

CASE STUDIES

Working with Indigenous Communities on Migratory Birds - case studies of relevance to the Arctic Migratory Birds Initiative (AMBI)

MAY 2021



ARCTIC COUNCIL



Arctic Migratory Birds Initiative

Acknowledgements

CAFF Designated Agencies:

- Environment and Climate Change Canada
- Faroese Museum of Natural History
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- Ministry for Agriculture, Self Sufficiency, Energy and Environment, Government of Greenland
- Icelandic Institute of Natural History
- Norwegian Environment Agency
- Ministry of Natural Resources and Environment of the Russian Federation
- Swedish Environmental Protection Agency
- United States Department of the Interior, Fish and Wildlife Service

CAFF Permanent Participant Organizations:

- Aleut International Association (AIA)
- Arctic Athabaskan Council (AAC)
- Gwich'in Council International (GCI)
- Inuit Circumpolar Council (ICC)
- Russian Association of Indigenous Peoples of the North (RAIPON)
- Saami Council

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— CAFF Designated Area

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CONTEXT

As a CAFF program, AMBI takes guidance and direction from the CAFF Management Board and feeds into Arctic Council structures, processes and reporting procedures. As stated in the AMBI terms of reference, AMBI is guided by an AMBI Steering Group responsible for overall AMBI coordination and implementation, and Flyway Committees responsible for Flyway implementation. The AMBI Steering Group may be comprised of Arctic Council states, Permanent Participants (PP), Observer states and organizations, and other global partners who must be relevant to achieve overall AMBI goals across all flyways. AMBI Flyway Committees may be comprised of Arctic Council states, PPs, Observer states and organizations, and other partners relevant to achieve AMBI goals within the flyway.

AMBI uses the expertise and experiences of Flyway Committee members and Steering Group representatives to inform its development, often in workshops, meetings and other mechanisms associated with work plan development, regular meetings to promote implementation, and through participation in the mid-term evaluation process. To date there has been no official PP representation on AMBI Flyway Committees or its Steering Group, which could help the program engage

Indigenous Peoples and ensure their knowledge and perspectives are considered in these processes. However, some PPs have continued to provide input and feedback for the consideration of those involved in AMBI and the CAFF Board. Several AMBI representatives do work in partnership with Indigenous and non-Indigenous colleagues at the national level to conduct projects that utilize Indigenous Knowledge (IK)¹ and Indigenous community engagement. These representatives have shared that this work informs their perspectives and priorities for AMBI. These projects produce publicly available information which is also used to help inform AMBI development and implementation. The following examples have been collected from various AMBI Flyway Committee representatives work, which has then indirectly informed AMBI development and

¹ Indigenous Knowledge: is a systematic way of thinking and knowing that is elaborated and applied to phenomena across biological, physical, cultural, and linguistic systems. Indigenous Knowledge is owned by the holders of that knowledge, often collectively, and is uniquely expressed and transmitted through Indigenous languages. It is a body of knowledge generated through cultural practices, lived experiences including extensive and multi-generational observations, lessons and skills. It has been developed and verified over millennia and is still developing in a living process, including knowledge acquired today and in the future, and it is passed on from generation to generation.



*Photo: Bar-tailed Godwit.
Frank Fichtmueller/Shutterstock*

implementation. The projects highlighted below are not necessarily initiated by AMBI, but contribute to AMBI implementation, often in national contexts. This document should not be mistaken for AMBI consultation processes and engagement with Indigenous Peoples but could aid AMBI in developing processes for meaningful engagement with Indigenous Peoples. This is an important step to ensure AMBI is relevant for Arctic Indigenous Peoples.

There may be different perspectives amongst Indigenous and non-Indigenous participants on the level of success and effectiveness in engagement of Indigenous Peoples in research and conservation. An evaluation of Indigenous engagement requires development of criteria and participation of Indigenous communities including the methodology used for evaluation. Such evaluation was beyond the scope of this compilation of examples, which may provide an incomplete portrayal of engagement. To date AMBI has not engaged at the community level for perspectives on the level of engagement and should work towards enhanced engagement of Indigenous Peoples and their knowledge across all scales. For projects with direct CAFF and/or AMBI participation, AMBI representatives

communicate to local project partners how projects' results may inform various Arctic Council work.

Identifying examples will aid in illustrating the importance of IK inclusion and community participation to identify and implement activities that help fulfill AMBI, and how inclusion into the AMBI work plan can help researchers, institutions and community members build support for this work. This is a first step, and it is hoped that these actions will help identify relationships that should continue to be built and reinforced at the international and national level. This document may aid AMBI in advancing discussions on the development of processes to support the meaningful engagement of PPs, IK and Indigenous communities more directly.

AMBI ACTIVITIES

IMPLEMENTATION OF AMBI CIRCUMPOLAR ACTION 2.3 CIRCUMPOLAR HARVEST PROJECT

Description: AMBI Circumpolar Action 2.3 to “Conduct/update holistic harvest studies for circumpolar regions of interest using approaches tailored to regional contexts as appropriate” is one of only two items under the AMBI Circumpolar Flyway that currently has no lead and is making little progress in implementation. To fill this gap, AMBI Global Coordinator and Circumpolar Flyway Coordinator are trying to advance discussion on implementation of this action and have begun an engagement process to try and scope what implementation of this action could/should be. Given the importance of this issue to Indigenous food security, cultures, and way of life, initial guidance has been sought from Permanent Participant (PP) representatives of the CAFF Board. Teleconferences were had with interested PP representatives who expressed concern and noted Indigenous involvement is essential to implementation of this action. As it is currently worded in the AMBI work plan, the action does not take a holistic approach and would have limited usefulness to communities and Indigenous groups. Rather it has been suggested to reframe the assessment question beyond how the action is currently worded and examine what questions are most interesting and useful to Indigenous Peoples, and then determine an appropriate methodology to assess those questions. Establishing an inclusive process and useful end-product increases the likelihood that the project will receive Indigenous/community contributions and be well received/used. Additional advice from PP representatives has been to develop an Advisory Committee of IK holders and scientists to help set project parameters, develop a methodology, and provide guidance on how to gather and interpret knowledge. Engagement is ongoing and a project scoping document is being developed.

