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Dunlin // Bécasseau variable (*Calidris alpina*). Photo: Laura Koloski.

TABLE OF CONTENTS

Editors' Message

Rob Warnock and Barbara Bleho

Welcome to the second issue of *Picoides* in 2023. We hope everyone had a great start to spring and are continuing to be safe during the never-ending pandemic.

In Matt Reudink's President's Report, he thanks Junior Tremblay and Greg Mitchell for their long-term service as Treasurer and Recording Secretary, respectively. He especially encourages new SCO-SOC members and SCO-SOC members of underrepresented groups to consider running for these two Council positions this year. Matt reminds everyone about the SCO-SOC conference with the American Ornithological Society (AOS) this August in London, Ontario. He concludes with the announcement of 2024 SCO-SOC conference in Peoria, Illinois with the Wilson Ornithological Society and the Association of Field Ornithologists.

We also thank Junior Tremblay and Greg Mitchell for their years of exemplary service to SCO-SOC. If you are interested in becoming either Treasurer or Recording Secondary, please check out the call for candidates on page 16.

Do not forget to register for the SCO-SOC/AOS conference this August in London, Ontario. Registration is now open. Please see the announcement on page 16.

We congratulate the 2023 Student Award winners: Sarah Mueller (Taverner Award), Taylor Brown (Taverner Award), Karen Ong (Fred Cooke Award), Rebecca Jardine (Student Discovery Award) and Alyssa Eby (Baillie Award. We also congratulate the two 2023 Early Career Research Award recipients: Emily Choy and Leanne Grieves. Check out the two award announcements on page 4 and page 5. We look forward to publishing articles about the fascinating research undertaken by the 2023 Student Award winners and the 2023 Early Career Research Award winners in upcoming issues of *Picoides*.

Our deepest condolences go out to the family and friends of renowned ornithologist and conservationist Bob Nero. His memorial is on page 13. Thank you to AOS for allowing us to reprint Bob Nero's memorial in *Picoides*.

There are three feature articles in this issue. One is about nesting habitat replacement for Bank Swallows in Ontario by Tyson Shank. Tony Diamond tells us about his early career experiences with sharks while studying oceanic seabirds. In the third article, Vidya Padmakumar provides interesting examples of birds providing inspiration for technological innovation.

In this issue, there is also lovely bird artwork by both Amalie Hutchinson and Steve Joly and a review of Tony Gaston's new children's book: *A Raven's Conspiracy*. 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 October 15, 2023. We look forward to your next submission. Without submissions, there is no *Picoides*. We also welcome your feedback as it your publication and we wish everyone a safe, healthy summer and fall.

FRANÇAIS—Message des éditeurs – Rob Warnock et Barbara Bleho

Bienvenue dans le deuxième numéro de *Picoides* de 2023. Nous espérons que vous avez tous eu un bon début de printemps et que vous restez en santé malgré la pandémie qui n'en finit pas.

Dans le rapport du président, Matt Reudink remercie Junior Tremblay et Greg Mitchell pour leurs longs services en tant que trésorier et secrétaire-archiviste, respectivement. Il encourage tout particulièrement les nouveaux membres de la SOC-SCO et les membres de la SOC-SCO appartenant à des groupes sous-représentés à envisager de se présenter à l'un des deux postes disponibles au Conseil cette année. Matt rappelle à tous que la conférence de la SOC-SCO avec la Société Américaine d'Ornithologie (AOS) se tiendra en août à London (Ontario). Il conclut en annonçant que la conférence SOC-SCO 2024 se tiendra à Peoria en Illinois en collaboration avec Wilson Ornithological Society et Association of Field Ornithologists.

Nous remercions également Junior Tremblay et Greg Mitchell pour leurs années de service exemplaire au sein de la SOC-SCO. Si vous souhaitez devenir trésorier ou secrétaire-archiviste, veuillez consulter l'appel aux candidatures à la page 16.

N'oubliez pas de vous inscrire à la conférence SCO-SOC/AOS qui se tiendra en août à London, en Ontario. Les inscriptions sont désormais ouvertes. Voir l'annonce en page 16.

Nous félicitons les lauréats des prix étudiants 2023 : Sarah Mueller (Prix Taverner), Taylor Brown (Prix Taverner), Karen Ong (Prix Fred Cooke), Rebecca Jardine (Prix de la découverte étudiante) et Alyssa Eby (Prix Baillie). Nous félicitons également les deux lauréates de la bourse pour chercheurs en début de carrière 2023 : Emily Choy et Leanne Grieves. Consultez les deux annonces de prix à la page 4 et à la page 5. Nous avons hâte de publier des articles sur les recherches fascinantes entreprises par les lauréats des bourses d'études 2023 et des bourses de recherche en début de carrière 2023 dans les prochains numéros de *Picoides*.

Nos plus sincères condoléances vont à la famille et aux amis du célèbre ornithologue et défenseur de l'environnement Bob Nero. Son hommage figure à la page 13. Nous remercions l'AOS de nous avoir permis de reproduire le mémorial de Bob Nero dans *Picoides*.

Ce numéro contient trois articles de fond. L'un d'eux, rédigé par Tyson Shank, porte sur le remplacement des habitats de nidification des hirondelles de rivage en Ontario. Tony Diamond nous parle de ses expériences avec les requins au début de sa carrière, alors qu'il étudiait les oiseaux océaniques. Dans le troisième article, Vidya Padmakumar donne des exemples intéressants d'oiseaux inspirant l'innovation technologique.

Ce numéro contient également de belles illustrations d'oiseaux réalisées par Amalie Hutchinson et Steve Joly, ainsi qu'une critique du nouveau livre pour enfants de Tony Gaston : *A Raven's Conspiracy* (La conspiration du corbeau). Et bien sûr, la dernière table des matières du journal *Avian Conservation and Ecology* est incluse dans ce numéro. Jetez-y un coup d'œil !

La prochaine date limite pour *Picoides* est le 15 octobre 2023. Nous espérons recevoir bientôt votre prochain article. Sans soumissions, il n'y a pas de *Picoides*. Nous vous invitons également à nous faire part de vos commentaires concernant cette publication et nous souhaitons à tous de passer un bel été et automne.

Follow SCO on Twitter! Follow us @SCO_SOC for news, exciting research, updates from members, and more!
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Message du président

Matt Reudink

Je veux commencer ce message en remerciant sincèrement Junior Tremblay et Greg Mitchell, qui ont rempli plusieurs mandats au sein de l'exécutif, Junior en tant que trésorier et Greg en tant que secrétaire-archiviste. Tous deux sont allés au-delà des attentes dans leur service à la SOC-SCO au fil des ans; en plus de leur service à l'exécutif, Junior a coprésidé notre super conférence à Québec en 2019, tandis que Greg est coprésident de notre prochaine réunion avec l'AOS en août. Tous deux sont des piliers de notre société depuis plusieurs années, assurant son bon fonctionnement au niveau organisationnel, tout en étant toujours partant pour prendre des rôles critiques et demandant, comme par exemple l'organisation des prix de présentations étudiantes. Dire qu'ils vont beaucoup nous manquer est un euphémisme. Ce qui m'amène donc au point suivant...

