NUNAVUT WILDLIFE MANAGEMENT BOARD
Agenda: Regular Meeting 003-2022
September 8, 2022
Siniktarvik Hotel, Rankin Inlet

	No:	Item:	Tab:	Presenter:	Maximum Time
9:00 - 9:02 AM	1	Open Meeting		Acting Chairperson	2 Minutes
9:02 - 9:04 AM	2	Declaration of Conflict of Interest		Acting Chairperson	2 Minutes
9:04 - 9:05 AM	3	Agenda: Review and Approval of RM003-2022	1	Acting Chairperson	1 Minute
9:05 - 10:00 AM	4	Request for Decision to Approve the *Management Plan for the Red-necked Phalarope (Phalaropus lobatus)* , in Canada under the federal *Species at Risk Act* (For Decision)	2	Environment and Climate Change Canada	55 Minutes
10:00 - 10:15 AM		**BREAK**			15 Minutes
10:15 - 11:15 AM	5	Request for Decision to Approve the *Management Plan for the Buff-breasted Sandpiper (Tryngites subruficollis)* , in Canada under the federal *Species at Risk Act* (For Decision)	3	Environment and Climate Change Canada	60 Minutes
11:15 AM - 12:00 PM	6	Northeast Mainland June 2021 Caribou Abundance Survey (For Information)	4	Government of Nunavut	45 Minutes
12:00 - 1:30 PM		**LUNCH**			1 Hr & 30 Min
1:30 - 2:30 PM	7	Total Allowable Catch Levels and 100 tonne Inshore Quota for Greenland Halibut in Subarea 0 for 2023 and 2024 Fishing Seasons (For Decision/Recommendation)	5	Fisheries and Oceans Canada	60 Minutes

2:30 - 3:00 PM	8	Extension of Carry Forward Provisions for the Northern Shrimp Fishery in the Eastern Assessment Zone due to Unseasonal Ice Conditions (For Information)	6	Fisheries and Oceans Canada	30 Minutes
3:00 - 3:15 PM		**BREAK**			15 Minutes
3:15 - 4:00 PM	9	POLAR Report 2022 (For Information)	7	Polar Knowledge Canada	45 Minutes
	10	Adjournment of RM003-2022 Meeting		Acting Chairperson	

SUBMISSION TO THE NUNAVUT WILDLIFE MANAGEMENT BOARD

FOR

Information: **Decision: X**

Issue: Request for decision to approve the *Management Plan for the Red-necked Phalarope (*Phalaropus lobatus*), in Canada* under the federal *Species at Risk Act* (SARA).

Female Red-necked Phalarope ©Willow English

Distribution of the Red-necked Phalarope (from Cornell Lab – Birds of North America's Website, Rubega et al. 2000)

Background:

- The Canadian range of the Red-necked Phalarope spans most of Northern Canada (southern Nunavut, the Northwest Territories, Yukon, northern Saskatchewan, northern Manitoba, northern Ontario, northern Quebec and northern Labrador). Within Nunavut, it is found in all three regions (Kitikmeot, Kivalliq and Qikiqtaaluk).
- The Red-necked Phalarope is currently listed as Special Concern (2019) under the federal *Species at Risk Act* (SARA). In 2014, The Committee on the Status of Endangered Wildlife in Canada (COSEWIC) assessed the Red-necked Phalarope as Special Concern in 2014 mainly due to long-term population declines at an important staging area. The species also faces threats from climate change related degradation of breeding habitat, and exposure to pollutants and oil during migration and winter. NWMB

approved the designation of the Red-necked Phalarope as Special Concern under SARA in 2016.

- As required under SARA for species listed as Special Concern a management plan was developed (Appendix A). A summary of this document can be found in Appendix B.
- Management plans do not contain a description of critical habitat as it is not required for species listed as Special Concern.

Consultation:

First Jurisdictional Review (First Draft)

- The draft Management Plan for the first Jurisdictional Review was distributed in March 2020 and included a factsheet in both English and Inuktitut to:
    - Aiviit HTO
    - Aiviq HTO
    - Aqigiq HTO
    - Arviat HTO
    - Baker Lake HTO
    - Bathurst Inlet HTA
    - Ekaluktutiak HTA
    - Amaruq HTA
    - Issatik HTO
    - Agiggiaq HTO
    - Kugluktuk HTA
    - Mayukalik HTO
    - Omingmaktok HTA
    - Pangnirtung HTA
    - Sanikiluaq HTA
    - Gjoa Haven HTA
    - Hall Beach HTA
    - Igloolik HTO
    - Ikajutit HTO
    - Kurtairojuark HTA
    - Spence Bay HTA
    - Mittimatalik HTO
    - Nangmautaq HTO
    - Qikiqtarjuaq HTA
    - Government of Nunavut
    - Kitikmeot Regional Wildlife Board
    - Kivalliq Wildlife Board
    - Qikiqtaaluk Wildlife Board
    - Nunavut Wildlife Management Board

- In March 2020, QWB responded that they were not able to provide comment on the Management Plan due to competing priorities
- In April 2020, Arviat responded that the Board did not have any feedback/comments
- In May 2020, a NWMB staff member responded with comments and edits to the plan
    - Comments received by NWMB Staff were mainly editorial in nature and were incorporated into the document as appropriate
- The Government of Nunavut responded in November 2020 they had no issue with the document being posted for public comment period
- Appendix C contains communication records and documents shared during the first Jurisdictional Review

Proposed Posting (90-Day Public Comment Period)

- The proposed recovery document was posted on the Species at Risk Registry on January 20, 2022 for a 90-day public comment period, which ended on April 20, 2022. The typical 60-day comment period was extended in light of the on-going COVID-19 pandemic to allow more time to gather input.
- On February 9th, 2022,an email containing the proposed management plan, as well as a summary factsheet in both English and Inuktitut , was provided to all recipients who received the document at the first jurisdictional review as well as:
    - Nunavut Tunngavik Incorporated
    - Kitikmeot Inuit Association
    - Kivalliq Inuit Association
    - Qikiqtani Inuit Association
    - Hamlet of Arctic Bay
    - Hamlet of Clyde River
    - Hamlet of Resolute Bay
    - Hamlet of Grise Fiord
    - Hamlet of Pond Inlet
    - Hamlet of Cambridge Bay
    - Hamlet of Gjoa Haven
    - Hamlet of Kugaaruk
    - Hamlet of Taloyoak
    - Hamlet of Arviat
    - Hamlet of Baker Lake
    - Hamlet of Chesterfield Inlet
    - Hamlet of Rankin Inlet
    - Hamlet of Naujaat
    - Hamlet of Whale Cove
- On February 9, 2022, Kurtairojuark HTA requested all materials be sent in Inuktitut. ECCC provided a translated copy of the Management Plan to Kurtairojuark HTA on March 30 2022, with an extension provided to the end of May 2022. Kurtairojuark HTA did not have any comments or concerns.
- Appendix C contains communication and records from the public comment period (emails).
    - Few comments were received during the public comment period (none from Nunavut) and none resulted in major changes to the document. Minor changes were made to the conservation measures section to include additional language around addressing climate change and reduction of plastic pollution

Next Steps:

- Environment and Climate Change Canada is now prepared to post the recovery document on the Species at Risk Registry as final.
- Environment and Climate Change Canada is providing the recovery document to the NWMB for final approval decision as per the NLCA s. 5.2.34

Recommendation:

- That the NWMB approve the final Management Plan for the Red-necked Phalarope (*Phalaropus lobatus*), in Canada under the federal Species at Risk Act as per the NLCA s.5.2.3

Prepared by:
Canadian Wildlife Service, Iqaluit July 2022

PROPOSED FINAL

Species at Risk Act
Management Plan Series

Management Plan for the Red-necked Phalarope (*Phalaropus lobatus*) in Canada

Red-necked Phalarope

2022

Government of Canada
Gouvernement du Canada

Canada

Recommended citation:

Environment and Climate Change Canada. 2022. Management Plan for the Red-necked Phalarope (*Phalaropus lobatus*) in Canada. *Species at Risk Act* Management Plan Series. Environment and Climate Change Canada, Ottawa. iv + 40 pp.

Official version

The official version of the recovery documents is the one published in PDF. All hyperlinks were valid as of date of publication.

Non-official version

The non-official version of the recovery documents is published in HTML format and all hyperlinks were valid as of date of publication.

For copies of the management plan, or for additional information on species at risk, including the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) Status Reports, residence descriptions, action plans, and other related recovery documents, please visit the Species at Risk (SAR) Public Registry[1].

Cover illustration: Red-necked Phalarope by © Christian Marcotte

Également disponible en français sous le titre
« Plan de gestion du Phalarope à bec étroit (*Phalaropus lobatus*) au Canada »

ISBN
Catalogue no.

[1] www.canada.ca/en/environment-climate-change/services/species-risk-public-registry.html

Preface

The federal, provincial, and territorial government signatories under the Accord for the Protection of Species at Risk (1996)[2] agreed to establish complementary legislation and programs that provide for effective protection of species at risk throughout Canada. Under the *Species at Risk Act* (S.C. 2002, c.29) (SARA), the federal competent ministers are responsible for the preparation of management plans for listed species of Special Concern and are required to report on progress within five years after the publication of the final document on the SAR Public Registry.

The Minister of Environment and Climate Change and Minister responsible for the Parks Canada Agency is the competent minister under SARA for the Red-necked Phalarope and has prepared this management plan, as per section 65 of SARA. To the extent possible, it has been prepared in cooperation with Fisheries and Oceans Canada, the Department of National Defense, the provincial/territorial governments of Alberta, British Colombia, Manitoba, Northwest Territories, Nunavut, Saskatchewan, and Yukon, Wildlife Management Boards, and Indigenous organizations as per section 66(1) of SARA.

Success in the conservation of this species depends on the commitment and cooperation of many different constituencies that will be involved in implementing the directions set out in this plan and will not be achieved by Environment and Climate Change Canada, Parks Canada Agency, or any other jurisdiction alone. All Canadians are invited to join in supporting and implementing this plan for the benefit of the Red-necked Phalarope and Canadian society as a whole.

Implementation of this management plan is subject to appropriations, priorities, and budgetary constraints of the participating jurisdictions and organizations.

[2] www.canada.ca/en/environment-climate-change/services/species-risk-act-accord-funding.html#2

Acknowledgments

This document was prepared by Amelia Cox (Environment and Climate Change Canada, Canadian Wildlife Service [ECCC-CWS] – National Capital Region).

Drafts were reviewed and helpful insight was provided by many people: Marc-André Cyr, Christian Artuso, and Jennifer Provencher (ECCC-CWS—National Capital Region), Ann McKellar, (ECCC-CWS—Prairie Region), Julie Paquet (ECCC-CWS—Atlantic Region), Cherri Gratto-Trevor (ECCC, Science and Technology—Prairie and Northern Region), Heather Brekke and Sophie Foster (Department of Fisheries and Oceans Canada), John Neill (Utah Department of Natural Resources—Wildlife Resources), and Willow English (Carleton University).

Acknowledgement and thanks are given to David Johns (Alberta Environment and Parks), Excedera St. Louis (British Colombia Ministry of Environment and Climate Change), Duncan McColl and Julie Steciw (British Colombia Forests, Lands, Natural Resource Operations), Ann McKellar (ECCC-CWS-Prairie Region), Eric Gross (ECCC-CWS—Pacific Region), S. Standafer-Pfister (Government of the Northwest Territories [GNWT] - Lands), Joanna Wilson (GNWT - Environment and Natural Resources), Kaytlin Cooper (Gwich'in Renewable Resources Board), Kanda Gnama (Gwich'in Tribal Council), Tim Poole (Manitoba Agriculture and Resource Development), Danica Hogan (ECCC-CWS-Northern Region), Kyle Ritchie (Nunavut Wildlife Management Board), Yves Aubry, Michel Robert, and Véronique Connolly (ECCC-CWS-Québec Region), John Brett (ECCC-CWS-Ontario Region), Shelley Garland (Government of Newfoundland and Labrador), Aurélie Chagnon-Lafortune, Colleen Murchison, Leah de Forest, Matt Webb, Pete Sinkins, Alison Cassidy, and Jay Frandsen (PCA) and Angela Barakat, Thomas Calteau, Megan Stanley, and Gina Schalk (ECCC-CWS—Species at Risk Head Quarters) for providing comments during jurisdictional review.

Executive summary

The Red-necked Phalarope (*Phalaropus lobatus*) is a medium-sized sandpiper from the family Scolopacidae. The Red-necked Phalarope is a circumpolar breeder and nests in northern regions of North America, Europe, and Asia; in North America, it nests continuously along the coast from Alaska to Newfoundland and inland through the Yukon across northern Manitoba, Ontario and Quebec to the Labrador coast. The Red-necked Phalarope migrates along the Atlantic and Pacific coasts and through interior North America to primarily winter offshore in the Humboldt Current, off the coast of Ecuador, Peru, and Chile.

The Red-necked Phalarope was assessed as Special Concern by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) in 2014 and was listed as such in Schedule 1 of the *Species at Risk Act* in 2019. Since 2004, the IUCN Red List has ranked the global population as Least Concern and NatureServe has ranked the species as G4—Apparently Secure globally since 2001. The Red-necked Phalarope is protected in Canada under the *Migratory Birds Convention Act*.

There are an estimated 2.3 ± 0.7 million Red-necked Phalarope breeding in Canada based on the Arctic Program for Regional and International Shorebird Monitoring. Based on limited data, the population is believed to be declining. The Atlantic Canada and International Shorebird Surveys indicate that the population is declining at 7.6% annually over at least a portion of the range. Surveys at the Bay of Fundy, New Brunswick, a major fall migratory stopover, indicate that the population declined dramatically in the early 1980s. There has been speculation that initial declines were caused by an intense El Niño event from 1982 to 1983, when unusually extreme climatic conditions reduced food availability on the wintering grounds. These initial declines may have left the population vulnerable as numbers appear to have continued to decline.

The exact cause of decline is unknown. Climate change is degrading the Red-necked Phalarope's habitat and may be reducing both food availability and quality. Chronic and point-source oil pollution is a major threat to the species, particularly on the wintering grounds where the most North American nesting individuals concentrate. Plastic pollution is widespread in the ocean and contributes to reduced survival and poor health. Locally, some stopover lakes are drying up due to climate change-induced drought and/or poor water management and Snow Geese (*Chen caerulescens*) are degrading breeding habitat in some areas. Mercury pollution is widespread but levels of contamination may be below harmful levels.

The management objective is to achieve a stable or increasing population trend, measured over a period of 10 years, by 2040. The broad strategies identified in this management plan aim to monitor the population size and trends, conserve habitat, engage the public, prevent contaminants from threatening the species, and conduct research into additional threats. Population monitoring is the top priority as new information may change the species' conservation status.

Table of contents

Preface i
Acknowledgments ii
Executive summary iii
Table of contents iv
1. COSEWIC* species assessment information 1
2. Species status information 1
3. Species information 2
3.1. Species description 2
3.2. Species population and distribution 3
3.3. Needs of the Red-necked Phalarope 7
4. Threats 10
4.1. Threat assessment 10
4.2. Description of threats 12
5. Management objective 18
6. Broad strategies and conservation measures 19
6.1. Actions already completed or currently underway 19
6.2. Broad strategies 20
6.3. Conservation measures 21
6.4. Narrative to support conservation measures and implementation schedule 22
7. Measuring progress 24
8. References 26
9. Appendix A: Effects on the environment and other species 34
10. Appendix B: Breeding Bird Atlas maps for the Red-necked Phalarope 35
11. Appendix C: Arctic PRISM distribution map for the Red-necked Phalarope 40

1. COSEWIC* species assessment information

Date of assessment: November 2014

Common name (population): Red-necked Phalarope

Scientific name: *Phalaropus lobatus*

COSEWIC status: Special Concern

Reason for designation:
This bird has declined over the last 40 years in an important staging area; however, overall population trends during the last three generations are unknown. The species faces potential threats on its breeding grounds including habitat degradation associated with climate change. It is also susceptible to pollutants and oil exposure on migration and during the winter. This is because birds gather in large numbers on the ocean, especially where currents concentrate pollutants.

Canadian occurrence:
Yukon, Northwest Territories, Nunavut, British Columbia, Alberta, Saskatchewan, Manitoba, Ontario, Québec, New Brunswick, Prince Edward Island, Nova Scotia, Newfoundland and Labrador, Pacific Ocean, Arctic Ocean, Atlantic Ocean

COSEWIC status history:
Designated Special Concern in November 2014.

* COSEWIC (Committee on the Status of Endangered Wildlife in Canada)

2. Species status information

In Canada, the Red-necked Phalarope (*Phalaropus lobatus*) was listed as Special Concern[3] under Schedule 1 of the *Species at Risk Act* (S.C. 2002, c. 29) in 2019 and assessed as Special Concern by COSEWIC in 2014. Provincially, the Red-necked Phalarope is a Blue List species in British Colombia and designated as Special Concern in Ontario. Additionally, the species has been identified as a priority species in 10 Bird Conservation Regions[4].

Globally, the species is ranked as G4—Apparently Secure by NatureServe (reviewed in 2016; see Table 1 for additional sub-rankings). The IUCN Red List has categorized this

[3] A Species of Special Concern is one which may become threatened or endangered because of a combination of biological characteristics and identified threats.
[4] Those Bird Conservation Regions are: the Arctic Plains and Mountains, the Atlantic Northern Forests, the Boreal Softwood Shield, the Boreal Taiga Plains, the Great Basin, the Northern Pacific Rainforest, the Northwestern Interior Forest, the Prairie Potholes, the Scotian Shelf, and the Taiga Shield and Hudson Plains.

178 species as Least Concern since 2004; it had previously been Lower Risk/Least Concern
179 since its initial categorization in 1988 (Bird Life International 2018).

180 **Table 1.** Summary of national and provincial or state NatureServe ranks for the
181 Red-necked Phalarope where it occurs in North America. Source: NatureServe, 2020.

Global (G) Rank	National (N) Ranks	Sub-national (S) Ranks
G4	Canada N4N5B, N3N4N, N4N5M	Alberta (SU), British Columbia (S3S4B), Newfoundland (S3S4N), Labrador (S4B,S4M), Manitoba (S3S4B), New Brunswick (S3M), Northwest Territories (S3B), Nova Scotia (S2S3M), Nunavut (S3B,S3M), Ontario (S3S4B), Prince Edward Island (SNA), Quebec (S3S4B), Saskatchewan (S4B,S3M), Yukon Territory (S3B)
	United States N4N5B	Alabama (SNRM), Alaska (S4S5B), Arizona (S4S5M), Arkansas (SNA), California (SNRN), Colorado (SNA), Delaware (SNA), District of Columbia (S1N), Florida (SNRN), Georgia (SNRN), Idaho (S3M), Illinois (SNA), Indiana (SNA), Iowa (S1N), Kansas (SNA), Kentucky (SNA), Maine (S3S4N), Maryland (SNA), Massachusetts (S4N), Michigan (SNRN), Minnesota (SNRM), Missouri (SNA), Montana (SNA), Navajo Nation (S4M), Nebraska (SNRN), Nevada (S4M), New Hampshire (SNA), New Jersey (S4N), New Mexico (S4N), New York (SNRN), North Carolina (SNA), North Dakota (SNRM), Ohio (SNA), Oklahoma (S2N), Oregon (SNA), Pennsylvania (S4M), Rhode Island (SNA), South Carolina (SNRN), South Dakota (SNA), Texas (SNA), Utah (S3N), Vermont (SNA), Virginia (SNA), Washington (S4N), Wisconsin (SNA), Wyoming (S3N)

182 National (N) and Subnational (S) NatureServe alphanumerical ranking: 1 – Critically Imperiled,
183 2 – Imperiled, 3 – Vulnerable, 4 – Apparently Secure, 5 – Secure, NR – Unranked, NA – Not Applicable,
184 SU – Under Review. Occurrence definitions: B – Breeding, M – Migrant. The N3N4B range indicates the
185 range of uncertainty about the status of the species.
186

187 3. Species information

188 3.1. Species description

189 The Red-necked Phalarope is a medium-sized sandpiper from the family Scolopacidae
190 that exhibits sex-role reversal, whereby the males provide all parental care and the
191 females compete for mates. As is typical of birds with sex-role reversal, Red-necked
192 Phalarope females are slightly larger than the males (~40 g compared to ~33 g) and
193 have brighter plumage during the breeding season (Rubega *et al.* 2000). The species is

named for the bright chestnut-red plumage that circles the base of the neck and extends up the sides of the face during the breeding season. During the breeding season, the head, back, wings, and tail are dark-gray or black, and there are golden chestnut fringes along the mantle (upper part of the back) and scapulars (shoulder feathers). The underwings are white, as is the chin, belly, and eyespot (or sometimes stripe). During the non-breeding season, adult males and females are nearly identical, with a white head and a black streak through and behind the eye. There is a dark patch on the crown. The neck and breast are white, with gray wings and mantle. Juvenile plumage is similar to the non-breeding plumage, though juveniles have buffy stripes along the back. The species has black legs and a long needle-like black bill.

3.2. Species population and distribution

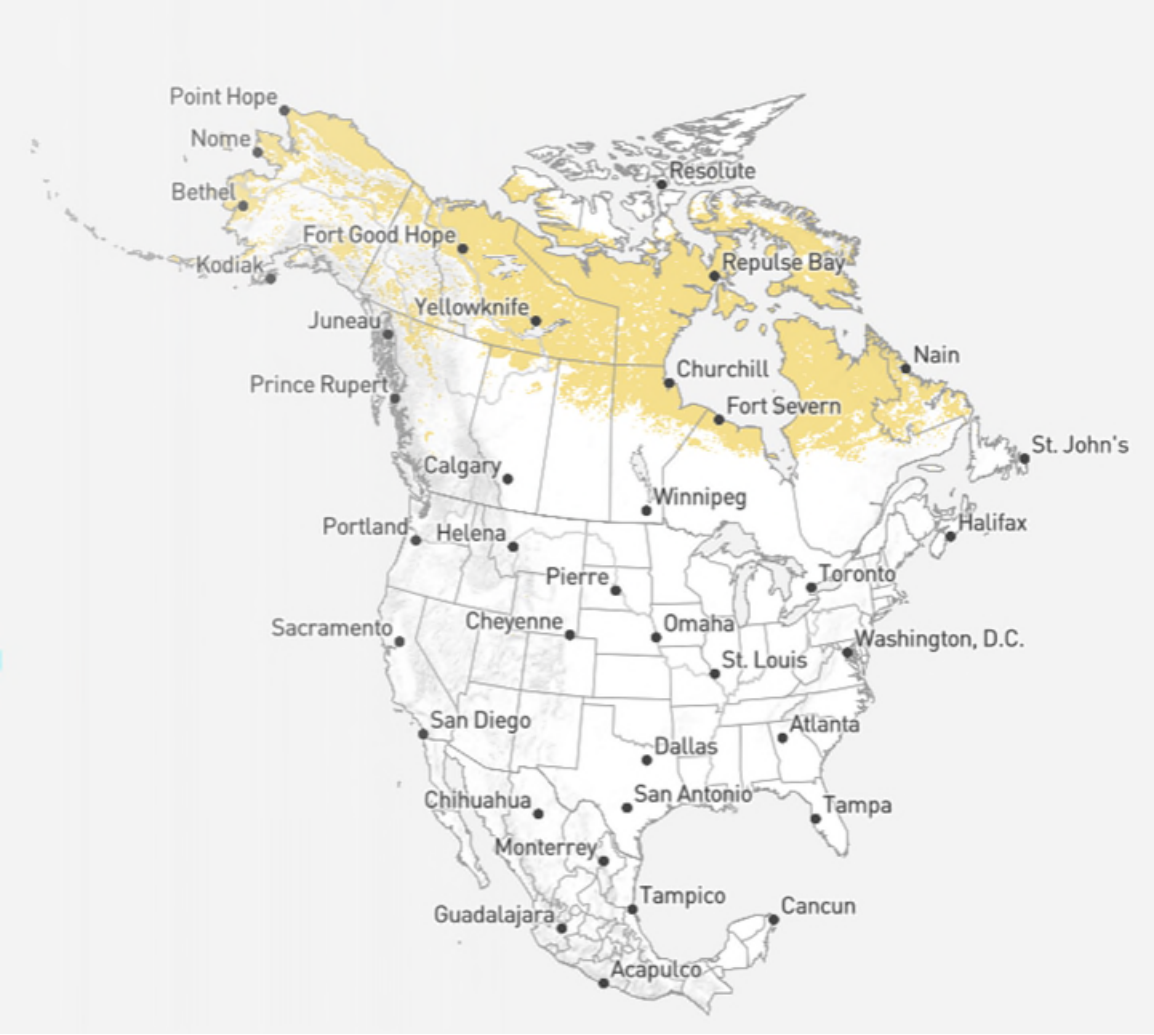

Figure 1. Breeding distribution of the Red-necked Phalarope in the Americas. From Bateman *et al.* 2019.

Distribution

The Red-necked Phalarope is a circumpolar breeder found breeding in Canada, Greenland, Spitsbergen, Iceland, Faeroes, Scotland, Norway, Sweden, Finland, Estonia, Russia, and Alaska (COSEWIC 2014). In the Americas, the species breeds continuously along the coast of Alaska from the Copper River Delta to Battle Harbor in Labrador (Figure 1). Breeding does not extend north of the southern portion of Victoria Island and the southern portion of Baffin Island. Inland, they breed across Central Alaska through the Yukon and into northeastern Manitoba, northern Ontario, along the southern coast of the Hudson Bay, and across northern Quebec to the Labrador coast. See Appendix B for specific provincial breeding distributions based on the Breeding Bird Atlases and Appendix C for breeding distributions based on the Arctic Program for Regional and International Shorebird Monitoring (PRISM). Recent updates through the Breeding Bird Atlases show that the distribution extends farther south into the boreal forest-tundra mosaic than previously thought.

The Red-necked Phalarope primarily migrates offshore, following either the Atlantic or Pacific coast, though a portion of the population migrates inland (Rubega *et al.* 2000). Birds migrate slowly, likely staging to feed along the way, either offshore, or, in the case of inland migrants, in saline lakes and other waterbodies (Smith *et al.* 2014; van Bemmelen *et al.* 2019). On the east coast, the Bay of Fundy, between Nova Scotia and New Brunswick is a major fall stopover site where birds stay for 11 to 20 days (Mercier 1985; Hunnewell *et al.* 2016). Historically, most birds had staged in the Passamaquoddy Bay, in the outer Bay of Fundy, but currently most phalarope stage near Brier Island, also in the outer Bay of Fundy, near to the Nova Scotia Coast (Duncan 1995; Wong *et al.* 2018). Other notable stopover sites in Canada include Last Mountain Lake, Chaplin Lake, and the Quill Lakes, Saskatchewan, all of which host many thousands annually (Rubega *et al.* 2000).

Figure 2. Wintering distribution of the Red-necked Phalarope in the Americas. Adapted from Rubega *et al.* 2000.

The Red-necked Phalarope winters at sea, which has made it challenging to identify their exact wintering sites. Currently, the birds breeding in North America are thought to winter in the Humboldt Current off the coast of Ecuador, Peru, and Chile (Figure 2). There had been some skepticism over whether phalarope that migrate through the Atlantic were truly wintering in the Pacific or whether there was a previously unknown wintering site. However, recent geolocation work has shown that birds from western Europe, Greenland, and Iceland migrate along the Atlantic coast to winter in the Humboldt Current (Smith *et al.* 2014; van Bemmelen *et al.* 2019). Such a migration suggests that individuals breeding in North America and migrating along the Atlantic coast also winter in the Humboldt Current. It is also possible that some of the western breeding birds migrate with the Siberian population to Indonesia (Mu *et al.* 2018), but there is currently no evidence to suggest this. The Red-necked Phalarope also congregates in smaller numbers seen wintering off the Pacific coast of Central America, Mexico, and California (Rubega *et al.* 2000), though the geolocation data suggests that these birds may be wintering primarily in the Humboldt Current but spending time north of the Humboldt Current during the beginning and end of the wintering period (van Bemmelen *et al.* 2019).

Population Size and Trends

The Red-necked Phalarope is difficult to survey because the species spends eight months of the year at sea and breeds across a wide, remote expanse. As a consequence, the data on their population size and trends are limited.

The Arctic PRISM calculated new Canadian population estimates in 2020. Currently, it is estimated that there are 2.3 ± 0.7 million Red-necked Phalarope breeding in Canada (Paul Allen Smith and Jennie Rausch pers. comm.) and 1.5 (95% CI = 1.1-2) million breeding in Alaska (currently includes only the North Slope, Yukon Delta and Alaska Peninsula; Brad Andres pers. comm.). PRISM estimates are based on surveys on the breeding grounds. However, PRISM does not monitor the southern breeding range of Red-necked Phalarope in Canada so probably underestimates the population. Still, the updated PRISM estimates are considerably larger than previous estimates, likely because previous estimates relied on counts at staging areas during fall migration and underestimated the number of birds that did not migrate through key stopover sites (Morrison *et al.* 2006; Andres *et al.* 2012a; COSEWIC 2014).

Based on data from the Atlantic Canada Shorebird Survey and the International Shorebird Survey, from 1974 to 1998, the Red-necked Phalarope that migrate through the North Atlantic have not significantly declined, but those that migrate through the interior have declined by 7.6% per year (Bart *et al.* 2007). While the Atlantic Canada Shorebird Survey does include the Bay of Fundy, the surveys are conducted from shore and may miss birds if they are far offshore. Additionally, neither survey covers the entire Red-necked Phalarope range and observed declines may be due to changing migration routes or phenology[5].

Though there is only limited data to assess trends over larger geographic areas, the Bay of Fundy migratory stopover has been surveyed extensively. The Red-necked Phalarope staging there have declined from two to three million in the 1970s and 1980s to 100,000-300,000 from 2008 to 2010 (Duncan 1995; Nisbet and Veit 2015; Hunnewell *et al.* 2016). Field surveys in the 1980s indicated that the population dropped off precipitously between 1985 and 1989 (Duncan 1995). Nisbet and Veit (2015) proposed that this dramatic decline happened in 1983, following the extremely intense 1982-1983 El Niño-Southern Oscillation[6] (ENSO), and was exacerbated by the 1986-1987 ENSO. ENSO conditions may have severely reduced zooplankton populations on the wintering grounds, leaving phalarope with little food available. Small scale breeding population surveys indicated that there were short-term declines at breeding populations in La Pérouse Bay, Manitoba between 1982 and 1984, which may support the hypothesis (Reynolds 1987). However, it is possible that the Red-necked Phalarope are taking a different migratory route and no longer stop at the Bay of Fundy or that European breeding phalarope that migrate along the Atlantic coast are declining, contributing the apparent decline of Canadian nesting phalarope.

There are also localized accounts of declines on the breeding grounds. On Herschel Island, Yukon, during the 1990s, the once common Red-necked Phalarope disappeared; the species has not bred in the area since 1999 (Cooley *et al.* 2012). There are also local reports of declines on the North Slope and Crow Flats, Yukon (Cooley *et al.* 2012; COSEWIC 2014). In Churchill, Manitoba, and the immediate

[5] Phenology: science dealing with the timing of annual phenomena of animal and plant life such as budding and bird migrations, especially in relation to climatic conditions.
[6] ENSO is a climatic index that depicts the periodic variation in winds and sea surface temperatures over the tropical eastern Pacific Ocean. ENSO affects weather conditions across much of the Americas.

surroundings, the Red-necked Phalarope population declined from the 1930s to 1990s but have been stable since then (Jehl and Lin 2001; COSEWIC 2014). However, declines in Churchill and La Pérouse Bay appear to be locally restricted as densities are high in the surrounding breeding area (Artuso 2018).

3.3. Needs of the Red-necked Phalarope

Breeding

The Red-necked Phalarope primarily breeds in the arctic tundra wetlands, where more than 43% of the landscape is covered in water (Andres *et al.* 2012b). Freshwater ponds serve as courtship grounds and provide food for the breeding pair and their offspring. The Red-necked Phalarope likely chooses to breed in particular ponds based on the presence of other phalarope (Walpole *et al.* 2008a). They are not territorial, but maintain a home range near open water, with graminoid vegetation, aquatic emergent plants, and minimal mud or shrubs (Rodrigues 1994; Walpole *et al.* 2008b). Preferred aquatic plants include *Arctophila* (a genus of aquatic grass) and water sedge (*Carex aquatilis*) (Andres *et al.* 2012b). The home range is usually on low center polygonal ground formed by the freeze/thaw permafrost cycle (Gratto-Trever 1996). Nests are located within the home range in places with more graminoid vegetation and near the water; the additional vegetative cover protects nests from visual predators (Walpole *et al.* 2008b).

The Red-necked Phalarope has also been documented breeding below the tree-line in the boreal forest in the southern portion of their range (Artuso 2018; Michel Robert pers. comm.). There the species nesting habitat includes fens, bogs, and other wetlands near open water sources. In Manitoba, the species nests near willow and other shrubs but avoids dense, tall shrubby areas (Artuso 2018). In Quebec, the species nests near open water in peatlands surrounded by graminoid vegetation (Michel Robert pers. comm.). Most information about the species' breeding biology comes from observations on the arctic tundra.

Like other phalarope, the Red-necked Phalarope displays sex role reversal, meaning that the females compete for mates and the males care for the offspring, including incubating the eggs (Rubega *et al.* 2000). Females arrive first on the nesting grounds, followed by the males (Reynolds 1987; Sandercock 1997). Most birds arrive unpaired, although some may pair during migration (Hildén and Vuolanto 1972). Pair bonds form quickly, sometimes within four hours after courtship begins (Reynolds 1987). Once paired, males stay within 5 m of their female mate 75% of the time, mate guarding and copulating extensively (Whitfield 1990; Schamel *et al.* 2004a). These tactics result in very low rates of extra-pair paternity (i.e., 98.3% of eggs in the clutch are sired by the male who provides parental care; Schamel *et al.* 2004a).

