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Dear POLAR Knowledge Canada review committee,

I am writing this letter in strong support of the proposal by Prof. Jules Blais to POLAR Knowledge Canada entitled "Long-term changes in bird populations near Cambridge Bay based on lake sediment records".

This project will use lake sediment records to track inputs from bird populations over past decades and centuries to allow a first glimpse at how these bird populations may have changed before our available historical records. This method utilizes techniques developed in the Blais laboratory and recently published in the Proceedings of the National Academy of Sciences (See for example:

<https://www.pnas.org/content/early/2019/03/26/1814057116>).

This research will inform discussions on the long-term stability of goose and eider populations in the Cambridge Bay region and beyond, in the context of past changes that currently remain unknown. These discussions are also very relevant to future decisions on food security in the region, as well as hunting and tourism that contribute to the well-being and economy for Cambridge Bay and its region. The research questions to be addressed by this proposal also align closely with research priorities at the Wildlife Landscape Science Division of Environment and Climate Change Canada. I have been tracking waterfowl population abundance and distributions in the region for the last three decades; this proposed work provides a technique to extend those historical records back over longer time scales to determine long term sustainability and viability of these bird populations. As well, the work may illuminate how past climate and other environmental factors may have contributed to changes in waterfowl populations over time.

One of the current high priority research themes for ECCC includes arctic ecosystem research and the role of high goose population in changing vegetation structure that affects ecosystem dynamics and other populations of wildlife that share this habitat. This proposed research integrates very well with the whole topic of overabundant geese and their role in changing arctic terrestrial ecosystems. The decades-long research experience by our team in the Ahliah-Queen Maud Gulf Migratory Bird Sanctuary can provide valuable insights into the study design, collaborate with logistics, and with any findings that result from the proposed research

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Given that this research aligns with ECCC priorities, and we have ongoing field research planned for 2020-2022 inclusive, our organization can offer in-kind support to this project in the form of supporting field logistics in the summers of 2020, 2021, and 2022, which I estimate to be worth **\$60,000** as an in-kind contribution to the project. In addition, the time I and other ECCC staff could devote to this project would have a value of **\$20,000** of in-kind support to this project, especially in the form of field logistics planning and direct contributions to the research. Therefore, ECCC could contribute a total of **\$80,000** over the three year duration of this project.

I am delighted to support this project and look forward to the opportunity to develop these ideas further, in collaboration with Prof. Blais and his team.

With my best regards,

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