Maintenant que Greg et Junior quittent leurs fonctions, nous recherchons un nouveau secrétaire-archiviste et un nouveau trésorier. Si vous êtes membre de la SOC-SCO depuis un certain temps et que vous avez pensé à vous impliquer davantage dans le fonctionnement de la société, c'est le moment idéal de le faire. En tant qu'ancien trésorier, avant Junior, je peux attester que c'est un excellent moyen de comprendre le fonctionnement de la société et cela fait toujours plaisir de donner de l'argent aux étudiants! Vous trouverez l'appel aux candidatures ci-dessous - aucune expérience n'est nécessaire et Greg et Junior aideront à encadrer les nouveaux secrétaire archiviste et trésorier tout au long de la transition. De plus, nous avons deux ouvertures pour les membres du Conseil, une autre excellente façon de s'impliquer dans la société, en particulier pour les scientifiques en début de carrière. Nous avons de nombreuses nouvelles initiatives passionnantes et nous sommes particulièrement intéressés à renforcer notre engagement envers l'EDI, nous encourageons donc fortement les candidatures de membres issus de communautés sous-représentées et marginalisées.

Alors que nous nous dirigeons vers la dernière ligne droite avant notre conférence conjointe avec l'AOS, je tiens à remercier encore une fois Greg Mitchell pour tout le temps et le travail qu'il a consacrés au comité de direction de la conférence pour que ce grand événement ait lieu (nous attendons 7-800 participants). Un immense merci va également à tous les membres qui se sont portés volontaires pour siéger à divers comités; une conférence comme celle-ci demande énormément de travail, alors assurez-vous de remercier chaleureusement tous ces gens lorsque vous les verrez à la conférence!

Finalement, j'ai le plaisir d'annoncer que nous nous joindrons à la Société Ornithologique Wilson (Wilson Ornithological Society) et à l'Association des Ornithologues de Terrain (Association of Field Ornithologists) pour une conférence conjointe à Peoria, Illinois en 2024. Ceux qui ont assisté à notre conférence de 2015 à Wolfville, en Nouvelle-Écosse, peuvent attester que ce fut une expérience fantastique et un excellent moyen de rassembler nos petites sociétés. Les dates et les détails seront bientôt annoncés.

ENGLISH— President's Message – Matt Reudink

I want to begin this message with a word of heartfelt thanks to Junior Tremblay and Greg Mitchell, both of whom have served multiple terms on executive, Junior as Treasurer and Greg as Recording Secretary. Both have gone above and beyond in their service to the SCO-SOC over the years; in addition to their service on Executive, Junior co-chaired our amazing Quebec City meeting in 2019, while Greg is co-chair of our upcoming meeting with the AOS in August. The two have been stalwarts of our society for years, ensuring its smooth operation at an organizational level, while always taking on critical, yet time-consuming, roles like organizing student presentation awards. To say the two will be sorely missed is an understatement. Which leads me to the next point…

Now that Greg and Junior are moving on from their positions, we are looking for a new Recording Secretary and Treasurer. If you have been a member of SCO-SOC for a while and have thought about getting more involved in the operation of the society, this is the perfect way to do so. As past Treasurer, prior to Junior, I can attest that it is a great way to understand how the society works and it always feels good to give students money! You will find the call for applications below—no experience is necessary, and Greg and Junior will help mentor the new Recording Secretary and Treasurer through the transition. In addition, we have two openings for Members of Council—another great way to get involved in the society, especially for early career scientists. We have lots of exciting new initiatives and we are especially interested in enhancing our commitment to EDI, so we strongly encourage applications from members from underrepresented and marginalized communities.

As we head into the homestretch before our joint meeting with the AOS, I want to thank Greg Mitchell once again for all the time and work he has put in with the Leadership Committee of the conference to make this massive event happen (we are looking at 7-800 participants). A massive thanks also goes out to all the members that have stepped up to sit on various committees; a meeting like this takes a huge amount of work, so be sure to give a big thank you to all these folks when you see them at the meeting!

Finally, it is my pleasure to announce that we will be joining the Wilson Ornithological Society and the Association of Field Ornithologists for a joint meeting in Peoria, Illinois in 2024. Those that attended our 2015 meeting in Wolfville, NS can attest that it was a fantastic meeting and a great way to get our smaller societies together. Dates and details will soon be announced.

2023 SCO-SOC Award Recipients

Early Career Researcher Award / Prix pour les chercheurs en début de carrière

Dr. Emily Choy is an incoming Assistant Professor in Biology at McMaster University. Dr. Choy's postdoctoral fellowship (PFD) focused on the effects of climate change on the energetics and thermal biology of seabirds. She is a recipient of the L'Oreal-UNESCO for Women in Science PDF, Garfield-Weston Award for Northern Research, and an NSERC PDF. She is a council member for the Association of Field Ornithologists. She is involved in youth science engagement, initiatives to promote gender equity for the UN Decade of Ocean Science, and #BlackInScience initiatives. She is an Explorer-in-Residence for the Royal Canadian Geographical Society and a Scientific Advisor for The Weston Foundation. Dr. Choy is this year's recipient of the SCO-SOC's Early Career Researcher Award.

Dr Emily Choy est une nouvelle professeure adjointe en biologie à l'Université McMaster. La bourse postdoctorale (BP) de Dr Choy portait sur les effets des changements climatiques sur la biologie énergétique et thermique des oiseaux de mer. Elle est lauréate du prix l'Oréal-UNESCO pour les femmes en science, du prix Garfield-Weston pour la recherche nordique et d'un CRSNG BP. Elle est membre du conseil de l'Association of Field Ornithologists. Elle participe à l'engagement scientifique des jeunes, à des initiatives visant à promouvoir l'équité entre les sexes dans le cadre de la décennie de l'océanologie au service du développement durable de l'UNESCO et aux initiatives #BlackInScience. Elle fait partie du programme Explorateurs en résidence de la Société Géographique Royale du Canada et conseillère scientifique pour la Fondation Weston. Dr Choy est la lauréate 2023 du prix SCO-SOC pour les chercheurs en début de carrière.

Dr Leanne Grieves' multidisciplinary work focuses on chemical signaling and microbial ecology in birds, overturning 'common knowledge' by establishing that chemical signatures of preen oil convey information about species, sex, reproductive status, disease exposure, and immune genotype. Grieves is a recipient of a Vanier scholarship, Gilles Brassard Prize for Interdisciplinary Research, Royal Society of Canada Alice Wilson Award, and an NSERC postdoctoral fellowship. Grieves has mentored numerous student researchers and chairs SCO-SOC's Equity, Diversity, and Inclusion Committee, spearheading initiatives such as the Student Discovery Award for equity-deserving groups. Dr. Grieve's is this year's recipient of the SCO-SOC's Early Career Researcher Award.

Les travaux pluridisciplinaires de **Leanne Grieves** portent sur la signalisation chimique et l'écologie microbienne chez les oiseaux. Ils bouleversent les "connaissances générales" en démontrant que les signatures chimiques de l'huile uropygienne transmettent des informations sur l'espèce, le sexe, l'état reproducteur, l'exposition aux maladies et le génotype immunitaire. Dr Grieves est lauréate d'une bourse Vanier, du prix Gilles Brassard pour la recherche interdisciplinaire, du prix Alice Wilson de la Société Royale du Canada et d'une bourse postdoctorale du CRSNG. Dr Grieves a encadré de nombreux étudiants-chercheurs et préside le comité de la SOC-SCO sur l'équité, la diversité et l'inclusion qui est à l'origine d'initiatives telles que la bourse découverte étudiante pour les groupes sous-représentés. Dr Grieves est cette année la lauréate du prix pour les chercheurs en début de carrière de la SOC-SCO.

SCO-SOC Student Awards 2023 / Prix Étudiant 2023 de la SOC-SCO

Sarah Mueller

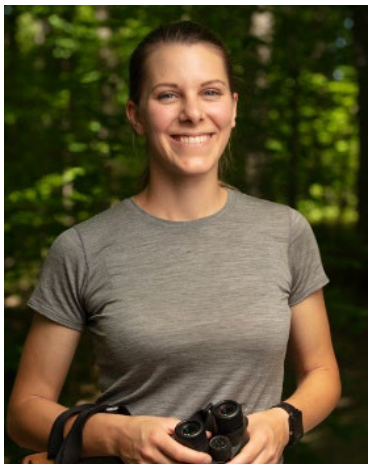
Sarah Mueller (Taverner Award): using radio-telemetry and mark-recapture to investigate the post-fledging ecology of Savannah sparrows on Kent Island, under the direction of Dr. Ryan Norris.