Males build the nests, though females begin the nest site selection process (Rubega *et al.* 2000). The female typically lays four eggs, which the male incubates. Males provide all care for the chicks until about 18 days of age when the chicks become fully independent (Rubega *et al.* 2000). When a nest fails, males often renest, usually choosing to mate with their original female if she is still in the vicinity rather than a new female to reduce the risk of extra-pair paternity (Hildén and Vuolanto 1972; Schamel

et al. 2004b). However, because females do not incubate or care for their brood, his mate may have already left the area in search of a second mate (either a previously unmated male or a different male whose first nest failed).

Predation is the main cause of nest failure, affecting between 30 and 60% of nests yearly (Sandercock 1997; Walpole 2008b; Weiser *et al.* 2018). Nest predation may be higher in years with low lemming populations because when predators lose their preferred food source (lemmings), they switch to predate eggs and nestlings. Such cycles have been observed in other arctic-breeding shorebirds including the Red Knot and Curlew Sandpiper (Blomqvist *et al.* 2002) but have not been documented in the Red-necked Phalarope.

Migration

Females leave on migration before the males, who stay behind to perform parental care; juveniles leave last (Rubega *et al.* 2000). The Red-necked Phalarope flies approximately 120-130 km per day during migration (van Bemmelen *et al.* 2019). The Red-necked Phalarope stops to forage and rest for an extended period (i.e., more than two days at a time) more often during the fall migration than the spring migration (van Bemmelen *et al.* 2019). Most of these migrating Red-necked Phalarope are pelagic (found on or over open water, usually the ocean) and stage regularly on continental shelf breaks and upwellings where the ocean currents move zooplankton prey to the surface (Mercier and Gaskin 1985; Brown and Gaskin 1988). A portion of the population migrates over land through western North America, with tens of thousands of birds sighted at inland lakes (Rubega *et al.* 2000). These inland migrants forage and rest in wetlands and waterbodies, both freshwater and saline (Page *et al.* 1999; Jehl 1986). They are an abundant migrant in Saskatchewan, especially in the spring (Gratto-Trever *et al.* 2001). Salt lakes, including Mono Lake and Great Salt Lake, California, and Chaplin Lake, Saskatchewan, have particularly high abundances and serve as staging areas (Jehl 1986; Beyersbergen and Duncan 2007; Frank and Conover 2019; A. McKellar pers. comm.). Phalarope staging in saline lakes primarily spend their time foraging for invertebrates in the saline water, but will access small freshwater ponds to drink and bathe (Jehl 1986).

On the east coast, the Bay of Fundy, between Nova Scotia and New Brunswick is a major fall stopover site where birds stay for 11 to 22 days (Mercier 1985; Hunnewell *et al.* 2016; van Bemmelen *et al.* 2019). During this time, birds forage and replenish their fat stores at a rate of 1 g per day (Mercier 1985). New geolocation work has shown that phalarope migrating through the Quoddy region come from both North America and European breeding populations (Smith *et al.* 2014; van Bemmelen *et al.* 2019).

Non-breeding

The population winters at sea. Wintering birds stay within the northern Humboldt Current throughout the winter, moving to the Pacific coast of Central America just before the spring migration starts (van Bemmelen *et al.* 2019). The Red-necked Phalarope almost exclusively forages on the mid-shelf front, which mixes the productive nearshore waters with deeper water and concentrates zooplankton prey (Haney 1985). During

migration, along the Atlantic coast, they often forage near mats of *Sargassum* seaweed, where invertebrate prey congregates (Haney 1986; Moser and Lee 2012).

Diet

The Red-necked Phalarope primarily eats aquatic invertebrates, usually copepods, fly larvae, and other insects, though their diet is flexible and largely depends on what food is locally available (Rubega *et al.* 2000). While in ponds and wetlands on the breeding ground, the species feeds on primarily on chironomids (aquatic larval midges; Hildén and Vuolanto 1972). At the Bay of Fundy, New Brunswick, phalarope migrating over the open ocean actively forage on the nutrient-dense and highly abundant copepod, *Calanus finmarchicus*, which makes up the bulk of their diet (Mercier and Gaskin 1985). During inland migration, at Mono Lake, California, brine flies make up 90% of the diet (Jehl 1986). Though brine shrimp are readily available in this salt lake, brine shrimp are less nutritious than brine flies and the Red-necked Phalarope preferentially avoids them (Jehl 1986). If fed a diet of exclusively brine shrimp, the Red-necked Phalarope will steadily lose body mass until they die, even as they consume massive quantities of shrimp (Rubega and Inouye 1994). On migration off the coast of North Carolina, Red-necked Phalarope that forage near *Sargassum* mats in the open ocean primarily eat Sargassum Shrimp (*Latreutes fucorum*) and a species of gastropod (*Litiopa melanostoma*) associated with the *Sargassum* mats (Moser and Lee 2012).

Phalarope have a number of unusual foraging methods. The Red-necked Phalarope pecks prey items out of the water, using surface tension to lift the prey in a water droplet up and into their beak, and then opening their beak slightly to release the leftover water (Rubega and Obst 1993). When there are no invertebrates on the water's surface, the Red-necked Phalarope spins like a top to create an upwelling. This upwelling concentrates zooplankton prey to the surface from up to 50 cm below (Obst *et al.* 1996). Individual birds are "handed", always spinning the same direction (Rubega *et al.* 2000). When foraging near *Sargassum* seaweed mats, birds peck prey items off the mat, without spinning (Moser and Lee 2012).

4. Threats

4.1. Threat assessment

The Red-necked Phalarope threat assessment is based on the IUCN-CMP (International Union for Conservation of Nature-Conservation Measures Partnership) unified threats classification system. Threats are defined as the proximate activities or processes that have caused, are causing, or may cause in the future the destruction, degradation, and/or impairment of the entity being assessed (population, species, community, or ecosystem) in the area of interest (global, national, or subnational). Limiting factors are not considered during this assessment process. Historical threats, indirect or cumulative effects of the threats, or any other relevant information that would help understand the nature of the threats are presented in the Description of Threats section.

Table 2: Threat calculator assessment

Threat #	Threat description	Impact[a]	Scope[b]	Severity[c]	Timing[d]
7	Natural system modifications	Unknown	Small (1-10%)	Unknown	High (Continuing)
7.2	Dams & water management/use	Unknown	Small (1-10%)	Unknown	High (Continuing)
8	Invasive & problematic species, pathogens & genes	Low	Small (1-10%)	Moderate (11-30%)	High (Continuing)
8.2	Problematic native plants & animals	Low	Small (1-10%)	Moderate (11-30%)	High (Continuing)
9	Pollution	Medium	Pervasive (71-100%)	Moderate (11-30%)	High (Continuing)
9.2	Industrial & military effluents	Unknown	Restricted (11-30%)	Unknown	High (Continuing)
9.4	Garbage & solid waste	Medium	Pervasive (71-100%)	Moderate (11-30%)	High (Continuing
9.5	Air-borne pollutants	Unknown	Pervasive (71-100%)	Unknown	High (Continuing)
11	Climate change	Medium	Pervasive (71-100%)	Moderate (11-30%)	High (Continuing)
11.1	Ecosystem Encroachment	Medium	Pervasive (71-100%)	Moderate (11-30%)	High (Continuing)
11.3	Changes in temperature regimes	Unknown	Pervasive (71-100%)	Unknown	High (Continuing)
11.4	Changes in precipitation & hydrological regimes	Unknown	Restricted (11-30%)	Unknown	High (Continuing)

Threat #	Threat description	Impact[a]	Scope[b]	Severity[c]	Timing[d]
11.5	Severe/extreme weather events	Unknown	Unknown	Unknown	High (Continuing)

[a] **Impact** – The degree to which a species is observed, inferred, or suspected to be directly or indirectly threatened in the area of interest. The impact of each threat is based on Severity and Scope rating and considers only present and future threats. Threat impact reflects a reduction of a species population or decline/degradation of the area of an ecosystem. The median rate of population reduction or area decline for each combination of scope and severity corresponds to the following classes of threat impact: Very High (75% declines), High (40%), Medium (15%), and Low (3%). Unknown: used when impact cannot be determined (e.g., if values for either scope or severity are unknown); Not Calculated: impact not calculated as threat is outside the assessment timeframe (e.g., timing is insignificant/negligible or low as threat is only considered to be in the past); Negligible: when scope or severity is negligible; Not a Threat: when severity is scored as neutral or potential benefit.

[b] **Scope** – Proportion of the species that can reasonably be expected to be affected by the threat within 10 years. Usually measured as a proportion of the species' population in the area of interest. (Pervasive = 71–100%; Large = 31–70%; Restricted = 11–30%; Small = 1–10%; Negligible < 1%).

[c] **Severity** – Within the scope, the level of damage to the species from the threat that can reasonably be expected to be affected by the threat within a 10-year or three-generation timeframe. Usually measured as the degree of reduction of the species' population. (Extreme = 71–100%; Serious = 31–70%; Moderate = 11–30%; Slight = 1–10%; Negligible < 1%; Neutral or Potential Benefit ≥ 0%).

[d] **Timing** – High = continuing; Moderate = only in the future (could happen in the short term [< 10 years or 3 generations]) or now suspended (could come back in the short term); Low = only in the future (could happen in the long term) or now suspended (could come back in the long term); Insignificant/Negligible = only in the past and unlikely to return, or no direct effect but limiting.

4.2. Description of threats

The overall threat assessment score is medium. The exact causes of Red-necked Phalarope declines are unknown but declines are likely caused by a combination of climate change and pollution. Climate change is threatening habitat on the breeding ground and affecting food availability. Because they spend so much of their life at sea, oil and plastic pollution both affect the species. Other small-scale threats include low water levels at stopover lakes caused by drought or poor water management, mercury pollution, and habitat degradation by Snow Geese (*Chen caerulescens*) on the breeding grounds. Threats likely to affect the species within the next 10 years are described below, from highest to lowest impact (Table 2).

11. Climate change (Impact: Medium)

11.1 Ecosystem encroachment (Impact: Medium)

As in the case of many tundra breeding birds, climate change will dramatically alter habitat availability for the Red-necked Phalarope. In North America, climatic niche modelling predicted that over 90% of their current breeding range will become unsuitable due to climate change by 2070 (Wauchope *et al.* 2017). Similar changes were predicted in Scandinavia (Virkkala *et al.* 2008). However, the species may be able to relocate somewhat, particularly given that the Red-necked Phalarope displays low natal[7] and moderate adult philopatry[8] (Colwell *et al.* 1988; Reynolds and Cooke 1988). The National Audubon Society ranks the Red-necked Phalarope as highly vulnerable to climate change and modelled that 3°C of warming would reduce their breeding range by 58% of their breeding habitat and would open up an additional 11% of northern breeding habitat (Bateman *et al.* 2019). These estimates are speculative and subject to wide margins of error.

In North America, climate change is dramatically altering Red-necked Phalarope breeding habitat. The arctic ponds where phalarope often feed are drying up because climate change has accelerated the natural formation and decay of thaw lakes. In Utqiagvik (formerly Barrow), Alaska, from 1948 to 2013, the number of ponds declined by 15% and the total pond area declined by 30%, mainly because ancient ponds, which are larger and more stable, are drying up (Anderson and Lougheed 2015). Increased evaporation in the summer, caused by warmer air temperatures will also dry these ponds (AMAP 2012). At the same time, there are some new ponds being created as the permafrost thaws which may provide additional habitat, at least in the short term (Morrison *et al.* 2019).

On land, thawing permafrost is also allowing shrubs and woody vegetation to expand across the tundra. As the Arctic warms, shrubby vegetation is growing, particularly in wet areas (Elmendorf *et al.* 2012). For the most part, dwarf shrubs are expanding into the coldest areas and taller shrubs are growing elsewhere; shrub growth is often accompanied by declines in mosses, lichens, and graminoids (Elmendorf *et al.* 2012).

[7] Natal philopatry: the tendency for new breeders to return to breed near the area where they hatched.
[8] Adult philopatry: the tendency for adults to return to breed in the same area year after year.

This is all troublesome for the Red-necked Phalarope which prefers to breed in short vegetation near ponds (Walpole *et al.* 2008b). Another shorebird species, the Whimbrel (*Numenius phaeopus*) was documented losing breeding sites in Churchill, Manitoba due to shrub encroachment in the subarctic (Ballantyne and Nol 2015). The impact of shifting and altering habitat on the Red-necked Phalarope population in the next ten years is medium but this threat is likely to be one of the main causes of the decline over a longer timeframe.

11.3 Changes in temperature regimes (Impact: Unknown)

The Red-necked Phalarope may be experiencing a phenological mismatch[9]. Phalarope time their arrival to match the beginning of river ice break up, snow melt, and spring flooding (Ely *et al.* 2018) and begin breeding shortly thereafter when spring temperatures warm enough to melt the snow (Liebezeit *et al.* 2014; Saafeld and Lanctot 2017; Kwon *et al.* 2018). Although the Red-necked Phalarope appears to be able to delay or hasten breeding in response to local weather conditions, there is no indication that this species is consistently breeding earlier through time (Saafeld and Lanctot 2017; Ely *et al.* 2018 but see Liebezeit *et al.* 2014 for combined Red Phalarope [*Phalaropus fulicarius*] and Red-necked Phalarope), even though climate change is advancing spring snow melt (Saafeld and Lanctot 2017; Kwon *et al.* 2018) and spring temperatures are warming (Liebezeit *et al.* 2014). If the Red-necked Phalarope is not capable of advancing their nesting phenology to track changes in local weather conditions caused by climate change, the species may experience a phenological mismatch between when its invertebrate food source is most readily available and when its nestlings require abundant food (e.g., Tulp and Schekkerman 2008). Red-necked Phalarope nestling survival has declined since the 1990s, perhaps suggesting that this mismatch is occurring (Kwon *et al.* 2018).

Even the types of food available on the breeding ground may be shifting due to climate change. Climate change is thawing the permafrost that supplies the tundra ponds with additional nutrients, causing algal growth (Morrison *et al.* 2019). Likely as a result of these nutrient pulses and warming water temperatures, the zooplankton community in tundra lakes has shifted dramatically (Lougheed *et al.* 2011; Taylor *et al.* 2016). Predatory larval insects have come to dominate these communities (Lougheed *et al.* 2011; Taylor *et al.* 2016). The Red-necked Phalarope forages on a wide variety of invertebrates, but should warming temperatures shorten the length of the larval phase of their invertebrate prey (Lougheed *et al.* 2011), phenological mismatch may adversely affect the breeding population.

It has been theorized that the North American Red-necked Phalarope population initially crashed following an extreme El Niño year which reduced food availability on the wintering ground (Nisbet and Veit 2015). Under climate change, ENSO is expected to become more variable, with stronger extremes (Maher *et al.* 2018). More extreme

[9] Phenological mismatch: Phenological mismatch occurs when the phenology of two interacting species shifts such that the species interaction is no longer timed properly. This shift is often in response to climate change (e.g., caterpillars emerge earlier in response to climate change and birds that forage on those caterpillars now arrive too late on the breeding grounds to eat the caterpillars).

ENSO fluctuations may hinder Red-necked Phalarope populations from recovering or reduce the population further.

Warming temperatures do not just affect the Red-necked Phalarope through food availability; on the breeding ground, warming temperature may be increasing nest predation. Nest predation is the main cause of reproductive failure in the Red-necked Phalarope (Sandercock 1997; Walpole 2008b; Weiser *et al.* 2018), so increasing predation rates would have profound impacts on the overall population. Globally, daily nest predation rates of shorebirds may have tripled in the Arctic, paralleling both increasing and increasingly variable ambient temperature (Kubelka *et al.* 2018). There has however been controversy over the statistical methodology and validity of these results (Bulla *et al.* 2019; Kubelka *et al.* 2019).

Climate change may increase shorebird nest predation through multiple mechanisms. Predation pressure on arctic shorebirds appears to be linked to lemming densities. Lemmings are a preferred food source in the tundra ecosystems where the Red-necked Phalarope nests, but have cyclic population dynamics. When lemmings are abundant, predators prey on them, but when lemmings are scarce, shorebird nestling survival decreases as predation rates increase (Blomqvist *et al.* 2002; McKinnon *et al.* 2014). Climate change is predicted to destabilize lemming population cycles and ultimately reduce lemming abundance during “boom” years (Gilg *et al.* 2009), potentially exposing shorebird nestlings to greater predation rates (Kubelka *et al.* 2018). However, reduced lemming abundance in “boom” years may reduce overall predator abundance for some species (Gilg *et al.* 2009); for example, Arctic Fox (*Vulpes lagopus*) population dynamics rely on high reproduction during “boom” years (Fuglei and Ims 2008).

Climate change may change overall predator dynamics. Warming temperatures in the Arctic have increased primary productivity (Gauthier *et al.* 2013) and may allow more small prey species to expand into the area, potentially supporting new predator species, or larger populations of existing predators (Fuglei and Ims 2008; Kubelka *et al.* 2018 but see Gauthier *et al.* 2013). The Arctic Fox, a predator of the Red-necked Phalarope (Liebezeit *et al.* 2014; English *et al.* 2017), may be outcompeted by the larger Red Fox (*Vulpes vulpes*) whose range is also expanding due to climate change (Fuglei and Ims 2008). It is unclear how this will affect nesting shorebirds. Climate change may also affect predation rates by changing the habitat’s vegetation and reducing nest camouflage (Kubelka *et al.* 2018).

The combined impacts of changing temperature regimes across the full-annual cycle are unknown.

11.4 Changes in precipitation & hydrological regimes (Impact: Unknown)

Drought is primarily a concern for Red-necked Phalarope that migrate inland and stopover at saline lakes. When there is less water entering large saline lakes, salinity increases, which may kill the zooplankton and invertebrate prey the Red-necked Phalarope relies on (Rubega and Inouye 1994). For example, salinity in Lake Abert, Oregon increased and the shorebird populations disappeared in the 1930s during the Dust Bowl drought (Larson *et al.* 2016). The impact of drought on the Red-necked

Phalarope is unknown. However, the impact is largely restricted to the inland saline lakes such as Mono Lake and Great Salt Lake in California and Chaplin Lake, Saskatchewan, where the Red-necked Phalarope stages during migration.

11.4 Severe/extreme weather events (Impact: Unknown)

Climate change is expected to cause sea levels to rise by 0.9 to 1.6 m above the 1990 sea level by 2100 in the Arctic (AMAP 2012). As the permafrost thaws, rising sea levels will flood and erode some coastal areas that the Red-necked Phalarope breeds in. Additionally, storm surges and increased wave action are causing flooding inland and salinizing freshwater lakes near the coast (Jones *et al.* 2009). The impact of flooding on the population is unknown.

9. Pollution (Impact: Medium)

9.2 Industrial & Military effluents (Impact: Unknown)

Oil is toxic to most birds, but adults would have to ingest very large quantities to experience strong toxicity effects (Jenssen 1994). Instead, oil coats the feathers, sticking them together so that they are no longer water-repellant and insulating (Jenssen 1994). Birds may attempt to preen to clean the feathers, but that simply causes them to ingest the oil and spread it across any clean feathers remaining (Jenssen 1994). For a pelagic bird like the Red-necked Phalarope, being coated in oil and losing their insulation leaves them at risk of dying of hypothermia (Jenssen 1994). In fact, birds that live offshore are more commonly found washed up dead onshore covered in oil than nearshore birds, who can escape to shore to warm and dry themselves and are often found oiled but alive (Henkel *et al.* 2014). Because the Red-necked Phalarope gathers in large numbers offshore at both the migratory stopovers and on the wintering grounds, a point-source oil spill could be disastrous should it happen when large numbers of birds are present. Both international and Canadian oil tanker traffic represent a risk to the Red-necked Phalarope along the migratory route. In Atlantic Canada, oil tanker traffic has increased in the Bay of Fundy as ships supply the oil refineries in Saint John, New Brunswick (J. Paquet pers. comm.).

Large-scale oil spills, even after extensive clean up, may still impact Red-necked Phalarope habitat use. After the Exxon-Valdez oil spill in 1989, the Red-necked Phalarope population breeding along Kenai Peninsula, Alaska were less abundant in bays where there was more oil exposure. By 1991, two years later, the species was beginning to recover, but abundance was still depressed in bays that had been contaminated (Day *et al.* 1997a). These long-term effects were due to disruption of the shoreline and intertidal zone by the oil (and oil clean up), not by toxicity or direct impacts (Day *et al.* 1997a). In Prince William Sound, Alaska, Red-necked Phalarope density was equivalent in oiled habitat and unoiled habitat 2.5 years after the Exxon-Valdez spill (Day *et al.* 1997b).

It is not only large-scale oil spills that affect the Red-necked Phalarope. Oiled, dead Red-necked Phalarope are regularly found washed up on beaches in California, though, as migrants to the area, they are not one of the most common species that volunteers

find oiled on the beach (Roletto *et al.* 2003; Henkel *et al.* 2014). Many of these birds were not exposed to a large scale oil spill but rather chronic oil pollution caused by small scale leaks and discharges which are usually unreported and do not trigger clean up procedures. Analysis of the British Columbia coastline suggests that chronic oil pollution is concentrated in two areas: the Hecate Strait and Dixon Entrance in the north, and around the Scott Islands in the south (Fox *et al.* 2016). An estimated 41% of the Red-necked Phalarope migrating along the British Colombia coast will be exposed to high-risk oil contamination areas, mainly in the southern portion of the coast (Fox *et al.* 2016). The risk outside of British Colombia has not been quantified.

While most research into the effects of oil pollution has occurred on the migratory corridor, Red-necked Phalarope are also at risk of both chronic oil pollution and catastrophic oil spills on their wintering grounds in the Humboldt Current. Petroleum extraction is a key economic industry in the region, resulting in high oil tanker traffic (UNEP 2006). There have been multiple smaller scale oil spills in the region, predominantly concentrated around shipping ports such as those in Guayaquil, Ecuador, Lima, Peru, and Puerto Quintero, San Vincente, and Punta Arenas, Chile (UNEP 2006).

The overall impact of point source and chronic oil pollution on Red-necked Phalarope populations in Canada is unknown.

9.4 Garbage & solid waste (Medium)

Plastic pollution is a growing problem in the oceans and most phalarope have likely ingested plastic particles. Off the North Carolina coast, 59 of 92 Red-necked Phalarope (64%), collected live, had ingested plastic, mainly plastic fragments, line, strips, wads of fibres, and film (Moser and Lee 1992). Across seabird species, species like the Red-necked Phalarope that forage at the surface on crustaceans were more likely to have eaten plastic particles (Moser and Lee 1992). For 53 Red Phalarope (*Phalaropus fulicarius*) shot across three sites on the California coast, the stomachs of 34 contained plastic particles (64%; Briggs *et al.* 1984). In a sample of seven Red Phalarope that struck utility lines in California, six had ingested plastic particles (86%; Connors and Smith 1982).

Ingesting plastic particles likely harms the Red-necked Phalarope. For the Red Phalarope, individuals who ingest more plastic (volume) had fewer fat reserves, suggesting that ingesting plastic was detrimental (Connors and Smith 1982). Additionally, of nine dead Red Phalarope collected in British Columbia, all had plastic particles in their stomachs and were severely underweight (Drever *et al.* 2018). Autopsies indicated that most birds died of starvation and found stomach lesions and acute intestinal hemorrhaging, indicating that when starving birds ate plastic particles, the plastics damaged the digestive tract (Drever *et al.* 2018; Jennifer Provencher pers. comm.). The birds moved closer to shore to search for food because unusually warm ocean temperatures reduced zooplankton abundance offshore, likely exposing them to higher levels of plastic pollution (Drever *et al.* 2018).

Plastics may be of particular concern during the non-breeding season. Ocean currents concentrate zooplankton in the Humboldt Front, making feeding easy for wintering Red-necked Phalarope. The same currents also concentrate plastics, leaving phalarope foraging amongst drifting garbage (Bourne and Clarke 1984). The overall impact of garbage and solid waste on Red-necked Phalarope populations is medium.

9.5 Air-borne pollutants (Impact: Unknown)

Though most industrial activities take place outside of the Red-necked Phalarope's breeding grounds, there has been substantial mercury deposition into arctic and sub-arctic waters since the 1960s (Muir *et al.* 2009). Thirteen Red-necked Phalarope individuals shot and collected in the Bay of Fundy, New Brunswick had very low muscle mercury concentration, likely because, by eating zooplankton, they avoid some of the bio-magnification of mercury faced by fish-eating birds (Braun *et al.* 1987). However, more recently, one individual from Utqiagvik (formerly Barrow), Alaska had a blood mercury concentration above the threshold for reduced reproductive success in other species (1.21 ug g^{-1}; Perkins *et al.* 2016). Additionally, one clutch of eggs tested for heavy metal contamination found that strontium concentrations were elevated, averaging 9.7 µg strontium per gram egg, which is above levels that hinder reproduction in other species (Saalfeld *et al.* 2016). Strontium may be transported long distances as aerosolized dust particles, ending up in the Arctic. The impact of air-borne pollutants on Red-necked Phalarope populations is unknown.

8. Invasive & problematic species, pathogens & genes (Impact: Low)

8.2 Problematic native plants & animals (Impact: Low)

There is some overlap between the Red-necked Phalarope breeding range and overabundant Snow Goose colonies, although most of the breeding range does not overlap. Agricultural changes have created abundant food for Snow Geese on their wintering grounds and allowed their populations to increase dramatically (Abraham *et al.* 2005). Greater Snow Geese have been designated as overabundant in Canada since 1998, Mid-continent Lesser Snow Geese since 1999, and Western Arctic Lesser Snow Geese since 2014. In response to this designation as overabundant, there are now spring conservation hunting seasons in many provinces and bag limits have been liberalized to encourage harvest of Snow Geese for population control.

When overabundant Snow Geese forage and grub the tundra soil, they leave behind patches of bare ground and less vegetation (Abraham *et al.* 2005; Peterson *et al.* 2013). Excessive Snow Goose grubbing alters soil characteristics and increases erosion, ultimately increasing salinity in freshwater ponds and altering composition and availability of invertebrate prey (Milakovic *et al.* 2001). Even once Snow Geese are removed from the landscape, changes to the vegetation may persist for years before recovery begins (Peterson *et al.* 2013).

The number of Red-necked Phalarope breeding in Cape Churchill, Manitoba declined following increased Snow Goose activity in the 1990s (Sammler *et al.* 2008). While there are no colonies located at Cape Churchill, the colony breeding in La Pérouse Bay

walks their goslings over to Churchill Bay to grub in the vegetation (Cooch *et al.* 1993), likely reducing habitat quality for breeding Red-necked Phalarope (Sammler *et al.* 2008). La Pérouse Bay currently has lower densities of Red-necked Phalarope compared to the surrounding areas (Artuso 2018) but densities of Red-necked Phalarope declined in La Pérouse Bay in 1983, prior to the Snow Geese becoming abundant enough to impact habitat quality. This timeline suggests that the extreme 1982-1983 ENSO, not Snow Geese, may have caused the initial declines (Reynolds 1987; Nisbet and Veit 2015; C. Gratto-Trevor pers. comm.). However, habitat alteration by Snow Geese may have contributed to the continued depression of Red-necked Phalarope abundance.

Ultimately, the effect of problematic native species on Red-necked Phalarope populations is likely low because there is limited range overlap between breeding Red necked Phalarope and overabundant Snow Goose colonies. Habitat degradation by Snow Geese is most problematic on the west coasts of Hudson Bay and James Bay, Ontario, in the Queen Maud Gulf Migratory Bird Sanctuary, Nunavut, and across Southampton Island, Nunavut (COSEWIC 2014).

7. Natural system modifications (Impact: Unknown)

7.2 Dams and water management/use (Impact: Unknown)

Human water management is of concern to the Red-necked Phalarope during migration. Many birds migrate through arid regions and forage in heavily managed waterbodies. For instance, at Mono Lake, California, an inland saline lake, salt concentrations have risen as water was diverted for human use beginning in the 1940s. The Red-necked Phalarope's prey of choice there, brine flies, is sensitive to rising salinity and in the 1990s there was concern that brine flies would disappear altogether, leaving the Red-necked Phalarope without a ready source of food (Rubega and Inouye 1994). Today, Mono Lake water levels are still below those ordered by state law. Other terminal lakes are experiencing similar challenges; in fact, phalarope staging at Lake Abert, Oregon may have declined due to recent salinity increases (Larson *et al.* 2016). Regardless, water management is a local issue with limited scope and, though the ultimate impact on the population is unknown, it is expected to be limited.

5. Management objective

The management objective for the Red-necked Phalarope is to have stable or increasing population trends by 2040.

Rationale for management objective

The management objective is to achieve stable or increasing trends in Red-necked Phalarope population abundance by 2040. This management objective recognizes that the Red-necked Phalarope population is likely large enough to maintain a breeding population (approximately 2.35 million in Canada), and that the Red-necked Phalarope has been listed as Special Concern due to declines at migratory stopovers in the past 40 years, not concern over current population sizes. Trends will be measured based on

population monitoring at the migratory stopovers. A ten-year timeframe was selected for this species because breeding success and thus population size may be cyclic, in part because predators switch between preying on lemmings and shorebird nests, based on lemming population dynamics (Blomqvist *et al.* 2002). A longer timeframe will prevent possible cyclic population dynamics from influencing the trends. This management objective addresses the species' decline which was the reason for its designation as Special Concern (COSEWIC 2014) and should be achievable by conserving habitat across the full annual cycle and managing the risk of oil spill contamination. However, if the population declines are due to or exacerbated by climate change related threats, this management objective may be difficult to achieve, even if the suite of conservation measures described below are implemented.

6. Broad strategies and conservation measures

6.1. Actions already completed or currently underway

- Breeding Red-necked Phalarope are monitored through the Arctic Program for Regional and International Shorebird Monitoring (PRISM). However, the breeding range extends south of the range covered by PRISM so this monitoring program will underestimate population size for this species. Regardless, these are some of the best estimates currently available and can be used to monitor trends.
- Since 2005 in the Atlantic and 1996 in the Pacific, Seabirds at Sea surveys have monitored offshore seabirds from boats. In the Atlantic, historical data is available from the Programme intégré de recherches sur les oiseaux pélagiques (PIROP) which ran from 1966 to 1992, while in the Pacific, the Pelagic Seabird Survey Database compiles long-term opportunistic data from 1982 to 2010.
- The International Shorebird Survey and the Atlantic Canada Shorebird Survey both monitor a portion of the migratory population and have been used to assess population trends, but since these surveys are conducted from shore, they likely miss large portions of the offshore populations.
- Many of the migratory stopover sites where the Red-necked Phalarope congregates to refuel have been designated as Sites of Regional or Hemispheric Importance by the Western Hemisphere Shorebird Reserve Network (WHSRN). Some of these sites conduct regular site specific monitoring of the Red-necked Phalarope and other shorebirds.
- The Red-necked Phalarope is one of five priority species in the Americas Flyway listed under Arctic Migratory Birds Initiative (CAFF 2019).
- The Multi-species Action Plan for Gwaii Haanas National Park Reserve, National Marine Conservation Area Reserve, and Haida Heritage Site (PCA 2016) recognizes a need for oil spill preparedness planning in the park, which would benefit the Red-necked Phalarope and other coastal and marine species in the park.
- In 1994, the California State Water Resources Control Board required Los Angeles to restore water flow into Mono Lake. Restoring the flow has allowed water levels to rise at Mono Lake. This work has set a legal precedent for limiting water rights in favor of "public trust values" such as wildlife populations.

- In 2018, Canada signed onto the international Ocean Plastics Charter and invested in a marine litter mitigation fund to reduce plastic pollution in the ocean.
- The United Nations Development Programme (UNDP) and the Global Environment Facility (GEF) funded the GEF-UNDP-Humboldt Project from 2010 to 2016. This project assisted the Chilean and Peruvian governments as they developed an ecosystem-based management approach for the area.
- In 2016, GEF and UNDP funded a complementary project in the Humboldt Current Large Marine Ecosystem to extend the previous conservation work. Of particular relevance to the Red-necked Phalarope, the new priority list includes monitoring for contaminants in the region.
- Peru established the Guano Islands, Islets, and Capes National Reserve System in 2009. This reserve conserves ~84,500 hectares of marine habitat in the Humboldt Current and ~3,000 hectares of Peruvian coastline.
- Juan Fernández Multiple Use Marine Protected Area (and its five associated Marine Parks) covers ~24,000 square kilometers offshore of Chile in the Humboldt Current. Chile implemented a multi-use plan for the protected area which allows for a tourism industry and sustainable lobster fisheries.
- The first international Phalarope Working Group met in June, 2019 to discuss the threats facing the Red-necked Phalarope, Red Phalarope, and Wilson's Phalarope (*Phalaropus tricolor*), and set priorities for research and conservation. The priorities identified by the group are:
    - Researching the natural history of the species
    - Determining the population size and trends by coordinating consistent survey efforts
    - Using the Motus Wildlife Tracking System[10] telemetry network to track migrating phalaropes and determine turnover rates to better estimate population size; using this network will likely require putting up additional antennae in the western U.S.
- A five-year survey of phalarope at Mono Lake, California began in 2019. This set of surveys builds on those previously conducted in the area, though early surveys used different methodology. Current survey design has been improved.

6.2. Broad strategies

The broad strategies to achieve the management objectives for the Red-necked Phalarope are as follows:

- Population Monitoring
- Habitat Conservation
- Public Engagement
- Contaminant Prevention
- Threat Research

[10] The Motus Wildlife Tracking System is an international collaborative research network that uses a coordinated automated radio telemetry array to track the movement and behavior of birds and other flying animals.

6.3. Conservation measures

Table 3. Conservation measures and implementation schedule. Threat numbers correspond to the threat number in Table 2.