Timeline: 2019-2023

Location: Circumpolar

AMBI Action(s): AMBI Circumpolar Action 2.3 “Conduct/update holistic harvest studies for circumpolar regions of interest using approaches tailored to regional contexts as appropriate”

Main AMBI contact point:

Courtney Price,
AMBI Global Coordinator

Next steps: AMBI Coordinators are continuing to consult with additional parties (AMBI Circumpolar Flyway, CBird reps, CAFF Board national representatives) to develop a project scoping document detailing potential implementation for discussion and guidance at an upcoming CAFF Board meeting.



*Photo: Thick-billed Murre.
Morten Ekker*

AMBI STEERING GROUP MEMBER, FLYWAY COMMITTEE MEMBER, AND CONTRIBUTOR ACTIVITIES

PROJECTS

FISHERIES BYCATCH OF ARCTIC SEABIRDS IN THE BBDS AREA

Description: Seabirds are accidentally caught in fishing activities in the BBDS region. The offshore Greenland Halibut fisheries are the main source of mortality of Northern Fulmars in the region. The communities on the eastern coast of Baffin Island are shareholders in the fishing industry in the region. Under AMBI Phase 1, work was undertaken to assess the extent of which fulmars were being accidentally killed by this fishery each year. At the time, the fishery was undergoing review of Marine Stewardship Council to increase their marketability, therefore the Government of Nunavut, the Nunavut Wildlife Management Board (NWMB) and communities were supportive of better understanding seabird bycatch in the context of sustainable fisheries at the ecosystem level. As a result, the research team engaged the Department of Fisheries and Oceans and the Nunavut Fisheries Association to gather knowledge on how seabirds are caught in fisheries and the potential impacts on seabird populations.

As this project takes place in Nunavut, a self-governing Inuit territory, it is subject to a permitting system. As part of the permitting system, consultation with communities is required and detailed in the permitting system, which is then reviewed and approved by the relevant Hunters and Trappers Organizations and Area Co-Management Committees, comprised of local representatives. Community support is required in order for permits to be issued; reporting and discussions with community members are ongoing.



Timeline: Initial work was undertaken with the Hamlets of Qikiqtarjuaq, Clyde River and Pond Inlet in 2017. In 2018 field work with community members from Pond Inlet and Qikiqtarjuaq was completed. In 2019 members of the research team traveled to Qikiqtarjuaq and Pond Inlet to share early results. In 2019 funding for a PhD student was secured to further explore questions of concern from the communities and the industry (of which the communities are shareholders). More fieldwork was planned for 2020, and will (hopefully) be undertaken in 2021 with the communities of Resolute Bay and Grise Fjord.

Location: Baffin Bay- Davis Strait, Canada

AMBI Action(s): AMBI Circumpolar Flyway Action 3.2 “Continue discussions about mitigation measures with fisheries partners”. – This work was directly initiated under AMBI work plan 1, and the work continues to build on these themes with communities, industry and local co-management boards.

Main AMBI contact point:
Jennifer Provencher, ECCC

Next Steps: For 2020 researchers have been working with two Inuit communities (Resolute Bay and Grise Fjord) to undertake surveys of the rest of the Northern Fulmar colonies in Canada. This will help them understand if the declines are widespread or localized to the BBDS region.

Photo: Northern Fulmar.
Jesus Cobaleda/Shutterstock.com

PLASTIC POLLUTION IN SEABIRDS AND NATIONAL WILDLIFE AREAS

Description: Since the 2000s work has focused in the Canadian Arctic on assessing plastic ingestion in seabirds. Over the last 15-years researchers and observers have detected plastic pollution in several seabird species. Through discussions and consultations with communities, questions have been raised on whether plastic pollution is also present in the National Wildlife Areas where colonial seabirds are found. Specifically, the Sululiit Area Co-Management Committee (the community group that co-manages National Wildlife Areas [NWA] with Environment and Climate Change Canada in the Qikiqtarjuaq region) included assessing plastic pollution into their draft management plan for the region. To build on the body of work and the desire to specifically explore microplastics in the NWA, the research team designed a protocol of biotic and abiotic samples in the NWA and carried these out with community member teams in 2018. Specifically, Indigenous Knowledge (IK) was brought together with science to identify what types of samples to take and where to take these samples. This is based on what environmental compartments are being used globally (western science) and where microplastics would most likely build up in the region (IK) and includes seabirds, water, air, sediment and mussel samples. This work is being used directly by the Sululiit ACMC in their management plan, by the AMAP Litter and Microplastics Expert Group, and Environment and Climate Change Canada in their Canadian Plastics Science Agenda (<https://www.canada.ca/content/dam/eccc/documents/pdf/science-technology/plastics-science-agenda.pdf>).

As this project takes place in Nunavut, a self-governing Inuit territory, it is subject to a permitting system. As part of the permitting system, consultation with communities is required and detailed in the permitting system, which is then reviewed and approved by the relevant Hunters and Trappers Organizations and Area Co-Management Committees, comprised of local representatives. Community support is required in order for permits to be issued; reporting and discussions with community members are ongoing.

Photo by Jennifer Provencher

Timeline: Consultations commenced in 2017, field work in 2018, analysis and reporting to communities is ongoing. Early results were shared with the community in 2019. Peer-reviewed publications are in preparation and will be submitted in 2020. Additionally, in 2020 the Hunters and Trappers Organization of Qikiqtarjuaq and the regional Area Co-Management Committee supported an application to the Northern Contaminants Program to expand this work via community field work in 2021.