Sarah Mueller (Prix Taverner): utilisation de radiotélémétrie et de marquage-recapture pour étudier l'écologie des bruants de Savannah juvéniles sur l'île de Kent, sous la direction de Dr. Ryan Norris.

Rebecca Jardine (Student Discovery Award): examining whether Snow Buntings have the capacity to respond to increased Arctic temperatures, under the direction of Dr. Oliver Love.

Rebecca Jardine (bourse de découverte pour étudiants): étude de la capacité des bruants des neiges à réagir à l'augmentation des températures de l'Arctique, sous la direction de Dr Oliver Love.

Rebecca Jardine



Taylor Brown

Taylor Brown (Taverner Award): examining the effect of artificial light on fledging Atlantic Puffins, under the direction of Gary Burness and Gabriela Mastromonaco.

Taylor Brown (prix Taverner): étude de l'effet de la lumière artificielle sur les macareux moines juvéniles lors de leur départ du nid, sous la direction de Gary Burness et Gabriela Mastromonaco.

Alyssa Eby (Baillie Award): examining the direct and indirect effects of sea ice loss on thick-billed murres, under the direction of Dr. Kyle Elliott.

Alyssa Eby (Prix Baillie) : examen des effets directs et indirects de la disparition de la glace de mer sur les guillemots de Brünnich, sous la direction du Dr Kyle Elliott.

Alyssa Eby

Karen Ong

Karen Ong (Cooke Award): examining the physiological adaptations of the Canada Jay's oral and gut microbiomes and how freeze-thaw events are affecting cache quality in a declining boreal species, under the direction of Dr. Ryan Norris.

Karen Ong (prix Cooke): étude des adaptations physiologiques des microbiomes buccaux et intestinaux chez le geai du Canada et de la manière dont les épisodes de gel-dégel affectent la qualité des caches d'une espèce boréale en déclin, sous la direction de Dr. Ryan Norris.

Feature Articles

Exploring Suitable Replacement Nesting Habitat for Barn Swallows as Old Structures are Lost in Ontario

Tyson Shank, Ottawa, ON, Canada, Email: tyson.shank@yahoo.ca

Introduction

The Barn Swallow (*Hirundo rustica*) is a migratory aerial insectivore which has experienced a drastic population decline of 68.6% across its Canadian breeding range from 1970-2019, leading to a national status of "special concern" (COSEWIC, 2021). In Ontario, the species was previously classified as "threatened," though as of January 2023, it was reassessed as "special concern" (Species at Risk Act, 2007). As with other insect-eating passerines, Barn Swallow declines cannot be solely attributed to any one individual factor and are likely a result of many influences at various stages of their life cycle including habitat loss, reduced food availability due to pesticide use, climate change, and lower adult survival across their non-breeding range (Spiller and Dettmers, 2019). In Canada, these insect hunters are typically only present during their breeding season (Cornell Lab of Ornithology, 2022), when they commonly nest in and around human-made structures including barns, sheds, and other farm buildings (Cadman et al., 2007; COSEWIC, 2021). As older structures (hereafter "historical farm structures") are destroyed for new development or collapse due to age, there become fewer available locations suitable for swallows to breed (COSEWIC, 2021). As of January 2023, replacing nest structures that are altered or removed due to human activity is no longer required in Ontario, which may increase the impact of this threat. This article will focus on why the loss of habitat could be a potential driver of population decline. Specifically, the article discusses what is currently known about the willingness of Barn Swallows to nest in newer-style buildings using metal and/or plastic siding (hereafter "modern farm structures"), the effectiveness of species-specific nesting structures installed as a mitigation technique (hereafter "nesting kiosks"), and recommendations for future studies on these topics.

Figure 1: Nesting kiosk for Barn Swallows.

Implications of the Loss of Historical Farm Structures

As historical farm structures are lost, the overall number of available nest sites for Barn Swallows is decreased. More importantly, not all structures are created equally when it comes to Barn Swallow nesting. Within historical farm structures acting as nest sites, the majority (69.0%) of Barn Swallows nested on wooden surfaces as opposed to surfaces of other materials (Smiddy, 2008). Historical farm structures made of wood are becoming less common as they collapse or are destroyed by human activity. Their replacements, more modern farm structures, are commonly constructed using materials such as metal or plastic siding, which are less suitable for Barn Swallow nest attachment due to their smooth surfaces (COSEWIC, 2021; Smiddy, 2008). A second disadvantage of metal as a construction material is that its use may lead to unfavourable nesting temperatures due to its thermodynamic properties. A species with similar nesting habits, Cliff Swallow (*Petrochelidon pyrrhonota*), has been found to exhibit higher nest survival under roofs made of wood compared to those using metal (Imlay et al., 2018). Another consequence of the loss of historical farm structures is the loss of any existing nests as social cues, as evidence of previous nesting success is influential in Barn Swallow nest-site selection (Safran, 2004). McClenaghan et al. (2019) and Safran (2004) have demonstrated that the presence of previously used nests was directly correlated to a higher number of swallow pairs using the structure. As well as this, old nests do more than just act as a visual cue for prospecting swallows; higher offspring success and earlier nesting have been observed in swallows that conserve time and energy by using existing nests (Safran, 2006; Teglhøj, 2018). As historical farm structures are lost, so too are these old nests, removing this possibility. Lastly, Barn Swallows have been observed avoiding locations with a clear line of sight to other active nests and are hesitant to nest close to other Barn Swallow neighbours (Mercadante and Stanback, 2011). One type of structure that may see increased use due to reduced availability of historical farm structures is bridges

(Richardson et al., 2015; Spisani and Bruder, 2016). This could have dangerous implications as swallows face increased mortality due to vehicle strikes while hunting near these bridges (Heide and Norris, 2022).

Current Mitigation Efforts

As the Canadian Barn Swallow range is primarily used for breeding, conservation efforts have focused mainly on protecting nesting habitat. Nebel et al. (2019) listed the protection of nest structures as a "no-regrets action" towards conserving insectivores. When preserving historical farm structures is not possible (i.e., due to collapsing infrastructure), a habitat mitigation option seeing increased use is installing a nesting kiosk designed specifically for Barn Swallow use (Figure 1). Bird Studies Canada (2019) reported a minimum of 114 such kiosks had been installed in Ontario as of 2019, though many more may exist and are not documented. The Ontario Ministry of Natural Resources and Forestry (2016) has put together design guidelines for these nest kiosks outlining basic requirements and sample designs. Similarly, Nature Canada (2019) has made a basic design publicly available for those who wish to construct a nesting kiosk. While these kiosks are becoming a common choice for companies and landowners to replace a destroyed historical farm structure, information surrounding their success rate is scarce. Bird Studies Canada (2019) noted that 44% of the known structures in the province were observed to host at least one pair of swallows. Campomizzi et al. (2019) studied the effect of decoy birds and vocalization playback on the use of similarly constructed nesting kiosks and found that, while these cues increased the amount of initial interest swallows showed in the site, they did not significantly impact the number of nesting pairs that settled there. It was also noted that use of these structures may not be enough to offset the loss of existing buildings (Campomizzi et al., 2019). When removing a historical farm structure and replacing it with either a nesting kiosk or a modern farm structure, adding artificial nests may be a conservation option to attract Barn Swallows and increase the success of nesting pairs (Campomizzi et al., 2019; Teglhøj, 2018). The addition of nest cups had previously been required when a removed structure had nest cups present (Ontario Ministry of Natural Resources and Forestry, 2016). Teglhøj (2018) created artificial nests using woodcrete, which closely resembled their natural counterparts, and found that birds using these nests had 75% higher reproductive success. Furthermore, a project by Van Vleck (2013) found that artificial wooden nests were sufficient in attracting Barn Swallows to a site, and that the nest cups were commonly selected by prospecting pairs. These wooden cups may be more effective in providing sufficient habitat for swallows than wooden ledges or shelves which have previously been suggested to promote Barn Swallow nesting (Van Vleck, 2013).