Conservation measure	Priority[e]	Threats or concerns addressed	Timeline
Broad strategy: population monitoring			
Centralize data from past site surveys in a shared database.	High	All	2022-2027
Coordinate data collection from ongoing surveys at migratory stopovers and on the breeding range to enable comparison and calculation of North America wide estimates where possible.	High	All	2022-2027
Track the North American migration routes and determine the turnover and residency times at migratory stopover sites.	High	All	2022-2032
Calculate new population estimates and trends.	High	All	2027-2032
Broad strategy: public engagement			
Engage and educate the public about the species and the threats it faces. Encourage actions that may help mitigate the effects of these threats.	Low	All	Ongoing
Encourage the public to report sightings and promote participation in citizen-science programs (e.g., eBird, Beach Watch).	Low	All	Ongoing
Broad strategy: habitat conservation			
Conserve water and manage watersheds surrounding migratory stopover sites to maintain appropriate water levels in saline lakes.	Medium	Threats 7.2 and 11.2	Ongoing
Identify and conserve habitat on both breeding grounds and migration routes that models indicate is currently suitable habitat and will remain suitable as the effects of climate change progress (i.e., climate resilient habitat).	High	Threats 11.1, 11.2, 11.3, and 11.4	2027-2032
Work with international partners to support seabird conservation within the Humboldt Current Large Marine Ecosystem.	Medium	Threats 9.2 and 9.4	2027-2032

Broad strategy: contaminant prevention			
Incorporate information about the Red-necked Phalarope's migratory and wintering ranges into environmental assessments for any projects that increase the risk of either chronic or catastrophic oil spills in key areas for the species.	High	Threat 9.2	Ongoing
Ensure that there are oil spill response plans in place, which consider offshore seabirds and habitat used by the Red-necked Phalarope.	High	Threat 9.2	Ongoing
Encourage measures to prevent plastic ingestion by Red-necked Phalarope	Medium	Threat 9.4	Ongoing
Broad strategy: threat research			
Determine where Red-necked Phalarope ingest most plastics and how much they are ingesting.	Medium	Threat 9.4	2027-2032
Investigate changes in the abundance of zooplankton and other food sources at key migratory stopovers (e.g., Bay of Fundy) and wintering grounds.	Medium	Threat 11.3	2022-2027

[e] "Priority" reflects the degree to which the measure contributes directly to the conservation of the species or is an essential precursor to a measure that contributes to the conservation of the species. High priority measures are considered those most likely to have an immediate and/or direct influence on attaining the management objective for the species. Medium priority measures may have a less immediate or less direct influence on reaching the management objective, but are still important for the management of the population. Low priority conservation measures will likely have an indirect or gradual influence on reaching the management objective, but are considered important contributions to the knowledge base and/or public involvement and acceptance of the species.

6.4. Narrative to support conservation measures and implementation schedule

The conservation measures for the Red-necked Phalarope were developed to address threats facing this species across its range. The conservation measures focus on addressing the most pressing threats and gathering information necessary to address any remaining threats in the future.

To date, there is great uncertainty surrounding the exact size of the North American Red-necked Phalarope population. Without accurate, multi-year population estimates, it is difficult to say with any confidence how much the population has declined. It is possible (although unlikely) that the Red-necked Phalarope population has not in fact declined but that its distribution or migratory routes have shifted. To that end, the first

priority must be to determine overall size and short-term population trends through population monitoring.

To calculate a more accurate population estimate, there are multiple components of monitoring the migratory Red-necked Phalarope population that should be improved. Because many sites have already conducted some monitoring, the Phalarope Working Group proposed managing a shared database to centralize all data from past and future surveys. Integrating this data with information from offshore seabird surveys like Seabirds at Sea and the Pelagic Seabird Survey Database may improve estimates of the offshore migrants. To facilitate calculating a new North American Red-necked Phalarope population estimate, surveys on migration at disparate sites should, whenever possible, be conducted concurrently and use similar protocols as proposed by the Phalarope Working Group. It may also be beneficial to conduct surveys at additional migratory stopovers to improve coverage. These estimates may be used as a cost effective way to measure population trends. To calculate a population estimate, managers will need to know the turnover and residency times at the migratory stopovers. Recent work using geolocations has provided some estimates for birds migrating along the Atlantic coast (Smith *et al.* 2014, van Bemmelan *et al.* 2019). However, given the low recapture rates of geo-tagged Red-necked Phalarope, tracking using Motus may be more feasible, particularly for the inland migrants. However, using Motus will require additional Motus antennae to fill in gaps in the Motus Network surrounding the inland migratory stopovers. The Phalarope Working Group has proposed building Motus towers at Mono Lake and Great Salt Lake, California. Finally, on the breeding ground, improving monitoring in under surveyed areas will allow for an undated distribution map and population estimates. A clear, accurate map of the overall distribution is necessary to rule out the possibility that migratory routes or distribution have shifted. Integrating monitoring data on the breeding grounds and migratory stopovers may be the most effective way to calculate reliable population estimates.

Climate change may ultimately have the largest impact on the Red-necked Phalarope's population trajectory due in large part to changes on the Red-necked Phalarope's arctic breeding grounds. Current projections estimate that the species will to lose 90% of its current breeding range by 2070 as the climate becomes unsuitable (Wauchope *et al.* 2017) and lose 42% of its breeding range with a 3°C temperature increase (Bateman *et al.* 2019). Following a 3°C increase, 11% of the breeding range may be gained as climatically suitable habitat shifts north (Bateman *et al.* 2019). It will be crucial to conserve habitat on both the breeding grounds and migration routes that climate change projection models indicate will remain suitable habitat into the future (i.e., climate resilient habitat).

If water levels drop excessively, saline lakes may become too salty to support the invertebrate prey the Red-necked Phalarope rely on during migration. Although watershed managers cannot prevent droughts, limiting the amount of water diverted for human use will maintain the lakes' water levels and keep habitat in the saline lakes suitable for phalarope. Supporting water conservation and conservative water management in these watersheds will be crucial to preserving these important stopover sites.

Red-necked Phalarope commonly ingest plastic particles which appear to reduce body condition and overall health. Because the Red-necked Phalarope spends most of the year foraging on surface zooplankton offshore, it likely ingests more small plastic particles than other shorebirds. More research is needed to determine both how much plastic phalarope are ingesting, and where phalarope are ingesting most of the plastic (i.e., wintering, breeding, or migration grounds). When available information allows, targeted activities aimed at preventing Red-necked Phalarope from ingesting plastics should be encouraged. However, activities aimed at reducing plastic pollution broadly would benefit many species in the short term, including Red-necked Phalarope and other aquatic birds.

More research is also needed to assess whether the Red-necked Phalarope still has adequate food available at migratory stopovers and on the wintering grounds. Climate change may be causing zooplankton blooms to happen at a different time or location, leaving the Red-necked Phalarope without a ready food source, but to date there is little evidence to suggest whether or not this is occurring.

Because the Red-necked Phalarope spends so much of their life at sea, both chronic and catastrophic oil spills pose a risk to the population. To mitigate this risk, the Red-necked Phalarope's migratory and wintering ranges should be incorporated into environmental assessments of projects that may increase this risk. Additionally, in areas where chronic or catastrophic oil spills are likely, there should be an oil spill response plan in place which considers offshore seabirds like this species.

Most Red-necked Phalarope nesting in Canada congregate in the Humboldt Current during the winter, which means that any threats to this region could be devastating to the population. Therefore, it will be important to encourage seabird conservation within the Humboldt Current Large Marine Ecosystem by working with international partners. In particular, Peru and Chile have both created large marine protected areas in this region. Conserving the population on the wintering grounds will require implementing an oil spill response plan, as an oil spill in the region at the wrong time would devastate the entire population and current oil spill planning is inadequate at best.

Finally, public engagement can be an important aspect of any management plan. The public can be engaged through education about the Red-necked Phalarope. This should include spreading awareness of the threats facing the species, such as climate change, and encouraging public efforts to address them. Members of the public may report sightings of nesting or migrating Red-necked Phalarope through citizen science programs such as eBird. In coastal areas, the public may participate in citizen science beach watch programs and monitor for Red-necked Phalarope and other seabirds that wash ashore dead or oiled. These programs help assess the effects of plastic and oil pollution.

7. Measuring progress

The performance indicators presented below provide a way to measure progress towards achieving the management objectives and monitoring the implementation of the management plan.

- By 2030, an accurate North American population size estimate is available.
- By 2030, a North America-wide trend estimate is available. This trend estimate should be robust enough to detect a 30% decline over a 10-year period.
- By 2040, the population trend of the Red-necked Phalarope is stable or positive as measured by population monitoring at migratory stopovers over a 10-year period.

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9. Appendix A: Effects on the environment and other species

A strategic environmental assessment (SEA) is conducted on all SARA recovery planning documents, in accordance with the *Cabinet Directive on the Environmental Assessment of Policy, Plan and Program Proposals*[11]. The purpose of a SEA is to incorporate environmental considerations into the development of public policies, plans, and program proposals to support environmentally sound decision-making and to evaluate whether the outcomes of a recovery planning document could affect any component of the environment or any of the Federal Sustainable Development Strategy's[12] (FSDS) goals and targets.

Conservation planning is intended to benefit species at risk and biodiversity in general. However, it is recognized that implementation of management plans may also inadvertently lead to environmental effects beyond the intended benefits. The planning process based on national guidelines directly incorporates consideration of all environmental effects, with a particular focus on possible impacts upon non-target species or habitats. The results of the SEA are incorporated directly into the management plan itself, but are also summarized below in this statement.

Activities that benefit the Red-necked Phalarope are likely to benefit other phalarope, migratory shorebirds, and seabirds. The Red Phalarope and the Wilson's Phalarope (*Phalaropus tricolor*) both use the same migratory stopovers as the Red-necked Phalarope, so conservation measures aimed at conserving water levels and researching food availability will likely benefit these species as well.

[11] www.canada.ca/en/environmental-assessment-agency/programs/strategic-environmental-assessment/cabinet-directive-environmental-assessment-policy-plan-program-proposals.html
[12] www.fsds-sfdd.ca/index.html#/en/goals/

10. Appendix B: Breeding Bird Atlas maps for the Red-necked Phalarope

The Breeding Bird Atlases from British Columbia, Manitoba, Ontario, and Quebec all provide detailed maps of the breeding distribution of the Red-necked Phalarope. There is only a single possible occurrence of breeding Red-necked Phalarope in the Saskatchewan Breeding Bird Atlas. The Alberta Breeding Bird Atlas notes that while the Red-necked Phalarope is known to breed in the northern part of the province in the boreal forest natural region, it is rare and all observations noted during Atlas 2 were migrant so this map has not been included.

In British Colombia, observations were primarily in the Tatshenshini Basin, in the northwestern corner of the province, with some confirmed breeding farther east, currently representing the southernmost breeding record in the province (Di Corrado 2015). In the province, the Red-necked Phalarope nests in wet, subalpine sedge and willow near small ponds, but there is still limited survey coverage of such habitat (Di Corrado 2015).

In Manitoba, the 2010-2014 Breeding Bird Atlas expanded the known breeding range of the Red-necked Phalarope, which now includes some records well south of the treeline (Artuso 2018). In Manitoba, the species is usually nestling in fens, peat bogs, and sedge meadows near small waterbodies. The species will nest near willow and shrubs, but seems to avoid areas with tall, dense shrubs (Artuso 2018).

In Ontario, the Red-necked Phalarope was observed in the northern most plots surveyed. Confirmed breeding is primarily in graminoid and sedge-dominated wetlands and at the edge of shallow ponds (Nol and Beveridge 2007).There was one confirmed observation in quaking peat mat in poorly-surveyed boreal forest-tundra mosaic, suggesting that greater survey effort may reveal a larger breeding range in Ontario (Nol and Beveridge 2007).

In Quebec, the second breeding bird atlas has extended the known breeding range from Northern Quebec to south of the border with Labrador . In Quebec, the species commonly nests in boreal and tundra environments where there are ponds and peatlands surrounded by graminoid vegetation (Michel Robert, pers. comm.).

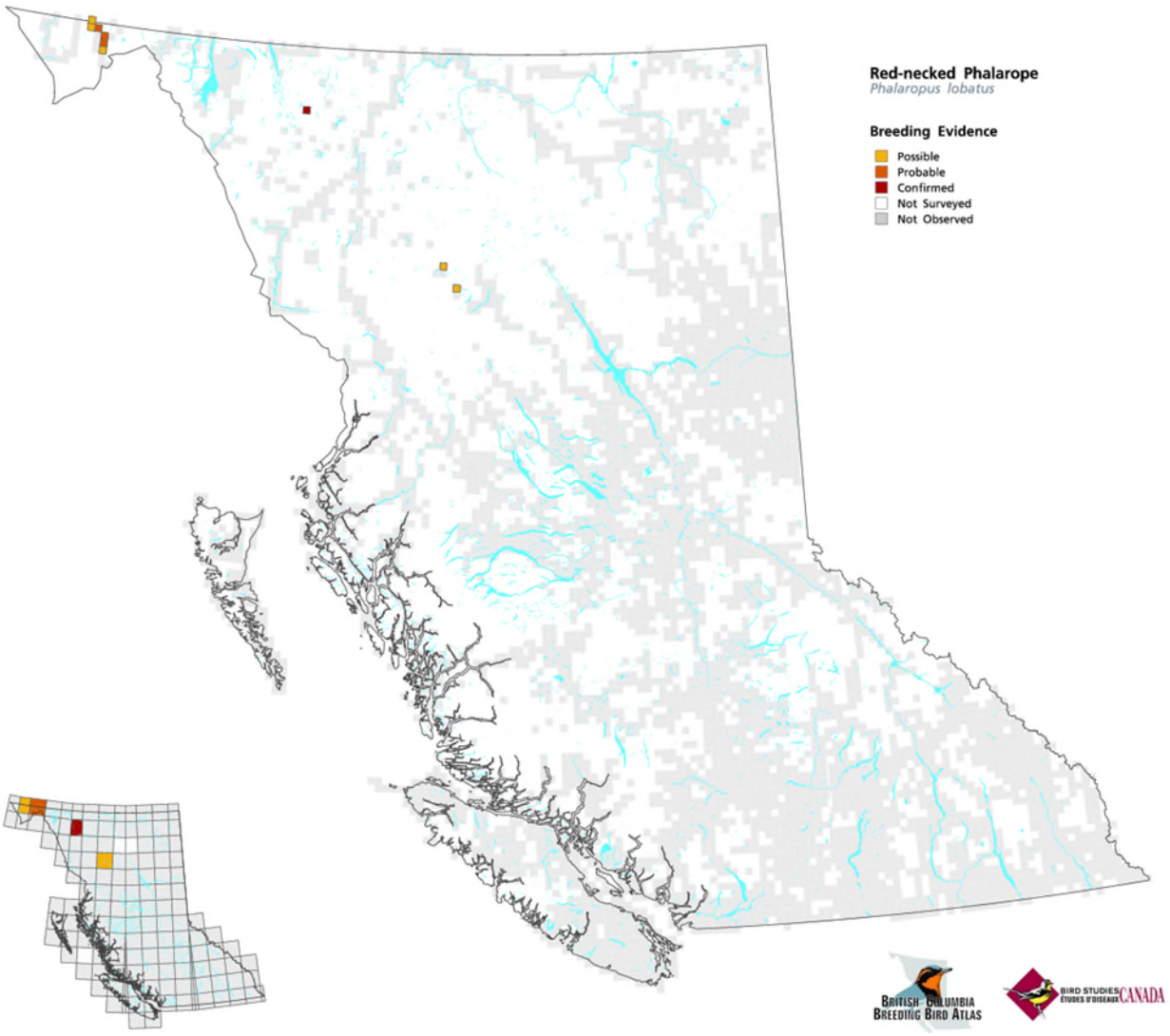


Figure B1: Red-necked Phalarope breeding distribution in British Columbia from the Atlas of the Breeding Birds of British Columbia, 2008-2012 (Source: Di Corrado 2015)

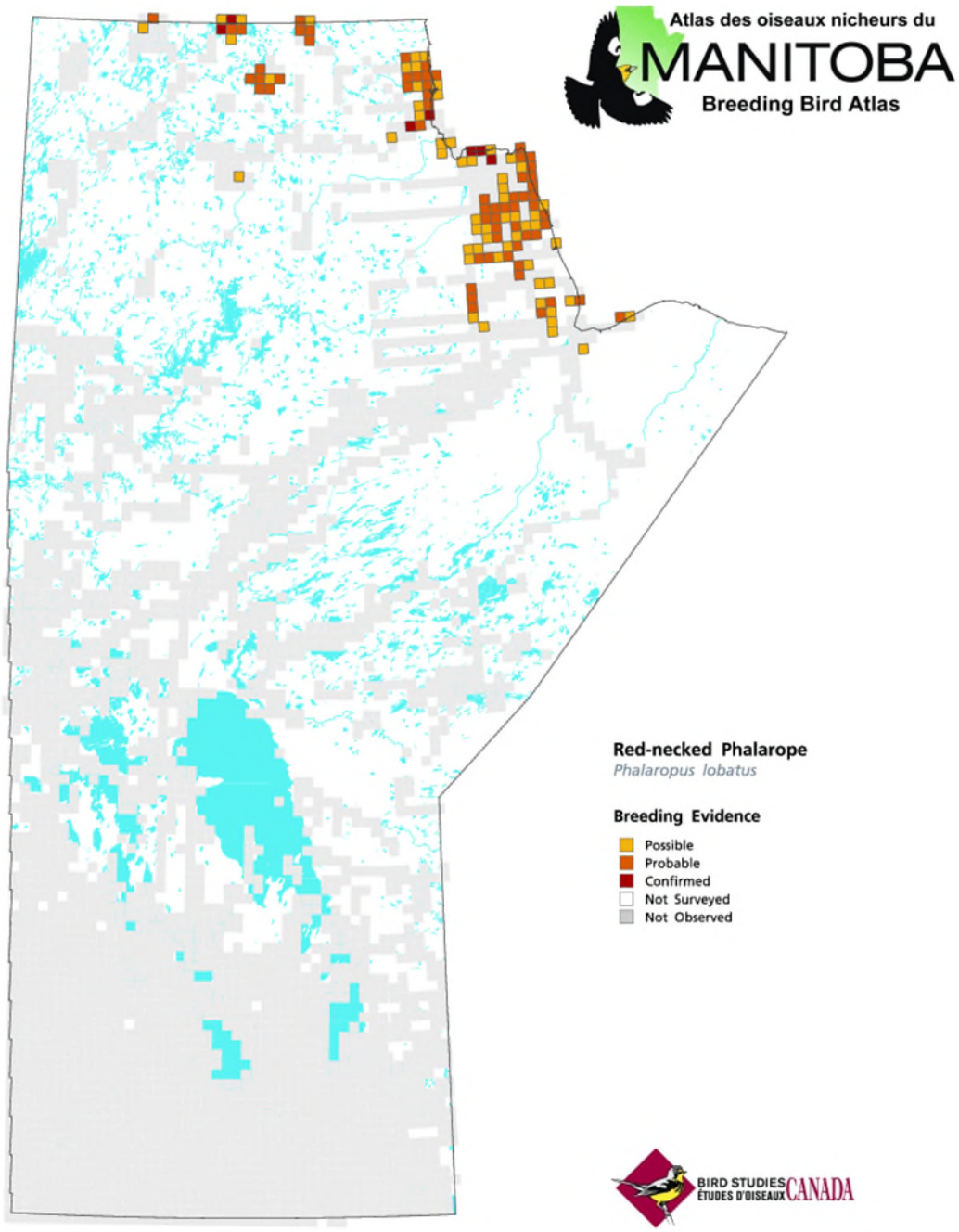


Figure B2: Red-necked Phalarope breeding distribution in Manitoba from the Atlas of the Breeding Birds of Manitoba, 2010-2014 (Source: Artuso 2018)

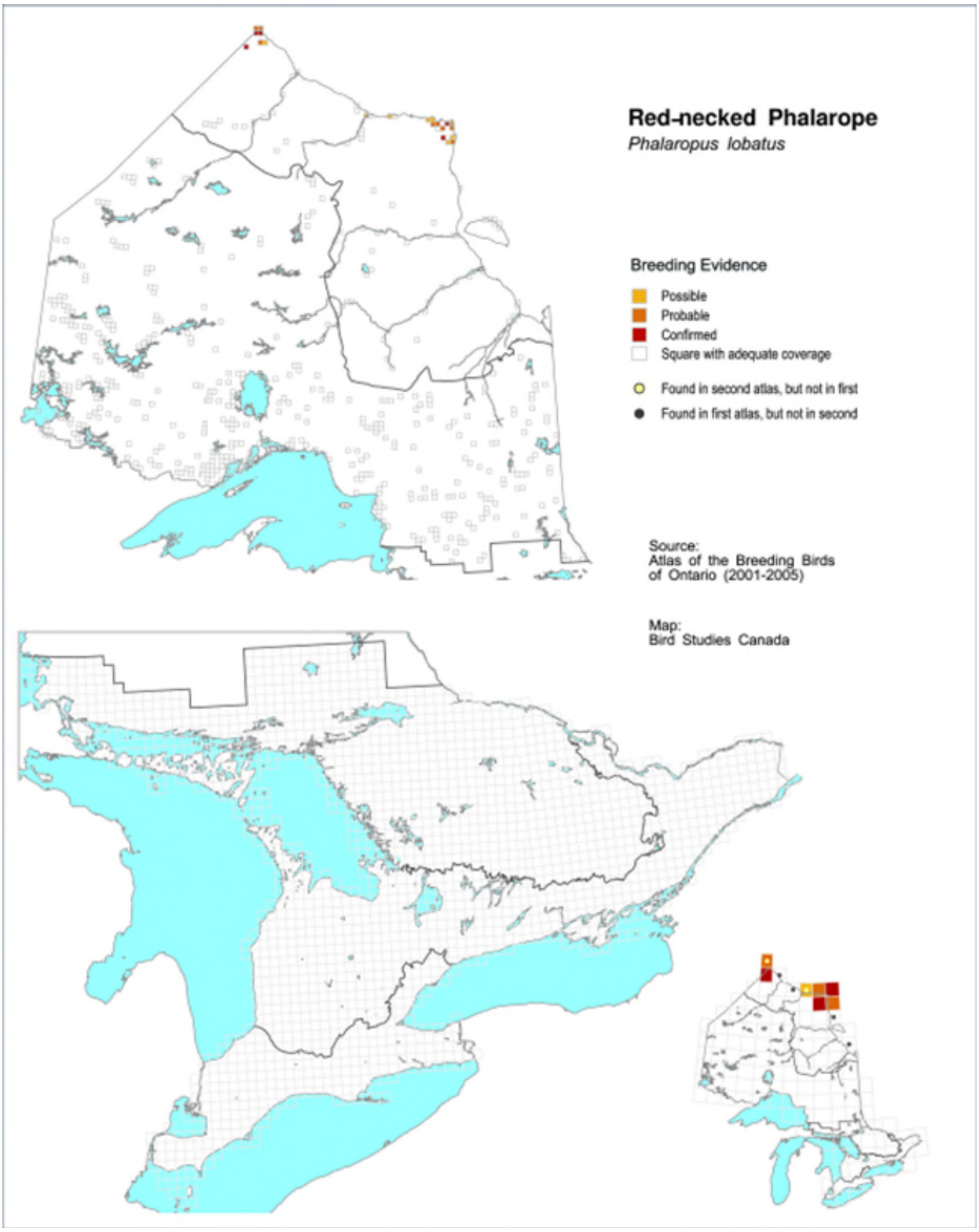


Figure B3: Red-necked Phalarope breeding distribution in Ontario from the Atlas of the Breeding Birds of Ontario, 2001-2005. (Source: Nol and Beveridge 2007)

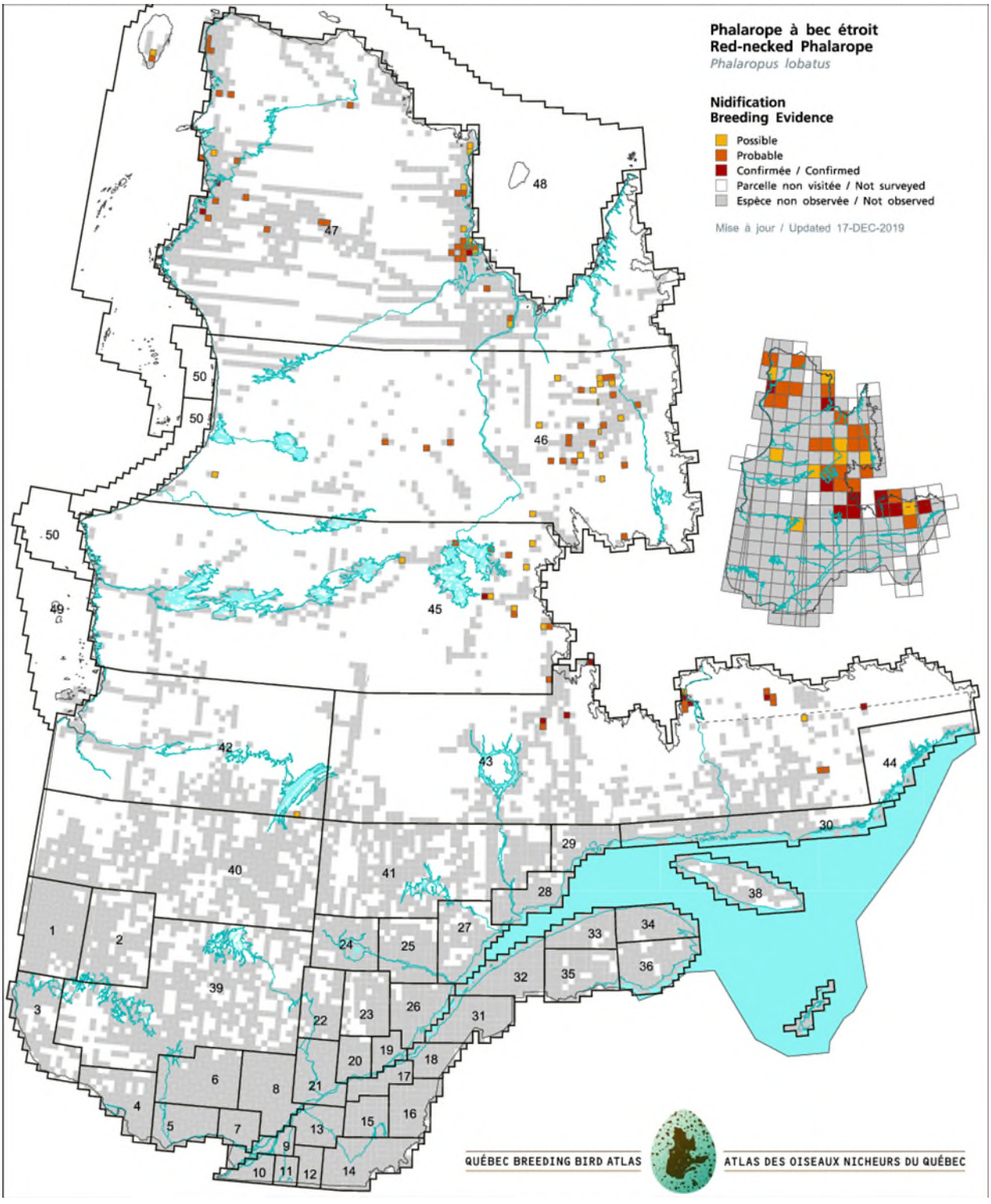


Figure B4: Red-necked Phalarope breeding distribution in Quebec from the Atlas of the Breeding Birds of Quebec, 2010-2019 (Source: https://www.atlas-oiseaux.qc.ca/donneesqc/cartes.jsp?lang=en)

11. Appendix C: Arctic PRISM distribution map for the Red-necked Phalarope

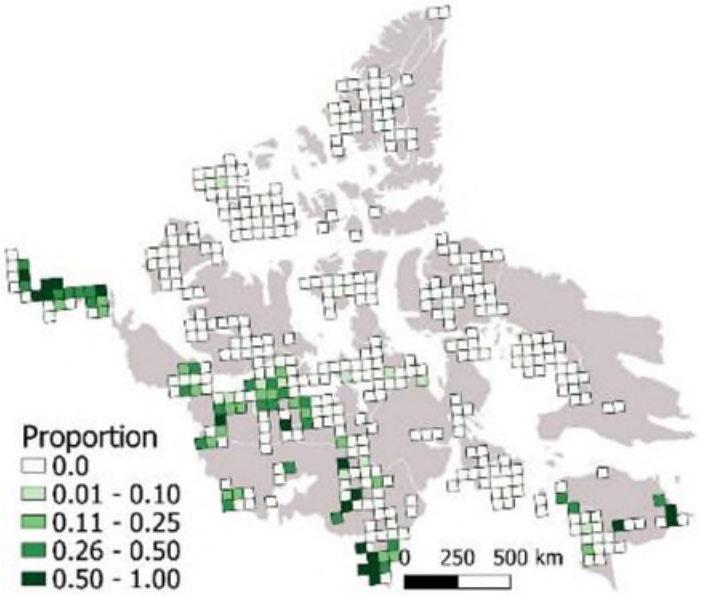


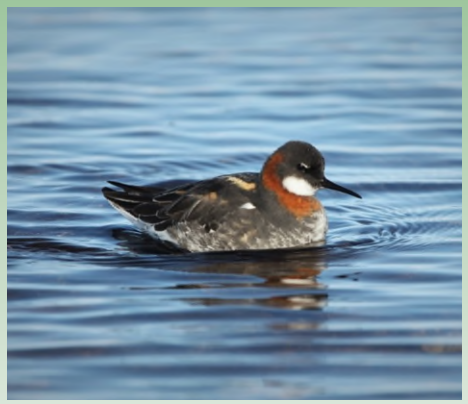
Figure C1: Proportion of 25 x 25 km blocks in which the species was recorded during the Arctic PRISM (Paul Allen Smith and Jennie Rausch, pers. comm.).

Summary of the Proposed final Management Plan for the

Red-necked Phalarope (*Phalaropus lobatus*) in Canada

This is a summary of the information provided in the proposed final management plan for the Red-necked Phalarope. Red-necked Phalarope was listed as a species of Special Concern under the *Species at Risk Act* in 2019.

The management plan is a plan that sets the goals and objectives for maintaining a sustainable population level for Red-necked Phalarope. The summary provided here is based on the information in the English version of the proposed final Red-necked Phalarope management plan in Canada. An English and Inuktitut copy of this document has been provided to you for reference (Appendix A).



Female Red-necked Phalarope ©Willow

Committee on the Status of Endangered Wildlife in Canada (COSEWIC) Assessment and Species Status Information (Pages 1-2)

These pages provide the COSEWIC assessment table, which is also included here. It describes why COSEWIC has assessed the Red-necked Phalarope as a species of Special Concern, where it occurs in Canada, and the history of the species status over the years.

This section also provides information on the status of the species throughout Canada, how it is protected in the Provinces and Territories, and the status given to the bird by other conservation programs such as NatureServe. NatureServe has assessed the status of Red-necked Phalarope in Nunavut as S3B, S3M. S = territorial level, 3 = Vulnerable, B = breeding, M = migrant.

Species Information (Pages 2-9)

This section of the proposed management plan for Red-necked Phalarope provides descriptive information such as what they look like, where they live and what they need to survive.

Date of Assessment: November 2014
Common Name (population): Red-necked Phalarope
Scientific Name: *Phalaropus lobatus*
COSEWIC Status: Special Concern
Reason for Designation:
This bird has declined over the last 40 years in an important staging area; however, overall population trends during the last three generations are unknown. The species faces potential threats on its breeding grounds including habitat degradation associated with climate change. It is also susceptible to pollutants and oil exposure on migration and during the winter. This is because birds gather in large numbers on the ocean, especially where currents concentrate pollutants.
Canadian Occurrence:
Yukon, Northwest Territories, Nunavut, British Columbia, Alberta, Saskatchewan, Manitoba, Ontario, Québec, New Brunswick, Prince Edward Island, Nova Scotia, Newfoundland and Labrador, Pacific Ocean, Arctic Ocean, Atlantic Ocean

COSEWIC Status History: Designated Special Concern in November 2014.
* COSEWIC (Committee on the Status of Endangered Wildlife in Canada)

Environment and Climate Change Canada | Environnement et Changement climatique Canada
Canada

Species Description

- Red-necked Phalarope is a medium-sized sandpiper with bright chestnut-red plumage that circles the base of the neck and extends up the sides of the face during the breeding season.
- Females are slightly larger than males (40g compared to 33g).

Species Population and Distribution

- Red-necked Phalarope is a circumpolar breeder.
- Breeding does not extend north of the southern portion of Baffin Island.
- Red-necked Phalaropes primarily migrates offshore and winters at sea off the coast of Ecuador, Peru, and Chile.

Population Size and Trends

- Data on population size and trends is limited because Red-necked Phalarope are a difficult species to survey due to spending months of the year at sea and have a vast breeding area.

Distribution of the Red-necked Phalarope (from Cornell Lab – Birds of North America's Website, Rubega et al. 2000)

- The Arctic Program for Regional and International Shorebird Monitoring (PRISM) calculated a new Canadian population estimate in 2020 of 2.3 ± 0.7 million.
- As PRISM does not monitor the southern breeding range, it is likely an underestimate.
- Atlantic Canada Shorebird Survey and the International Shorebird Survey data from 1974 to 1998 show that Red-necked Phalarope that migrate through the North Atlantic have not significantly declined, but those that migrate through the interior have declined by 7.6% per year.
- The Bay of Fundy migratory stop has been surveyed extensively and the Red-necked Phalarope staging there have declined from 2-3 million in the 1970s and 1980s to 100,000-300,000 from 2008-2010.
- It is possible that Red-necked Phalarope are taking a different migratory pathway.
- Localized declines are also being seen in on Herschel Island, and the North Slope and Crow Flats, Yukon and in Churchill, Manitoba.

Needs (Breeding, Migration, Non-breeding and Diet)

- The Red-necked Phalarope primarily breeds in the arctic tundra wetlands, where more than 43% of the landscape is covered in water.
- Freshwater ponds serve as courtship grounds and provide food for the breeding pair and their offspring.
- They will breed in a pond based on the presence of other phalaropes, are not territorial, but maintain a home range.
- The species has been documented to breed below the tree line in the boreal forest, nesting habitat includes fens, bogs and other wetlands.
- Female Red-necked Phalaropes compete for males with males raising the offspring (including incubation and nest building).
- Predation is the main cause of nest failure.
- Females leave for migration before males.
- The Red-necked Phalarope flies approximately 120-130 km per day during migration.
- Most migrating Red-necked Phalaropes are found on or over open water, but a portion migrates over land (the Bay of Fundy is a major fall stopover site).