Location: Baffin Bay- Davis Strait

AMBI Action(s): AMBI Circumpolar Flyway Action 4.1 “State of knowledge assessment for plastics in wildlife” and AMBI Circumpolar Flyway Action 4.2 “Work with Arctic Council countries and Permanent Participants, PAME, and AMAP to begin to address knowledge gaps” – this project directly increases knowledge of how plastic pollution affects seabird species in the Arctic, and is feeding into the AMAP Litter and Microplastic Expert Group who are conducting a litter and microplastics monitoring assessment.

Main AMBI contact point:

Jennifer Provencher, ECCC

Next Steps: Data from 2018 continues to be finalized and shared with the community and the international contaminants community (AMAP). Planning for a 2021 field season with the community of Qikiqtarjuaq is ongoing.



OIL-RELATED CONTAMINANTS IN NUNAVUT

Description: While in Qikiqtarjuaq, Nunavut during consultations on work relating to bycatch of fisheries and plastic pollution, the community also expressed interest in having more information on oil-related contaminants in seabirds in relation to the BBDS Strategic Environmental Assessment process that is being undertaken jointly by the Government of Canada, the Government of Nunavut and the Qikiqtani Inuit Association. The research team therefore added a protocol to fill this knowledge gap during the 2018 field season. This project has yielded the first available data on oil-related contaminants data for four seabird species in the region, and illustrates that oil-related contaminants from both natural sources of oil and gas (nearby nature seeps) and pollution can be found in the birds, but at relatively low levels.

As this project takes place in Nunavut, a self-governing Inuit territory, it is subject to a permitting system. As part of the permitting system, consultation with communities is required and detailed in the permitting system, which is then reviewed and approved by the relevant Hunters and Trappers Organizations and Area Co-Management Committees, comprised of local representatives. Community support is required in order for permits to be issued; reporting and discussions with community members are ongoing.

Timeline: Consultations commenced in 2017, field work in 2018, analysis and reporting to communities and the Strategic Environmental Assessment partners is ongoing into 2021.

Location: Baffin Bay- Davis Strait, Canada

AMBI Action(s): AMBI Circumpolar Flyway Action 1.1 “Raise awareness and facilitate protection of at-sea areas where key marine bird habitats intersect with human activities” – this activity continues to bird use of areas at sea in relation to the BBDS Strategic Environmental Assessment process that is being undertaken by the Government of Canada, the Government of Nunavut and the Qikiqtani Inuit Association.

Main AMBI contact point:

Jennifer Provencher, ECCC

Next Steps: Reporting and discussions with community members in Qikiqtarjuaq were planned for 2020, and are now delayed. Project partners are in discussions on how best to proceed with knowledge sharing.

Photo: Qikiqtarjuaq by Julia Baak



FUZZY COGNITIVE MAPPING OF CUMULATIVE EFFECTS ON NORTHERN FULMARS

Description: This Canadian project has been developed in response to requests from Inuit communities, and especially Qikiqtarjuaq, to place the above projects in context with each other, and other environmental pressures. Communities have expressed the need to conduct work in a more holistic view. Consequently, ECCC is currently supporting work that addresses the cumulative effects in the region. This is not a CAFF-led AMBI project, but a collaboration between scientists and communities in Canada that helps indirectly contribute to AMBI development and implementation. Project partners, including community representatives, have been informed via the contact point below that publicly available components of this work have influenced AMBI development and implementation. Importantly, the project aims to incorporate both IK and western science into a cumulative effects relational framework. This can be used to understand how different environmental threats may interact and affect Northern Fulmar populations. A Fuzzy Cognitive Mapping approach will be applied to interrogate how different threats affect Northern Fulmars. The advantage of this model is that it can respectfully incorporate different bodies of knowledge (i.e. Indigenous Knowledge and science) in a consensus model that aims to identify both similarities and differences by bringing together knowledge systems to generate discussion among the groups. Importantly, the starting point for the modeling is results from previous studies of IK. Then both western science and IK knowledge holders will work to bring together knowledge on threats within a single mapping framework (as seen in Fig 1). The goal of the work is to produce a report that incorporates IK and western science in a way that can be used to assess how to best conserve Northern Fulmar populations in the region (which are declining at some colonies). This methodology is also of interest to collaboratively and respectfully bring together knowledge from across knowledge systems and world views in the spirit of wildlife co-management, and as a means of modeling cumulative effects for species in decline in locally relevant ways, and can thus inform other AMBI implementation actions.

As this project takes place in Nunavut, a self-governing Inuit territory, it is subject to a permitting system. As part of the permitting system, consultation with communities is required and detailed in the permitting system, which is then reviewed and approved by the relevant Hunters and Trappers Organizations and Area Co-Management Committees, comprised of local representatives. Community support is required in order for permits to be issued; reporting and discussions with community members are ongoing.

Timeline: Funding was secured in 2019 and discussions with partners were undertaken at the time. In fall 2020, a series of online workshops will be held with knowledge holders (i.e. seabird experts, IK experts in the Qikiqtani region (QIA, NIRB, and others), and youth from Nunavut) to create three different conceptual maps of threats to northern fulmars in the BBDS region. Generally, the steps of each workshop will include:

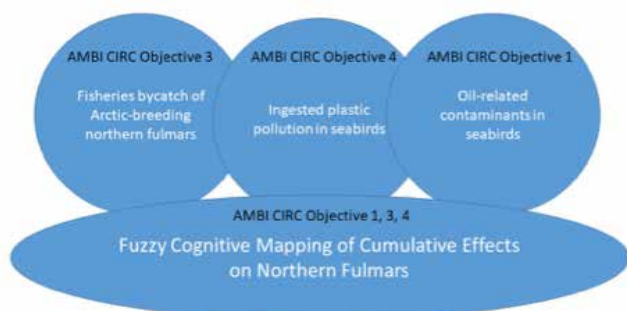
- Terminology on threats derived from IK study documents completed in the BBDS SEA
- Agreement on the definition of the terminology for each threat with workshop participants
- Assigning the relative weights for each environmental threat
- Building a relational model from these results that is consistent across the groups

Location: Baffin Bay- Davis Strait

AMBI Action(s): AMBI Circumpolar Flyway Action 1.1 “Raise awareness and facilitate protection of at-sea areas where key marine bird habitats intersect with human activities” – input into bird use of areas at sea in relation to the BBDS Strategic Environmental Assessment process that is being undertaken by the Government of Canada, the Government of Nunavut and the Qikiqtani Inuit Association. Results/methodology could inform how to implement AMBI Circumpolar 2.3 (circumpolar harvest).