Recommendations for Further Study

Structures that act as Barn Swallow nesting habitat had been automatically protected under the *Endangered Species Act* in Ontario prior to the species' reclassification from "threatened" to "special concern" in January 2023 (Endangered Species Act, 2007). This meant that, when altering or destroying a nesting structure of any kind, the party doing so was required to provide appropriate replacement habitat and perform upkeep on it (Heagy et al., 2014). A common method of meeting this requirement was to install species-specific nesting kiosks. For this to be a successful form of mitigation, this replacement habitat must be well suited to hosting Barn Swallows during the breeding season. While some best practices were provided by The Ontario Ministry of Natural Resources and Forestry (2016), these focused on only a few aspects of the design and installation of new habitat. Both nesting kiosks and modern farm buildings installed in accordance with the previous guidelines may be insufficient in replacing historical farm buildings, as the impact of these new habitat types on Barn Swallow reproduction is currently understudied. As historical farm structures continue to collapse or be destroyed by human activity, exploring the effectiveness of replacement habitats is important to inform future conservation practices. To improve our understanding of the impact of the loss of historical farm structures as a threat to Barn Swallows and to advise guidelines for preserving the species, the following are areas where knowledge gaps exist and where further studies are recommended.

(1) Nesting kiosks created specifically for Barn Swallows should be monitored for Barn Swallow nesting activity and compared to examine key design choices that may increase their usage and success of nesting by Barn Swallows. The use of such nesting kiosks is becoming a common option for replacing historical farm structures in the province of Ontario, yet Bird Studies Canada (2019) noted that only 44% of known kiosks had hosted at least one pair of Barn Swallows. It is important to understand if the kiosks are effective and the impact of individual design choices (material, dimensions, etc.) on nesting success rate as their use continues to be promoted. One such feature to note is the use of metal roofing as demonstrated in multiple design examples published in Ontario's design guidelines (Ontario Ministry of Natural Resources and Forestry, 2016) versus wooden roofing. The use of metal roofs requires more study as it may negatively affect Barn Swallow reproduction as demonstrated by Imlay et al. (2018). An ongoing study by Dil and Mohr (2019) has produced preliminary results showing that Barn Swallow use of species-specific nesting kiosks is heavily influenced by the sightlines between nest sites and foraging habitat, further highlighting the gaps in current knowledge surrounding how these kiosks may be best implemented.

(2) Loss of historical farm structures as habitat is only one of many factors that are hypothesized to be contributing to the decline of Barn Swallows (Spiller and Dettmers, 2019). To quantify and further our understanding of how this habitat loss impacts Barn Swallow population trends, a long-term monitoring program that surveys the nesting presence and success of Barn Swallows in relation to the types of nesting structure present (i.e., historical farm structure, modern farm structure, nesting kiosks, or others) should be established. Such a program may help identify which structure types are of highest importance and inform future nest-site protection. For example, an unpublished study by Richardson et al. (2015) found that Barn Swallows were beginning to use structures other than buildings, such as culverts and bridges, more frequently. Further study in this area would provide direction as to which structure types should be prioritized for protection.

(3) It has been estimated that, in Canada, bird-vehicle collisions lead to 13.8 million bird deaths annually (Bishop and Brogan, 2013). Breeding adults are among those killed by vehicles, which has potential to negatively impact population trends (See Bishop and Brogan, 2013 and references therein). Similar threats have been addressed in non-avian species through the implementation of wildlife overpasses and underpasses, yet birds have been largely overlooked. In Ontario, Barn Swallow nesting kiosks are a common sight along highways and near bridges where existing nesting habitat was altered or removed during road construction. This trend has led to many kiosks being installed very close to high volumes of vehicle traffic, which may lead to an increased rate of mortalities due to road collisions. Barn Swallows may also be shifting towards using bridges and culverts under roads as a nest site more frequently than in the past (Heidi and Norris, 2022; Richardson et al., 2015). This too could lead to an increased collision rate between these birds and cars due to their close proximity. To assess this, a study is recommended to compare the rate of bird-vehicle collisions on Ontario highways in different habitat types and with various types of nesting structure present. If the installation of nesting kiosks near highways or increased use of bridges as nesting habitat is found to lead to an increase in vehicle-related mortalities, further mitigation may be required which may include a flight barrier between nesting habitats and roads (i.e., trees, walls, or a larger buffer area).

Conclusion

As Barn Swallows rely on human-made structures as their preferred nesting habitat, it is a collective human responsibility to understand how the removal of historical farm structures and replacement with more modern farm structures or species-specific nesting kiosks are impacting the breeding success of this species at risk. As of January 2023 in Ontario, when a nesting structure is altered or removed a replacement habitat is no longer required. This change could further amplify the impact of structure loss. Further studies are required to determine the impact of habitat loss as a threat to Barn Swallows, and the effectiveness of creating suitable replacement habitats. The threat of habitat loss will continue to impact Barn Swallows, and further developing our understanding in the areas mentioned above is necessary to inform future conservation practices.

Acknowledgements

I would like to thank Dr. Lisha Berzins for her guidance and support through the SCO mentorship program, from which I was inspired to write this article. I also thank Rob Warnock and Barbara Bleho for bringing to my attention new information surrounding the current status of Barn Swallow protection in Ontario.

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Sharks and Seabirds

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There was no way to know, as we set off for some arduous thrashing through willowy mangroves to catch some boobies on their nests, that by lunchtime one shark would be the first among the lagoon's teeming thousands to bite a human being. That was just not in the plan, at all.

Five of us motored across the lagoon from our camp on a clear morning with the sun already beginning to heat the rubber of the dinghy to an uncomfortable temperature. The lagoon was calm, so we were able to skim over the water ahead of the rising tide, the swish of the bow-wave barely audible over the deep thrum of the outboard motor. As we approached the creek lined with the mangroves in which the birds were nesting, the water was shallower, so we slowed the engine and the rear of the boat sank deeper into the dark water; slowly we chugged into the cool shadow of the willowy mangroves along the creek, looking for the clumps of twigs above, each topped by a large white bird. Cutting off the engine to drift in among the trees, we began to hear the muted croaks of birds waking up to our presence; as we started to climb among them, their guttural squawks became harsher and louder, soon drowning out our attempts to communicate with each other.

Red-footed Boobies (*Sula sula*) are large white birds, the tropical equivalent of the gannets that take their place in colder regions of the ocean; they are about the size of a goose but equipped with a very sharp beak with serrations along both cutting edges, the better to hold on to the slippery fish and squid on which they feed. Like many seabirds, when approached by something larger, they tend to vomit whatever is in their stomach; this distracts the perceived predator and lightens the bird's weight making it easier to take flight. They will also defecate on such occasions, so in a colony of tree-nesting boobies, a seabird biologist is constantly showered with the contents of both ends of the birds' digestive system. The productions from the front end were precious, our only source of information on their diet, so while we tried to intercept them with an open plastic jar, the posterior productions simply had to be shrugged off (or, more often, on). So our morning's work consisted of flogging through the trees to snag a few birds to band them, collect vital statistics (weight, gender, measurements of various long bits, moult pattern in the wings), and collect any food samples vomited from above, trying to catch them before they plopped into the dark water below to be snapped up by some eager fish. After several hours of this activity, with a dozen or so adults banded, weighed, measured, and degurgitated[1], we were hot, sweaty, tired, liberally decorated with cuts and scratches, and aware of a rapidly falling tide that we could not afford to miss if we were not to be stranded halfway home to wait in the baking sun for the rising tide.