For more information, please contact us directly at:
Environment and Climate Change Canada (ECCC) – Canadian Wildlife Service, Northern Region
933 Mivvik Street, Iqaluit, Nunavut X0A0H0 PO Box 1870
Phone: 867-445-7927
Email: Rhiannon.pankratz@ec.gc.ca
You can also visit the following website for more information:
Species at Risk Public Registry (www.sararegistry.gc.ca)

- The population winters at sea.
- The Red-necked Phalarope primarily eats aquatic invertebrates, fly larvae and other insects.

Threats (Pages 10-18)

This section of the proposed management plan describes the things that might cause Red-necked Phalarope populations to drop. Threats to Red-necked Phalarope can affect habitat, but can also affect individuals, nests and eggs.

The main threats to Red-necked Phalarope are:

- **Ecosystem Encroachment** –Modelling predicts over 90% of their current breeding range will become unsuitable due to climate change by 2070.
- **Garbage and Solid Waste** – plastic pollution is a growing problem in the oceans where phalaropes winter. Phalaropes ingest plastic particles which has negative effects.
- **Problematic native plants and animals** – Overabundant snow geese negatively alter the breeding habitat of Red-necked Phalaropes.

Management Objectives (Pages 18-19)

The management objective for the Red-necked Phalarope is:

- To have stable or increasing population trends by 2040.

Broad Strategies and Conservation Measures (Pages 19-24)

Actions currently completed or underway:

A number of initiatives are underway or completed and include:

- Population monitoring across the entire range
- Designation of some migratory sites as important
- Identifying the species as a priority under the Arctic Migratory Birds Initiative
- Developing a working group to set research and conservation priorities
- Developing management plans for some protected areas that identify measures that benefit the conservation of Red-necked Phalarope
- The signing of the Ocean Plastics Charter and investment in the marine litter mitigation fund

Broad Strategies and Conservation Measures:

- Centralizing data from past site surveys in a shared database and tracking the North American migration routes and determine the turnover and residency times at migratory stopover sites.
- Coordinate data collection to enable comparison and calculation of North American wide estimates where possible
- Calculating new population estimates and trends.
- Engage and educate the public about the species and its threats, encourage actions to mitigate threats and encourage the public to report sightings
- Conserving water and managing watershed surrounding migratory stopover sites to maintain appropriate levels and salinities in waterbodies.
- Identifying and protecting climate change resilient areas on the breeding grounds and migratory route.
- Working with international partners to support seabird protection within the Humboldt Current Large Marine Ecosystem on the wintering grounds.
- Incorporate information about the Red-necked Phalarope's migratory and wintering ranges into environmental assessments for projects that increase the risk of either chronic or catastrophic oil spills in key areas for the species and ensuring that these areas has oil spill response plans which adequately consider offshore seabirds in place.
- Determining location and quantity of the ingestion of plastics by Red-necked Phalaropes
- Investigating changes in zooplankton abundance at key migratory stopovers (e.g., Bay of Fundy) and wintering grounds.

Measuring Progress (Page 24-25)

Performance indicators are used to measure progress towards achieving the management objective and monitoring implementation of the management plan.

- By 2030, an accurate North American population size estimate is available.
- By 2030, a North America-wide trend estimate is available. This trend estimate should be robust enough to detect a 30% decline over a 10-year period.
- By 2040, the population trend of the Red-necked Phalarope is stable or positive as measured by population monitoring at migratory stopovers over a 10-year period.

For more information, please contact us directly at:
Environment and Climate Change Canada (ECCC) –
Canadian Wildlife Service, Northern Region
933 Mivvik Street, Iqaluit, Nunavut X0A0H0 PO Box 1870
Phone: 867-445-7927
Email: Rhiannon.pankratz@ec.gc.ca
You can also visit the following website for more information:
Species at Risk Public Registry (www.sararegistry.gc.ca)

Archived: August 4, 2022 11:16:38 AM
From: Tufts, Teresa (EC)
Sent: March 12, 2020 11:38:00 AM
Bcc: 'gjoa@kitikmeothto.ca'; 'hbhta@baffinhto.ca'; 'igloolik@baffinhto.ca'; 'ikajutit@baffinhto.ca'; 'kugaaruk@kitikmeothto.ca'; 'taloyoak@kitikmeothto.ca'; 'aiviit@kivalliqhto.ca'; 'aiviq@baffinhto.ca'; 'arviat@kivalliqhto.ca'; 'arviq@kivalliqhto.ca'; 'bakerlake@kivalliqhto.ca'; 'bathurst@kitikmeothto.ca'; 'cambay@kitikmeothto.ca'; 'amaruq@baffinhto.ca'; 'issatik@kivalliqhto.ca'; 'rankin@kivalliqhto.ca'; 'kugluktuk@kitikmeothto.ca'; 'mayukalik@baffinhto.ca'; 'chimo@kitikmeothto.ca'; 'pang@baffinhto.ca'; 'pond@baffinhto.ca'; 'sani@baffinhto.ca'; 'Csmith@gov.nu.ca'; 'krwb@niws.ca'; 'kwb@niws.ca'; 'kritchie@nwmb.com'; 'qwbac@niws.ca'; 'clyde@baffinhto.ca'; 'nativak@baffinhto.ca'
Subject: Red-necked Phalarope draft Management Plan for review
Sensitivity: Normal
Attachments:
Factsheet_red_necked_phalarope_eng.pdf Factsheet_red_necked_phalarope_IK.pdf Management Plan_red_necked_phalarope_eng.pdf

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Good day,

We are seeking comments on the draft Management Plan for the Red-necked Phalarope. The Red-necked Phalarope was listed as Special Concern under the federal *Species at Risk Act* in 2019. For species of Special Concern, a management plan must be developed to identify measures for its conservation. This small shorebird breeds throughout much of Nunavut in the summer months and overwinters at sea.

Attached are a factsheet and a complete draft of the Management Plan for your review. If you have any comments on the draft plan, please send them to me by **May 1, 2020**.

Best regards,

Teresa Tufts ᑐ?ᓗ?ᓴ? ᑕ?ᖁ?ᓴ?

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Summary of the draft Management Plan for the

RED-NECKED PHALAROPE

Under the *Species at Risk Act* (SARA), a management plan must be developed for each species listed as Special Concern in order to identify measures for the conservation of the species. This document highlights the key sections of the draft management plan.

Species Conservation Status

The Red-necked Phalarope (*Phalaropus lobatus*) has been listed as Special Concern under SARA since 2019.

Description and Distribution

The Red-necked Phalarope is a small shorebird. Named for the bright chestnut plumage around the neck, the rest of the body is black or gray (head, back, wings) and white (underwings, chin, and belly). Females are larger and more brightly colored than the males during the breeding season. In the winter, both are white (head and breast), and gray (wings and mantle), with a black streak through and behind the eye and a dark patch on the crown.

The Red-necked Phalarope breeds across the arctic with an estimated 74% of the North American population breeding in Canada, primarily in Northwest Territories, Yukon, Nunavut, coastal Newfoundland and northern Quebec. The Red-necked Phalarope migrates offshore along the Atlantic and Pacific coasts as well as overland in the Prairies and winters off the coast of South America in the Humboldt Current.

Habitat Needs

The Red-necked Phalarope breeds near Arctic tundra wetlands with open water and few shrubs. Unusually, females compete for mates and males provide all parental care. The species spends the entire non-breeding season on the water, either at sea, or in wetlands

Female Red-necked Phalarope ©Willow English

and waterbodies, especially salt lakes along the inland migratory route.

Threats to the Species' Survival

- Habitat loss as climate change dries arctic ponds and allows shrubby vegetation to expand into the tundra.
- Reduced productivity due to climate change (e.g. earlier breeding resulting in reduced food availability for nestlings).
- Decreased survival during the non-breeding season due to increasingly severe ENSO fluctuations which likely decrease food availability offshore.
- Lost food resources in salt lakes as climate change induced drought and poor water management practices increase salinity.
- Increased mortality during the non-breeding season due to offshore plastic pollution.
- Increased mortality due to oil spills and chronic oil contamination.

Canada

Management Objective

The management objectives for the Red-necked Phalarope are to:

1. Determine a reliable population estimate and trend by 2030.
2. Have stable or increasing trends measured over a period of ten years by 2040.

Strategies to Help Meet Objectives

Broad strategies to address the threats to the survival and recovery of the species include:

- Centralizing data from past site surveys in a shared database and tracking the North American migration routes and determine the turnover and residency times at migratory stopover sites.
- Calculating new population estimates and trends.
- Conserving water and managing watersheds surrounding migratory stopover sites to maintain appropriate water levels and salinities in saline lakes.
- Identifying and protecting climate change resilient areas on the breeding grounds and migratory route.
- Working with international partners to support seabird protection within the Humboldt Current Large Marine Ecosystem on the wintering grounds.
- Considering the Red-necked Phalarope in environmental assessments for projects that increase the risk of either chronic or catastrophic oil spills in key areas for the species and ensuring that these areas have oil spill response plans in place which adequately consider offshore seabirds in place.
- Determining where Red-necked Phalaropes ingest most plastics.
- Investigating changes in zooplankton abundance at key migratory stopovers (e.g., Bay of Fundy) and wintering grounds

How You Can Help

- Learn more about the Red-necked Phalarope, its habitat needs, and the threats to its survival at www.canada.ca/en/environment-climate-change/services/species-risk-public-registry.html;
- Practice voluntary stewardship activities and beneficial management practices, for example:
  - Work in cooperation with Environment and Climate Change Canada and/or local conservation groups to conserve important habitat; and
  - Avoid activities that could harm the species or its habitat.
- Submit observation data to conservation data centres and databases such as eBird.

Distribution of the Red-necked Phalarope (from Cornell Lab – Birds of North America's Website, Rubega et al. 2000)

For more information, please contact us directly at:

Environment and Climate Change Canada (ECCC) – Canadian Wildlife Service, Northern Region
PO Box 1870, Iqaluit NU X0A 0H0
Fax: 867-975-4645 Phone: 867-979-7058
Email: Teresa.tufts@canada.ca

Aussi disponible en français

Archived: August 4, 2022 11:13:39 AM
From: QWB Administrative Coordinator
Sent: March 24, 2020 4:40:25 PM
To: Tufts, Teresa (EC)
Subject: RE: Red-necked Phalarope draft Management Plan for review
Sensitivity: Normal

Hi Teresa,

Unfortunately, with competing priorities right now, QWB won't be able to provide any comment on the above noted draft management plan.

Just wanted to follow up because I reached out to you on it ? ?

Thanks,

Jenni

From: Tufts, Teresa (EC) <teresa.tufts@canada.ca>
Sent: March 19, 2020 8:23 AM
To: QWB Administrative Coordinator <qwbac@niws.ca>
Subject: RE: Red-necked Phalarope draft Management Plan for review

Hi Jenni,

No, no responses from any of our partners on this yet.

Monitoring in Nunavut already takes place to some extent. Currently, breeding Red-necked Phalaropes are monitored through the Arctic Program for Regional and International Shorebird Monitoring (PRISM). You can find more info on PRISM here: https://www.canada.ca/en/environment-climate-change/services/bird-surveys/shorebird/arctic-program-regional-international-monitoring.html

The conservation measures proposed to achieve the management objectives outlined in the draft management plan are detailed on page 20 of the draft management plan and copied below. These measures are what are proposed and would move forward into the implementation phase if the plan is approved; meaning there are no concrete plans for Nunavut currently – that would come after approval of the plan and once implementation has commenced.

I hope that helps!

Best,
Teresa

From: QWB Administrative Coordinator <qwbac@niws.ca>
Sent: March 18, 2020 9:49 AM
To: Tufts, Teresa (EC) <teresa.tufts@canada.ca>
Subject: RE: Red-necked Phalarope draft Management Plan for review

Hi Teresa,

Just sorting emails – did anyone get back to you on this?

I'm definitely no expert in the field – I just read the exec summary and distribution section. Curious if any monitoring will be taking place in Nunavut, and if so, did you know where? If I can send that information to our biologist and the Executive Director, might help get some feedback (or determine that they don't have any right now).

Thanks,

Jenni

From: Tufts, Teresa (EC) <teresa.tufts@canada.ca>
Sent: March 12, 2020 11:42 AM
Subject: Red-necked Phalarope draft Management Plan for review

Good day,

We are seeking comments on the draft Management Plan for the Red-necked Phalarope. The Red-necked Phalarope was listed as Special Concern under the federal *Species at Risk Act* in 2019. For species of Special Concern, a management plan must be developed to identify measures for its conservation. This small shorebird breeds throughout much of Nunavut in the summer months and overwinters at sea.

Attached are a factsheet and a complete draft of the Management Plan for your review. If you have any comments on the draft plan, please send them to me by **May 1, 2020**.

Best regards,

Teresa Tufts ᑐ?ᓇ?ᓴ? ᑕ?ᖞ?ᓴ?

Species at Risk Biologist
Canadian Wildlife Service
Environment and Climate Change Canada / Government of Canada
Teresa.Tufts@canada.ca / Tel: +1 (867) 979 7058

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Teresa.Tufts@canada.ca / ᐅʔᖕᑲʔᓚʔᐅʔᑦ : +1 (867) 979 7058

Biologiste des espèces en peril
Service Canadien de la faune
Environnement et Changement climatique Canada / Gouvernement du Canada
Teresa.Tufts@canada.ca / Tél. : +1 (867) 979 7058

Archived: August 4, 2022 11:23:01 AM
From: Tamar Mukyunik
Sent: April 28, 2020 12:04:03 PM
To: Tufts, Teresa (EC)
Subject: RE: Red-necked Phalarope draft Management Plan for review
Sensitivity: Normal

Hi,

This item was received as information.
Thanks

Tamar Mukyunik
Manager

From: Tufts, Teresa (EC) <teresa.tufts@canada.ca>
Sent: March 12, 2020 10:42 AM
Subject: Red-necked Phalarope draft Management Plan for review

Good day,

We are seeking comments on the draft Management Plan for the Red-necked Phalarope. The Red-necked Phalarope was listed as Special Concern under the federal *Species at Risk Act* in 2019. For species of Special Concern, a management plan must be developed to identify measures for its conservation. This small shorebird breeds throughout much of Nunavut in the summer months and overwinters at sea.

Attached are a factsheet and a complete draft of the Management Plan for your review. If you have any comments on the draft plan, please send them to me by **May 1, 2020**.

Best regards,

Teresa Tufts ᑐ?ᓗ?ᓴ? ᑕ?ᖏ?ᓴ?

Species at Risk Biologist
Canadian Wildlife Service
Environment and Climate Change Canada / Government of Canada
Teresa.Tufts@canada.ca / Tel: +1 (867) 979 7058

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Archived: August 4, 2022 11:31:07 AM
From: Kyle Ritchie
Sent: May 6, 2020 4:52:12 PM
To: Tufts, Teresa (EC)
Subject: Red-necked phalarope
Sensitivity: Normal
Attachments:
Management Plan_red_necked_phalarope_eng_KR.docx

Hi Teresa,

Here are some staff-level comments on the red-necked phalarope management plan. These comments aren't from the Board, who haven't seen the plan yet.

The main thing I saw was that one of the conservation measures from *table 3.* was a little unclear:

"Coordinate surveys between migratory stopovers to North America wide estimates and comparability where possible."

There were a few small typos.

Line 316: Typo in the spelling of Saskatchewan

Line 427: Change loosing to losing

Line 467: Change though to through

And attached is the version I went through, but most of those tracked changes are just minor grammar things that could be ignored.

Thank you,
kyle

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KYLE RITCHIE
Wildlife Management Biologist –
Habitat and Species at Risk
□ Phone: (867) 975-7300
□ Email: □KRitchie@nwmb.com
nwmb.com

Archived: June 15, 2022 1:34:11 PM
From: Smith, Caryn
Sent: November 23, 2020 11:51:20 AM
To: Svoboda, Michael (EC)
Cc: Kyle Ritchie (kritchie@nwmb.com); Roberts, Hayley (EC); Gissing, Drikus; Machtans, Craig (EC)
Subject: Re: ACTION; Support to post Management Plans for HOGR, BBSP and RNPH
Sensitivity: Normal

Hi Michael,

The GN has no issue with these documents being posted for public comment.

Thanks for reaching out to us on this matter.

All the best,
Caryn

From: Svoboda, Michael (EC) <michael.svoboda@canada.ca>
Sent: November 23, 2020 11:34 AM
To: Smith, Caryn <CSmith@GOV.NU.CA>
Cc: Kyle Ritchie (kritchie@nwmb.com) <kritchie@nwmb.com>; Roberts, Hayley (EC) <hayley.roberts@canada.ca>; Gissing, Drikus <DGissing@GOV.NU.CA>; Machtans, Craig (EC) <craig.machtans@canada.ca>
Subject: ACTION; Support to post Management Plans for HOGR, BBSP and RNPH

Hi Caryn:

Hope you are all doing well.

We are seeking GN support to post three Management Plans (Horned Grebe, Red-necked Phalarope and Buff-breasted Sandpiper) for public comment period.

GN would have seen them during the first Jurisdictional Review, and since there were only limited edits a second jurisdictional review is being skipped.

Attached are the three Management Plans and their factsheets.

If you could let us know by December 7th 2020 or earlier would be greatly appreciated.

Thank you,

Michael Svoboda
Head, Conservation Planning and Stewardship
Canadian Wildlife Service
Environment and Climate Change Canada / Government of Canada
Michael.Svoboda@canada.ca

Service Canadien de la faune
Environnement et Changement climatique Canada / Gouvernement du Canada

michael.svoboda@canada.ca

Archived: June 16, 2022 9:05:35 AM
From: Roberts,Hayley (ECCC) Roberts,Hayley (ECCC)
Sent: February 9, 2022 12:26:00 PM
To: Roberts,Hayley (ECCC) Roberts,Hayley (ECCC)
Bcc: ikajutit@baffinhto.ca; hto_ab@qiniq.com; htoclyde@qiniq.com; clyde@baffinhto.ca; iviq@baffinhto.ca; hbhta@baffinhto.ca; hbhta@qiniq.com; igloolik@baffinhto.ca; pond@baffinhto.ca; rbhta@qiniq.com; rbhta@baffinhto.ca; aiviq_hunters@qiniq.com; aiviq@baffinhto.ca; amaruq@qiniq.com; amaruq@baffinhto.ca; kimmiruthto@qiniq.com; mayukalik@baffinhto.ca; pang@baffinhto.ca; nativak@baffinhto.ca; sani@baffinhto.ca; sanihta@qiniq.com; panghta@qiniq.com; wildlifeadvisor@niws.ca; fdcqwb@niws.ca; info@qia.ca; jgroves@qia.ca
Subject: FOR COMMENT: Proposed Management Plan for the Red-necked Phalarope in Canada (Due: April 20, 2022) Inuktitut and English
Sensitivity: Normal
Attachments:
RNPH_Factsheet_2022_Inuktitut.pdf mp_red_necked_phalarope_e_proposed.pdf RNPH_Factsheet_2022.pdf

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Hello,

I am writing to notify you that the proposed Management Plan for **Red-necked Phalarope** in Canada was posted on the Species at Risk Public Registry on January 20th, 2022, for a **90-day public comment period** which ends on **April 20, 2022**. Comments received from provinces, territories, wildlife management boards, and Indigenous governments across Canada were considered in the drafting of the current version of the Management Plan. Following the 90-day public comment period, the Department will then have 30 days to consider the comments received, after which the final version of the Management Plan will go to the Nunavut Wildlife Management Board for decision. The Nunavut Wildlife Management Board process is the final stage before the Management Plan will be posted on the Species at Risk Public Registry as final. Note that as a species of special concern, there are no general prohibitions or critical habitat requirements for this species.

You can read the proposed Management Plan at: Species at risk registry (canada.ca). I have also attached the Management Plan to this email for your convenience.

There is also a summary fact sheet attached in English and Inuktitut that provides an overview of the document.

Please submit all comments to ec.planificationduretablissement-recoveryplanning.ec@canada.ca or directly to me at Hayley.roberts@ec.gc.ca or 867-222-0112.

I welcome your participation in this matter.

Sincerely,

Hayley Roberts / ᕼᐊᐃᓕ ᕋᐳᑦᔅ
Pronouns: She/Her

Species at Risk Biologist, Canadian Wildlife Service
Environment and Climate Change Canada / Government of Canada
hayley.roberts@ec.gc.ca / Tel: +1 (867) 979-7045, Cell: +1 (867) 222-0112
NOTE NEW EMAIL ADDRESS ENDING

Biologiste des Espèces en Péril, Service Canadien de la faune
Environnement et Changement climatique Canada / Gouvernement du Canada

hayley.roberts@ec.gc.ca / Tél. : +1 (867) 979-7045, Cell: +1 (867) 222-0112

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ᑎᑎᕋᖅᑐᖓ ᖃᐅᔨᑎᑦᑐᒪᓪᓗᓯ ᐱᒋᐊᖅᑎᑕᐅᔪᒪᓂᖏᑦ ᐊᐅᓚᑦᑎᔾᔪᑎᒃᓴᐃᑦ ᐸᕐᓇᐅᑎᖏᑦ ᑕᐃᒃᑯᓂᖓ **ᐊᐅᐸᓗᒃᑐᓕᖕᓂ ᓴᐅᕐᕋᕐᓂᒃ** ᑲᓇᑕᒥ ᐃᓕᔭᐅᓯᒪᓕᕐᒪᑕ ᒪᓕᒐᐃᑦ ᒪᓕᒃᓯᑎᒃ ᑕᐃᑲᓂ ᐆᒪᔪᐃᑦ ᐊᒥᓲᖏᓗᐊᓕᕐᓂᖏᓐᓄᑦ ᒪᓕᒐᖅᑎᒍᑦ ᑎᑎᖅᑲᖅᑲᖅᕙᒃᑯᑦ ᐃᓄᓕᒫᓄᑦ ᒪᑐᐃᖓᔪᓂ ᑖᓂ ᔭᓄᐊᕆ 20, 2022-ᒥ, ᐱᕙᒃᓴᖃᖅᑎᑦᑎᓂᕐᒧᑦ **90-ᓂᒃ ᐅᓪᓗᓂᒃ ᐃᓄᓕᒫᓄᑦ ᐅᖃᐅᓯᒃᓴᓂᒃᕕᐅᔪᓐᓇᕆᐊᖃᕐᓂᖏᓐᓄᑦ ᐃᓱᓪᓕᕙᖃᕐᓂᐊᖅᑐᓂᒃ ᑖᓂ ᐆᐸ 20, 2022-ᒥ**. ᐅᖃᐅᓯᒃᓴᓂᒃᑕᐅᓂᖏᑦ ᑲᓇᑕᐅᑉ ᐊᕙᒃᑐᖅᓯᒪᓂᖓᓂ, ᐅᑭᐅᖅᑕᖅᑑᑉ ᐊᕙᒃᑐᖅᓯᒪᓂᖓᓂ, ᒪᔪᓂᒃ ᐊᐅᓚᑦᑎᔨᐅᖃᑕᐅᓂᕐᒧᑦ ᑲᑎᒪᔨᓂᒃ, ᓄᓇᓕᑐᖃᐃᓪᓗ ᒐᕙᒪᖏᓐᓂᒃ ᓇᓂᑐᐃᓐᓇᖅ ᑲᓇᑕᒥ ᐃᓱᒪᒃᓴᖅᓯᐅᕈᑕᐅᓚᐅᖅᐳᑦ ᑎᑎᕋᖅᑕᐅᕙᓪᓚᐊᓚᕋᒥᒃ ᒫᓇᐅᔪᖅ ᖃᓄᐃᓕᖓᓕᕐᓂᖏᓐᓂᑦ ᐊᐅᓚᑦᑎᓂᕐᒧᑦ ᐸᕐᓇᐅᑎᒃᓴᖏᑦ. ᑭᖑᓂᐊᒍᑦ ᐊᓂᒍᖅᐸᑕ 90 ᐅᓪᓗᐃᑦ ᐃᓄᓕᒫᓄᑦ ᐅᖃᐅᓯᒃᓴᓂᒡᕕᐅᔪᓐᓇᕐᓂᖏᓐᓂᒃ, ᐃᖃᓇᐃᔭᕙᖓᓂ ᐊᓯᐃᓛᒃ 30-ᓂᒃ ᐅᓪᓗᓂᒃ ᐱᕙᒃᓴᖃᕐᓂᐊᖅᑐᑦ ᐃᓱᒪᒃᓴᖅᓯᐅᕈᑎᖃᕈᓐᓇᕐᓂᖅ ᑕᐃᒃᑯᓂᖓ ᐅᖃᐅᓯᒃᓴᓂᒃᑕᐅᓯᒪᔪᓂᒃ, ᑭᖑᓂᐊᒍᓪᓗ ᑐᓂᔭᐅᓂᐊᖅᑐᑦ ᓄᓇᕗᒻᒥ ᐆᒪᔪᓕᕆᔨᕐᔪᐊᒃᑯᑦ ᑲᑎᒪᔨᖏᓐᓄᑦ ᐃᓱᒪᓕᐅᕈᑕᐅᔭᕆᐊᖃᕐᓂᕐᒧᑦ. ᓄᓇᕗᒻᒥ ᐆᒪᔪᓕᕆᔨᕐᔪᐊᒃᑯᑦ ᑲᑎᒪᔨᖏᑦ ᑲᒪᒋᔭᐅᓂᖏᑦ ᑭᖑᓪᓕᕆᔭᐅᓂᐊᖅᑐᑦ ᑕᐃᒃᑯᐊ ᐊᐅᓚᑦᑎᔾᔪᑎᒃᓴᐃᑦ ᐸᕐᓇᐅᑏᑦ ᐃᓕᔭᐅᓚᐅᖏᓐᓂᖏᓐᓂ ᓱᓕ ᐆᒪᔪᐃᑦ ᐊᒥᓲᖏᓗᐊᓕᕐᓂᖏᓐᓄᑦ ᒪᓕᒐᓕᐊᕆᔭᐅᓂᖏᓐᓂᒃ ᓴᖅᑭᑎᑦᑎᕙᖕᒐᒍᑦ, ᑭᖑᓪᓕᐅᓂᐊᖅᑐᒥᒃ. ᖃᐅᔨᒪᓂᐊᖅᐸᓯ ᐆᒪᔪᐃᑦ ᒪᓕᒐᖅᑎᒍᑦ ᐃᓕᑕᕆᔭᐅᔪᑦ ᑕᐃᔭᐅᔪᒥᒃ ᐊᔾᔨᐅᖏᑦᑐᒥᒃ ᐃᓱᒫᓗᑕᐅᓂᕐᒥᒃ, ᐊᔪᕐᓇᖅᑎᑕᐅᕙᖏᑦᑕᑦ ᐅᕝᕙᓗᓐᓃᑦ ᓇᔪᒐᖃᕆᐊᖃᖅᑎᑕᐅᓪᓚᕆᐊᖃᖏᓪᓚᑦ ᑎᑎᕋᖅᓯᒪᔪᓂᒃ.

ᐅᖃᓕᒫᕈᓐᓇᖅᑐᑎᑦ ᐊᑐᓕᖅᑎᑕᐅᔪᒪᔪᓂᒃ ᐊᐅᓚᑦᑎᔾᔪᑎᒃᓴᓂᒃ ᐸᕐᓇᐅᑎᓂᒃ ᐅᕙᓂ ᑐᕌᕈᒥ: [Species at risk registry-ᐆᒪᔪᐃᑦ ᐊᒥᓲᖏᓗᐊᓕᕐᓂᖏᓐᓄᑦ ᒪᓕᒐᓕᐅᕈᑕᐅᓂᖏᓐᓂ (canada.ca)](https://www.canada.ca). ᑐᓂᓯᒋᕙᖓ ᑖᒃᑯᓈᖅᑕᐅᔪᓂᒃ ᐊᐅᓚᑦᑎᔾᔪᑎᒃᓴᓄᒃ ᐸᕐᓇᐅᑎᓂᒃ ᑕᒡᕙᓂ ᖃᕆᑕᐅᔭᒃᑯᑦ ᑎᑎᖅᑖᕆᔭᕐᓂ, ᐊᑐᐃᓐᓇᐅᖁᓪᓗᒍ ᐃᓕᖕᓄᑦ.

ᑎᑎᖅᑲᖅᒥᔪᖅ ᓇᐃᓈᖅᓯᒪᔪᓂᒃ ᓱᓕᔪᓂᒃ ᖃᐅᔨᒪᔾᔪᑎᒃᓴᓂᒃᑕᐅᓯᒪᔪᓂᒃ ᖃᓪᓗᓇᑐᑦ ᐃᓄᒃᑎᑐᓪᓗ ᑕᒪᐃᓐᓂᒃ ᑎᑎᖅᑯᑎᖏᓐᓂ ᐅᓂᒃᑳᖅᑐᓂᒃ.

ᐅᖃᐅᓯᒃᓴᖃᖅᓯᒪᔪᑦ ᑕᒪᐃᒥᒃ ᑐᓂᔭᐅᖅᑯᔭᕗᑦ ᐆᒍᖓ ᑐᖅᖓᑎᑕᐅᓗᑎᒃ ᑎᑎᖅᑖᖅᕕᖓᓄᑦ ec.planificationduretablissement-recoveryplanning.ec@canada.ca ᐅᕙᓄᓐᓃᑦ ᑎᑎᖅᑖᖅᕕᖓᓄᑦ ᑐᖓᓗᑎᒃ ᐅᕙᓂHayley.roberts@ec.gc.ca ᐅᕙᓗᓐᓃᑦ ᐅᖄᓚᐅᓯ 867-222-0112-ᒧᑦ.

ᖁᔭᓕᔪᖓ ᐃᓚᐅᖃᑕᐅᓂᐅᓯᓐᓄᑦ ᑕᒪᑯᐊ ᑲᒪᒋᔭᐅᓂᖏᓐᓂ.

ᑎᑎᕋᖅᑐᖅ

ᐆᒪᔪᐃᑦ ᐊᒥᓲᖏᓗᐊᓕᕐᓂᖏᓐᓄᑦ ᐆᒪᔪᓕᕆᔨ
ᑲᓇᑕᒥᐅᑕᓂ ᐆᒪᔪᓕᕆᔨᑦ ᐱᔨᑦᑎᕋᐃᔨᖏᓐᓂ
ᐊᕙᑎᓕᕆᓂᕐᒧᑦ ᓯᓚᐅᓪᓗ ᐊᓯᔾᔨᖅᐸᓪᓕᐊᓂᖓᓄᑦ ᑲᓇᑕᒥ
hayley.roberts@ec.gc.ca / ᐅᖄᓚᐅᑦ: +1 (867) 979-7045, ᐅᖄᓚᐅᑎᕋᓛᖅ: +1 (867) 222-0112

Archived: June 16, 2022 9:10:03 AM
From: Roberts,Hayley (ECCC) Roberts,Hayley (ECCC)
Sent: February 9, 2022 12:27:00 PM
To: Roberts,Hayley (ECCC) Roberts,Hayley (ECCC)
Bcc: 'bathurst@kitikmeothto.ca'; 'cambay@krwb.ca'; 'cambay@kitikmeothto.ca'; 'Gjoa@krwb.ca'; 'gjoa@kitikmeothto.ca'; 'kugluktukhto@qiniq.com'; 'kugluktuk@kitikmeothto.ca'; 'kugluktuk@krwb.ca'; 'kugaaruk@kitikmeothto.ca'; 'kugaaruk@krwb.ca'; 'chimo@kitikmeothto.ca'; 'taloyoak@kitikmeothto.ca'; 'taloyoak@krwb.ca'; 'pwong@krwb.ca'; 'krwb@niws.ca'; 'dirlands@kitia.ca'; 'execdir@kitia.ca'; 'envofficer@kitia.ca'
Subject: FOR COMMENT: Proposed Management Plan for the Red-necked Phalarope in Canada (Due: April 20, 2022) Inuktitut and English
Sensitivity: Normal
Attachments:
RNPH_Factsheet_2022.pdf mp_red_necked_phalarope_e_proposed.pdf RNPH_Factsheet_2022_Inuktitut.pdf

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Hello,

I am writing to notify you that the proposed Management Plan for **Red-necked Phalarope** in Canada was posted on the Species at Risk Public Registry on January 20th, 2022, for a **90-day public comment period** which ends on **April 20, 2022**. Comments received from provinces, territories, wildlife management boards, and Indigenous governments across Canada were considered in the drafting of the current version of the Management Plan. Following the 90-day public comment period, the Department will then have 30 days to consider the comments received, after which the final version of the Management Plan will go to the Nunavut Wildlife Management Board for decision. The Nunavut Wildlife Management Board process is the final stage before the Management Plan will be posted on the Species at Risk Public Registry as final. Note that as a species of special concern, there are no general prohibitions or critical habitat requirements for this species.

You can read the proposed Management Plan at: Species at risk registry (canada.ca). I have also attached the Management Plan to this email for your convenience.

There is also a summary fact sheet attached in English and Inuktitut that provides an overview of the document.

Please submit all comments to ec.planificationduretablissement-recoveryplanning.ec@canada.ca or directly to me at Hayley.roberts@ec.gc.ca or 867-222-0112.

I welcome your participation in this matter.