Main AMBI contact point:
Jennifer Provencher, ECCC

Next Steps: The team is currently planning three workshops with knowledge holder groups to start the threat mapping exercise.



COASTAL SURVEYS OF MARINE BIRDS IN THE EASTERN CANADIAN ARCTIC

Description: The coastlines and related island archipelagos of south Baffin Island, Ungava Bay, and the Belcher Islands support internationally important numbers of colonial eider ducks, gulls, terns, and pairs of red-throated loons, and are important breeding areas for some species. Many species are harvested regionally in summer as well as on their wintering grounds (e.g., eider ducks in west Greenland and Newfoundland and Quebec). Surveys here are co-lead by Inuit and scientists with each survey designed during community meetings by experienced hunters and coordinated by the local Hunters and Trappers Association. Prior to summer surveys, the team convenes in the nearest community to plan the islands to be surveyed, decide on group size, and select who will be hired to participate. A typical survey team consists of eight to ten people working from four small boats, with most people employed from the nearest community. Recent surveys build on historical data that is archived at ECCC and geo-referenced so that any changes in bird numbers or distribution can be quantified. Findings are shared with the community in summaries (community-identified this need and format).

This is not a CAFF-led AMBI project, but a collaboration between scientists and communities in Canada that helps contribute to AMBI development and implementation. Project partners, including community representatives, have been informed via the contact point below that publicly available components of this work have informed international processes, such as AMBI.

As this project takes place in Nunavut, a self-governing Inuit territory, it is subject to a permitting system. As part of the permitting system, consultation with communities is required and detailed in the permitting system, which is then reviewed and approved by the relevant Hunters and Trappers Organizations and Area Co-Management Committees, comprised of local representatives. Community support is required in order for permits to be issued; reporting and discussions with community members are ongoing.

Photo by Grant Gilchrist

Timeline: The coastal islands are surveyed on a rotational basis over roughly a 10 year survey cycle (five years along the south coast of Baffin Island). In each region, some surveys require three consecutive summers of field work to enable teams to visit all target islands (and to account for bad weather and boating conditions).

Location: coastal Baffin Island, Ungava Bay, Belcher and Sleeper Islands.

AMBI Action(s): AMBI Circumpolar Flyway Action 1.1 “Raise awareness and facilitate protection of at-sea areas where key marine bird habitats intersect with human activities”. These surveys provide valuable information on the abundance, distribution, and habitat use of several species of Arctic breeding migratory birds. The information derived from this work can inform marine protection planning processes. Circumpolar Flyway Action 2.2 “Assess the population level impact of seabird harvest in relation to other stressors.”

Main AMBI contact point:
Grant Gilchrist, ECCC

Next steps: The next survey is scheduled for the summer of 2021 in the Belcher Islands in collaboration with the community of Sanikiluaq, the Arctic Eider Society, Environment and Climate Change Canada, and Carleton University.



ECOLOGY OF COMMON EIDER IN THE BELCHER ISLAND ARCHIPELAGO

Description: In 1992, Inuit hunters and community members from Sanikiluaq, Nunavut documented a mass winter die-off event of common eider ducks. The community invited scientists from Environment Canada to work with them to study eider winter ecology, conduct a summer survey, and assess what occurred as well as the implications for future harvest levels. The opportunity to study wintering ecology is unique. Together, the team of Inuit and scientists discovered that the eider population declined dramatically following an extreme winter of heavy sea ice that contributed to an 85% population decline following the Mount Pinatubo volcanic eruption in the Philippines. The volcanic ash lowered the global temperature and this affected many Arctic birds in 1992, including the eiders of the Belcher Islands. The eider population appeared to recover in subsequent years. The collaborative project flew aerial surveys and conducted field studies in winter. The project determined that eiders foraged in dynamic moving sea ice and were diving in shallow areas between the open leads offshore. They then retreated to roost in polynyas found within the islands to spend the night. Joint field studies determined which of the polynyas were most important and most heavily used by eider ducks. More recently, the community is concerned that an increase in marauding polar bears in summer is impacting key eider nesting areas. The impacts of bears has been seen and confirmed elsewhere at East Bay, in Hudson Strait and in Ungava Bay. Building on decades of collaboration, Inuit and scientists here are now planning to conduct summer surveys of eider nesting islands to develop population estimates and assess the impacts of polar bears.

This is not a CAFF-led AMBI project, but a collaboration between scientists and communities in Canada that helps contribute to AMBI development and implementation. Project partners, including community representatives, have been informed via the contact point below that publicly available components of this work have informed international processes, such as AMBI.

As this project takes place in Nunavut, a self-governing Inuit territory, it is subject to a permitting system. As part of the permitting system, consultation with communities is required and detailed in the permitting system, which is then reviewed and approved by the relevant Hunters and Trappers Organizations and Area Co-Management Committees, comprised of local representatives. Community support is required in order for permits to be issued; reporting and discussions with community members are ongoing.

Timeline: This work has all been carried out in direct collaboration and participation with the community and the Hunting and Trapping Organization (HTO) since 1992. The Arctic Eider Society has taken it further and launched online recording of hunter information using internet apps (SIKU). Since the early 1990s work was entirely driven by the community and more recently the Arctic Eider Society, including winter field work and marine sampling.

