Lionel Leston	Recording Secretary	leston@ualberta.ca
Directors (Councillors)		
Dr. Kara Lefevre	Member of Council	klefevre@tru.ca
Dr. Carrie Branch	Member of Council	cbranch6@uwo.ca
Dr. Elizabeth Gow	Member of Council	elizabeth.gow2@canada.ca
Dr. Maggie MacPherson	Member of Council	maggie.macpherson@gmail.com
Dr. Leanne Grieves	Member of Council	lag296@cornell.edu
Dr. Emily Choy	Member of Council	choye1@mcmaster.ca
Dr. Sarah Gutowsky	Member of Council	sarahegutowsky@gmail.com
Steven van Wilgenburg	Member of Council	steven.vanwilgenburg@canada.ca
Dr. Steffi LaZerte	Member of Council	sel@steffilazerte.ca
Dr. Andrea Norris	Member of Council	andrea.norris@canada.ca
Other		
Rob Warnock	Co-editor, <i>Picoides</i>	warnockr@myaccess.ca
Barbara Bleho	Co-editor, <i>Picoides</i>	bleho.barbara@gmail.com

(Non-voting) Past Presidents:

Ross Lein	1983-1986	Tony Diamond	1998-2000	Joe Nocera	2012-2014
Spencer Sealy	1986-1988	Kathy Martin	2000-2002	Greg Robertson	2014-2016
Erica Dunn	1988-1990	Jean-Pierre Savard	2002-2004	Ken Otter	2016-2018
Jon Barlow	1990-1992	Charles Francis	2004-2006	Colleen Barber	2018-2020
Bruce Falls	1992-1994	Susan Hannon	2006-2008	Nicola Koper	2020-2022
Henri Ouellet	1994-1996	David Bird	2008-2010		
David Nettleship	1996-1998	Erica Nol	2010-2012		

Membership Information

www.sco-soc.ca/membership.html

SCO-SOC membership forms can be found at the link above. Current membership rates are provided below. SCO-SOC provides free membership to members of equity-denied communities. See our website for more information.

Student	\$15.00/year
Early Career (<5 y post-grad)	\$25.00/year
Retired	\$25.00/year
Regular	\$35.00/year (\$45.00/year international)
Sustained	\$75.00/year
Life	\$500.00

SCO-SOC Website

www.sco-soc.ca/index.html

The SCO-SOC website includes sections on membership, meetings, news, publications, awards, information for students, an overview of SCO-SOC, and links of interest to members and other visitors.

Please direct any suggested additions or edits to the website to the Society's webmaster, Jennifer Foote, at jennifer.foote@algomau.ca.

Submissions to *Picoides*:

Articles and photos relevant to Canadian ornithology are welcomed by the editors. If submitting photos, please save them in tiff or jpeg format with descriptive file names, and supply captions including common names of species, location, date, photographer, and any other notes of interest. Deadlines for submission are February 15, May 15, and October 15; issues are typically published 4-6 weeks later. Please send all submissions to Rob Warnock at warnockr@myaccess.ca. Disclaimer: *Picoides* is not a peer-reviewed journal; the publication of an article in *Picoides* does not imply endorsement by SCO-SOC.