Sincerely,

Hayley Roberts / ᕼᐊᐃᓕ ᕈᐳᑦᔅ
Pronouns: She/Her

Species at Risk Biologist, Canadian Wildlife Service
Environment and Climate Change Canada / Government of Canada
hayley.roberts@ec.gc.ca / Tel: +1 (867) 979-7045, Cell: +1 (867) 222-0112
NOTE NEW EMAIL ADDRESS ENDING

Biologiste des Espèces en Péril, Service Canadien de la faune
Environnement et Changement climatique Canada / Gouvernement du Canada
hayley.roberts@ec.gc.ca / Tél. : +1 (867) 979-7045, Cell: +1 (867) 222-0112

ᐊᐃᖓᐃ,

ᑎᑎᕋᖅᑐᖓ ᖃᐅᔨᑎᑦᑐᒪᓪᓗᓯ ᐱᒋᐊᖅᑎᑕᐅᔪᒪᓂᖏᑦ ᐊᐅᓚᑦᑎᔾᔪᑎᒃᓴᐃᑦ ᐸᕐᓇᐅᑎᖏᑦ ᑕᐃᒃᑯᓂᖓ **ᐊᐅᐸᓗᒃᑐᓕᖕᓂ ᓴᐅᕐᕋᕐᓂᒃ** ᑲᓇᑕᒥ ᐃᓕᔭᐅᓯᒪᓕᕐᒪᑕ ᒪᓕᒐᐃᑦ ᒪᓕᒃᓱᑎᒃ ᑕᐃᑲᓂ ᐆᒪᔪᐃᑦ ᐊᒥᔅᓲᖏᓗᐊᓕᕐᓂᖏᓄᑦ ᒪᓕᒐᖅᑎᒍᑦ ᑎᑎᖃᖃᕐᕕᒃᑯᑦ ᐃᓄᓕᒫᓄᑦ ᒪᑐᐃᖓᔪᓂ ᑕᒫᓂ ᔭᓄᐊᕆ 20, 2022-ᒥ, ᐱᕕᒃᓴᖃᖅᑎᑦᑎᓂᕐᒧᑦ **90-ᓂᒃ ᐅᓪᓗᓂᒃ ᐃᓄᓕᒫᓄᑦ ᐅᖃᐅᓯᒃᓴᓂᒃᕕᐅᔪᓐᓇᕆᐊᖃᕐᓂᖏᓐᓄᑦ ᐃᓱᓪᓕᕕᖅᓂᐊᖅᑐᓂᒃ ᑕᒫᓂ ᐄᐳ 20, 2022-ᒥ**. ᐅᖃᐅᓯᒃᓴᓂᒃᑕᐅᓂᖏᑦ ᑲᓇᑕᐅᑉ ᐊᕕᒃᑐᖅᓯᒪᓂᖏᓐᓂ, ᐅᑭᐅᖅᑕᖅᑑᑉ ᐊᕕᒃᑐᖅᓯᒪᓂᖏᓐᓂ, ᒪᔪᓂᒃ ᐊᐅᓚᑦᑎᔨᐅᖅᑕᐅᓂᕐᒧᑦ ᑲᑎᒪᔨᓂᒃ, ᓄᓇᓕᑐᖃᐃᓪᓗ ᓴᙱᒪᖏᓐᓂᒃ ᓇᓂᑐᐃᓐᓇᖅ ᑲᓇᑕᒥ ᐃᓱᒪᒃᓴᖅᓯᐅᕈᑕᐅᓚᐅᖅᐳᑦ ᑎᑎᖃᖅᑕᐅᕙᓪᓚᐊᓚᕐᒥᒃ ᒫᓐᓇᐅᔪᖅ ᖃᓄᐃᓚᖓᓕᕐᓂᖏᓐᓂᑦ ᐊᐅᓚᑦᑎᓂᖏᑦ ᐸᕐᓇᐅᑎᒃᓴᖏᑦ. ᑭᖑᓂᐊᒍᑦ ᐊᓂᒍᖅᐸᑕ 90 ᐅᓪᓗᐃᑦ ᐃᓄᓕᒫᓄᑦ ᐅᖃᐅᓯᒃᓴᓂᒡᕕᐅᔪᓐᓇᕐᓂᖏᓐᓂᒃ, ᐃᖅᑲᓇᐃᔭᕕᖓᓐᓂ ᐊᓯᐃᓃᒃ 30-ᓂᒃ ᐅᓪᓗᓂᒃ ᐱᕕᒃᓴᖃᕐᓂᐊᖅᑐᑦ ᐃᓱᒪᒃᓴᖅᓯᐅᕈᑎᖃᕈᓐᓇᕐᓂᖅ ᑕᐃᒃᑯᓂᖓ ᐅᖃᐅᓯᒃᓴᓂᒃᑕᐅᓯᒪᔪᓂᒃ, ᑭᖑᓂᐊᒍᓪᓗ ᑐᓂᔭᐅᓂᐊᖅᑐᑦ ᓄᓇᕗᒻᒥ ᐆᒪᔪᓕᕆᔨᕐᔪᐊᒃᑯᑦ ᑲᑎᒪᔨᖏᓐᓄᑦ ᐃᓱᒪᓕᐅᕈᑕᐅᓴᕆᐊᖃᕐᓂᕐᒧᑦ. ᓄᓇᕗᒻᒥ ᐆᒪᔪᓕᕆᔨᕐᔪᐊᒃᑯᑦ ᑲᑎᒪᔨᖏᑦ ᑲᒪᒋᔭᐅᓂᖏᑦ ᑭᖑᓪᓕᕆᔭᐅᓂᐊᖅᑐᑦ ᑕᐃᒃᑯᐊ ᐊᐅᓚᑦᑎᔾᔪᑎᒃᓴᐃᑦ ᐸᕐᓇᐅᑏᑦ ᐃᓕᔭᐅᓚᐅᖅᓂᖏᓐᓂ ᓯᓚ ᐆᒪᔪᐃᑦ ᐊᒥᔅᓲᖏᓗᐊᓕᕐᓂᖏᓄᑦ ᒪᓕᒐᓕᐊᓇᔭᐅᓂᖏᓐᓂᒃ ᓴᕿᑎᑦᑎᕙᖕᒪᑦ, ᑭᖑᓪᓕᐅᓂᐊᖅᑐᒥᒃ. ᖃᐅᔨᒪᓂᐊᖅᐳᓯ ᐆᒪᔪᐃᑦ ᒪᓕᒐᖅᑎᒍᑦ ᐃᓚᑕᕆᔭᐅᔪᑦ ᑕᐃᔭᐅᔪᒥᒃ ᐊᔾᔨᐅᙱᑦᑐᒥᒃ ᐃᓱᒫᓗᑕᐅᓂᕐᒥᒃ, ᐊᔪᕐᓇᖅᑎᑕᐅᕙᓐᖏᓪᓚᑦ ᐅᕝᕙᓗᓐᓃᑦ ᓇᔪᓕᖃᓇᐊᖅᑎᑕᐅᓪᓚᕆᐊᖃᓐᖏᓪᓚᑦ ᑎᑎᕋᖅᓯᒪᔪᓂᒃ.

ᐅᖃᓕᒫᕈᓐᓇᖅᑐᑎᑦ ᐊᑐᓕᖅᑎᑕᐅᔪᒪᔪᓂᒃ ᐊᐅᓚᑦᑎᔾᔪᑎᒃᓴᓂᒃ ᐸᕐᓇᐅᑎᓂᒃ ᐅᕙᓂ ᑐᕌᕈᒻᒥ: Species at risk registry-ᐆᒪᔪᐃᑦ ᐊᒥᔅᓲᖏᓗᐊᓕᕐᓂᖏᓄᑦ ᒪᓕᒐᓕᐅᕈᑕᐅᓂᖏᓐᓂ (canada.ca). ᑐᓂᓯᒋᕗᖓ ᑖᒃᑯᓇᓃᖅᑕᐅᔪᓂᒃ ᐊᐅᓚᑦᑎᔾᔪᑎᒃᓴᓄᒃ ᐸᕐᓇᐅᑎᓂᒃ ᑕᕝᕙᓂ ᖃᓇᑕᐅᔭᒃᑯᑦ ᑎᑎᖃᖅᑖᓇᔭᕐᓂ, ᐊᑐᐃᓐᓇᐅᖁᓪᓗᒍ ᐃᓕᖕᓄᑦ.

ᑎᑎᖅᑲᖅᒥᔪᖅ ᓇᐃᓈᖅᓯᒪᔪᓂᒃ ᓯᓚᔪᓂᒃ ᖃᐅᔨᒪᔾᔪᑎᒃᓴᓂᒃᑕᐅᓯᒪᔪᓂᒃ ᖃᓪᓗᓈᑎᑐᑦ ᐃᓄᒃᑎᑐᓪᓗ ᑕᒪᐃᓐᓂᒃ ᑎᑎᖅᑯᑎᖏᓐᓂ ᐅᓂᒃᑳᖅᑐᓂᒃ.

ᐅᖃᐅᓯᒃᓴᒃᓴᓂᒃᑕᐅᔪᑦ ᑕᒪᒥᒃ ᑐᓂᔭᐅᔪᓐᓇᖅᐳᑦ ᐅᕗᖓ ᑐᖓᓗᑎᑕᐅᑐᒃ ᑎᑎᖅᑳᕕᖓᓄᑦ ec.planificationduretablissement-recoveryplanning.ec@canada.ca ᐅᕝᕙᓘᓐᓃᑦ ᑎᑎᖅᑳᕕᖓᓄᑦ ᑐᖓᓗᑎᒃ ᐅᕙᓂHayley.roberts@ec.gc.ca ᐅᕝᕙᓘᓐᓃᑦ ᐅᖄᓚᓗᓯ 867-222-0112-ᒧᑦ.

ᖁᔭᓕᔪᖓ ᐃᓚᐅᖃᑕᐅᓂᔅᓯᓐᓄᑦ ᑕᒪᑯᐊ ᑲᒪᒋᔭᐅᓂᖏᓐᓂ.

ᑎᑎᕋᖅᑐᖅ

ᐆᒪᔪᐃᑦ ᐊᒥᔅᓲᖏᓗᐊᓕᕐᓂᖏᓄᑦ ᐆᒪᔪᓕᕆᔨ
ᑲᓇᑕᒥᐅᑕᓂ ᐆᒪᔪᓕᕆᔨᑦ ᐱᔨᑦᑎᕋᐃᔨᖏᓐᓂ
ᐊᕙᑎᓕᕆᓂᕐᒧᑦ ᓯᓚᐅᑉ ᐊᓯᔾᔨᖅᐸᓪᓕᐊᓂᖓᓄᑦ ᑲᓇᑕᒥ
hayley.roberts@ec.gc.ca / ᐅᖄᓚᐅᑦ: +1 (867) 979-7045, ᐅᖄᓚᐅᑎᕋᖅ: +1 (867) 222-0112

Archived: June 16, 2022 9:11:00 AM
From: Roberts,Hayley (ECCC) Roberts,Hayley (ECCC)
Sent: February 9, 2022 12:27:00 PM
To: Roberts,Hayley (ECCC) Roberts,Hayley (ECCC)
Bcc: 'arviat@kivalliqhto.ca'; 'bakerlake@kivalliqhto.ca'; 'aqigiq@kivalliqhto.ca'; 'htochester@qiniq.com'; 'aiviit@kivalliqhto.ca'; 'rankin@kivalliqhto.ca'; 'rankinhto@qiniq.com'; 'arviq@kivalliqhto.ca'; 'repulsebayhto@qiniq.com'; 'issatik@kivalliqhto.ca'; 'whalecovehto@qiniq.com'; 'kwb@niws.ca'; 'reception@kivalliqinuit.ca'
Subject: FOR COMMENT: Proposed Management Plan for the Red-necked Phalarope in Canada (Due: April 20, 2022) Inuktitut and English
Sensitivity: Normal
Attachments:
mp_red_necked_phalarope_e_proposed.pdf RNPH_Factsheet_2022_Inuktitut.pdf RNPH_Factsheet_2022.pdf

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Hello,

I am writing to notify you that the proposed Management Plan for **Red-necked Phalarope** in Canada was posted on the Species at Risk Public Registry on January 20th, 2022, for a **90-day public comment period** which ends on **April 20, 2022**. Comments received from provinces, territories, wildlife management boards, and Indigenous governments across Canada were considered in the drafting of the current version of the Management Plan. Following the 90-day public comment period, the Department will then have 30 days to consider the comments received, after which the final version of the Management Plan will go to the Nunavut Wildlife Management Board for decision. The Nunavut Wildlife Management Board process is the final stage before the Management Plan will be posted on the Species at Risk Public Registry as final. Note that as a species of special concern, there are no general prohibitions or critical habitat requirements for this species.

You can read the proposed Management Plan at: Species at risk registry (canada.ca). I have also attached the Management Plan to this email for your convenience.

There is also a summary fact sheet attached in English and Inuktitut that provides an overview of the document.

Please submit all comments to ec.planificationduretablissement-recoveryplanning.ec@canada.ca or directly to me at Hayley.roberts@ec.gc.ca or 867-222-0112.

I welcome your participation in this matter.

Sincerely,

Hayley Roberts / ᕼᐊᐃᓕ ᕋᐳᑦᔅ
Pronouns: She/Her

Species at Risk Biologist, Canadian Wildlife Service
Environment and Climate Change Canada / Government of Canada
hayley.roberts@ec.gc.ca / Tel: +1 (867) 979-7045, Cell: +1 (867) 222-0112
NOTE NEW EMAIL ADDRESS ENDING

Biologiste des Espèces en Péril, Service Canadien de la faune
Environnement et Changement climatique Canada / Gouvernement du Canada
hayley.roberts@ec.gc.ca / Tél. : +1 (867) 979-7045, Cell: +1 (867) 222-0112

ᐊᐃᖓᐃ,

ᑎᑎᕋᖅᑐᖓ ᖃᐅᔨᑎᑦᑐᒪᓪᓗᓯ ᐱᒋᐊᖅᑎᑕᐅᔪᒪᓂᖏᑦ ᐊᐅᓚᑦᑎᔾᔪᑎᒃᓴᐃᑦ ᐸᕐᓇᐅᑎᖏᑦ ᑕᐃᒃᑯᓂᖓ **ᐊᐅᐸᓗᒃᑐᓕᖕᓂ ᓴᐅᕐᕋᕐᓂᒃ** ᑲᓇᑕᒥ ᐃᓕᔭᐅᓯᒪᓕᕐᒪᑕ ᒪᓕᒐᐃᑦ ᒪᓕᒃᓯᑎᒃ ᑕᐃᑲᓂ ᐆᒪᔪᐃᑦ ᐊᒥᓲᖏᓗᐊᓕᕐᓂᖏᓐᓄᑦ ᒪᓕᒐᖅᑎᒍᑦ ᑎᑎᖃᕐᕕᒃᑯᑦ ᐃᓄᓕᒫᓄᑦ ᒪᑐᐃᖓᔪᓂ ᑕᒫᓂ ᔭᓄᐊᕆ 20, 2022-ᒥ, ᐱᕕᒃᓴᖃᖅᑎᑦᑎᓂᕐᒧᑦ **90-ᓂᒃ ᐅᓪᓗᓂᒃ ᐃᓄᓕᒫᓄᑦ ᐅᖃᐅᓯᒃᓴᓂᒡᕕᐅᔪᓐᓇᕆᐊᖃᕐᓂᖏᓐᓄᑦ ᐃᓱᓪᓕᕝᕕᖃᕐᓂᐊᖅᑐᓂᒃ ᑕᒫᓂ ᐄᐳ 20, 2022-ᒥ**. ᐅᖃᐅᓯᒃᓴᓂᒃᑕᐅᓂᖏᑦ ᑲᓇᑕᐅᑉ ᐊᕕᒃᑐᖅᓯᒪᓂᖏᓐᓂ, ᐅᑭᐅᖅᑕᖅᑐᑉ ᐊᕕᒃᑐᖅᓯᒪᓂᖏᓐᓂ, ᒪᔪᓂᒃ ᐊᐅᓚᑦᑎᔨᐅᖃᑕᐅᓂᕐᒧᑦ ᑲᑎᒪᔨᓂᒃ, ᓄᓇᓕᑐᖃᐃᓪᓗ ᑲᕙᒪᖏᓐᓂᒃ ᓇᓂᑐᐃᓐᓇᖅ ᑲᓇᑕᒥ ᐃᓱᒪᒃᓴᖅᓯᐅᕈᑕᐅᓚᐅᖅᐳᑦ ᑎᑎᕋᖅᑕᐅᕙᓪᓕᐊᓕᕋᒥᒃ ᒫᓐᓇᐅᔪᖅ ᖃᓄᐃᓕᖑᓕᕐᓂᖏᓐᓂᑦ ᐊᐅᓚᑦᑎᓂᕐᒧᑦ ᐸᕐᓇᐅᑎᒃᓴᖏᑦ. ᑭᖑᓂᐊᒍᑦ ᐊᓂᒍᖅᐸᑕ 90 ᐅᓪᓗᐃᑦ ᐃᓄᓕᒫᓄᑦ ᐅᖃᐅᓯᒃᓴᓂᒡᕕᐅᔪᓐᓇᕐᓂᖏᓐᓂᒃ, ᐃᖃᓇᐃᔭᕕᖕᒐᓐᓂ ᐊᓯᐃᒑᒃ 30-ᓂᒃ ᐅᓪᓗᓂᒃ ᐱᕕᒃᓴᖃᕐᓂᐊᖅᑐᑦ ᐃᓱᒪᒃᓴᖅᓯᐅᕈᑎᖃᕈᓐᓇᕐᓂᖅ ᑕᐃᒃᑯᓂᖓ ᐅᖃᐅᓯᒃᓴᓂᒃᑕᐅᓯᒪᔪᓂᒃ, ᑭᖑᓂᐊᒍᓪᓗ ᑐᓂᔭᐅᓂᐊᖅᑐᑦ ᓄᓇᕗᒻᒥ ᐆᒪᔪᓕᕆᔅᓴᐊᖅᑯᑦ ᑲᑎᒪᔨᖏᓐᓄᑦ ᐃᓱᒪᓕᐅᕈᑕᐅᔭᕆᐊᖃᕐᓂᕐᒧᑦ. ᓄᓇᕗᒻᒥ ᐆᒪᔪᓕᕆᔅᓴᐊᖅᑯᑦ ᑲᑎᒪᔨᖏᓐᓄᑦ ᑲᒪᒋᔭᐅᓂᖏᑦ ᑭᖑᓪᓕᕆᔭᐅᓂᐊᖅᑐᑦ ᑕᐃᒃᑯᐊ ᐊᐅᓚᑦᑎᔾᔪᑎᒃᓴᐃᑦ ᐸᕐᓇᐅᑏᑦ ᐃᓕᔭᐅᓚᐅᖏᓐᓂᖏᓐᓂ ᓱᓕ ᐆᒪᔪᐃᑦ ᐊᒥᓲᖏᓗᐊᓕᕐᓂᖏᓐᓄᑦ ᒪᓕᓕᐊᕆᔭᐅᓂᖏᓐᓂᒃ ᓴᕿᑎᑦᑎᕕᖕᒐᓗᒍ, ᑭᖑᓪᓕᐅᓂᐊᖅᑐᒥᒃ. ᖃᐅᔨᒪᓂᐊᖅᐳᓯ ᐆᒪᔪᐃᑦ ᒪᓕᒐᖅᑎᒍᑦ ᐃᓕᑕᕆᔭᐅᔪᑦ ᑕᐃᔭᐅᔪᒥᒃ ᐊᔾᔨᐅᖏᑦᑐᒥᒃ ᐃᓱᒫᓗᑕᐅᓂᕐᒥᒃ, ᐊᔪᕐᓇᖅᑎᑕᐅᕙᖏᖕᒐᑦ ᐅᕝᕙᓘᓐᓃᑦ ᓇᔪᓚᖃᕆᐊᖃᖅᑎᑕᐅᐸᕆᒋᐊᖃᕐᒥᐸᑦ ᑎᑎᕋᖅᓯᒪᔪᓂᒃ.

ᐅᖃᓕᒫᕈᓐᓇᖅᑐᑎᑦ ᐊᑐᓕᖅᑎᑕᐅᔪᒪᔪᓂᒃ ᐊᐅᓚᑦᑎᔾᔪᑎᒃᓴᓂᒃ ᐸᕐᓇᐅᑎᓂᒃ ᐅᕙᓂ ᑐᕌᕈᒻᒥ: Species at risk registry-ᐆᒪᔪᐃᑦ ᐊᒥᓲᖏᓗᐊᓕᕐᓂᖏᓐᓄᑦ ᒪᓕᓕᐅᕈᑕᐅᓂᖏᓐᓂ (canada.ca). ᑐᓂᓯᒋᕗᖓ ᑖᒃᑯᓇᓃᖃᑕᐅᔪᓂᒃ ᐊᐅᓚᑦᑎᔾᔪᑎᒃᓴᓄᒃ ᐸᕐᓇᐅᑎᓂᒃ ᑕᕝᕙᓂ ᖃᓇᑕᐅᔭᒃᑯᑦ ᑎᑎᖅᑲᖅᑖᓇᔭᕐᓂ, ᐊᑐᐃᓐᓇᐅᖁᓪᓗᒍ ᐃᓕᖕᓄᑦ.

ᑎᑎᖅᑲᕐᒥᔪᖅ ᓇᐃᓈᖅᓯᒪᔪᓂᒃ ᓯᓚᔪᓂᒃ ᖃᐅᔨᒪᔾᔪᑎᒃᓴᓂᒃᑕᐅᓯᒪᔪᓂᒃ ᖃᓪᓗᑎᑐᑦ ᐃᓄᒃᑎᑐᓪᓗ ᑕᒪᐃᓐᓂᒃ ᑎᑎᖅᑯᑎᖁᑎᕐᒥ ᐅᓂᒃᑳᖅᑐᓂᒃ.

ᐅᖃᐅᓯᒃᓴᓂᒃᑕᐅᓯᑦ ᑕᒪᐃᒥᒃ ᑐᓂᔭᐅᖁᔭᕗᑦ ᐆᒧᖓ ᑐᕌᖓᑎᑕᐅᓗᑎᒃ ᑎᑎᖅᑲᑖᕐᕕᖓᓄᑦ ec.planificationduretablissement-recoveryplanning.ec@canada.ca ᐅᕝᕙᓘᓐᓃᑦ ᑎᑎᖅᑲᑖᕐᕕᖓᓄᑦ ᑐᖓᓗᑎᒃ ᐅᕙᓂ Hayley.roberts@ec.gc.ca ᐅᕝᕙᓘᓐᓃᑦ ᐅᖄᓚᔪᓯ 867-222-0112-ᒧᑦ.

ᖁᔭᓕᕙᕋ ᐃᓚᐅᖃᑕᐅᓂᔅᓯᓐᓄᑦ ᑕᒪᑯᐊ ᑲᒪᒋᔭᐅᓂᖏᓐᓂ.

ᑎᑎᕋᖅᑐᖅ

ᐆᒪᔪᐃᑦ ᐊᒥᓲᖏᓗᐊᓕᕐᓂᖏᓐᓄᑦ ᐆᒪᔪᓕᕆᔨ
ᑲᓇᑕᒥᐅᑕᓂ ᐆᒪᔪᓕᕆᔨᑦ ᐱᔨᑦᑎᕋᐃᔨᖏᓐᓂ
ᐊᕙᑎᓕᕆᓂᕐᒧᑦ ᓯᓚᐅᓪᓗ ᐊᓯᔾᔨᕐᐸᓪᓕᐊᓂᖓᓄᑦ ᑲᓇᑕᒥ
hayley.roberts@ec.gc.ca / ᐅᖄᓚᐅᑦ: +1 (867) 979-7045, ᐅᖄᓚᐅᑎᕌᖅ: +1 (867) 222-0112

Archived: June 16, 2022 9:10:33 AM
From: Roberts,Hayley (ECCC) Roberts,Hayley (ECCC)
Sent: February 9, 2022 12:27:00 PM
To: Roberts,Hayley (ECCC) Roberts,Hayley (ECCC)
Bcc: 'BDean@tunngavik.com'; 'pirngaut@tunngavik.com'; 'kritchie@nwmb.com'; 'jringrose@gov.nu.ca'; 'Aroberto-charron@gov.nu.ca'; 'lleclerc@gov.nu.ca'; 'mcampbell1@gov.nu.ca'
Subject: FOR COMMENT: Proposed Management Plan for the Red-necked Phalarope in Canada (Due: April 20, 2022) Inuktitut and English
Sensitivity: Normal
Attachments:
mp_red_necked_phalarope_e_proposed.pdf NPH_Factsheet_2022_Inuktitut.pdf NPH_Factsheet_2022.pdf

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Hello,

I am writing to notify you that the proposed Management Plan for **Red-necked Phalarope** in Canada was posted on the Species at Risk Public Registry on January 20th, 2022, for a **90-day public comment period** which ends on **April 20, 2022**. Comments received from provinces, territories, wildlife management boards, and Indigenous governments across Canada were considered in the drafting of the current version of the Management Plan. Following the 90-day public comment period, the Department will then have 30 days to consider the comments received, after which the final version of the Management Plan will go to the Nunavut Wildlife Management Board for decision. The Nunavut Wildlife Management Board process is the final stage before the Management Plan will be posted on the Species at Risk Public Registry as final. Note that as a species of special concern, there are no general prohibitions or critical habitat requirements for this species.

You can read the proposed Management Plan at: Species at risk registry (canada.ca). I have also attached the Management Plan to this email for your convenience.

There is also a summary fact sheet attached in English and Inuktitut that provides an overview of the document.

Please submit all comments to ec.planificationduretablissement-recoveryplanning.ec@canada.ca or directly to me at Hayley.roberts@ec.gc.ca or 867-222-0112.

I welcome your participation in this matter.

Sincerely,

Hayley Roberts / Hᐊᐃᓖ ᕋᐳᑦᔅ
Pronouns: She/Her

Species at Risk Biologist, Canadian Wildlife Service
Environment and Climate Change Canada / Government of Canada
hayley.roberts@ec.gc.ca / Tel: +1 (867) 979-7045, Cell: +1 (867) 222-0112
NOTE NEW EMAIL ADDRESS ENDING

Biologiste des Espèces en Péril, Service Canadien de la faune
Environnement et Changement climatique Canada / Gouvernement du Canada
hayley.roberts@ec.gc.ca / Tél. : +1 (867) 979-7045, Cell: +1 (867) 222-0112

ᐊᐃᖓᐃ,

ᑎᑎᕋᖅᑐᖓ ᖃᐅᔨᑎᑦᑐᒪᓪᓗᓯ ᐱᒋᐊᖅᑎᑕᐅᔪᒪᓂᖏᑦ ᐊᐅᓚᑦᑎᔾᔪᑎᒃᓴᐃᑦ ᐸᕐᓇᐅᑎᖏᑦ ᑕᐃᒃᑯᓂᖓ **ᐊᐅᐸᓗᒃᑐᓕᖕᓂ ᓴᐅᕐᕋᕐᓂᒃ** ᑲᓇᑕᒥ ᐃᓕᔭᐅᓯᒪᓕᕐᒪᑕ ᒪᓕᒐᐃᑦ ᒪᓕᒃᓱᑎᒃ ᑕᐃᑲᓂ ᐆᒪᔪᐃᑦ ᐊᒥᔅᓲᖏᓗᐊᓕᕐᓂᖏᓐᓄᑦ ᒪᓕᒐᖅᑎᒍᑦ ᑎᑎᖃᖃᕐᕕᒃᑯᑦ ᐃᓄᓕᒫᓄᑦ ᒪᑐᐃᖓᔪᓂ ᑕᒫᓂ ᔭᓄᐊᕆ 20, 2022-ᒥ, ᐱᕕᒃᓴᖃᖅᑎᑦᑎᓂᕐᒧᑦ **90-ᓂᒃ ᐅᓪᓗᓂᒃ ᐃᓄᓕᒫᓄᑦ ᐅᖃᐅᓯᒃᓴᓂᒃᕕᐅᔪᓐᓇᕆᐊᖃᕐᓂᖏᓐᓄᑦ ᐃᓱᓪᓕᕕᖃᕐᓂᐊᖅᑐᓂᒃ ᑕᒫᓂ ᐄᐳ 20, 2022-ᒥ**. ᐅᖃᐅᓯᒃᓴᓂᒃᑕᐅᓂᖏᑦ ᑲᓇᑕᐅᑉ ᐊᕕᒃᑐᖅᓯᒪᓂᖏᓐᓂ, ᐅᑭᐅᖅᑕᖅᑑᑉ ᐊᕕᒃᑐᖅᓯᒪᓂᖏᓐᓂ, ᒪᔪᓂᒃ ᐊᐅᓚᑦᑎᔨᐅᖃᑕᐅᓂᕐᒧᑦ ᑲᑎᒪᔨᓂᒃ, ᓄᓇᓕᑐᖃᐃᓪᓗ ᒐᕙᒪᖏᓐᓂᒃ ᓇᓂᑐᐃᓐᓇᖅ ᑲᓇᑕᒥ ᐃᓱᒪᒃᓴᖅᓯᐅᕈᑕᐅᓚᐅᖅᐳᑦ ᑎᑎᕋᖅᑕᐅᕙᓪᓕᐊᓕᕋᒥᒃ ᒫᓐᓇᐅᔪᖅ ᖃᓄᐃᓕᖓᓕᕐᓂᖏᓐᓂᑦ ᐊᐅᓚᑦᑎᓂᕐᒧᑦ ᐸᕐᓇᐅᑎᖏᑦ. ᑭᖑᓂᐊᒍᑦ ᐊᓂᒍᖅᐸᑕ 90 ᐅᓪᓗᐃᑦ ᐃᓄᓕᒫᓄᑦ ᐅᖃᐅᓯᒃᓴᓂᒃᕕᐅᔪᓐᓇᕐᓂᖏᓐᓂᒃ, ᐃᖃᓇᐃᔭᕕᖓᓐᓂ ᐊᓯᐃᓛᒃ 30-ᓂᒃ ᐅᓪᓗᓂᒃ ᐱᕕᒃᓴᖃᕐᓂᐊᖅᑐᑦ ᐃᓱᒪᒃᓴᖅᓯᐅᕈᑎᖃᕈᓐᓇᕐᓂᖅ ᑕᐃᒃᑯᓂᖓ ᐅᖃᐅᓯᒃᓴᓂᒃᑕᐅᓯᒪᔪᓂᒃ, ᑭᖑᓂᐊᒍᓪᓗ ᑐᓂᔭᐅᓂᐊᖅᑐᑦ ᓄᓇᕗᒻᒥ ᐆᒪᔪᓕᕆᔨᕐᔪᐊᒃᑯᑦ ᑲᑎᒪᔨᖏᓐᓄᑦ ᐃᓱᒪᓕᐅᕈᑕᐅᔭᕆᐊᖃᕐᓂᕐᒧᑦ. ᓄᓇᕗᒻᒥ ᐆᒪᔪᓕᕆᔨᕐᔪᐊᒃᑯᑦ ᑲᑎᒪᔨᖏᑦ ᑲᒪᒋᔭᐅᓂᖏᑦ ᑭᖑᓪᓕᕆᔭᐅᓂᐊᖅᑐᑦ ᑕᐃᒃᑯᐊ ᐊᐅᓚᑦᑎᔾᔪᑎᒃᓴᐃᑦ ᐸᕐᓇᐅᑏᑦ ᐃᓕᔭᐅᓚᐅᖏᓐᓂᖏᓐᓂ ᓱᓕ ᐆᒪᔪᐃᑦ ᐊᒥᓲᖏᓗᐊᓕᕐᓂᖏᓐᓄᑦ ᒪᓕᒐᓕᐊᕆᔭᐅᓂᖏᓐᓂᒃ ᓴᕿᑎᑦᑎᕕᖓᒍᑦ, ᑭᖑᓪᓕᐅᓂᐊᖅᑐᒥᒃ. ᖃᐅᔨᒪᓂᐊᖅᐳᓯ ᐆᒪᔪᐃᑦ ᒪᓕᒐᖅᑎᒍᑦ ᐃᓕᑕᕆᔭᐅᔪᑦ ᑕᐃᔭᐅᔪᒥᒃ ᐊᔾᔨᐅᖏᑦᑐᒥᒃ ᐃᓱᒫᓗᑕᐅᓂᕐᒥᒃ, ᐊᔪᕐᓇᖅᑎᑕᐅᕙᓐᖏᑦᑐᑦ ᐅᕙᓗᓐᓃᑦ ᓇᔪᒐᖃᓇᐊᖃᖅᑎᑕᐅᓪᓚᓇᒋᐊᖃᖅᒋᓪᓚᑦ ᑎᑎᕋᖅᓯᒪᔪᓂᒃ.

ᐅᖃᓕᒫᕈᓐᓇᖅᑐᑎᑦ ᐊᑐᓕᖅᑎᑕᐅᔪᒪᔪᓂᒃ ᐊᐅᓚᑦᑎᔾᔪᑎᒃᓴᓂᒃ ᐸᕐᓇᐅᑎᓂᒃ ᐅᕙᓂ ᑐᕌᕿᒻᒥ: Species at risk registry-ᐆᒪᔪᐃᑦ ᐊᒥᓲᖏᓗᐊᓕᕐᓂᖏᓐᓄᑦ ᒪᓕᒐᓕᐅᕈᑕᐅᓂᖏᓐᓂ (canada.ca). ᑐᓂᓯᒋᕗᖓ ᑖᒃᑯᓇᓃᖃᑕᐅᔪᓂᒃ ᐊᐅᓚᑦᑎᔾᔪᑎᒃᓴᓄᒃ ᐸᕐᓇᐅᑎᓂᒃ ᑖᕝᕙᓂ ᖃᕆᑕᐅᔭᒃᑯᑦ ᑎᑎᖃᑖᕆᔭᕐᓂ, ᐊᑐᐃᓐᓇᐅᖁᓪᓗᒍ ᐃᓕᖕᓄᑦ.

ᑎᑎᖃᖃᒥᔪᖅ ᓇᐃᓈᖅᓯᒪᔪᓂᒃ ᓱᓕᔪᓂᒃ ᖃᐅᔨᒪᔾᔪᑎᒃᓴᓂᒃᑕᐅᓯᒪᔪᓂᒃ ᖃᓪᓗᓈᑎᑐᑦ ᐃᓄᒃᑎᑐᓪᓗ ᑕᒪᐃᓐᓂᒃ ᑎᑎᖅᑯᑎᖏᓐᓂ ᐅᓂᑳᖅᑐᓂᒃ.