Location: Belcher Islands in Hudson Bay, Canada in both summer and winter

AMBI Action(s): AMBI Circumpolar Flyway Action 1.1 “Raise awareness and facilitate protection of at-sea areas where key marine bird habitats intersect with human activities.” These surveys provide valuable information on the abundance, distribution, and habitat use of several species of Arctic breeding migratory birds. The information derived from this work can inform marine protection planning processes. AMBI Circumpolar Flyway Action 1.2 “Assess the population level impact of seabird harvest in relation to other stressors.” This project seeks to better understand the ecology of common eiders, a harvested AMBI priority species, and the direct and indirect effects of climate change and other potential stressors on populations.

Main AMBI contact point:
Grant Gilchrist, ECCC

Next steps: There is a summer colony survey planned for 2021 in the Belcher Islands. The project is in collaboration with the community of Sanikiluaq, the Arctic Eider Society, Environment and Climate Change Canada, and Carleton University and will gather bird distribution and abundance information to support the community’s efforts to identify key marine and coastal areas worthy of formal protection.

COMMUNITY BASED MONITORING OF GOOSE NESTING DENSITY

Description: Rapid increases of white geese (Snow Goose and Ross' Goose) over the past 40 years, and accompanying ecosystem impacts, are a conservation concern for shorebirds breeding in the North American Arctic. Monitoring goose abundance is an important component of managing this conservation issue. A key recommendation from the 2018 Light Goose Management Workshop, which brought together Inuit, scientists and decision makers to co-develop management strategies (reports available at www.kangut.ca) was to increase the involvement of Inuit in this monitoring. In 2019, Environment and Climate Change Canada (ECCC) and Inuit partners developed a protocol for community based monitoring of goose nesting density. In summer 2019, the protocol was successfully tested during a pilot project in collaboration with the community of Coral Harbour (Salliq), Nunavut. Community-based monitoring protocols such as this could provide local employment opportunities, while also offering valuable information on goose nesting densities and associated ecosystem impacts.

As a direct result of this work, Canadian representatives to AMBI proposed AMBI actions to address overabundance of white geese and to ensure IK is incorporated into research and mitigation measures into the AMBI work plan. Project partners, including community representatives, have been informed via the contact point below that publicly available components of this work influenced AMBI development and implementation.

As this project takes place in Nunavut, a self-governing Inuit territory, it is subject to a permitting system. As part of the permitting system, consultation with communities is required and detailed in the permitting system, which is then reviewed and approved by the relevant Hunters and Trappers Organizations and Area Co-Management Committees, comprised of local representatives. Community support is required in order for permits to be issued; reporting and discussions with community members are ongoing.

Photo: Inuit and Light Geese Project,
www.kangut.ca

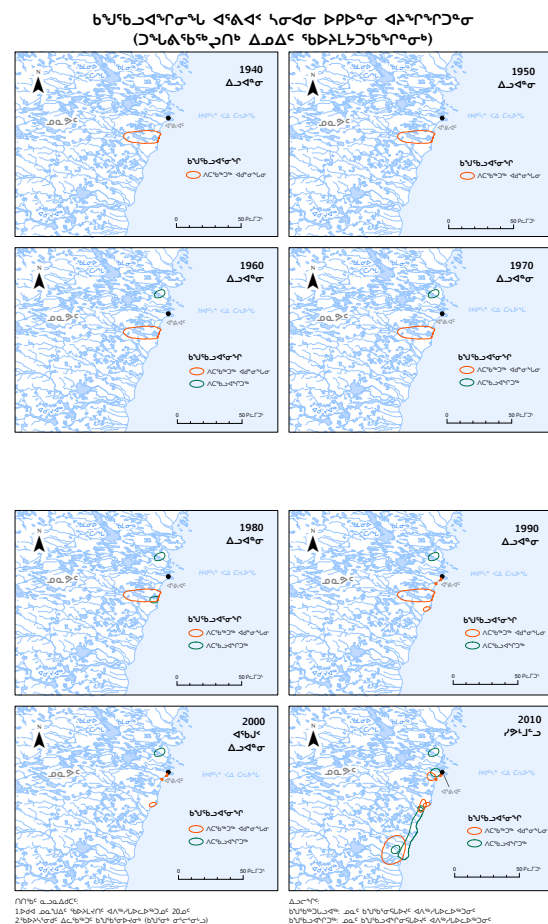
Timeline: 2018-ongoing

Location: East Bay (Qaqsauqtuuq) Migratory Bird Sanctuary and Coral Harbour (Salliq), Southampton Island, Canada

AMBI Action(s): AMBI Americas Flyway Objective 3.1 “Ensure Traditional Knowledge is incorporated into white geese impacts research and mitigation measures”.

Main AMBI contact point: Paul Smith, ECCC

Next Steps: Continue collaborations with the Inuit and Light Geese Project Management Committee in Coral Harbour, consisting of the Irniurviit Area Co-Management Committee and the Aiviit HTO, to report results of the 2019 pilot project and to seek advice on various aspects of the project, including community engagement. Identify and mentor a community leader, to facilitate implementation of this and other community-based monitoring programs.



SHOREBIRD HARVEST AND INDIGENOUS KNOWLEDGE IN ALASKA

Partnerships: Researchers from the Alaska Department of Fish and Game—Division of Subsistence and the US Geological Survey-Alaska Science Center, local partners at five subsistence communities in western Alaska, and the Alaska Migratory Bird Co-Management Council.

Funding: National Fish and Wildlife Foundation and Alaska Department of Fish and Game.