So, we punted the dinghy out through the mangroves, back into the middle of the creek, coaxed the outboard into action, and puttered back out into the lagoon, now baking in the tropical midday heat. Beyond the casuarinas waving from Île Michel ahead to the left we could see East Channel on the horizon and set off for 'home.' There were four or five of us in the boat, and our stomachs were united in gurgling the suggestion that we stop over deep water about halfway home and put out some lines to catch lunch. So, we did.

Booby guano dries out quite fast, even on a sweaty biologist's body, and when it does it is incredibly itchy. Those of us who had been in most intimate contact with the boobies were by this time very uncomfortable, and the deep water in which we were anchored looked coolly inviting, so Harry and I decided to go in for a swim. Ever risk-averse, before diving in I did enquire of the Seychellois, with their intimate knowledge of the lagoon, "whether there were any sharks around here." This is still, nearly sixty years later, far and away the most stupid question I have ever asked about anything, or anyone has ever asked about Aldabra. *There are bloody sharks everywhere in the lagoon!* would have been the appropriate response, but they were too polite – *mais non, m'sieu* was what I heard. Were there sniggers? Probably, but I missed them. So, Harry dived off one side of the boat, and I the other.

Boy, it felt good! I swam happily away from the boat, reveling in the cool water and the relief from the dry booby-poop dissolving milkily in my wake. To understand what followed, it may be helpful to know that my swimming style resembles that of a dying fish, consisting of a lot of poorly coordinated splashing and thrashing. Yet when I felt some quite hard scratching on the back of my leg, I assumed it was Harry up to one of his practical jokes, so I turned to ask him if he had just grabbed my leg. His cry of "no, I'm over here" from the other

[1] New word: 'deprived of that which is regurgitated'. Nice, eh?

side of the boat, combined with a considerable amount of blood I could now see colouring my guano-stained wake to a fetching shade of pink, led to the conclusion that indeed it was probably a shark that had invaded my privacy.

When I communicated this to Harry, he seemed to rise instantly out of the water to land head-first in the bottom of the boat. Aggrieved as I was by his decision to look after his own safety first, I took in the silhouettes of the other people in the boat, frozen in horror, one arm outstretched to a fishing line, as they watched me make my messy way back to the boat. Whether it was horror at the blood pouring from my leg, at the circling shark (I didn't see it circling, or indeed at all, but then my focus was elsewhere), or in disbelief at my swimming style, is hard to say. I hauled myself over the side and took a first look at the damage. The sight of blood still issuing vigorously from eight holes in the back of my right thigh was disconcerting, to say the least, but Malcolm – ever the boy scout – grabbed a wound dressing and a bandage from his pack and applied them to great effect. By the time we got back to camp the bleeding had mostly stopped and we could admire the gracefully curved, jagged edges of eight tooth-marks of various sizes. Much later I found two much smaller holes on the front of my thigh. A line drawn between the two sets of marks would pass right through the middle of my upper leg; had the shark closed its mouth it would have removed much of the flesh and severed enough artery to cause serious problems.

The Seychellois were polite about my interference with their lunch-catching plans, and pottered off to complete them before the tide went down. They had been catching quite a lot of sharks from the camp, and when things calmed down enough to consider the serious scientific question of what size and species of shark might have been involved, we were able to compare the mouths and teeth of an array of candidates laid out on the beach with the size and layout of my scars. We concluded that a six-foot black-tipped shark (*Carcharinus melanopterus*) was a likely culprit. The lagoon abounded with them, and we went on to have many other close encounters, grateful that word had evidently got around that seabird biologist tasted really nasty and was to be avoided.

The Bite, a few days later.

On the radio check-in with base camp that evening, Harry asked for the message 'Diamond's shark bite healing well' to be passed on to London. This apparently caused much panic in the boardrooms of the Royal Society, who never acknowledged this attempt to liven up their dull bureaucratic lives.

On another memorable occasion Joseph César, an experienced Seychellois fisherman with an old stingray scar on his thigh and a predilection for Jim Reeves songs, was part of my field team counting frigates and boobies among the mangroves surrounding a secluded pool at the east end of the lagoon. I was standing up to see better when the boat was buffeted so hard, I lost my balance and sat down hard on the side of the boat. Looking down we saw quite a large shark – one we called a 'mud shark' because we saw it mostly in turbid water, but properly known as the sickle-fin or sharp-toothed lemon shark[2] – travelling rapidly to the far side of the pool before turning to come back towards the boat at high speed. We watched in awe as it lunged again and this time, we saw how it turned over and shot out its jaws at the rubber pontoon of the boat; it did this several times, generating concern that it might puncture the pontoon and immobilise the boat[3]. Even if that did not happen, the frequent battering made it impossible to continue counting, but how to deter the shark?

César to the rescue! Jumping waist-deep into the dark murky water, he pursued the shark with a harpoon, and as it sped towards him, he speared it and brought it thrashing wildly (the shark, not César) back to the boat. The scientific species name – *acutidens* (sharp teeth) – seemed particularly apt; we did not want it in the inflatable until it was well and truly dead. This César achieved by a sharp slice through the shark's nose with a machete; when we dragged the remains aboard, it stretched almost the length of the floor. Once our heartrates

[2] *Negaprion acutidens*. According to Wikipedia, "they are potentially dangerous to humans and known to respond vigorously to any provocation".

[3] The Zodiac had three separate air-filled chambers (one pontoon each side, another forming both sides of the nose), but it would be very difficult to navigate if one side pontoon was deflated.

returned more or less to normal, the bird-count resumed, but unlike our counts at most other sites, this one was not repeated later. Once bitten, as it were, twice shy!

Another memorable shark-related experience did not directly involve a shark at all. We rarely travelled along the outside of the atoll, but on one occasion coming back to Settlement from Middle Camp we had started late so missed the tide to get all the way back to Settlement through the lagoon. As darkness came on, we went out of Main Channel and outside the reef around the coast of West Island. I landed passengers and gear on the beach at Settlement, then took the boat out to anchor it over the reef flat and swam back to the beach. It was totally dark, but I was dazzled by lights on shore; I was about halfway to the beach when my head hit another head – 'head on' as it were – which I discovered was that of a goat. It was wet (of course, it was in the water) and also bloody. This was a bit of a shock, but there was more to come; the head was attached to a rope with an enormous steel hook, and the other end of the rope was tied to the trunk of a palm tree at the top of the beach. As I scrambled ashore, I saw there were several such arrangements; evidently this was a way the locals used to catch sharks. We often swam in this area for recreation but resolved not to do so after dark in future.

The Feathered Engineers
Birds as a source of biomimetic innovation for environmental and social challenges

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Biomimicry is a design approach that draws inspiration from nature to create solutions for human problems. Birds are among the most diverse and adaptable animals on Earth, and they have inspired many inventions and innovations in various fields. In this article, we review some examples of how birds have influenced the development of technology, engineering, and medicine.