ᐅᖃᐅᓯᒃᓴᓂᒃᑕᐅᔪᑦ ᑕᒪᐃᒥᒃ ᑐᓂᔭᐅᖁᔭᕗᑦ ᐆᒧᖓ ᑐᕌᖓᑎᑕᐅᓗᑎᒃ ᑎᑎᖃᑖᕐᕕᖕᓄᑦ ec.planificationduretablissement-recoveryplanning.ec@canada.ca ᐅᕙᓄᓗᓐᓃᑦ ᑎᑎᖃᑖᕐᕕᓐᓄᑦ ᑐᖓᓗᑎᒃ ᐅᕙᓂHayley.roberts@ec.gc.ca ᐅᕝᕙᓗᓐᓃᑦ ᐅᖄᓚᓗᓯ 867-222-0112-ᒧᑦ.

ᖁᔭᓕᔪᖓ ᐃᓚᐅᖃᑕᐅᓂᔅᓯᓐᓄᑦ ᑕᒪᑯᐊ ᑲᒪᒋᔭᐅᓂᖏᓐᓂ.

ᑎᑎᕋᖅᑐᖅ

ᐆᒪᔪᐃᑦ ᐊᒥᓲᖏᓗᐊᓕᕐᓂᖏᓐᓄᑦ ᐆᒪᔪᓕᕆᔨ
ᑲᓇᑕᒥᐅᑕᓂ ᐆᒪᔪᓕᕆᔨᑦ ᐱᔨᑦᑎᕋᐃᔨᖏᓐᓂ
ᐊᕙᑎᓕᕆᓂᕐᒧᑦ ᓯᓚᐅᓪᓗ ᐊᓯᔾᔨᖅᐸᓪᓕᐊᓂᖓᓄᑦ ᑲᓇᑕᒥ
hayley.roberts@ec.gc.ca / ᐅᖄᓚᐅᑦ: +1 (867) 979-7045, ᐅᖄᓚᐅᑎᕌᖅ: +1 (867) 222-0112

Archived: June 16, 2022 9:11:25 AM
From: Roberts,Hayley (ECCC) Roberts,Hayley (ECCC)
Sent: February 9, 2022 12:28:00 PM
To: Roberts,Hayley (ECCC) Roberts,Hayley (ECCC)
Bcc: 'cao@city.iqaluit.nu.ca'; 'sao@resolute.ca'; 'hamletcedo1@xplornet.com'; 'sao@whalecove.ca'; 'mayor@whalecove.ca'; 'sao_ab@qiniq.com'; 'sao@arviat.ca'; 'blsao@northwestel.net'; 'mlimousin@cambridgebay.ca'; 'muncdsao@capedorset.ca'; 'sao_hamlet@qiniq.com'; 'cao@clyderiver.ca'; 'munch@qiniq.com'; 'saogjoa@qiniq.com'; 'gfsao@qiniq.com'; 'gfasao@qiniq.com'; 'sao_hbhamlet@qiniq.com'; 'sao@igloolik.ca'; 'sao@rankininlet.ca'; 'saokug@qiniq.com'; 'sao@kugluktuk.ca'; 'saonaujaat@qiniq.com'; 'pang_sao@qiniq.com'; 'sao@pondinlet.ca'; 'hamletpond_mayor@qiniq.com'; 'munqik@qiniq.com'; 'sao@sanikiluaq.com'; 'sao@taloyoak.ca'; 'sanisao@qiniq.com'; 'sanimayor@qiniq.com'
Subject: FOR COMMENT: Proposed Management Plan for the Red-necked Phalarope in Canada (Due: April 20, 2022) Inuktitut and English
Sensitivity: Normal
Attachments:
RNPH_Factsheet_2022.pdf RNPH_Factsheet_2022_Inuktitut.pdf mp_red_necked_phalarope_e_proposed.pdf

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Hello,

I am writing to notify you that the proposed Management Plan for **Red-necked Phalarope** in Canada was posted on the Species at Risk Public Registry on January 20th, 2022, for a **90-day public comment period** which ends on **April 20, 2022**. Comments received from provinces, territories, wildlife management boards, and Indigenous governments across Canada were considered in the drafting of the current version of the Management Plan. Following the 90-day public comment period, the Department will then have 30 days to consider the comments received, after which the final version of the Management Plan will go to the Nunavut Wildlife Management Board for decision. The Nunavut Wildlife Management Board process is the final stage before the Management Plan will be posted on the Species at Risk Public Registry as final. Note that as a species of special concern, there are no general prohibitions or critical habitat requirements for this species.

You can read the proposed Management Plan at: Species at risk registry (canada.ca). I have also attached the Management Plan to this email for your convenience.

There is also a summary fact sheet attached in English and Inuktitut that provides an overview of the document.

Please submit all comments to ec.planificationduretablissement-recoveryplanning.ec@canada.ca or directly to me at Hayley.roberts@ec.gc.ca or 867-222-0112.

I welcome your participation in this matter.

Sincerely,

Hayley Roberts / H◁ΔᓕᕋᐳᑦᔅPronouns: She/Her

Species at Risk Biologist, Canadian Wildlife Service
Environment and Climate Change Canada / Government of Canada
hayley.roberts@ec.gc.ca / Tel: +1 (867) 979-7045, Cell: +1 (867) 222-0112
NOTE NEW EMAIL ADDRESS ENDING

Biologiste des Espèces en Péril, Service Canadien de la faune

Environnement et Changement climatique Canada / Gouvernement du Canada
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ᐊᐃᖓᐃ,

ᑎᑎᕋᖅᑐᖓ ᖃᐅᔨᑎᑦᑐᒪᓪᓗᓯ ᐱᒋᐊᖅᑎᑕᐅᔪᒪᓂᖏᑦ ᐊᐅᓚᑦᑎᔾᔪᑎᒃᓴᐃᑦ ᐸᕐᓇᐅᑎᖏᑦ ᑕᐃᒃᑯᓂᖓ **ᐊᐅᐸᓗᒃᑐᓕᖕᓂ ᓴᐅᕐᕋᕐᓂᒃ** ᑲᓇᑕᒥ ᐃᓕᔭᐅᓯᒪᓕᕐᒪᑕ ᒪᓕᒐᐃᑦ ᒪᓕᒃᓱᑎᒃ ᑕᐃᑲᓂ ᐆᒪᔪᐃᑦ ᐊᒥᓲᖏᓗᐊᓕᕐᓂᖏᓐᓄᑦ ᒪᓕᒐᖅᑎᒍᑦ ᑎᑎᖃᖃᕐᕕᒃᑯᑦ ᐃᓄᓕᒫᓄᑦ ᒪᑐᐃᖓᔪᓂ ᑕᒫᓂ ᔭᓄᐊᕆ 20, 2022-ᒥ, ᐱᕕᒃᓴᖃᖅᑎᑦᑎᓂᕐᒧᑦ **90-ᓂᒃ ᐅᓪᓗᓂᒃ ᐃᓄᓕᒫᓄᑦ ᐅᖃᐅᓯᒃᓴᓂᒃᕕᐅᔪᓐᓇᕆᐊᖃᕐᓂᖏᓐᓄᑦ ᐃᓱᓪᓕᕕᖃᕐᓂᐊᖅᑐᓂᒃ ᑕᒫᓂ ᐄᐳ 20, 2022-ᒥ**. ᐅᖃᐅᓯᒃᓴᓂᒃᑕᐅᓂᖏᑦ ᑲᓇᑕᐅᑉ ᐊᕕᒃᑐᖅᓯᒪᓂᖏᓐᓂ, ᐅᑭᐅᖅᑕᖅᑑᑉ ᐊᕕᒃᑐᖅᓯᒪᓂᖏᓐᓂ, ᒪᔪᓂᒃ ᐊᐅᓚᑦᑎᔨᐅᖃᑕᐅᓂᕐᒧᑦ ᑲᑎᒪᔨᓂᒃ, ᓄᓇᓕᑐᖃᐃᓪᓗ ᑲᕙᒪᖏᓐᓂᒃ ᓇᓂᑐᐃᓐᓇᖅ ᑲᓇᑕᒥ ᐃᓱᒪᒃᓴᖅᓯᐅᕈᑕᐅᓚᐅᖅᐳᑦ ᑎᑎᕋᖅᑕᐅᕙᓪᓕᐊᓕᕋᒥᒃ ᒫᓐᓇᐅᔪᖅ ᖃᓄᐃᓕᖓᓕᕐᓂᖏᓐᓂᑦ ᐊᐅᓚᑦᑎᓂᕐᒧᑦ ᐸᕐᓇᐅᑎᒃᓴᖏᑦ. ᑭᖑᓂᐊᒍᑦ ᐊᓂᒍᖅᐸᑕ 90 ᐅᓪᓗᐃᑦ ᐃᓄᓕᒫᓄᑦ ᐅᖃᐅᓯᒃᓴᓂᒡᕕᐅᔪᓐᓇᕐᓂᖏᓐᓂᒃ, ᐃᖃᓇᐃᔭᕕᖓᓐᓂ ᐊᓱᐃᓛᒃ 30-ᓂᒃ ᐅᓪᓗᓂᒃ ᐱᕕᒃᓴᖃᕐᓂᐊᖅᑐᑦ ᐃᓱᒪᒃᓴᖅᓯᐅᕈᑎᖃᕈᓐᓇᕐᓂᖅ ᑕᐃᒃᑯᓂᖓ ᐅᖃᐅᓯᒃᓴᓂᒃᑕᐅᓯᒪᔪᓂᒃ, ᑭᖑᓂᐊᒍᓪᓗ ᑐᓂᔭᐅᓂᐊᖅᑐᑦ ᓄᓇᕗᒻᒥ ᐆᒪᔪᓕᕆᔨᕐᔪᐊᒃᑯᑦ ᑲᑎᒪᔨᖏᓐᓄᑦ ᐃᓱᒪᓕᐅᕈᑕᐅᔭᕆᐊᖃᕐᓂᕐᒧᑦ. ᓄᓇᕗᒻᒥ ᐆᒪᔪᓕᕆᔨᕐᔪᐊᒃᑯᑦ ᑲᑎᒪᔨᖏᑦ ᑲᒪᒋᔭᐅᓂᖏᑦ ᑭᖑᓪᓕᕆᔭᐅᓂᐊᖅᑐᑦ ᑕᐃᒃᑯᐊ ᐊᐅᓚᑦᑎᔾᔪᑎᒃᓴᐃᑦ ᐸᕐᓇᐅᑏᑦ ᐃᓕᔭᐅᓚᐅᖏᓐᓂᖏᓐᓂ ᓱᓕ ᐆᒪᔪᐃᑦ ᐊᒥᓲᖏᓗᐊᓕᕐᓂᖏᓐᓄᑦ ᒪᓕᒐᓕᐊᕆᔭᐅᓂᖏᓐᓂᒃ ᓴᕿᑎᑦᑎᕕᖓᒍᑦ, ᑭᖑᓪᓕᐅᓂᐊᖅᑐᒥᒃ. ᖃᐅᔨᒪᓂᐊᖅᐳᓯ ᐆᒪᔪᐃᑦ ᒪᓕᒐᖅᑎᒍᑦ ᐃᓕᑕᕆᔭᐅᔪᑦ ᑕᐃᔭᐅᔪᒥᒃ ᐊᔾᔨᐅᓐᖏᑐᒥᒃ ᐃᓱᒪᓗᑕᐅᓂᕐᒥᒃ, ᐊᔪᕐᓇᖅᑎᑕᐅᕙᓐᖏᑦᑐᑦ ᐅᕝᕙᓗᓐᓃᑦ ᓇᔪᒐᖃᕆᐊᖃᖅᑎᑕᐅᓪᓚᕆᒋᐊᖃᖏᓪᓚᑦ ᑎᑎᕋᖅᓯᒪᔪᓂᒃ.

ᐅᖃᓕᒫᕈᓐᓇᖅᑐᑎᑦ ᐊᑐᓕᖅᑎᑕᐅᔪᒪᔪᓂᒃ ᐊᐅᓚᑦᑎᔾᔪᑎᒃᓴᓂᒃ ᐸᕐᓇᐅᑎᓂᒃ ᐅᕙᓂ ᑐᕌᒻᒥ: Species at risk registry-ᐆᒪᔪᐃᑦ ᐊᒥᓲᖏᓗᐊᓕᕐᓂᖏᓐᓄᑦ ᒪᓕᒐᓕᐅᕈᑕᐅᓂᖏᓐᓂ (canada.ca). ᑐᓂᓯᒋᕙᖓ ᑖᒃᑯᓇᓃᖅᑕᐅᔪᓂᒃ ᐊᐅᓚᑦᑎᔾᔪᑎᒃᓴᓄᒃ ᐸᕐᓇᐅᑎᓂᒃ ᑕᒃᕙᓂ ᖃᕆᑕᐅᔭᒃᑯᑦ ᑎᑎᖅᑖᕆᔭᕐᓂ, ᐊᑐᐃᓐᓇᐅᖁᓪᓗᒍ ᐃᓕᖕᓄᑦ.

ᑎᑎᖃᖃᕐᒥᔪᖅ ᓇᐃᓈᖅᓯᒪᔪᓂᒃ ᓱᓕᔪᓂᒃ ᖃᐅᔨᒪᔾᔪᑎᒃᓴᓂᒃᑕᐅᓯᒪᔪᓂᒃ ᖃᓪᓗᑎᑐᑦ ᐃᓄᒃᑎᑐᓪᓗ ᑕᒪᐃᓐᓂᒃ ᑎᑎᖅᑯᑎᖏᓐᓂ ᐅᓂᒃᑳᑐᓂᒃ.

ᐅᖃᐅᓯᒃᓴᒃᓴᓂᒃᑕᐅᕙᑦ ᑕᒪᐃᒥᒃ ᑐᓂᔭᐅᖁᔭᕗᑦ ᐆᒧᖓ ᑐᕌᖓᑎᑕᐅᓗᑎᒃ ᑎᑎᖅᑖᕐᕕᖓᓄᑦ ec.planificationduretablissement-recoveryplanning.ec@canada.ca ᐅᕝᕙᓗᓐᓃᑦ ᑎᑎᖅᑖᕐᕕᓐᓄᑦ ᑐᖓᓗᑎᒃ ᐅᕙᓂHayley.roberts@ec.gc.ca ᐅᕝᕙᓗᓐᓃᑦ ᐅᖄᓚᓗᓯ 867-222-0112-ᒧᑦ.

ᖁᔭᓕᔪᖓ ᐃᓚᐅᖃᑕᐅᓂᕐᓯᓐᓄᑦ ᑕᒪᑯᐊ ᑲᒪᒋᔭᐅᓂᖏᓐᓂ.

ᑎᑎᕋᖅᑐᖅ

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hayley.roberts@ec.gc.ca / ᐅᖄᓚᐅᑦ: +1 (867) 979-7045, ᐅᖄᓚᐅᑎᕋᓛᖅ: +1 (867) 222-0112

Summary of the draft Management Plan for the
RED-NECKED PHALAROPE

Under the *Species at Risk Act* (SARA), a management plan must be developed for each species listed as Special Concern in order to identify measures for the conservation of the species. This document highlights the key sections of the draft management plan.

Species Conservation Status

The Red-necked Phalarope (*Phalaropus lobatus*) has been listed as Special Concern under SARA since 2019.

Description and Distribution

The Red-necked Phalarope is a small shorebird. Named for the bright chestnut plumage around the neck, the rest of the body is black or gray (head, back, wings) and white (underwings, chin, and belly). Females are larger and more brightly colored than the males during the breeding season. In the winter, both are white (head and breast), and gray (wings and mantle), with a black streak through and behind the eye and a dark patch on the crown.

Red-necked Phalaropes breed across the Holarctic with an estimated 74% of the North American population breeding in Canada. The species primarily breeds in the Northwest Territories, Yukon, Nunavut, coastal Newfoundland, northeastern Manitoba, northern Ontario, and northern Quebec. The Red-necked Phalarope migrates offshore along the Atlantic and Pacific coasts as well as overland in the Prairies and winters off the coast of South America in the Humboldt Current.

Habitat Needs

The Red-necked Phalarope breeds near Arctic tundra wetlands with open water and few shrubs. Unusually, females compete for mates and males provide all parental care. The species spends the entire non-breeding season on the water, either at sea, in wetlands and waterbodies, especially salt lakes, along the inland migratory route.

female Red-necked Phalarope ©Willow English

Threats to the Species' Survival

- Habitat loss as climate change dries arctic ponds and allows shrubby vegetation to expand into the tundra.
- Reduced productivity as Red-necked Phalarope's fail to adjust to climate change by breeding earlier and face reduced food availability for nestlings.
- Decreased survival during the non-breeding season due to increasingly severe weather conditions offshore likely decrease food availability offshore.
- Lost food resources in salt lake as climate change induced drought and poor water management practices increase salinity.
- Increased mortality during the non-breeding season due to offshore plastic pollution.
- Increased mortality due to oil spills and chronic oil contamination.

Environment and Climate Change Canada | Environnement et Changement climatique Canada

Canada

Management Objective

The management objectives for the Red-necked Phalarope is to have stable or increasing population trends by 2040.

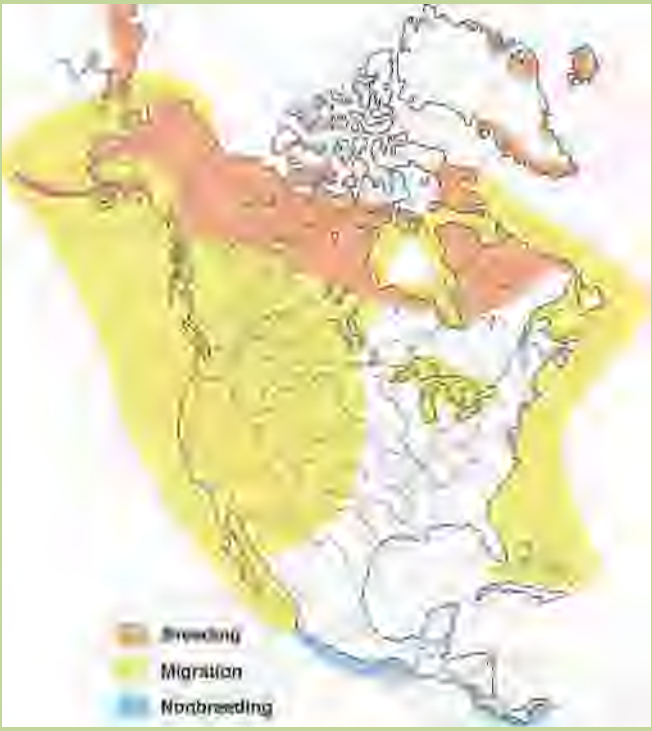
Strategies to Help Meet Objectives

Broad strategies to address the threats to the survival and recovery of the species include:

- Centralizing data from past site surveys in a shared database and tracking the North American migration routes and determine the turnover and residency times at migratory stopover sites.
- Calculating a new population estimates and trends.
- Conserving water and managing watershed surrounding migratory stopover sites to maintain appropriate water levels and salinities in saline lakes.
- Identifying and protecting climate change resilient areas on the breeding grounds and migratory route.
- Working with international partners to support seabird protection within the Humboldt Current Large Marine Ecosystem on the wintering grounds.
- Considering the Red-necked Phalarope in environmental assessments for projects that increase the risk of either chronic or catastrophic oil spills in key areas for the species and ensuring that these areas has oil spill response plans which adequately consider offshore seabirds in place.
- Determining where the Red-necked Phalaropes ingest most plastics.
- Investigating changes in zooplankton abundance at key migratory stopovers (e.g., Bay of Fundy) and wintering grounds

How You Can Help

- Learn more about the Red-necked Phalarope, the threats to its survival and its habitat needs at www.canada.ca/en/environment-climate-change/services/species-risk-public-registry.html;
- Practice voluntary stewardship activities and beneficial management practices, for example:
    - Work in cooperation with Environment and Climate Change Canada and/or local conservation groups to conserve important habitat; and
    - Avoid activities that could harm the species or its habitat.
- Submit observation data to conservation data centres (such as eBird).



Distribution of the Red-necked Phalarope (from Cornell Lab – Birds of North America's Website, Rubega et al. 2000)

For more information, please contact us directly at:

Environment and Climate Change Canada (ECCC) – Canadian Wildlife Service, Northern Region
933 Mivvik Street, Iqaluit, Nunavut X0A0H0 PO Box 1870
Phone: 867-979-7045
Email: hayley.roberts@ec.gc.ca

You can also visit the following website for more information:
Species at Risk Public Registry (www.sararegistry.gc.ca)

Archived: June 16, 2022 9:28:26 AM
From: Joshua Kringorn
Sent: April 26, 2022 4:45:22 PM
To: Roberts,Hayley (ECCC)
Cc: Svoboda,Michael (ECCC); Pamela Wong
Subject: RE: FOR COMMENT: Proposed Management Plan for the Red-necked Phalarope in Canada (Due: April 20, 2022) Inuktitut and English
Sensitivity: Normal

Hello Hayley,
Kugaaruk HTA do not have any comments and concerns.
Joshua

From: Roberts,Hayley (ECCC) <Hayley.Roberts@ec.gc.ca>
Sent: April 26, 2022 2:22 PM
To: Joshua Kringorn <kugaaruk@krwb.ca>
Cc: Svoboda,Michael (ECCC) <Michael.Svoboda@ec.gc.ca>; Pamela Wong <pwong@krwb.ca>
Subject: RE: FOR COMMENT: Proposed Management Plan for the Red-necked Phalarope in Canada (Due: April 20, 2022) Inuktitut and English

Hi Joshua,

I hope you are doing well,

The official public comment period for Red-necked Phalarope has now closed, however, since we sent this document to you later than expected please feel free to share any flags or issues you have before the end of May 2022.

Nakurmiik,

Hayley Roberts / ᐄᐊᐃᓕ ᖁᓪᓕ
Pronouns: She/Her

Species at Risk Biologist, Canadian Wildlife Service
Environment and Climate Change Canada / Government of Canada
hayley.roberts@ec.gc.ca / Tel: +1 (867) 979-7045, Cell: +1 (867) 222-0112
NOTE NEW EMAIL ADDRESS ENDING

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hayley.roberts@ec.gc.ca / ᐅᖅᑲᓪᐅᑦ: +1 (867) 979-7045, ᐅᖅᑲᓪᐅᑎᕆᔨᖅ: +1 (867) 222-0112

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SUBMISSION TO THE NUNAVUT WILDLIFE MANAGEMENT BOARD

FOR

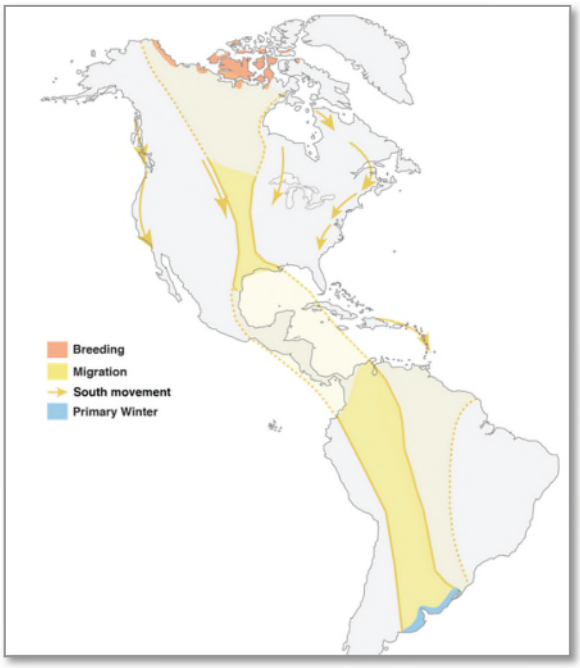
Information: **Decision: X**

Issue: Request for decision to approve the *Management Plan for the Buff-breasted Sandpiper (*Tryngites subruficollis*) in Canada* under the federal *Species at Risk Act* (SARA).

Buff-breasted Sandpiper at Seal River Estuary
Important Bird Area © Christian Artuso

Background:

- The Canadian range of the Buff-breasted Sandpiper spans three jurisdictions: Nunavut, Northwest Territories, and Yukon. Within Nunavut, it is found in all three regions (Kitikmeot, Kivalliq, and Qikiqtaaluk).
- The Canadian Arctic supports about 87% of the North American breeding range.



Distribution of the Buff-breasted Sandpiper (from Cornell Lab – Birds of North America's Website, McCarty et al. 2017)

North American breeding distribution of the Buff-breasted Sandpiper (courtesy J. Rausch, Environment Canada). The species is distributed sparsely across the depicted breeding range, taken from the COSEWIC Status Report (2013).

- The Buff-breasted Sandpiper is currently listed as Special Concern (2017) under the federal *Species at Risk Act* (SARA). In 2012, the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) assessed the Buff-breasted Sandpiper as Special Concern based on both historical large-scale and recent population declines as well as on-going threats from loss of specialized habitat on both the wintering grounds and along migration routes.
- NWMB approved the designation of the Buff-breasted Sandpiper as Special Concern under SARA in 2014.
- As required under SARA for species listed as Special Concern a management plan was developed (Appendix A). A summary of this document in English and Inuktitut can be found in Appendix B.
- Management plans do not contain a description of critical habitat as it is not required for species listed as Special Concern.

Consultation:

First Jurisdictional Review (First Draft)

- The draft management plan for the first Jurisdictional Review was distributed on January 2020 and included a factsheet in both English and Inuktitut to:
  - Ekaluktutiak HTA
  - Bathurst Inlet HTA
  - Gjoa Haven HTA
  - Kurtairojuark HTA
  - Omingmaktok HTA
  - Spence Bay HTA
  - Arviat HTO
  - Baker Lake HTO

- Aqigiq HTO
- Agiggiaq HTO
- Arviq HTO
- Issatik HTO
- Mittimatalik HTO
- Iviq HTO
- Resolute Bay HTA
- Government of Nunavut
- Nunavut Wildlife Management Board
- Nunavut Tunngavik Incorporated
- Qikiqtaaluk Wildlife Board
- Kivalliq Wildlife Board
- Kitikmeot Regional Wildlife Board

- The Arviat HTO responded in February 2020 that they did not have any comments or feedback.
- The Government of Nunavut indicated in November 2020 they had no issue with the document being posted for public comment period.
- Appendix C contains communication records and documents shared during the First Jurisdictional Review.

Proposed Posting (90-Day Public Comment Period)

- The proposed recovery document was posted on the Species at Risk Registry on November 17th, 2021 for a 90-day public comment period which ended on February 15th, 2022. An extension of the typical 60-day comment period in light of the on-going COVID-19 pandemic to allow for more time to gather input.

- An email containing the proposed management plan as well as a summary factsheet in both English and Inuktitut was sent on November 18th, 2021 to all recipients who received the document at the first jurisdictional review as well as:
  - Kitikmeot Inuit Association,
  - Kivalliq Inuit Association
  - Qikiqtani Inuit Association
  - Hamlet of Pond Inlet
  - Hamlet of Resolute Bay
  - Hamlet of Grise Fiord
  - Hamlet of Cambridge Bay
  - Hamlet of Gjoa Haven
  - Hamlet of Kugaaruk
  - Hamlet of Taloyoak
  - Hamlet of Arviat
  - Hamlet of Baker Lake
  - Hamlet of Chesterfield Inlet
  - Hamlet of Rankin Inlet
  - Hamlet of Naujaat
  - Hamlet of Whale Cove

- Appendix C contains communication and records from the public comment period (updated Factsheet, emails)

Next Steps:

- Environment and Climate Change Canada is now prepared to post the recovery document on the Species at Risk Public Registry as final.
- Environment and Climate Change Canada is providing the recovery document to the NWMB for final approval decision as per the NLCA s. 5.2.34

Recommendation:

- That the NWMB approve the final Management Plan for the Buff-breasted Sandpiper (*Tryngites subruficollis*) in Canada under the federal Species at Risk Act as per the NLCA s.5.2.34.

Prepared by:
Canadian Wildlife Service, Northern Region July 2022

PROPOSED FINAL

Species at Risk Act
Management Plan Series

Management Plan for the Buff-breasted Sandpiper (*Tryngites subruficollis*) in Canada

Buff-breasted Sandpiper

2022

Government of Canada
Gouvernement du Canada

Canada

Recommended citation:

Environment and Climate Change Canada. 2022. Management Plan for the Buff-breasted Sandpiper (*Tryngites subruficollis*) in Canada. *Species at Risk Act* Management Plan Series. Environment and Climate Change Canada, Ottawa. v + 37 pp.

Official version

The official version of the recovery documents is the one published in PDF. All hyperlinks were valid as of date of publication.

Non-official version

The non-official version of the recovery documents is published in HTML format and all hyperlinks were valid as of date of publication.

For copies of the management plan, or for additional information on species at risk, including the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) Status Reports, residence descriptions, action plans, and other related recovery documents, please visit the Species at Risk (SAR) Public Registry[1].

Cover illustration: Buff-breasted Sandpiper at Seal River Estuary Important Bird Area by © Christian Artuso

Également disponible en français sous le titre
« Plan de gestion du Bécasseau roussâtre (*Tryngites subruficollis*) au Canada »

ISBN
Catalogue no.

[1] www.canada.ca/en/environment-climate-change/services/species-risk-public-registry.html

Preface

The federal, provincial, and territorial government signatories under the Accord for the Protection of Species at Risk (1996)[2] agreed to establish complementary legislation and programs that provide for effective protection of species at risk throughout Canada. Under the *Species at Risk Act* (S.C. 2002, c.29) (SARA), the federal competent ministers are responsible for the preparation of management plans for listed species of special concern and are required to report on progress within five years after the publication of the final document on the SAR Public Registry.

The Minister of Environment and Climate Change and Minister responsible for the Parks Canada Agency is the competent minister under SARA for the Buff-breasted Sandpiper and has prepared this management plan, as per section 65 of SARA. To the extent possible, it has been prepared in cooperation with other federal government departments, Provinces/Territories, Wildlife Management Boards, and Aboriginal organizations as per section 66(1) of SARA.

Success in the conservation of this species depends on the commitment and cooperation of many different constituencies that will be involved in implementing the directions set out in this plan and will not be achieved by Environment and Climate Change Canada and the Parks Canada Agency, or any other jurisdiction alone. All Canadians are invited to join in supporting and implementing this plan for the benefit of the Buff-breasted Sandpiper and Canadian society as a whole.

Implementation of this management plan is subject to appropriations, priorities, and budgetary constraints of the participating jurisdictions and organizations.

[2] www.canada.ca/en/environment-climate-change/services/species-risk-act-accord-funding.html#2

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The development of this management plan was largely informed by the Conservation Plan for the Buff-breasted Sandpiper (*Tryngites subruficollis*) published in 2010 by Richard Lanctot and colleagues. On October 23, 2019, experts met in Panama City, Panama to lay the groundwork for a full life-cycle conservation plan for the Buff-breasted Sandpiper. The Panama City workshop was an opportunity to align conservation targets and strategies between the Management Plan for the Buff-breasted Sandpiper (*Tryngites subruficollis*) in Canada and the full life-cycle conservation plan.

Executive Summary

The Buff-breasted Sandpiper (*Calidris subruficollis,* formerly *Tryngites subruficollis*) is an arctic-breeding shorebird. The species nests on the upland coast of the Yukon, Northwest Territories, Nunavut and Alaska before migrating along the Midcontinental flyway to the coast of Argentina, Uruguay, and Brazil where birds stay during the boreal winter.

The species was assessed as Special Concern by COSEWIC in 2012 and listed under Schedule 1 of the *Species at Risk Act* in 2017. Globally, the IUCN Red List has categorized the species as Near Threatened since 2004. As a long-distance migrant, the Buff-breasted Sandpiper is protected under the *Migratory Birds Convention Act* in Canada and the *Migratory Bird Treaty Act* in the United States.

The Buff-breasted Sandpiper population is estimated at 56,000 individuals (range: 35,000–78,000; Lanctot et al. 2010), 75% of which are thought to breed in Canada (Donaldson et al. 2000). After massive declines during the early 1900s caused by hunting in Canada and the United States, the species appears to be still declining today. The scale of the decline is uncertain due to the challenges in surveying the species and the current lack of data.

The exact causes of this decline are unknown. A combination of factors resulting in habitat loss or poor habitat quality on the migratory and wintering grounds are likely driving the decline. Those factors include conversion of natural areas to agriculture, pesticide exposure, wind turbines, resource extraction, and climate change.

The management objective for the Buff-breasted Sandpiper is to maintain the population size of the species over a period of 10 years ranging from 2026 to 2036. The baseline for this management objective will be a more reliable and accurate population estimate obtained within the next 5 years (2021–2026).

The broad strategies identified in this management plan aim to conserve habitat, monitor the population and distribution of the species, and understand characteristics of non-breeding habitats through research. Much of this habitat is outside of Canada, so supporting international conservation and research efforts should play a key role in Canada’s conservation strategies for the species.

Table of Contents

Preface ii
Acknowledgments iii
Executive Summary iv
1. COSEWIC Species Assessment Information 1
2. Species Status Information 1
3. Species Information 3
3.1. Species Description 3
3.2. Species Population and Distribution 3
3.3. Needs of the Buff-breasted Sandpiper 7
4. Threats 9
4.1. Threat Assessment 9
4.2. Description of Threats 12
5. Management Objective 19
6. Broad Strategies and Conservation Measures 20
6.1. Actions Already Completed or Currently Underway 20
6.2. Broad Strategies 22
6.3. Conservation Measures 22
6.4. Narrative to Support Conservation Measures and Implementation Schedule 25
7. Measuring Progress 27
8. References 28
Appendix A: Effects on the Environment and Other Species 35
Appendix B: Summary of Buff-breasted Sandpiper Population Estimates 36

1. COSEWIC* Species Assessment Information

Date of Assessment: May 2012

Common Name (population): Buff-breasted Sandpiper

Scientific Name: *Tryngites subruficollis***

COSEWIC Status: Special Concern

Reason for Designation:
The Canadian Arctic supports about 87% of the North American breeding range of this shorebird and about 75% of its global population. The species was once common and perhaps even abundant historically, but it suffered severe declines stemming from intensive market hunting in the late 1800s and early 1900s. By the 1920s, it was thought to be at the brink of extinction. Its population has grown since hunting was banned in North America, but numbers remain much lower than those before hunting began. There is evidence for population decline in recent decades, and many conservation organizations consider the species to be of concern throughout its range. However, this species is difficult to monitor effectively, and data necessary to estimate population trends are currently lacking. Outside the breeding period, loss and degradation of its specialized grassland habitat, both on its wintering grounds in South America and along its migration routes, are believed to pose the most significant threats.