Objectives and approach: Shorebird population declines in the East Asian-Australasian Flyway have increased the need for information and collaboration across shorebird distribution ranges. Shorebirds represent only about 1% of the subsistence bird harvest in Alaska, but some shorebird species harvested are of conservation concern. A better understanding of the importance of shorebirds as food and cultural resources for Alaska's Indigenous Peoples is needed to facilitate engagement of Indigenous Peoples in ongoing shorebird conservation efforts. This study compiled available harvest data for all Alaska regions and conducted Indigenous Knowledge interviews in the Yukon-Kuskokwim Delta in western Alaska, which is homeland to Central Yupik culture. Based on a large dataset, harvest estimates portrayed seasonal and geographic harvest patterns for all regions in Alaska with increased accuracy regarding composition and magnitude of harvests. Interviews included Indigenous men, women, elders and active harvesters and they were asked about Yup'ik species names, past and current shorebird harvest methods and uses, cultural importance (place names, stories, songs, objects), ecology, changes in abundance, and local concerns. Ethnographic and ethnotaxonomic information allowed improvements to harvest assessment and management. This study documented some main aspects of the importance of shorebirds to Yup'ik people and provided context to harvest estimates. This study also helped to develop partnerships with local communities and provided context to the development of a place- and culture-based environmental education project to engage Yup'ik communities in ongoing shorebird conservation efforts (project below). Project results were published as a peer-reviewed article (<https://academic.oup.com/condor/article-abstract/121/2/duz023/5523065>) and a blog post aimed at distribution to a broader audience (<https://americanornithology.org/human-dimensions-in-shorebird-conservation/>)

Indigenous participation Project activities followed ethical standards for conducting research in the Arctic (<http://www.ankn.uaf.edu/IKS/afnguide.html>, <https://www.nsf.gov/geo/opp/arctic/conduct.jsp>). Participation in Indigenous Knowledge interviews was voluntary for community and individuals was based on informed

consent. Community consent was formalized as tribal council resolutions. Pilot interviews were conducted with subsistence users and interview structure and materials were revised according to feedback. Indigenous leaders identified potential respondents and using chain referral others were also asked to identify potential interview candidates. In two communities, a Yup'ik-fluent research assistant was contracted and helped with data collection. A Yup'ik translator was contracted with to assist with Yup'ik translation, orthography, and pronouncing. All along the project, progress updates were shared at bi-annual meetings of the Alaska Migratory Bird Co-management Council and the Yukon-Kuskokwim Delta Waterfowl Conservation Committee-Association of Village Council Presidents including Indigenous partners. The draft study report was provided to local and regional partners for their review and input. A four-page summary was produced in both English and Yup'ik to share project results with local and regional partners (http://www.adfg.alaska.gov/index.cfm?adfg=subsistence.b_knowledge).

Timeline: 2015–2018

Location: Harvest estimates were produced for all regions in Alaska. Indigenous knowledge interviews occurred on the Yukon-Kuskokwim Delta, in western Alaska, focusing on the Central Yup'ik culture, this being the region where the largest amount of subsistence shorebird harvest occurs.

AMBI Action(s): East Asian-Australasian Flyway Actions 3.2a-d (United States) to “Conduct outreach, assess the magnitude and impacts of legal subsistence harvest on priority birds in Alaska, with a focus on Emperor Goose and Bar-tailed Godwits”.

Main AMBI contact point: Rick Lanctot (USFWS) with input from Liliana Naves, Alaska Migratory Bird Co-Management Council, Harvest Assessment Program, Alaska Department of Fish & Game, Division of Subsistence

Next Steps: Based on these initial efforts, a follow up shorebird outreach and communication project involving communities and schools in the Yukon-Kuskokwim Delta regions was initiated (below).

EVALUATING HUNTING PRESSURE ON SHOREBIRDS IN KAMCHATKA

Description: Hunting of shorebirds in Northeast Russia (most northern part of EAAF) may negatively impact shorebird populations, especially threatened species. BirdsRussia started the first ever attempt to evaluate the hunting pressure (legal and illegal) on shorebirds in the Russian Far East in 2019. This first year focused on Kamchatka and tried to get a first very general idea where, how, and how many shorebirds are harvested. Russian researchers analyzed all published, unpublished and their own knowledge on hunting in Kamchatka and developed a methodology to assess shorebird harvest levels, which included the analysis of ring recovery data to identify places of active hunting for shorebirds, anonymous social surveys of Indigenous and non-Indigenous hunters, as well as informal interviews with specialists of the Forestry and Wildlife Protection Agencies and leaders of hunters' societies (which include Indigenous and non-Indigenous members). The Forestry and Wildlife Protection Agency of Kamchatka provided logistical support. The Kamchatka Hunter Society helped with contacts of hunters and distributing anonymous questionnaires. Local communities in Il'pyrskiy, Korf, Manily, Oktyabrskiy, Paren', Sobolevo, Ustyevoe, Ust-Bolsheretsk, and Ust-Khairuzovo Kamchatka villages helped estimate hunting efforts. Working with hunters and local communities allowed for the first ever collection and estimation of harvest levels of large and small shorebirds in the region.

This is not a CAFF-led AMBI project, but a Russian project that analyses information collected from Indigenous and non-Indigenous hunters and helps contribute to AMBI development and implementation. Project partners, including community representatives, have been informed via the contact point below that publicly available components of this work have informed international processes, such as AMBI.

Photo by Julia Darkova



Timeline: 2019- ongoing

Location: The work commenced in Kamchatka in 2019 and will be expanded to Sakhalin in 2020. The locations were selected, in part, because they are key Russian stop over sites for the critically endangered Spoon-billed Sandpiper.

AMBI Action(s): East Asian-Australasian Flyway Objective 3, Action 1 (Russia) “Support development and implementation of national and regional strategies and action plans for the elimination of illegal harvest of birds in Russia.”

Main AMBI contact point: Evgeny Syroechkovskiy, BirdsRussia and Ministry of Natural Resources and the Environment, Russian Federation

Next Steps: Engage researchers and hunters to expand work in Kamchatka and Sakhalin in 2020.