One of the most obvious examples of biomimicry is the airplane, which mimics the shape and function of bird wings to achieve flight. However, birds also offer more subtle lessons for aerodynamics and energy efficiency. For instance, migrating birds fly in a V formation to reduce drag and save energy by taking advantage of the updraft created by the bird in front of them. This technique has been applied to military squadron formations and passenger jets to reduce fuel consumption and emissions (Study International Staff, 2023). Another example is the hummingbird, which can hover and dart in any direction with its high wing-beat frequency and figure-eight wing beat patterns. These features have been used to design drones with the same quick maneuverability and precision (Chirp Nature Center, 2022).

Birds also provide inspiration for structural design and material innovation. For example, the kingfisher can dive into water without making a splash because of its streamlined and pointed beak. This shape has inspired the design of one of the fastest trains in the world, Japan's 500 series Shinkansen train, which reduces air resistance and noise (Chirp Nature Center, 2022). Another example is the woodpecker, which can peck at wood without damaging its brain because of its special skull structure and beak shape. These elements have been mimicked to create shock absorbers for helmets, cars, and buildings (Chirp Nature Center, 2022). A third example is the falcon, which can fly at high speeds and change direction quickly because of its tapered wings and tail feathers. These characteristics have influenced the design of the B-2 bomber, which has a stealthy and agile shape (Chirp Nature Center, 2022). These are just some of the examples of how birds can inspire us to create innovative solutions for environmental and social challenges. By studying nature and learning from its wisdom, we can find new ways to improve our lives and our planet.

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.

In Memoriam

Robert William Nero, 1922–2023

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Bob Nero holding adult female Great Gray Owl and young, southeastern Manitoba, May 24, 2007. Photo: Christian Artuso.

Robert (Bob) William Nero, accomplished naturalist, ornithologist, ethologist, conservationist, archaeologist, writer, and poet died January 23, 2023, in Winnipeg, Manitoba, at the age of 100. Bob's passionate influence touched both professionals and non-professionals alike. He was an Elective Member (1955) and Fellow (1994) of the American Ornithological Society.

Bob was born December 26, 1922, in Racine, Wisconsin, where he spent his early years in an orphanage. While living at the orphanage he found an arrowhead that sparked a life-long interest in North American archeology. At the age of eleven he moved to the home of foster parents who lived on a farm near Milwaukee, Wisconsin. There he roamed farm fields searching for artifacts and watching birds. Visits to the Milwaukee Public Museum encouraged him to pursue his interests in natural history. Ornithologist Owen J. Gromme, taxidermist Warren Dettman, and archeologist W.C. McKern became significant mentors.

Bob began an undergraduate program in Milwaukee after completing high school, but left university in 1942 to enlist in the Army. He served in New Guinea and the Philippine Islands before being honorably discharged at the end of the war. He returned to university in Milwaukee, supported by the G.I. Bill. There he met his future wife, Ruth Hoenecke, whom he married in 1948, and who was his best friend, field assistant, and muse for more than six decades.

Following completion of his undergraduate degree, Bob enrolled in graduate school at the University of Wisconsin in Madison (UW-Madison) in 1947. There he was forced to choose between his two major interests: zoology and anthropology. Writing to Ruth, Bob explained that his choice of zoology was based on better prospects of employment, perhaps in game management, and by the students and professors he had met. He wrote that "they usually hunted, wore field clothing, and had an outdoor look—just my style. Anthropology types . . . were more likely to wear coats and ties, even cuff links."

Bob completed his M.A. (1950) and Ph.D. (1955) under the supervision of John T. Emlen, Jr., and his graduate training was enriched by interactions with Joseph J. Hickey and Aldo Leopold. Bob's doctoral research was on territorial and reproductive behavior of the Red-winged Blackbird (*Agelaius phoeniceus*). The well-known avian ecologist Gordon Orians was a UW-Madison undergraduate while Bob was doing his doctoral research. He recalls that Bob and he often discussed Bob's research. Orians went on to work on blackbird ecology and social behavior for his dissertation at the University of California, Berkeley. Their findings provided the basis for dozens of studies and theses that resulted in hundreds of papers dealing with the biology of Red-winged Blackbirds. Bob later summarized his work and that of

others in *Redwings* (Smithsonian Press, 1984), an informative and accessible book.

In July 1955, Bob and Ruth packed up their three (at that time) children and drove to Regina, Saskatchewan, where he had accepted the position of Assistant Director of the new Saskatchewan Museum of Natural History (now the Royal Saskatchewan Museum). Bob plunged into his new responsibilities with enthusiasm, meeting many of the province's ornithologists, birders, and naturalists at the Annual Meeting of the Saskatchewan Natural History Society (SNHS, now Nature Saskatchewan) in October 1955. A decades-long association with SNHS ensued, with stints as Vice-President and President (1957–1961). Bob published more than 200 papers, notes, reviews, and poems in the SNHS journal, *The Blue Jay*, between 1956 and 2014, and served as Assistant Editor and Editor (1963–1976). In 1988 Bob was named a Fellow of the SNHS for his far-reaching contributions to the society.

On behalf of the Museum and local naturalist groups, and as the eventual Chair of the Local Committee, Bob was the driving force behind an invitation to the American Ornithologists' Union (AOU) to hold its 77th Stated Meeting at the Museum in Regina, August 25–30, 1959. This was the first time the AOU had met in western Canada. At the meeting, Bob presented results of his ongoing studies of blackbird behavior, which were now focused on Yellow-headed Blackbirds (*Xanthocephalus xanthocephalus*). Several years later, Bob provided support during arrangements for the 93rd Stated Meeting of the AOU in Winnipeg, in 1975.

In 1960, Fred W. Lahrman and Ralph D. Carson, artists and preparators at the Museum, accompanied Bob on a three-month trip to Lake Athabasca in extreme northwestern Saskatchewan. The primary goal was to study the behavior of the poorly known Rusty Blackbird (*Euphagus carolinus*), but the trip also sparked his interest in the little-known avifauna of northern Saskatchewan.

Bob accepted a position at the University of Saskatchewan, Regina Campus (now University of Regina) in 1961. Trips to Lake Athabasca in 1961 and 1962 were joined by colleagues in botany, mammalogy, and geology. In July 1962, Bob and botanist George W. Argus spent a week at Hasbala Lake in the extreme northeastern corner of the province, where Bob discovered a subarctic element in the unstudied avifauna of the region that was absent in the Lake Athabasca area. Expeditions to areas in northeastern Saskatchewan followed between 1963 and 1965. Although Bob ventured north again in 1963, field work was conducted by university students who had met Bob through the SNHS. The two Special Publications of the SNHS that resulted from this work remain the definitive treatments of the avifauna of northern Saskatchewan. In 1965, Bob also employed university students to survey another poorly known avifauna in the Moose Mountain region of southeastern Saskatchewan, resulting in another SNHS Special Publication.

Bob moved his family (now five children) to Winnipeg, Manitoba, in 1966 to assume the position of Chief of the Natural History Division of the new Manitoba Museum of Man and Nature. As lead scientist, he was instrumental in developing the first of several galleries at the Museum.

Bob joined the Manitoba Government in 1970, serving as Writer-Naturalist in the Conservation Extension Division (1970–1971), Wetlands Development Specialist (1971–1979), and Nongame Wildlife Specialist in the Wildlife Branch (1980–1991). In these roles, Bob brought information on Manitoba's wild plants and animals to the scientific community and the general public through his accessible writings.