Canadian Occurrence:
Yukon, Northwest Territories, Nunavut, British Columbia, Alberta, Saskatchewan, Manitoba, Ontario, Quebec

COSEWIC Status History:
Designated Special Concern in May 2012.

* COSEWIC (Committee on the Status of Endangered Wildlife in Canada)

** The scientific name of the Buff-breasted Sandpiper (*Calidris subruficollis*) changed in 2013 (Chesser et al. 2013), after COSEWIC assessment in May 2012. Documents developed under the *Species at Risk Act* (SARA) must follow the species nomenclature used in Schedule 1 of SARA.

2. Species Status Information

An estimated 75% of the global Buff-breasted Sandpiper population breeds in Canada (Donaldson et al. 2000). In Canada, the species was assessed as Special Concern by COSEWIC in 2012 and listed as Special Concern under Schedule 1 of the *Species at Risk Act* (S.C. 2002, c. 29) in 2017. The Buff-breasted Sandpiper is not listed under any provincial species at risk legislation. The species has been identified as a priority

species in four of the twelve Bird Conservation Regions[3]. A recently updated assessment of shorebirds in Canada deemed Buff-breasted Sandpiper to be of High Concern in Canada based on the probable decline and threats to the species (Hope et al. 2019).

Table 1. Summary of national and provincial or state NatureServe ranks for the Buff-breasted Sandpiper where it occurs in North America (NatureServe, 2019)

Global (G) Rank	National (N) Ranks	Sub-national (S) Ranks
G4	Canada N2N4B, N4N5M	Alberta (S3M), British Columbia (SUM), Labrador (SNA), Manitoba (S1S2M), Newfoundland Island (SNA), Northwest Territories (S2S4B), Nunavut (S3B, S3M), Ontario (SNA), Quebec (S3M), Saskatchewan (S4M), Yukon (S1B)
	United States N4B	Alabama (SNRM), Alaska (S2B), Arkansas (SNA), California (SNA), Colorado (SNA), Connecticut (SNA), Delaware (SNA), Florida (S2M), Georgia (SNRN), Illinois (SNA), Indiana (S3M), Iowa (S3N), Kansas (SNA), Kentucky (SNA), Louisiana (S3M), Maine (SNA), Maryland (SNA), Massachusetts (S1N), Michigan (SNRN), Minnesota (SNRM), Mississippi (SNA), Missouri (SNA), Nebraska (S2N), New Jersey (S4N), New York (SNRN), North Carolina (SNA), North Dakota (SNA), Ohio (SNA), Oklahoma (S3M), Pennsylvania (S2M), Rhode Island (S1N), South Carolina (SNA), South Dakota (SNA), Tennessee (S3N), Texas (S2S3), Virginia (SNA), Washington (SNA), Wisconsin (S3N), Wyoming (S4N)

National (N) and Subnational (S) NatureServe alphanumerical ranking: 1 – Critically Imperiled, 2 – Imperiled, 3 – Vulnerable, 4 – Apparently Secure, 5 – Secure, NR – Unranked, NA – Not Applicable, U – Unrankable. Occurrence definitions: B – Breeding, M – Migrant. The N2N4B range indicates the range of uncertainty about the status of the species.

The global NatureServe rank is G4 – Apparently Secure (reviewed in 2016; NatureServe 2019; see Table 1 for additional sub-rankings) and the IUCN Red List has categorized the species as Near Threatened since 2004 when its status was upgraded from Lower Risk (BirdLife International 2017). The species was listed in 1999 in Appendix I and II of the UN Convention on the Conservation of Migratory Species of Wild Animals, which prohibits hunting of the species in its wintering range[4]. The Buff-breasted Sandpiper is also protected under the *Migratory Birds Convention Act, 1994* which protects all individuals of the species as well as its nest and eggs on federal and non-federal lands.

[3] Those Bird Conservation Regions are the Arctic Plains and Mountains, the Lower Great Lakes/St. Lawrence Plain, the Prairie Potholes, and the Taiga Shield and Hudson Plains.

[4] This document refers to the wintering range as the species' range occupied during the northern hemisphere's winter months (December to March).

The Buff-breasted Sandpiper is a Species of High Concern in the United States. (USSCP, 2016). In South America, the species is considered Vulnerable in Brazil, Threatened in Paraguay (Ministerio de Ambiente y Desarrollo Sostenible, 2019), a Priority Species for Conservation in Uruguay, Threatened in Argentina, and Highly Threatened in Colombia (Johnston-González et al. 2010).

3. Species Information

3.1. Species Description

The Buff-breasted Sandpiper is a medium-sized, buff-coloured (light brownish yellow), arctic-breeding shorebird. Males weigh about 70 g and females weigh about 55 g (McCarty et al. 2017). They are marked with dark brown spots or streaks along the crown and sides of the breast, and narrow, teardrop shaped, dark-brown streaks edged in buff along the feather shafts on their back, scapulars[5], upper tail, and wing coverts[6] (COSEWIC 2012). Male, female, and juvenile plumage is similar, but the dark spots on the undersides of the outer primaries are larger in males than in females who have larger spots than juveniles (McCarty et al. 2017). The species has yellow legs and a black bill.

Buff-breasted Sandpipers are the only North American shorebird with an exploded lek[7] mating system (Lanctot et al. 1998). In an exploded lek, males are further away from one another than they would be in a classic lek. Because of density-dependent effects[8] associated with its unusual lek-mating system, further reductions in the species' abundance could accelerate population collapse if males and females cannot locate each other in their expansive breeding grounds. However, at present, there is no indication that genetic diversity declined as a result of historic reductions in population size (Lounsberry et al. 2013, 2014).

3.2. Species Population and Distribution

Distribution

The Buff-breasted Sandpiper breeds in low densities in the tundra along the coastline of Alaska and Canada from Point Barrow, Alaska through the Northwest Territories and to the Boothia Peninsula, Nunavut and as far north as Melville, Bathurst, and Devon Islands, Nunavut (Figure 1; COSEWIC 2012; McCarty et al. 2017). There are also small populations (280-650 individuals) breeding in Russia on Wrangel Island and the

[5] Scapulars are the feathers at the top of the wing when the bird is at rest.
[6] Wing coverts are the feathers that cover the wing's flight feathers.
[7] A lek is an aggregation of male animals gathered to engage in competitive displays, lekking, to entice visiting females, which are surveying prospective partners to mate.
[8] Density-depended effects occur when a change in the size of a group influences, either positively or negatively, the conditions of habitat available for individual. For example, a lower number of Buff-breasted Sandpipers (lower density) might result in a decreased ability of individuals to find a mate in a given area, especially if the mating area is widespread.

Chukotski Peninsula (Lappo et al. 2012). The Buff-breasted Sandpiper breeds in low densities; their local distribution is patchy and variable both between and within years—one Alaskan study found only 10% of leks to be present in all three consecutive years of the study (Lanctot and Weatherhead 1997). There is little to no breeding site fidelity (less than 10% of adults return; Pruett-Jones 1988; Lanctot and Weatherhead 1997) and males may display at multiple leks across the entire breeding range (Lanctot et al. 2016).

The Buff-breasted Sandpiper migrates south mainly following the Midcontinental flyway, through the prairies and plains, where they make multiday stops in locations such as southern Saskatchewan, in the Kansas Flint Hills, southcentral Texas and the Gulf of Mexico coast in the United States (Lanctot et al. 2016; Lyons et al. 2019; Tibbitts et al. 2019). Some juveniles frequent the Atlantic coast during southbound migration, with vagrant birds also migrating on the Pacific and Atlantic coasts (McCarty et al. 2017; see Figure 1). Then, they follow the Midcontinental Amazonia/Pantanal flyway, stopping in Bolivia and Paraguay (Lanctot et al. 2016; Tibbitts et al. 2019) before arriving on their wintering grounds on the coast of central Argentina, southeast Uruguay, and southeast Brazil (Lanctot et al. 2002; McCarty et al. 2017). The wintering grounds overlap with the Southern Cone Grasslands, also known as the pampas. On their northbound migration, birds stop in the Llanos plains of Colombia and Venezuela before crossing the Gulf of Mexico. This region therefore represents an important stopover site on migration. Fall and spring migrants take similar routes, but in the fall, juveniles migrating south may follow the Atlantic and Pacific coasts leading to a more dispersed route in the fall than spring (COSEWIC 2012). In contrast to the breeding grounds, birds show fairly high wintering site fidelity (55% to 64% return rate), with males being somewhat more likely to emigrate than females (Almeida 2009).

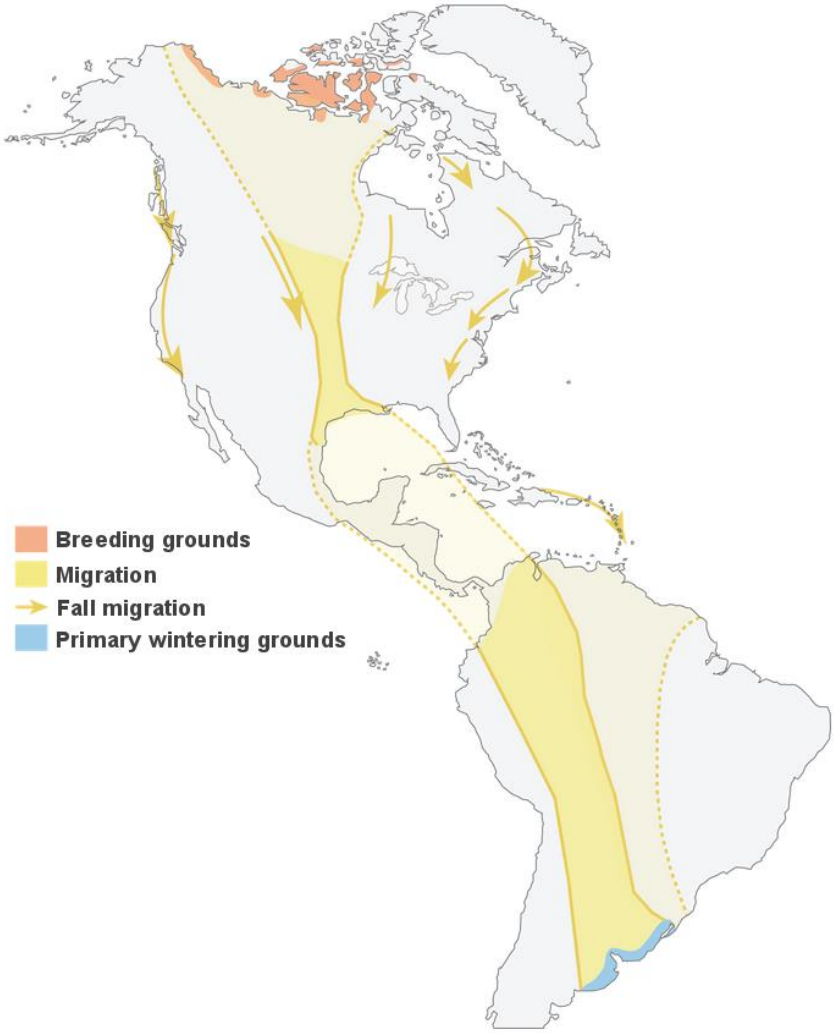

Figure 1. Distribution of the Buff-breasted Sandpiper in the Americas. Shaded yellow areas are migration corridors where the species is found at low densities; the species funnels through areas represented in dark yellow (from Cornell Lab - Birds of North America's Website, McCarty et al. 2017).

Population Size and Trends

Based on surveys done on stopover sites in the United States, the Buff-breasted Sandpiper population is estimated to include 56,000 individuals (range of 35,000 to 78,000; Lanctot et al. 2010); earlier estimates were between 15,000 and 30,000 (Morrison et al. 2006), but likely were underestimates (Lanctot et al. 2010). The current estimate of 56,000 individuals is based on counts in the Rainwater Basin, Nebraska, an important stopover location[9] during northbound migration (Jorgensen et al. 2008). The uncertainty of the current population estimate depends on turnover rates estimated at stopover sites. Stopover duration at the Rainwater Basin is now known to be 48 hours

[9] Lanctot et al. (2010) defined key conservation sites as areas where at least 0.2% of the population (about 100 birds) occur regularly through time.

or less (McCarty et al. 2015), suggesting actual population size may be higher than previously estimated (Farmer and Durbian 2006). In addition, recent tracking data suggests that some birds bypass the Rainwater Basin, again potentially increasing population size estimates (R.B. Lanctot pers. comm. 2020). It should be noted that surveys of Buff-breasted Sandpipers on wintering grounds do not cumulatively support a population estimate of more than 50,000 birds. This suggests either a smaller population than estimated at the Rainwater Basin, or the existence of unknown wintering sites with large concentrations of birds (A.J. Lesterhuis, pers. comm. 2020; see Appendix B for a summary of population estimates).

Arctic Program for Regional and International Shorebird Monitoring (PRISM) surveys conducted between 1997 and 2007 across parts of Arctic Alaska yielded a population size estimate of 42,839 individuals for the areas surveyed at that time (95% range = 5,856–79,260; Bart and Smith, 2012). PRISM surveys conducted on the breeding grounds in Arctic Canada between 2010 and 2017 yielded much higher densities than expected based on conventional assumptions of the species' distribution and abundance. The population estimates arising from these surveys are many times larger than the currently proposed range-wide estimate of 56,000 (Lanctot et al. 2010). At the time of developing this management plan, these results are being carefully evaluated to ensure that they are accurate (P.A. Smith, pers. comm. 2020). PRISM estimates for the Buff-breasted Sandpiper present unique challenges because the species breeds at highly variable densities, due to its lek mating system, and they inhabit dry upland areas that are surveyed less intensively than the wetlands area used by many species (Lanctot et al. 2010; COSEWIC 2012). These new PRISM analyses will provide important information on abundance, distribution and habitat use for Buff-breasted Sandpipers. Surveys such as the North American Breeding Bird Survey (BBS) and Audubon Christmas Bird Count (CBC) provide very limited insight on this species.

Estimating trends is difficult because the species occurs in unpredictable locations on the breeding grounds, and appears to adjust when, where and how long it uses sites on both the migration and wintering grounds depending on environmental conditions (Lanctot et al. 2010). Historically, the Buff-breasted Sandpiper numbered in the hundreds of thousands. By the end of the 19th century, extensive commercial hunting during migration, and to a lesser extent on the wintering grounds, resulted in population numbers approaching dangerously low levels (McCarty et al. 2017; Lanctot et al. 2002, 2010). When the *Migratory Birds Convention Act* in 1917 and *Migratory Bird Treaty Act* in 1918 came into force, hunting pressure on the population declined, likely slowing the dramatic population decline (Lanctot et al. 2002, 2010; COSEWIC 2012).

Following hunting regulations, it is unknown whether the Buff-breasted Sandpiper population recovered or remained at low levels between the 1920s and the 1970s. The population is thought to have continued to decline in the recent decades (Lanctot et al. 2002, 2010). Observers on the migratory and wintering grounds alike have anecdotally reported declining numbers since at least the 1980s (Lanctot et al. 2002, 2010; COSEWIC 2012). For example, on the wintering grounds, there were 1,000 to 2,000 individuals during the winters of 1973 and 1974, with roosts of 600 to 1,000 individuals at Estancia Medaland, Argentina (Myers 1980). When the survey was

repeated in 1996–2000, there were rarely more than 100 birds sighted and never more than 94 individuals together (although there was a flock of ~300 sighted outside the study area) (Isacch and Martínez 2003a, 2003b). Estancia Medaland was declared a Western Hemisphere Shorebird Reserve Network (WHSRN) site of Regional Importance in 2018, in part based on counts of 1,010 Buff-breasted Sandpipers recorded at the site in 2017 (Martínez-Curci et al. 2018). The extent to which birds move between sites within a year is unknown but their numbers often vary substantially between years and even within the season, so short-term studies should be interpreted with caution (Myers 1980; Pruett-Jones 1988; Lanctot and Weatherhead 1997; Lanctot et al. 2002, 2016; but see Almeida 2009).

3.3. Needs of the Buff-breasted Sandpiper

Breeding

The Buff-breasted Sandpiper is an upland species, preferring to breed on the drier, elevated ridges of the tundra, rather than the wet, polygon lowlands as is common for many other shorebirds. In the spring, males begin foraging and displaying on the first snow-free areas, usually along bluffs and ridges bordering rivers (Pruett-Jones 1988; Lanctot and Weatherhead 1997). As the snow melts, males display on leks in moist graminoid meadow with many clumps of grasses (20 cm tall, 25-50 cm diameter; Lanctot et al. 2010; COSEWIC 2012; McCarty et al. 2017). Display areas typically are non-patterned ground, with few of the geometric patterns created by permafrost that are common in many arctic areas. Buff-breasted Sandpipers have an exploded lek mating system, with groups of 2-20 (average 2.6) males displaying together in a lek (Lanctot and Weatherhead 1997). Males typically display at one lek for only a short time, apparently moving between leks based on the number of available females (Lanctot and Weatherhead 1997). This causes lek location to be unstable within and across years. Solitary males may also display near the nest while females are fertile; this may be a more reliable tactic later in the season when there are fewer available females (Prevett and Barr 1976; Pruett-Jones 1988; but see Lanctot and Weatherhead 1997). Males leave breeding grounds following the initiation of nesting by females (Sutton 1967; Pitelka et al. 1974; McCarty et al. 2017).

Females nest away from lek sites (270-830 m; Pruett-Jones 1988), in well-drained grassy tundra with sedge grass clumps or moss-willows or moist sedge–graminoid meadows (Sutton 1967; Prevett and Barr 1976; Lanctot et al. 2010; McCarty et al. 2017). During incubation breaks, females forage in areas with little vegetation, often along streams. They may also use habitats with a distinct net-like pattern across the ground caused by permafrost freeze/thaw cycle. After their eggs hatch, females forage with their brood in wetter areas, often along streams in emergent vegetation (Lanctot et al. 2010). Unlike many other species, the Buff-breasted Sandpiper remains in the uplands throughout brood rearing (McCarty et al. 2017).

Migration

Historically, during the North American portion of migration, Buff-breasted Sandpipers would have congregated in the short-grass prairies, where fire and grazing bison kept

vegetation short (Jorgensen et al. 2007). These prairies are now largely taken over by agriculture. Currently, migrating Buff-breasted Sandpipers congregate in surrogate short-grass areas, like newly planted crops, pastures, plowed fields, sod farms, golf courses, cemeteries, airports, freshly cut hayfields, lawns, and fallow or short-growth agricultural fields (Lanctot et al. 2010; COSEWIC 2012; McCarty et al. 2017). The species is attracted to “relatively moist” fields and, especially in drier year, to recently watered fields (Lanctot et al. 2010 citing D. Newstead). In the Rainwater Basin, Nebraska, an important stopover site, migrating birds congregate in corn or soybean fields, with a strong preference for fields where soybean had been harvested on the previous year (Jorgensen et al. 2007). Buff-breasted Sandpipers tend to use cornfields where stalks are cut at the base and less than 10 cm in height (Jorgensen et al. 2007). The birds spend about 50% of their time at migratory stopover sites foraging (McCarty et al. 2009) and prefer the foraging site to be near (but not in) a wetland (Jorgensen et al. 2007), which they use for bathing and drinking (McCarty et al. 2009). On the Gulf Coast, staging Buff-breasted Sandpipers rely heavily on commercial sod and other forms of agriculture to a lesser extent (Stone et al. 2019). In South America, migrating Buff-breasted Sandpipers primarily use short-grass areas along rivers and wetlands. They are also found in harvested or newly planted agricultural fields (particularly sugar cane and rice), sand bars, or other short-grass habitats (Lanctot et al. 2002, 2010).

Non-breeding

Buff-breasted Sandpipers winter in the Pampas biome and show high fidelity to previous wintering sites (Isacch and Martinez 2003b). As during migration, they prefer grasslands where vegetation is 2 to 5 cm tall (Lanctot et al. 2002, 2004). Over winter, the birds rely primarily on intensively grazed pastureland or areas with flooding events, high salinity, and naturally short vegetation (Isacch and Martínez 2003b). Alternatively, the species relies on soybean or rice agricultural fields (Lanctot et al. 2002, 2004). Habitat tracking of wintering birds in the Samborombón Bay shows they rely on a combination of Pampas grassland (day) and salt-tolerant coastal (night) areas in Argentina (Castresana et al. 2019). In the Estancia Medaland, Buff-breasted Sandpipers move to freshwater swamps at night (J.P. Isacch, pers. comm. 2019)

Diet

Buff-breasted Sandpipers feed on insects, with some seeds and plant material. They also eat aquatic zooplankton, particularly during the fall after brood-rearing (McCarty et al. 2017). Their exact diet is poorly documented and likely varies between sites. However, on the wintering grounds, birds preferentially eat adult and larval beetles, ants, flies, spiders and earthworms (Isacch et al. 2005). Although most other arctic shorebirds eat worms, insect larvae, and marine zooplankton during brood rearing in the wet lowlands, the Buff-breasted Sandpiper remains in the uplands throughout brood rearing and therefore does not feed heavily on these aquatic invertebrates (McCarty et al. 2017).

4. Threats

4.1. Threat Assessment

The Buff-breasted Sandpiper threat assessment is based on the IUCN-CMP (World Conservation Union–Conservation Measures Partnership) unified threats classification system (Salafsky et al. 2008). This threat assessment was conducted in June 2019. Threats are defined as the proximate activities or processes that have caused, are causing, or may cause in the future the destruction, degradation, and/or impairment of the entity being assessed (population, species, community, or ecosystem) in the area of interest (global, national, or subnational). Limiting factors are not considered during this assessment process. Historical threats, indirect or cumulative effects of the threats, or any other relevant information that would help understand the nature of the threats are presented in the Description of Threats section.

Table 2. Threat calculator assessment.

Threat #	Threat Description	Impact[a]	Scope[b]	Severity[c]	Timing[d]
1	Residential and commercial development	Negligible	Pervasive (71-100%)	Negligible (<1%)	High (Continuing)
1.1	Housing and urban areas	Negligible	Pervasive (71-100%)	Negligible (<1%)	High (Continuing)
1.3	Tourism and recreation areas	Unknown	Small (1-10%)	Unknown	High (Continuing)
2	Agriculture and aquaculture	Unknown	Pervasive (71-100%)	Unknown	High (Continuing)
2.1	Annual and perennial non-timber crops	Unknown	Pervasive (71-100%)	Unknown	High (Continuing)
2.2	Wood and pulp plantations	Not Calculated (outside assessment timeframe)	Negligible (<1%)	Negligible (<1%)	Low (Possibly in the long term, >10 yrs)
2.3	Livestock farming and ranching	Not a Threat	Large (31-70%)	Neutral or Potential Benefit	High (Continuing)
3	Energy production and mining	Medium-Low	Large - Restricted (11-70%)	Moderate (11-30%)	High (Continuing)
3.1	Oil and gas drilling	Low	Small (1-10%)	Slight (1-10%)	High (Continuing)
3.2	Mining and quarrying	Low	Small (1-10%)	Slight (1-10%)	High (Continuing)
3.3	Renewable energy	Medium - Low	Large - Restricted (11-70%)	Moderate (11-30%)	High (Continuing)
4	Transportation and service corridors	Negligible	Large - Restricted (11-70%)	Negligible (<1%)	High (Continuing)
4.2	Utility and service lines	Negligible	Large - Restricted (11-70%)	Negligible (<1%)	High (Continuing)

Threat #	Threat Description	Impact[a]	Scope[b]	Severity[c]	Timing[d]
5	Biological resource use	Negligible	Negligible (<1%)	Extreme (71-100%)	Moderate (Possibly in the short term, < 10 yrs)
5.1	Hunting and collecting terrestrial animals	Negligible	Negligible (<1%)	Extreme (71-100%)	High (Continuing)
7	Natural system modifications	Low	Pervasive-Large (31-100%)	Slight (1-10%)	High (Continuing)
7.1	Fire and fire suppression	Low	Pervasive - Large (31-100%)	Slight (1-10%)	High (Continuing)
7.2	Dams and water management/use	Negligible	Pervasive (71-100%)	Negligible (<1%)	High (Continuing)
7.3	Other ecosystem modifications	Unknown	Pervasive (71-100%)	Unknown	High (Continuing)
8	Invasive and problematic species, pathogens and genes	Negligible	Large (31-70%)	Negligible (<1%)	High (Continuing)
8.1	Invasive non-native/alien plants and animals	Negligible	Large (31-70%)	Negligible (<1%)	High (Continuing)
8.2	Problematic native plants and animals	Not a Threat	Restricted (11-30%)	Neutral or Potential Benefit	High (Continuing)
9	Pollution	Unknown	Pervasive (71-100%)	Unknown	High (Continuing)
9.3	Agricultural and forestry effluents	Unknown	Pervasive (71-100%)	Unknown	High (Continuing)
11	Climate change	Low	Pervasive (71-100%)	Slight (1-10%)	High (Continuing)
11.1	Ecosystem encroachment	Not Calculated (outside assessment timeframe)	Large (31-70%)	Unknown	Low (Possibly in the long term, >10 yrs)
11.4	Changes in precipitation and hydrological regimes	Unknown	Pervasive (71-100%)	Unknown	Moderate (Possibly in the short term, <10 yrs)
11.5	Severe / Extreme Weather Events	Low	Pervasive (71-100%)	Slight (1-10%)	High (Continuing)

[a] **Impact** – The degree to which a species is observed, inferred, or suspected to be directly or indirectly threatened in the area of interest. The impact of each threat is based on Severity and Scope rating and considers only present and future threats. Threat impact reflects a reduction of a species population or decline/degradation of the area of an ecosystem. The median rate of population reduction or area decline for each combination of scope and severity corresponds to the following classes of threat impact: Very High (75% declines), High (40%), Medium (15%), and Low (3%). Unknown: used when impact cannot be determined (e.g., if values for either scope or severity are unknown); Not Calculated: impact not calculated as threat is outside the assessment timeframe (e.g., timing is insignificant/negligible or low as threat is only considered to be in the past); Negligible: when scope or severity is negligible; Not a Threat: when severity is scored as neutral or potential benefit.

[b] **Scope** – Proportion of the species that can reasonably be expected to be affected by the threat within 10 years. Usually measured as a proportion of the species' population in the area of interest. (Pervasive = 71–100%; Large = 31–70%; Restricted = 11–30%; Small = 1–10%; Negligible < 1%).

[c] **Severity** – Within the scope, the level of damage to the species from the threat that can reasonably be expected to be affected by the threat within a 10-year or three-generation timeframe. Usually measured as the degree of reduction of the species' population. (Extreme = 71–100%; Serious = 31–70%; Moderate = 11–30%; Slight = 1–10%; Negligible < 1%; Neutral or Potential Benefit ≥ 0%).

[d] **Timing** – High = continuing; Moderate = only in the future (could happen in the short term [< 10 years or 3 generations]) or now suspended (could come back in the short term); Low = only in the future (could happen in the long term) or now suspended (could come back in the long term); Insignificant/Negligible = only in the past and unlikely to return, or no direct effect but limiting.

4.2. Description of Threats

The exact causes of the decline of Buff-breasted Sandpipers are unknown. Multiple factors likely reduce the suitability or availability of stopover and wintering sites, including fire suppression, resource extraction, conversion of short-grass prairies to agricultural land, and pesticide contamination. Habitat loss as a result of these factors likely are the most immediate threat to the species. Habitat loss from wind farm encroachment and direct mortality from collisions with wind turbines at important stopover and wintering sites are significant threats to the Buff-breasted Sandpiper. A large proportion of the population is exposed to threats occurring on the Midcontinental flyway as the species uses this narrow migration corridor in spring and fall. Most of the threats to the species, and their underlying factors, are ongoing. The species faces few threats on its breeding grounds, but an expansion of industrial activities in the Arctic could cumulatively result in impacts on the species. In the coming years, climate change will likely play a larger role in the decline of the species. Threats likely to affect the species within the next ten years are described below from highest to lowest impact and certainty (Table 4).

IUCN-CMP Threat 3.3 Renewable energy (Medium to Low Impact)

The development of wind farms is thought to have a medium to low impact on Buff-breasted Sandpipers, though there is uncertainty in both the scope and severity of this threat. Wind farms may kill birds if they enter the rotor sweep zone or cause birds to avoid historic staging areas (Lanctot et al. 2010). Pre-construction surveys in Indiana found that more than 20% of staging American Golden-Plovers (*Pluvialis dominica*), who often migrate with Buff-breasted Sandpipers, flew in the proposed rotor sweep zone (West Inc., unpublished report, described in Lanctot et al. 2010). Wind energy production has grown substantially in Canada and the United States with more growth projected (Statistics Canada 2017; U.S. Energy Information Administration 2019). Most wind farms in the United States are located along the Midcontinental flyway, where birds migrate both in the fall and in spring. This biannual use of the migration corridor increases the risk of negative interaction with wind farms. In Canada, wind energy installations are mostly found outside of the Buff-breasted Sandpiper's breeding and migration ranges (Canadian Wind Energy Association 2019). There are at least 10 wind farms in development in southern Alberta (Dowdell and Patel 2020), but they also seem to be outside of the main migration corridor (McCarty et al. 2015, 2017). However, northern regions and the Prairies show high wind energy potential (Canadian Geographic Enterprises 2009). Extensive windfarm development is projected in the grassland and coastal areas of Brazil, Uruguay and Argentina. As of 2018, the Global Wind Energy Council ranks Brazil as having the 8th largest wind power capacity in the world and the largest in South America, while Uruguay has the 3rd largest capacity in South America. In Brazil, ongoing windfarm development overlaps with important wintering areas for Buff-breasted Sandpipers, where flocks of 200 to 300 birds have been reported (J.B. Almeida, pers. comm. 2019).

IUCN-CMP Threat 7.1 Fire and fire suppression (Low Impact)

Buff-breasted Sandpipers seem to prefer grassland that has been recently burned (Penner et al. 2015). The species may have benefitted from indigenous people's practices of burning the grasslands in the Midwestern United States and on the wintering grounds (R.B. Lanctot pers. comm. 2019a). Current fire suppression allows woody vegetation to encroach into grasslands, reducing habitat availability (Brockway et al. 2002), particularly as this species prefers areas without nearby trees or other obstructions (Jorgensen et al. 2007). In the Kansas' Flint Hills, new management techniques are starting to use fire for prairie conservation. Fire suppression was deemed to have a low impact on Buff-breasted Sandpipers.

IUCN-CMP Threat 11.5 Severe weather events (Low Impact)

Because of climate change, severe storms are increasing, and this increase is linked to declines in songbirds, particularly those that migrate over the Atlantic, as they cannot seek shelter (Butler 2000). Buff-breasted Sandpipers' migration across the Gulf of Mexico may become increasingly perilous. Similarly, juvenile mortality may increase with storm number and severity. Unlike adults, juveniles often migrate along the Atlantic Coast (Lanctot et al. 2010) and are therefore more likely to encounter storms or hurricanes. On the breeding grounds, extreme weather may cause nest failure, but losses to nests and chicks have not yet been studied in detail (J. Rausch, pers. comm. 2019). Overall, the impact of severe weather events is likely low.

IUCN-CMP Threat 3.1 Oil and gas drilling (Low Impact)

Buff-breasted Sandpipers have been documented breeding in the National Petroleum Reserve, Kuparuk and Prudhoe Bay oil fields and the Arctic National Wildlife Refuge in Alaska, where oil and gas drilling is either already occurring or proposed (Lanctot et al. 2010). The infrastructure associated with arctic oil and gas projects (e.g. roads, runways, buildings) is usually built in the drier upland areas where Buff-breasted Sandpiper males display. Building in these areas may lead to habitat loss and disturbance during the breeding season, possibly causing females to abandon nests if they are repeatedly flushed, or to increased predator numbers due to the presence of artificial food sources.

Since 2007, oil drilling, particularly horizontal drilling and hydraulic fracturing (fracking) has increased across the prairies in both Canada and the United States (National Energy Board 2013). Horizontal drilling may reduce the amount of land affected by oil and gas development. Many grassland species avoid these sites and their surroundings to varying degrees (Thompson et al. 2015). On the wintering grounds, Colombian grasslands are seeing an increase in habitat loss due to drilling (C. Ruiz-Guerra, pers. comm. 2019). Given the limited extent of oil and gas development, their impact is likely low.

IUCN-CMP Threat 3.2 Mining and quarrying (Low Impact)

As with oil and gas drilling, infrastructure associated with arctic mines (e.g. roads, runways, buildings) is usually built on the drier upland areas where Buff-breasted

Sandpipers display and occasionally nest. There has been increased mining in Brazil on the wintering grounds (COSEWIC 2012), but biologists negotiated the movement of an 8,000-hectare mine project south of Lagoa do Peixe away from Buff-breasted Sandpiper habitats (Lanctot et al. 2010). Similar to oil and gas development, the limited footprint of mining and quarrying resulted in this threat's low impact score.

IUCN-CMP Threat 7.3 Other ecosystem modifications (Unknown Impact)

Buff-breasted Sandpipers may be exposed to a wide array of pesticides because they rely on agricultural habitat when migrating and during the winter (Strum et al. 2008, 2010). Although attractive to the Buff-breasted Sandpiper because of their physical characteristics, surrogate short-grass habitat with intensive pesticides use could represent ecological traps for the species from direct or indirect contamination (Lanctot et al. 2010). Direct effects of pesticides are discussed under "Description of Threats: 9.3 Agricultural and forestry effluents". Insect abundance is also likely lower on cropland that has been treated with insecticides, reducing food availability for insectivorous birds, including this species (Hart et al. 2006; Bellavance et al. 2018). Poor insect abundance in these areas may reduce survival because Buff-breasted Sandpipers rely heavily on those insects to provide energy for migration. The impact on the population is unknown.