OUTREACH AND COMMUNICATIONS PROJECTS

ASSESSING THE EFFECTIVENESS OF RESEARCH COMMUNICATION BY SCIENTISTS AMONG NUNAVUT COMMUNITIES

Communication is recognized as the foundation of developing partnerships in science. This Canadian study assessed the effectiveness of several communication processes, practices, and tools used by wildlife researchers in northern communities in Arctic Canada. A case study was conducted in the communities of Cape Dorset (Kinngait) and Coral Harbour (Salliq), Nunavut, Canada, to assess the effectiveness of research communication approaches carried out by the northern marine bird research group of Environment and Climate Change Canada, which has a long-standing research relationship with these two communities. The objectives were to 1) explore local experiences with research—marine bird research in particular, 2) examine what communication approaches and tools Nunavummiut viewed as most effective for learning about research activities and feeling engaged in the process, and 3) identify new and emerging communication needs in Nunavut communities to support more effective research partnerships.

This is not a CAFF-led AMBI project, but a collaboration between scientists and communities in Canada that helps contribute to AMBI development and implementation. Project partners, including community representatives, have been informed via the contact point below that publicly available components of this work have informed international processes, such as AMBI.

Henri, D., N. D. Brunet, H. Dort, H. Odame, J. Shirley, and H. G. Gilchrist. 2020. What is effective research communication? Towards cooperative inquiry with Nunavut communities. *Arctic* 73: 81-98.

As this project takes place in Nunavut, a self-governing Inuit territory, it is subject to a permitting system. As part of the permitting system, consultation with communities is required and detailed in the permitting system, which is then reviewed and approved by the relevant Hunters and Trappers Organizations and Area Co-Management Committees, comprised of local representatives. Community support is required in order for permits to be issued; reporting and discussions with community members are ongoing.

Timeline: 2018 onwards. Ongoing.

Location: Coral Harbour (Salliq) and Cape Dorset (Kinngait), Nunavut.

AMBI Action(s): This project, although not linked to one specific AMBI work plan item provides valuable insights for AMBI as it moves forward on effective communication and engagement to better involve Indigenous Peoples and communities in implementation actions. Results could inform AMBI Circumpolar 2.3 (circumpolar harvest implementation).

Main AMBI contact point:
Grant Gilchrist, ECCC

Next Steps: Findings indicate that several communication methods used by wildlife researchers, such as community meetings, have become less effective because of changing information-sharing practices at the community level. Other communication practices such as using social media, are of interest to northern communities and hold much promise, are underutilized by researchers. In progress towards this goal, the team is now exploring two emerging and related themes: first, access to information and communication technologies in the two communities, and second, increasing the engagement of youth in Arctic research communication and delivery through community partnerships such as the new Inuit Field Training Program.

INUIT FIELD TRAINING PROGRAM

Description: In response to a need that Inuit communities expressed for opportunities for Inuit youth, particularly to gain experience and familiarity with training and employment opportunities in environmental fields, Environment and Climate Change Canada (ECCC) initiated the Inuit Field Training Program (IFTP) in 2018.

This is not a CAFF-led AMBI project, but a collaboration between scientists and communities in Canada that helps contribute to AMBI development and implementation. Project partners, including community representatives, have been informed via the contact point below that publicly available components of this work have informed international processes, such as AMBI.

The IFTP is collaboratively co-led by ECCC and a community-based steering group, and was successfully delivered by Inuit mentors and scientists in 2018 and 2019 at one of ECCC's research camps in the East Bay (Qaqsauqtuuq) Migratory Bird Sanctuary on Southampton Island, Nunavut. In Arctic Canada, youth often need to leave their home communities to pursue further education, training or employment. This transition is a challenging one, and is a major constraint on the opportunities available to young Inuit. The IFTP is intended to facilitate this transition, by teaching youth about the opportunities available to them, and helping them to gain confidence and skills in environmental research and monitoring. The IFTP is also intended to cultivate opportunities close to home, for example by providing youth with the skills they need to participate in or lead community-based monitoring efforts. Meaningful inclusion of Inuit in Arctic research and monitoring is a national priority. This program seeks to build capacity for Inuit inclusion in, and eventually leadership of, environmental research and monitoring.

As this project takes place in Nunavut, a self-governing Inuit territory, it is subject to a permitting system. As part of the permitting system, consultation with communities is required and detailed in the permitting system, which is then reviewed and approved by the relevant Hunters and Trappers Organizations and Area Co-Management Committees, comprised of local representatives. Community support is required in order for permits to be issued; reporting and discussions with community members are ongoing.

Timeline: 2018-ongoing. The program was postponed during 2020, due to the COVID-19 pandemic, but is planned to resume in 2021.

Location: East Bay (Qaqsauqtuuq) Migratory Bird Sanctuary and Coral Harbour (Salliq), Southampton Island, Nunavut, Canada.

AMBI Action(s): This project, although not linked to one specific AMBI work plan item, provides valuable insights for AMBI as it moves forward on effective engagement to better involve Indigenous Peoples and communities in implementation actions.

Main AMBI contact point: Paul Smith, ECCC

Next Steps: Explore how AMBI might align/support IFTP priorities and explore potential opportunities to engage additional partners to expand the IFTP.



2019 Inuit Field Training Program participants and leaders. Photo: Environment and Climate Change Canada

OUTREACH AND COMMUNICATION FOR SHOREBIRD CONSERVATION IN THE YUKON-KUSKOKWIM DELTA

Partnerships: Researchers from the Alaska Department of Fish and Game—Division of Subsistence and the US Fish and Wildlife Service—Shorebird Program Alaska Region, local partners at seven subsistence communities in western Alaska, the Alaska Migratory Bird Co-Management Council, and the Cornell Lab of Ornithology—Conservation Media Program.