In the late 1960s, Bob received news of a Great Gray Owl (*Strix nebulosa*) nest near The Pas, Manitoba. Intrigued, he ventured north to study a species then considered to be an irregular winter visitor to Manitoba. A decades-long study followed. Working with Herbert Copland and students and associates at the University of Manitoba, Bob showed that this owl was a rare but regular breeding bird in Manitoba. Bob secured grants from conservation organizations, businesses, and industry in support of this work. In recognition, he received the SNHS Conservation Award (1981) for studies of the Great Gray Owl and the SNHS Cliff Shaw Memorial Award (1984) for publication of a summary of his "untiring study of the Great Gray Owl in Manitoba". The work produced an engaging book *The Great Gray Owl – Phantom of the Boreal Forest* (Smithsonian Press, 1980) lavishly illustrated by Robert R. Taylor, renowned wildlife photographer and long-time field companion.

On Bob's initiative, the first international gathering of owl researchers convened in Winnipeg in 1987, attended by 150 delegates from 10 countries and resulting in a published *Proceedings*. This would be followed by five "World Owl Symposia", held in Canada, Australia, Netherlands, Portugal, and India.

In 1984, Bob rescued an injured nestling Great Gray Owl. Although restored to health at the Manitoba Wildlife Rehabilitation Centre, the bird could not be released. For the next 23 years, Bob and Lady Gray'l visited hundreds of schools and organizations, bringing his knowledge of owls, nature, and conservation to the public through entertaining and educational programs. He documented these experiences in another book, *Lady Gray'l: An Owl with a Mission* (Natural Heritage, 1994). Bob spearheaded the eventual selection of the Great Gray Owl as the official bird emblem for Manitoba in 1987.

Bob promoted government programs and legislation, focusing on endangered and threatened species, notably the protection of birds of prey in Saskatchewan in the 1960s. In Manitoba, he pushed for establishment of a monitoring program of the Cougar (*Felis concolor*) and a recovery program for urban Peregrine Falcons (*Falco peregrinus*) in Winnipeg and in Brandon.

Bob was honored by many organizations. He was awarded Honorary Membership (1980) and the Ernest Thompson Seton Medal (1981) from the Manitoba Naturalists Society, the Annual Award (1983) from the Manitoba Chapter of the Wildlife Society, the Professional Award (1985) from the Central Mountain and Plains Section of the Wildlife Society, a Certificate of Merit (1985) from Environment Canada, and Honorary Membership (1987) from the Ottawa Field-Naturalist Club. For his many contributions to Canadian ornithology, Bob received the Doris Huestis Speirs Award (1995) from the Society of Canadian Ornithologists / Société des Ornithologistes du Canada.

Retirement in 1991 did not slow Bob. He continued to assist the province and others as a Senior Volunteer Ecologist, a title that recognized years of dedicated service. He established and supported The Lady Gray'l Fund under the auspices of The Winnipeg Foundation in support of owl research and conservation around the world.

Throughout his life Bob encouraged and supported all those he met with interests in the natural world, perhaps as a reflection of his own experience as a teenager and student. This was especially true for young people with interests in birds, several of whom went on to careers in ornithology as a result of his influence. He paved the way for many others to develop a deeper connection with nature and its preservation.

Bob's interest in North American indigenous archaeology continued throughout his life. Within a year of his arrival in Saskatchewan he became involved in the excavation of a site on the Souris River just south of Oxbow. His long-lasting interest in the Oxbow Culture extended to finds in the sand dunes of Lake Athabasca and in Manitoba. In 1992, Bob discovered bone fragments and artifacts south of Portage la Prairie, Manitoba. He visited the area, which became known as Hacault Site, many times between 1992 and 1997, collecting Oxbow Culture artifacts that are now in the research collection of the Anthropology Department of the University of Winnipeg.

Known to some was Bob's interest in poetry. His first poems were published in 1947, but it was later that he turned to poetry in a major way. He published four books of poems between 1990 and 2005, and published dozens more in *The Blue Jay* and other natural history publications. Many of his poems offer sensitive insights of the natural world around him. Those who knew him recognize the gentle, caring, curious, and observant individual that was Bob Nero.

Bob was predeceased by Ruth, his wife of 62 years, in 2010. He is survived by his partner Nenita Barrientos, daughters Tamera Brant and Lorrell Onosson, and sons Birch, Redwood, and Brook, along with nine grandchildren. We thank Glen A. Fox for comments on this memorial.

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Ornithological News and Announcements

The joint meeting of the American Ornithological Society (AOS) and the Society of Canadian Ornithologists–Société des ornithologistes du Canada (SCO–SOC) will be held 8–12 August 2023 in London, Ontario. Registration is now open! To register and get additional information about this exciting joint conference, please visit: https://meeting.americanornithology.org/.

La conférence conjointe de l'American Ornithological Society (AOS) et de la Société des ornithologistes du Canada - Society of Canadian Ornithologists (SOC-SCO) se tiendra du 8 au 12 août 2023 à London, en Ontario. Les inscriptions sont désormais ouvertes! Pour vous inscrire et obtenir des informations supplémentaires sur cette belle conférence conjointe, veuillez consulter le site: https://meeting.americanornithology.org/.

Nominations for Council and Executive

The SCO-SOC is soliciting invitations from members interested in serving on Council and Executive. Specifically, we have two open positions on **Council**, and openings for both **Treasurer** and **Recording Secretary**. Members of council serve for two years and serve up to two consecutive terms. Treasurer and Recording Secretary are renewable two-year terms. For all positions, no prior experience is required. Becoming a member of council or a member of executive is a wonderful way to support the SCO-SOC and help add your voice in shaping the direction of Canadian ornithology. The SCO-SOC is particularly interested in diversifying our council, so we strongly encourage applications from people that identify as being from underrepresented communities. If you are interested in becoming a member of council or joining executive, please submit a short paragraph about yourself, including why you would like to be on the SCO-SOC council and what you hope to bring to the position, along with a photo. These will be distributed to the membership prior to the election. Please send your applications and any questions or concerns to Matt Reudink at mreudink@tru.ca by **July 31, 2023**.

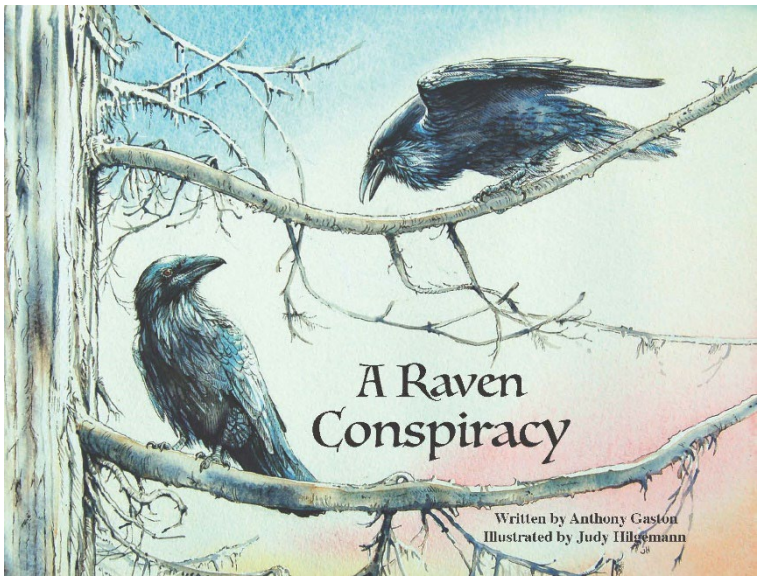
Nominations pour le conseil et l'exécutif

La SOC-SCO sollicite des applications de la part de membres intéressés à siéger au Conseil et à l'Exécutif. Plus précisément, nous avons deux postes vacants au sein du **Conseil**, en plus des postes de **Trésorier** et de **Secrétaire-Archiviste**. Les membres du conseil siègent pendant deux ans et remplissent jusqu'à deux mandats consécutifs. Les postes de Trésorier et de Secrétaire-Archiviste ont des mandats renouvelables de deux ans. Tous ces postes ne requièrent pas d'expérience préalable. Devenir membre du conseil ou membre de l'exécutif est une excellente façon de soutenir la SOC-SCO et d'aider à faire entendre votre voix pour façonner la direction de l'ornithologie canadienne. La SOC-SCO est particulièrement intéressée à diversifier le conseil, nous encourageons donc fortement les candidatures de personnes s'identifiant comme étant issues de communautés sous-représentées. Si vous êtes intéressé. e à devenir membre du conseil ou à rejoindre l'exécutif, veuillez soumettre un court paragraphe sur vous-même, y compris pourquoi vous aimeriez faire partie du conseil de la SOC-SCO et ce que vous espérez apporter au poste, ainsi qu'une photo. Ces candidatures seront distribuées aux membres avant l'élection. Veuillez envoyer vos candidatures et toute question ou préoccupation à Matt Reudink à mreudink@tru.ca avant le **31 juillet 2023**.