Funding: US Fish and Wildlife Service, National Fish and Wildlife Foundation, and Alaska Department of Fish and Game.

Objectives and approach: Shorebirds breed in large numbers in the Delta, then migrate to winter in Asia, the Pacific, and the Americas. Due to habitat loss in wintering areas and other issues, their numbers are sharply declining. Birds including shorebirds are important food and cultural resources for Indigenous Peoples in Alaska, as such they are stakeholders in bird conservation. This project involves collaboration with local communities and schools to implement a place- and culture-based environmental education program focusing on shorebird ecology and conservation. The program is geared towards two age groups (4th–8th and 9th–12th grades) and is aligned with the latest curriculum standards. With approval of the school district, students will be asked to take a short and fun pre-activities test to gauge current knowledge. Then, students will join in outreach activities led by teachers, local elders, and project staff. Finally, students will be asked to take a short post-activity test to assess whether the outreach activities were informative. Complementary educational activities and materials about shorebirds are also available for teachers interested on this topic. Using shorebirds as an educational theme helps to connect traditional cultures and education standards in lessons related to ecology and migration (geography and reading); populations (math); bird identification and Yup'ik bird names (place- and culture-based education); and form, function, and adaptations (biology). The activities will also highlight connections to other places and cultures along shorebirds migration routes. Community events will be hosted to show short documentary movies produced by the Cornell Lab of Ornithology about shorebirds in Alaska and on the Yukon-Kuskokwim Delta, the remarkable distances they travel, and places they visit along their journeys. This will also be an opportunity for local communities and researchers to share information, concerns, and conservation approaches that benefit shorebirds and local communities.

Indigenous participation Project activities follow ethical standards for conducting research in the Arctic (<http://www.ankn.uaf.edu/IKS/afnguide.html>, <https://www.nsf.gov/geo/opp/arctic/conduct.jsp>). Participation in outreach activities is voluntary for communities and

schools and is based on informed consent. Community consent was formalized as tribal council resolutions. Project staff will work with local tribal councils to facilitate visits by local elders to schools and community movie events. A Yup'ik translator was contracted with to assist with Yup'ik translation, orthography, and pronouncing. All along the project, progress updates will be shared at bi-annual meetings of the Alaska Migratory Bird Co-management Council and the Yukon-Kuskokwim Delta Waterfowl Conservation Committee—Association of Village Council Presidents including Indigenous partners. The draft study report will be provided to local and regional partners for their review and input. A summary of project results will be produced in both English and Yup'ik to share project results with local and regional partners.

Timeline: 2019–2022.

Location: Yukon-Kuskokwim Delta, in western Alaska.

AMBI Action(s): East Asian-Australasian Flyway Actions 3.2a-d (United States) to “Conduct outreach, assess the magnitude and impacts of legal subsistence harvest on priority birds in Alaska, with a focus on Emperor Goose and Bar-tailed Godwits”.

Main AMBI contact point: Rick Lanctot (USFWS), with input from Liliana Naves, Alaska Migratory Bird Co-Management Council, Harvest Assessment Program, Alaska Department of Fish & Game, Division of Subsistence

Next Steps: Development of outreach materials and activities as well as community approval were completed in 2019. Planning for community and school visits was disrupted in the spring 2019 due to public health concerns related to the COVID-19 pandemic, and then postponed to fall-winter 2021.

COOPERATION WITH VILLAGES IN EASTERN RUSSIAN ARCTIC

Description: Russian and international researchers operating out of the Meinypil'gyno Community Based Biological Station work with the local community, which is approximately 70% Chukchi, to support research and monitoring of the critically endangered Spoon-billed Sandpiper. The area provides the only reliable access to breeding Spoon-billed Sandpipers, and the benefits of the annual expedition there are numerous: head-starting, population monitoring, individual marking, satellite tagging, and demonstrable, visible evidence of the importance of Chukotka for this species. The annual Meinypil'gyno expedition raises awareness of Spoon-billed Sandpipers amongst decision makers in Chukotka and elsewhere in Russia. The research station is managed and staffed from the local community and locals occasionally contribute species observations. The station has strong ties to the local community through involvement in monitoring and outreach activities (e.g. school courses and exhibitions). In addition, working with locals in Kamchatka allowed researchers exploration into Penzhina Bay, one of the hardest to reach areas of the Russian Far East, to survey for the Spoon-billed Sandpiper in hundreds of kilometers of suitable habitat. This was the first-time ornithologists could survey the coast of Penzhina Bay, identifying a wide variety of species, but no Spoon-billed Sandpipers were found.

This is not a CAFF-led AMBI project, but a Russian project and community engagement effort. Activities conducted in Meinypil'gyno contribute to AMBI development and implementation. Project partners, including community representatives, have been informed that their contributions to this work contribute to international processes, such as AMBI.

Photo: Vladimir Yakovlev



Timeline: Meinypil'gyno 2001-ongoing; Penzhina Bay 2019.

Location: Meinypil'gyno, Chukotka; Penzhina Bay (Parin, Manily), Kamchatka

AMBI Action(s): East Asian-Australasian Flyway Actions 1.1 (Russia) "Improve conservation work on Spoon-billed Sandpiper (SBS) and other AMBI priority species in the breeding grounds"; 1.2 (Russia) "Identify important breeding and staging areas in coastal areas of Russia for AMBI priority species, and where possible encourage and assist their nomination as EAAF Partnership Network Sites with follow-up conservation actions"; 2.1 (Russia) "Ensure improvement of protection of the Russian Far East coastal shorebird stopover sites"; and 3.1 (Russia) "Support development and implementation of national and regional strategies and action plans for the elimination of illegal harvest of birds in Russia".

Main AMBI contact point: Evgeny Syroechkovskiy, BirdsRussia and Ministry of Natural Resources and the Environment, Russian Federation

Next Steps: Continued activities as above.



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