Book Review

A Raven Conspiracy

By Anthony Gaston (Author) and Judy Hilgemann (Illustrator)
Published in 2022 by Laskeek Bay Conservation Society, Skidegate, BC.



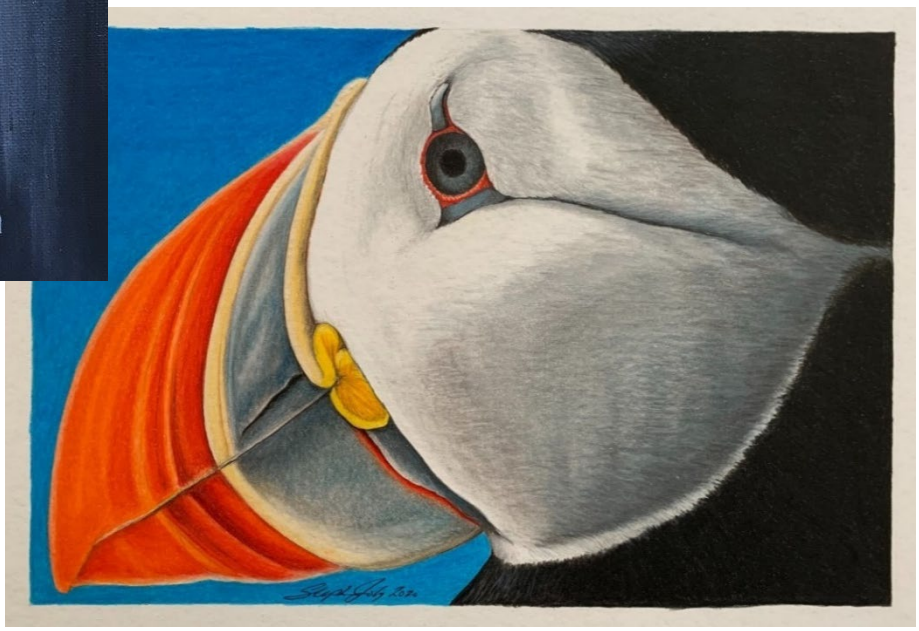
The sly children's book, A Raven Conspiracy, written by Anthony Gaston, illustrated by Judy Hilgemann, and published by Laskeek Bay Conservation Society 2022, sneaks up on you like a raven sidling obliquely toward handouts. The author has slyly given voice to our flighted brethren, the Ravens, who unbeknownst to us, call us Faces, and indeed, are watching your every move with growing concern. Humans, all 8 billion of us, are changing the face of the Earth and taking many of the animals and plants along with it. An especially clever bird, Krah, coming from the Northwest forests of Haida Gwaii, is concerned even as he spies the young student, Allison, at lunch in her school yard. He sidles up to her with a croak and steals her lunch. Amazing she can understand that croak as raven-speak- an ancient croaking language, that only the "Faces" people under age 5 can remember. Sadly, the earth no long hears the ravens as Faces gobble up the land and sea, fields, and forests. Raven can eat Face's food so they are willing to act as intermediaries to try to make people stop of planet's plunder. Krah is called to a grand convocation – a Kag-Moot- of the world's leading ravens in Russia's Lake Baikal to hatch a plan to stop the plunder. Krah leaves his wife and nestlings for a 13-day journey across

the northern waters of Alaska and Siberia to arrive at the raven convention, journey these coal black birds from all the continents save Australia and Antarctica. A bold conspiracy is hatched among the international flock to make the “Face’s” face-up to what they are doing to the world. What follows is a swift execution of the plan to take place on the Winter Solstice and overlap with Christmas. Suffice to say, the raven’s plan gets the world’s attention.

A colour map of Krah’s journey is the frontispiece and we can see his epic journey from Canada to Russia, and detailed black and white drawings of ravens and habitat are judiciously provided. Canada is featured prominently: we learn the Prime Minister even has the book, The Birds of Canada that was a gift from the Canadian Museum of Nature. This 70-page book is pitched to young readers with an imagination who will expand their geographic and vocabulary horizons, on this hero’s journey to ultimately save the world. Without ‘cudgeling’ us with the moralistic stick, Gaston’s tale is an allegory of how to solve the world’s woes. That raven’s speaks for the Indigenous Peoples of the world, the Buddhists and Sufi Dervishes, our youth who are hearing it the clearest ask the world to take a deep breath, be quiet enough to hear their raven-speak voices and make room for a future that includes all of nature.

Reviewed by Mark Rauzon, E-mail: mjrauz@aol.com

Bird Artwork



Clockwise from top left: Great Blue Heron (*Ardea herodias*) by Amalie Hutchinson, Red-winged Blackbirds (*Agelaius phoeniceus*) by Amalie Hutchinson, and Atlantic Puffin (*Fratercula arctica*) by Steve Joly.

Avian Conservation and Ecology Articles

Volume 18, Issue 1 (continued)

RESEARCH PAPERS

SCO – SOC Information

Name	Title	Phone	E-mail
Officers for 2022/2023:			
Dr. Matt Reudink	President	204-474-8768	mreudink@tru.ca
Dr. Danielle Ethier	Vice-President/President-elect	519-586-3531 ext. 115	dethier@birdscanada.org
Dr. Nicola Koper	Past President	204-474-8768	nicola.koper@umanitoba.ca
Dr. Junior Tremblay	Treasurer	418-649-6260	junior.tremblay@canada.ca
Dr. Elizabeth MacDougall-Shackleton	Membership Secretary	519-852-5179	emacdoug@uwo.ca
Dr. Greg Mitchell	Recording Secretary	613-998-7311	greg.mitchell@canada.ca
Rob Warnock	Co-editor, *Picoides*	306-586-2492	warnockr@myaccess.ca
Barbara Bleho	Co-editor, *Picoides*	416-705-0092	bleho.barbara@gmail.com
Voting Members of Council: (*second term)			
Dr. Kara Lefevre	Member of Council	239-321-0425	klefevre@tru.ca
Dr. Brendan Casey	Member of Council	780-920-1787	bgcasey@ualberta.ca
Amélie Roberto-Charron	Member of Council	867-669-4734	amelie.roberto-charron@canada.ca
Dr. Maggie MacPherson	Member of Council	705-622-4575	maggie.macpherson@gmail.com
Dr. Lionel Leston	Member of Council	778-990-4981	leston@ualberta.ca
Dr. Sam Hache	Member of Council	867-669-4771	samuel.hache@canada.ca
Dr. Sarah Gutowsky	Member of Council	-	sarahegutowsky@gmail.com
Dr. Ann McKellar	Member of Council	306-241-1495	ann.mckellar@canada.ca
Steven van Wilgenburg	Member of Council	306-975-5506	steven.vanwilgenburg@canada.ca

(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.