IUCN-CMP Threat 9.3 Agricultural and forestry effluents (Unknown Impact)

The Buff-breasted Sandpiper may be exposed to pesticides during migration and the wintering period because they rely mainly on human-altered habitat (such as cropland, sod fields and golf courses) sprayed with pesticides. Carbamate insecticides like Furadan F4 have been linked to Buff-breasted Sandpiper mortality during migration (Flickinger et al. 1986; Lanctot et al. 2010). Buff-breasted Sandpipers wintering in rice fields and cattle pastures in Argentina and Uruguay have shown evidence of being exposed to contaminants that altered the birds' nervous system (Strum et al. 2010). Effects of the increasing use of neonicotinoid, the most widely used insecticide known to be highly detrimental for seed eating birds (Goulson 2013, Gibbons et al. 2015), remain undocumented for the Buff-breasted Sandpiper (McCarthy et al. 2017). Since 2016, Brazil has approved the usage of more than 1200 pesticides, many of which are banned elsewhere, which creates a concern of further negative effects on the species. Because of the species' habitat use, a large proportion of the Buff-breasted Sandpiper population might be exposed to pesticides and contaminants; however, population effects have not been quantified. The overall impact of agricultural contaminants on the Buff-breasted Sandpiper population is unknown, but likely is significant and in need of study.

IUCN-CMP Threat 2.1 Annual and perennial non-timber crops (Unknown Impact)

Most of the native, short-grass prairie historically used as stopover habitat has been converted to agricultural fields, resulting in a profound loss of natural stopover habitat. Short-grass prairies managed under cattle grazing provide suitable habitat for Buff-breasted Sandpipers, but those areas are increasingly converted to agricultural cropland. Conversion to agricultural cropland across Canada, the United States and Mexico is ongoing, driven by the need to feed growing human populations, demands for biofuel, and increasing crop irrigation in traditionally dry areas as electricity becomes

available (Meeting of the Canada/Mexico/United States Trilateral Committee for Wildlife and Ecosystem Conservation and Management 2019; Agenda item 24). Similar agricultural expansions are happening in South America in both migratory and wintering habitat. Farmers are converting traditional rangeland into cropland in fertile areas (Lanctot et al. 2010). Important migratory stopovers during northern migration in the savannahs of Los Llanos, Colombia (Lanctot et al. 2016) have rapidly been converted for palm oil and rice cultivation since 2000 (Romero-Ruiz et al. 2011). Illegal drainage canals to irrigate rice and drain areas for cultivation threaten Brazilian wintering habitat around coastal lagoons (Lanctot et al. 2010).

Because there is little unaltered short-grass habitat, Buff-breasted Sandpipers have adopted some types of croplands as alternative habitat during migration and over the winter. It is unclear whether agricultural areas are high-quality substitutes—there may simply be no natural habitat available. Some types of fields are preferable to others (e.g., soy is preferable to corn; Jorgensen et al. 2007). In Saskatchewan and Manitoba, two important staging areas during northern migration (Tibbitts et al. 2019), pasture land has decreased between 2011 and 2016 by 5% and 7%, respectively (Statistics Canada 2020). The increased agricultural production discussed above may provide habitat, depending on which crops are planted. Some agricultural practices, increasingly used for other conservation purposes, may be at odds with Buff-breasted Sandpiper conservation (e.g., no-till agriculture conserves soil and water but may reduce insect abundance in fields; Lanctot et al. 2010). No-till agriculture and monocultures, such as sod fields, require increased chemical application, discussed under *7.3 Other ecosystem modifications*. Since the conversion of native areas to cropland both destroys traditional habitat and creates an alternative—albeit likely inferior—habitat, the overall impacts of non-timber crops are unknown.

IUCN-CMP Threat 11.4 Changes in precipitation and hydrological regimes (Unknown Impact)

Conditions on the breeding ground may get drier as precipitation regimes shift, permafrost thaws, and drainage increases (Hinzman et al. 2005), which may change the insect prey available to Buff-breasted Sandpipers. Along the migratory route, more frequent severe droughts are predicted in the Great Plains, which will reduce wetland habitat (Johnson et al. 2005). These areas are currently used by Buff-breasted Sandpipers for resting and maintenance (McCarty et al. 2009). However, the large, shallow lakes in the Parkland regions of Alberta (such as Beaverhill Lake and North Cooking Lake) have been at extremely low water levels since the late 1990s (G. Court, pers. comm. 2020). Those historical staging areas for Buff-breasted Sandpipers are now used less frequently by the species (G. Court, pers. comm. 2020). Increasing precipitation in the wintering range may contribute to flooding and displacement (Nuñez et al. 2008). Important sites for the species, such as Asuncion Bay and Estancia Medaland, are regularly flooded, which temporarily reduces the amount of available habitat locally, yet overall effects on the wintering population are unknown (A. Lesterhuis, pers. comm. 2019). It is ultimately unknown how changing precipitation regimes will impact Buff-breasted Sandpiper populations.

IUCN-CMP Threat 1.3 Tourism and recreational areas (Unknown Impact)

Because this species prefers short grass habitat, birds use airports, golf courses, and other large landscaped areas during their migration as short-term resting sites (Lanctot et al. 2010; COSEWIC 2012; McCarty et al. 2017). These sites may represent poor habitat—golf courses use large amounts of pesticides, and airport managers harass birds to prevent bird strikes on planes (R.B. Lanctot pers. comm. 2019a). Those surrogate habitats may be attractive to the species, but could result in poor foraging conditions compared to natural habitat. The impact of tourism and recreation is unknown.

IUCN-CMP Threat 7.2 Dams & water management/use (Negligible Impact)

Ground water pumping and surface drainage can result in drier fields, reducing the suitability of short-grass habitat for Buff-breasted Sandpipers. Surface and ground water management is a common practice in agricultural fields to optimize crop production. Those practices likely influence the suitability of a large portion of the Buff-breasted Sandpiper's non-breeding range, given that the species relies almost exclusively on crops as stopover and wintering sites. The impact of dams and water management has been considered as negligible for the species. This impact score could be revised following further investigation on the permanent effects of drainage on the species' habitat.

IUCN-CMP Threat 1.1 Housing and urban areas (Negligible Impact)

While the North American prairies that the Buff-breasted Sandpiper historically relied on during migration have overwhelmingly been converted for agricultural use (Gauthier and Wiken 2003), housing and urban areas expansion has likely been negligible. Evidence from Nebraska suggests that while migrating the species prefers areas without obstructions, such as buildings, trees, and other structures associated with human settlements (Jorgensen et al. 2007). On the wintering grounds, the species is no longer found surrounding Buenos Aires, Argentina after heavy urban development and habitat destruction (Lanctot et al. 2002). The impact of this threat has been deemed negligible.

IUCN-CMP Threat 8.1 Invasive non-native/alien plants and animals (Negligible Impact)

Non-native plant species may spread into the remaining native grassland. This is particularly true given that the Prairie Farm Rehabilitation Administration's Community Pasture Program ended in 2012 and federally managed grassland was returned to the provinces by 2018, decreasing resources for pasture management in Canada. Fire suppression may also contribute to the spread of non-native plants that are not as fire-resistant as their native competitors (Brockway et al. 2002). Finally, grasslands on the wintering grounds are often modified by planting non-native grasses that can increase forage levels for livestock (R.B. Lanctot pers. comm. 2019b). It is unclear whether this modification will affect the use of the areas by Buff-breasted Sandpipers. On wintering grounds, feral pigs alter vegetation where the Buff-breasted Sandpiper occurs, but effects on the species have not been assessed. Despite the potential

negative effects, non-native species invasion poses a negligible threat to the Buff-breasted Sandpiper.

IUCN-CMP Threat 4.2 Utility and service lines (Negligible Impact)

Although there have been instances where Buff-breasted Sandpipers collide with powerlines, generally the species seems to coexist with powerlines without population-level impacts, so the impact has been deemed negligible (Lanctot et al. 2010).

IUCN-CMP Threat 5.1 Hunting and collection of terrestrial animals (Negligible Impact)

Though historically commercial hunting was prevalent in North America, Buff-breasted Sandpipers have been protected under the *Migratory Birds Convention Act* in Canada and the *Migratory Bird Treaty Act* in the United States since 1917 and 1918, respectively. The species is listed in Appendix I and II of the UN Convention on the Conservation of Migratory Species of Wild Animals, which prohibits hunting of the species in its wintering range. Presently, there is little risk of hunting throughout their range. Small amounts of legal and illegal shorebird harvesting do occur in parts of Latin America (the Guianas, the Caribbean, along the northern coast of South America, and potentially other areas) but these areas are not along the main migratory route (Wege et al. 2014). Currently, it is estimated that no more than 1371 +/- 282 Buff-breasted Sandpipers could be sustainably harvested annually (Watts et al. 2015). This level of hunting is unlikely to be occurring and hunting was deemed a negligible threat to the population.

IUCN-CMP Threat 11.1 Ecosystem encroachment (Outside of Assessment Timeframe)

Buff-breasted Sandpipers are expected to lose about 50% of their potential suitable breeding habitat by 2070 because of climate change (Wauchope et al. 2017). Warming is allowing shrub growth to expand northward across the tundra (Sturm et al. 2001). Melting permafrost may affect the shallow tundra wetlands, preferred for foraging. Coastal erosion has accelerated as the permafrost melts and there are more ice-free days with heavy wave action, even flooding some freshwater areas with saltwater (Jones et al. 2009). Rising sea levels may also flood breeding sites and salinize freshwater wetlands used for foraging (Lanctot et al. 2010). Buff-breasted Sandpipers have low breeding site fidelity and ample breeding habitat, providing them some flexibility in adjusting where they breed (Lanctot et al. 2016). Thus, the species may be able to cope with changes in the near term but may struggle if habitat becomes more limiting.

Additionally, in response to earlier spring thaws in the Arctic, the arthropods that shorebirds feed on are emerging earlier. Some other shorebirds are responding to these changes by breeding earlier. However, many species are no longer able to synchronize the hatching of their eggs with peak insect emergence (i.e., phenological mismatch is occurring; McKinnon et al. 2012; Tulp and Schekkerman 2008). It is unknown whether Buff-breasted Sandpipers are able to adjust to these changes.

Climate change is projected to shift the location of suitable migratory stopover habitat along the Midcontinental flyway (Wauchope et al. 2017).

Most Buff-breasted Sandpiper wintering habitat is coastal and could be flooded as a result of the projected rise in sea levels. The species may be forced to move inland to hillier, drier habitats or agricultural areas, which long-term suitability have not been assessed. While the impact of ecosystem encroachment was not calculated because these impacts are outside the timeframe of the threat assessment, rising sea levels on the wintering ground may pose the largest threat to the species.

IUCN-CMP Threat 2.2 Wood and pulp plantations (Outside of Assessment Timeframe)

In Brazil, and to a lesser extent Argentina, tree plantations may affect Buff-breasted Sandpipers wintering habitat. Ten percent of the grasslands in Rio Grande do Sul, Brazil have been converted to pine, eucalyptus, and acacias plantations (Gautreau and Vélez 2011), though much of this grassland is not coastal. These plantations are avoided by Buff-breasted Sandpipers (Dias et al. 2013). Pine plantations are particularly concerning because their seeds may disperse into adjacent grassland habitat, altering even greater areas than the plantations themselves, and ecological restoration is challenging (Simberloff et al. 2010; Lanctot et al. 2010). In fact, invasions of non-native pines into native habitat have already occurred around the world, resulting in varying degrees of habitat loss (Simberloff et al. 2010). This threat's impact is negligible to the species. This impact score could be revised following further investigation on the species' range overlap with tree plantation areas.

IUCN-CMP Threat 8.2 Problematic native plants and animals (Not a Threat)

Expanding Snow Goose (*Anser caerulescens*) populations cause habitat degradation in agricultural fields in Saskatchewan and to a lesser extent Manitoba and Alberta where geese grub for food on migratory staging grounds (Mowbray et al. 2000). Since Snow Geese stage in Saskatchewan earlier than the Buff-breasted Sandpiper in the spring and later in the fall, Snow Geese are not expected to impact Buff-breasted Sandpipers on migration (Mowbray et al. 2000; McCarty et al. 2017). Grubbing may even be beneficial if it exposes soil and invertebrates for Buff-breasted Sandpiper foraging (C. Artuso, pers. comm. 2019). In two studies performed on the breeding grounds, the presence of goose colonies were shown to increase predation risk to nesting shorebirds; however, Buff-breasted Sandpipers were not specifically included in these studies (Lamarre et al. 2017; Flemming et al. 2019).

Nest predators such as the Arctic Fox (*Vulpes lagopus*) and the Red Fox (*V. vulpes*), whose range's has expanded northward over the last decades (Stickney et al. 2014, Elmhagen et al. 2017), are expected to have a higher impact on nest survival through changes in distribution, increased densities, and adapted behavior (Kubelka et al. 2018). Oil and gas development is thought to increase the number of avian and mammalian predators due to the presence of artificial food sources and additional denning and nesting sites. However, according to two studies, there is no evidence that the infrastructure reduces nest survival of shorebirds as a group, although both studies included only a small number of Buff-breasted Sandpiper nests (10 and 3, respectively; Liebezeit et al. 2009; Bentzen et al. 2017). In general, predation risk has increased over the last 70 years in the Northern Hemisphere, especially in the Arctic (Kubelka

et al. 2018). Problematic native plants and animals are deemed not a threat to this species.

IUCN-CMP Threat 2.3 Livestock farming and ranching (Not a Threat)

Buff-breasted Sandpipers extensively use tame pastures during the winter and, to a lesser extent, during migration (Lanctot et al. 2004; Jorgensen et al. 2007; Isacch and Cardoni 2011; Aldabe et al. 2019). Tame pastures might provide similar amount of food as in natural grasslands if grazing conditions are similar, and therefore adequate wintering and stopover habitat. Pastures with suboptimal grazing conditions for the species might still be used, as those may simply be the dominant habitat in the area. Though this species prefers to forage in overgrazed areas, grazing to that intensity year-round might be detrimental to the soil (Lanctot et al. 2004; Aldabe et al. 2019) and can degrade the quality of the forage and increase erosion (Bement 1969, Cingolani et al. 2005). Instead, Buff-breasted Sandpipers may benefit from seasonal rotations in grazing intensity that maintain vegetation height from 2 to 5 cm while birds are present (Isacch and Cardoni 2011; Aldabe et al. 2019). In Canada, the Prairie Farm Rehabilitation Administration's Community Pasture Program ended in 2012, and federally managed grassland was returned to the provinces by 2018. This may lead to overgrazing, soil erosion, and damage in some areas where Buff-breasted Sandpipers stopover depending on how the areas are managed going forward. On the balance, livestock farming and ranching are not a threat to Buff-breasted Sandpipers.

5. Management Objective

The management objective for the Buff-breasted Sandpiper is to maintain the population size of the species over a period of 10 years ranging from 2025 to 2035 using new stopover sites estimates provided by 2025.

Accounts of historical population sizes are limited and the trend of the population is unknown. The species is difficult to survey given its sparse distribution on breeding grounds and the difficulty to detect individuals in the field. Surveys at key stopover areas currently provide the most reliable estimates of population size and will contribute in measuring progress towards the management objective. A tracking study revealed that the Flint Hills, located in Oklahoma and Kansas, and the Texas Gulf Coast are the two main stopover areas for the Buff-breasted Sandpiper in the U. S., the latter likely being the most important (Lanctot et al. 2016). From 2016 to 2019, the United States Fish and Wildlife Service (USFWS), the United States Geological Survey (USGS), and the University of Nebraska Omaha, working with citizen scientists, conducted spring ground surveys for the Buff-breasted Sandpiper on the Texas Gulf Coast. Those surveys will yield a more reliable population estimate[10] for the species, which should be available by 2026, and will provide a baseline for the long-term management objective.

[10] The current estimates did not take turnover rates into account, which are known to be relatively high (see *Population Size and Trends* in section 3.2). This could lead to an underestimation of the population count. New estimates are expected to be more reliable as specific effort was put in assessing turnover rates at the Texas stopover sites throught radio-tracking of individuals.

Progress towards meeting the management objective will be evaluated as new population estimates become available.

The Buff-breasted Sandpiper was designated as Special Concern because of ongoing threats related to habitat loss and degradation on the non-breeding grounds (COSEWIC 2012). Since hunting of the species was banned in North America in the early 1900s, its population has grown, but numbers remain much lower than they were before hunting began. The Buff-breasted Sandpiper population appears to be limited by the availability of habitat on migration and non-breeding areas. Hence, the long-term management objective will be achieved by ensuring a no net loss of suitable sites at the landscape level on migration and wintering grounds. Considering the extent of non-breeding habitat found outside Canada, achieving this goal will only be possible through strong collaboration with Canada's international partners.

The United States Conservation Plan for the Buff-breasted Sandpiper sets the goal to increase the population by more than 90% to at least 100,000 individuals (Lanctot et al. 2010). This goal aims to build resiliency in the population of the species to offset future threats (Lanctot et al. 2010). In contrast, this management plan's objective seeks to address the risk of the species to become endangered or threatened, which led COSEWIC to assign a Special Concern status to the Buff-breasted Sandpiper.

6. Broad Strategies and Conservation Measures

6.1. Actions Already Completed or Currently Underway

In Canada, there has been little conservation work specifically targeting the Buff-breasted Sandpiper. The following list is not exhaustive, but is meant to illustrate the main areas where work has been completed or is already underway, to give context to the broad strategies outlined in section 6.3. Actions completed or underway include the following:

- Broad-scale initiatives which benefit the conservation and management of the species:
  - The Buff-breasted Sandpiper is one of the focal species for the Americas Flyway Action Plan of the Arctic Migratory Birds Initiative (AMBI). This designation focuses efforts at understanding the factors limiting this species and ways to improve its conservation throughout the flyway (CAFF 2019).
  - The USFWS is leading work, with contribution from the Canadian Wildlife Service (CWS), to update the full life-cycle conservation plan for the Buff-breasted Sandpiper.
  - Many organizations and programs provide financial incentives to farmers and ranchers for conserving or restoring grassland and wetland habitats along the migratory route. Examples include the United States and Canada Joint Ventures, MultiSAR in Alberta, South of the Divide Conservation Action Program, the United States Department of Agriculture's Conservation Reserve Program, and the Sustainable Grazing Network in Mexico.

    - Research identifying key breeding, stopover, and wintering locations using satellite and GPS tracking technology is ongoing. See section 3. Species Information.

- Conservation and management of the species in Canada:
    - Buff-breasted Sandpiper breeding habitat is conserved in the national parks, migratory bird sanctuaries, national wildlife areas of the Canadian Arctic, as well as through the Inuvialuit community conservation plans.
    - The Ahiak Migratory Bird Sanctuary Management Plan (2018) outlines a plan for the co-management of Buff-breasted Sandpipers and other species by Environment and Climate Change Canada (ECCC) and local Inuit in the sanctuary (ECCC 2018).
    - The Arctic PRISM, a joint effort between ECCC, the USGS, and the USFWS, has been surveying the Arctic for shorebirds from 2002 to 2018 to determine population sizes and trends, and clarify distribution and habitat usage of all species, including the Buff-breasted Sandpiper. At the time of developing this management plan, new estimates of population size and breeding distribution for the species are being carefully evaluated to ensure accuracy.
    - Land from the former Prairie Farm Rehabilitation Administration's Community Pasture Program had been returned by 2018 to provinces for management and is in large part still being managed for conservation by different groups in a way that benefits the Buff-breasted Sandpiper.

- Conservation and management of the species outside Canada:
    - Some of the identified key stopover sites have been designated as sites of importance by the WHSRN, including Rainwater Basin in Nebraska (2009) and the Flint Hills in Kansas and Oklahoma (2016) as sites of hemispheric importance, as well as Asuncion Bay in Paraguay (2008) and Barba Azul Nature Reserve in Bolivia (2015) as sites of regional importance.
    - Following habitat destruction from construction in Asuncion Bay (Paraguay) in 2010, the CWS and the United States' *Neotropical Migratory Birds Conservation Act* (NMBCA) have supported the local government in restoring habitat for Buff-breasted Sandpiper and other impacted shorebirds.
    - In 2018, a grant from NMBCA was awarded to fund the purchase of an additional 681 hectares of grassland and the management of 15,000 hectares of Buff-breasted Sandpiper habitat at the Barba Azul Nature Reserve, Bolivia (U.S. Fish and Wildlife Program 2018). Starting October 2019, the reserve will be experimenting with beneficial management practices for cattle ranching to create and maintain Buff-breasted Sandpiper staging habitat. Long-term monitoring of the species will also be conducted at the site (Asociación Armonía 2019).
    - The Southern Cone Grassland Alliance, supported in part by CWS, has helped guide the development of beneficial management practices for sustainable land-use in Argentina, Paraguay, Uruguay, and Brazil. Through this project, ranching practices were improved on 116,479 hectares of grasslands and other beneficial management practices implemented on 25,371 hectares (Rosenberg et al. 2016).

- Four sites of importance for the Buff-breasted Sandpiper on the wintering grounds have been designated under WHSRN, namely Lagoa do Peixe in Brazil (1990) and Bahía Samborombón in Argentina (2011) as sites of international importance, and Laguna de Rocha in Uruguay (2010) and Estancia Medaland in Argentina (2018) as sites of regional importance. These sites include both publicly and privately-owned land.
- Biologists in several countries within the Southern Cone Grassland Alliance have conducted surveys for Buff-breasted Sandpipers with the goal of providing a winter-based population estimate and trend for the species.

6.2. Broad Strategies

The broad strategies for the Buff-breasted Sandpiper have been developed to address the threats this species is facing across its range, primarily focusing on mitigating the most pressing threats and gathering the information needed to address the remaining threats. While renewable energy development received the highest impact score in the threat assessment and this impact score could rapidly increase, wintering and stopover habitat loss from a combination of factors (see section 4.2) remain the most immediate threat to the Buff-breasted Sandpiper. Strategies fall under the following broad categories[11]:

- Livelihood, Economic & Moral Incentives
- Conservation Designation & Planning
- Institutional Development
- Research and Monitoring

6.3. Conservation Measures

Table 3. Conservation Measures and Implementation Schedule

Conservation Measure	Priority[e]	Threats or Concerns Addressed	Timeline
Broad Strategy: Livelihood, Economic & Moral Incentives			
Market-based Incentives • Provide resources to landowners through stewardship programs to consider Buff-breasted Sandpiper habitat needs (such as short-grass, adequate soil moisture, and vital dry Arctic uplands in danger of flooding as sea levels rise) when managing their lands.	High	IUCN Threats 2.1, 2.3, 7.1, and 7.2	Ongoing

[11] The broad strategy categories follow the International Union for Conservation of Nature – Conservation Measures Partnership (IUCN-CMP) Conservation Actions Classification v 2.0 (http://cmp-openstandards.org/tools/threats-and-actions-taxonomies/),

Conservation Measure	Priority[e]	Threats or Concerns Addressed	Timeline
Better Products & Management Practices • Encourage the wind energy sector to develop, implement, and promote beneficial management practices to mitigate threats to the Buff-breasted Sandpiper and its habitats where the species is known to occur.	High	IUCN Threat 3.3	2021–2031
Better Products & Management Practices • Assist landowners to implement and promote beneficial management by providing or helping to develop written and digital resources to strengthen stewardship programs, which directly contribute to creating and maintaining Buff-breasted Sandpiper habitat and an appreciation of its value.	Moderate	IUCN Threats 2.1, 2.3, 7.1, and 7.2	2026–2036
Broad Strategy: Conservation Designation & Planning			
Protected Area Designation &/or Acquisition • Conserve habitat at key sites.	Moderate	IUCN Threats 2.1, 2.3, 3.1, 3.2 and 3.3	Ongoing
Broad Strategy: Institutional Development			
Alliance & Partnership Development • Develop new international partnerships for conservation and maintain existing ones.	High	All	Ongoing
Broad Strategy: Research and Monitoring			
Basic Research & Status Monitoring • Centralize data from past surveys and complete the analysis of tracking studies that identify sites with high densities of Buff-breasted Sandpipers.	High	Knowledge gap	2021–2026
Basic Research & Status Monitoring • Monitor the species at known and potential key sites during southbound and northbound migration; • Establish a list of key sites where at least 0.2% of the population (about 100 birds) occur regularly through time.	High	Knowledge gap	2021–2026
Basic Research & Status Monitoring • Develop a more reliable and accurate population estimate within the next 5 years	High	Knowledge gap	2021–2026

Conservation Measure	Priority[e]	Threats or Concerns Addressed	Timeline
Basic Research & Status Monitoring • Determine fine-scale landscape features that predict habitat usage both on breeding and non-breeding grounds	High	IUCN Threats 3.1, 3.2, 11.1, and 11.4	2021–2026
Basic Research & Status Monitoring • Identify the natural processes that created and maintained suitable habitats to develop land-use practices beneficial for the species	High	IUCN Threats 2.1, 2.3, 7.1, and 7.2	2021–2026
Basic Research & Status Monitoring • Continue to monitor the species and its habitat on the breeding ground as part of the Arctic PRISM survey.	High	Knowledge gap	2021–2031
Basic Research & Status Monitoring • Determine level of exposure of the species to pesticides and effects of those contaminants on survival, fitness and food availability.	Medium	IUCN Threats 7.3 and 9.3	2021–2026
Basic Research & Status Monitoring • Evaluate current and past population monitoring methods and identify the most appropriate methods to assess progress towards the management objective.	Medium	Knowledge gap	2021–2026
Basic Research & Status Monitoring • Determine the fall migration route, survival rates and potential threats to juveniles of the Buff-breasted Sandpiper population.	Low	Knowledge gap	2026–2031
Basic Research & Status Monitoring • Assess the severity of the effects of climate change on demographics and distribution	Low	Threats 11.1, 11.4, and 11.5	2026–2031

[e] "Priority" reflects the degree to which the measure contributes directly to the conservation of the species or is an essential precursor to a measure that contributes to the conservation of the species. High priority measures are considered those most likely to have an immediate and/or direct influence on attaining the management objective for the species. Medium priority measures may have a less immediate or less direct influence on reaching the management objective but are still important for the management of the population. Low priority conservation measures will likely have an indirect or gradual influence on reaching the management objective but are considered important contributions to the knowledge base and/or public involvement and acceptance of the species.

6.4. Narrative to Support Conservation Measures and Implementation Schedule

Institutional Development

Considering the extent of non-breeding habitat found outside Canada, implementing broad strategies that benefit the Buff-breasted Sandpiper will only be possible through strong collaboration with Canada's international partners. In addition, collaboration with the wind energy sector is required to mitigate threats to the species and its habitat at key sites.

As such, Canada and international partners created the Midcontinental Shorebird Conservation Initiative (MSCI), which aims to deliver full life-cycle conservation for the Buff-breasted Sandpiper and other species. The Buff-breasted Sandpiper is recognized as high conservation concern in many countries because it occupies several locations relevant to shorebird conservation that are prioritized as part of the MSCI.

Livelihood, Economic & Moral Incentives, and Conservation Designation & Planning

Wintering and stopover habitat used by the Buff-breasted Sandpiper is predominantly privately owned and used as agricultural cropland or pastureland, so the involvement of private landowners is critical. Stewardship programs can support and incentivize landowners to manage their land for short-grass habitat and shorebird conservation. Where appropriate and after consideration of a range of ecological targets, this may involve using livestock or fire to maintain short-grass habitat, as well as appropriate soil moisture in sod fields. Support could also be given to sod farm owners, where housing development exerts pressure on agricultural lands. Further research is need to determine if this type of habitat provides adequate conditions to support the recovery of Buff-breasted Sandpiper. Conservation managers and landowners of key migratory and wintering sites should be educated about Buff-breasted Sandpiper's unusual habitat requirements (shortgrass rather than the taller coastal wetland grasses preferred by most shorebirds and waterbirds) so that these requirements are not overlooked when implementing management practices for shorebirds more broadly.

Appropriate buffers and mitigation measures for renewable energy developments must be put in place in locations where there is high density of Buff-breasted Sandpiper. *Standards for monitoring nonbreeding shorebirds in the Western Hemisphere* (PRISM 2018) provide a comprehensive protocol for *ad hoc* assessments of habitat use by shorebirds.

Research and Monitoring

Buff-breasted Sandpipers should be monitored to determine habitat usage, population size and trends. By 2025, this monitoring effort should inform a more reliable and accurate baseline population size towards the management objective. Surveys on staging or wintering grounds may be more effective in determining population sizes and trends than arctic surveys because the species does not congregate in large numbers or show site fidelity on the breeding grounds. This is particularly important as population

trends have not been quantified. At the same time, arctic breeding ground surveys and GPS-tracking can provide important information about micro-scale habitat use, which is needed to identify areas sensitive to industrial development and to climate change. Arctic PRISM may provide some of this information as upland habitats are included in the surveys (COSEWIC 2012). Surveys along the migratory route and in the wintering grounds can provide similar information about habitat use during these stages.

Monitoring of habitat use and research on suitable habitat characteristics are key steps in shaping conservation actions for the species. By 2025, key wintering and migratory stopovers sites that cumulatively support 80% of the current population estimate of 56,000 individuals should be identified. Canada will collaborate with its international partners to work towards a no net loss of suitable habitat at those sites. Tracking Buff-breasted Sandpipers using technology such as isotopes, genetics, radio-telemetry, geolocators, and satellite telemetry provides a wealth of information, including the location of sites with high densities of the species. Once identified, high-density locations can be conserved and managed cooperatively with landowners. Much of the species monitoring work is already in progress, but the analysis of the data is ongoing (R.B. Lanctot pers. comm. 2019b). Additionally, to most effectively use this technology, the potential effects of geolocators and telemetry units on movement and survival must be assessed (identified as High priority by the ECCC Shorebird Technical Committee in 2016).

Various threats to the Buff-breasted Sandpiper require further investigation to understand their impact. The species' reliance on agricultural areas during the non-breeding period puts individuals at risk of pesticide contamination. While there has been some research into the effects of pesticides, multiple unknowns remain, such as the extent of exposure to various chemicals; the direct effects of those chemicals on the species, and; the indirect effects on the invertebrates eaten by the species.

Climate change may become one of the greatest threats facing this species but the severity of its current and projected effects on the Buff-breasted Sandpiper requires more research. As average temperatures increase in the Arctic, the northern limit of shrub vegetation is advancing into the Buff-breasted Sandpiper's breeding habitat. On the wintering grounds, habitat is expected to be lost from coastal erosion and rising sea levels. It is unclear whether the species is adjusting its breeding schedule to match earlier insect emergence in the Arctic. Along migration, habitat and weather patterns are expected to shift and it is unknown whether the species will adapt to these changes. The population-level effect of these threats is unknown. Some changes, like more frequent and severe storms, may have strong impacts on individual survival, but more study is needed to determine whether birds are able to survive such situations. During fall migration, juveniles following the Atlantic coast might be disproportionally vulnerable to increased frequency and severity of storms compared to adults who migrate inland. Overall, more research into the effects of climate change on Buff-breasted Sandpiper demographics and distribution is needed.

7. Measuring Progress

The performance indicators presented below provide a way to measure progress towards achieving the management objective and monitoring the implementation of the management plan.

- By 2026, a more accurate population estimate from stopover sites is available.
- By 2026, key wintering and migratory stopovers sites that cumulatively support 80% of the current population estimate are identified. Key sites are defined as areas where at least 0.2% of the population (about 100 birds) occur regularly through time.
- By 2036, the Buff-breasted Sandpiper population is maintained at the 2026 level detected from stopover surveys.

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Appendix A: Effects on the Environment and Other Species

A strategic environmental assessment (SEA) is conducted on all SARA recovery planning documents, in accordance with the *Cabinet Directive on the Environmental Assessment of Policy, Plan and Program Proposals*[12]. The purpose of a SEA is to incorporate environmental considerations into the development of public policies, plans, and program proposals to support environmentally sound decision-making and to evaluate whether the outcomes of a recovery planning document could affect any component of the environment or any of the Federal Sustainable Development Strategy's[13] (FSDS) goals and targets.

Conservation planning is intended to benefit species at risk and biodiversity in general. However, it is recognized that implementation of management plans may also inadvertently lead to environmental effects beyond the intended benefits. The planning process based on national guidelines directly incorporates consideration of all environmental effects, with a particular focus on possible impacts upon non-target species or habitats. The results of the SEA are incorporated directly into the management plan itself but are also summarized below in this statement.

The Buff-breasted Sandpiper is an arctic shorebird, breeding in the coastal uplands and relying on short-grass habitat on migratory stopover sites and wintering grounds. Conservation measures aiming to preserve short-grass habitats and manage pasturelands for Buff-breasted Sandpipers are expected to provide habitat for other shorebirds migrating and wintering with them, including but not limited to the Semipalmated Plover (*Charadrius semipalmatus*), Baird's Sandpiper (*Calidris bairdii*), American Golden-Plover (*Pluvialis dominica*), Pectoral Sandpiper (*Calidris melanotos*), and Upland Sandpiper (*Bartramia longicauda*). On the breeding ground, other species also nest in the upland coastal habitat including Black-bellied Plover (*Pluvialis squatarola*) and American Golden-Plover so conservation measures on the breeding ground (e.g., managing development, climate action) may be of broad benefit.

[12] www.canada.ca/en/impact-assessment-agency/programs/strategic-environmental-assessment/cabinet-directive-environmental-assessment-policy-plan-program-proposals.html
[13] www.fsds-sfdd.ca/en#/en/goals/

Appendix B: Summary of Buff-breasted Sandpiper Population Estimates

Life Cycle Stage	Location	Year	Estimation (thousands)	Scope	Particularities	Reference
Spring migration	Rainwater Basin	2004–2005	56 (35–78, 95%CI)	Global	- Stopover duration (2 days) not considered; possible high underestimation - Assumes that all individuals stop there but they don't; possible underestimation	Jorgensen et al. 2008; Lanctot et al. 2010; McCarty et al. 2015.
Spring Migration	Flint Hills ecoregion	2014	20.7 (11.7–35,4, 95%CI)	Surveyed area	- Surveys performed from a moving vehicle - Stopover duration not considered; possible high underestimation	Lyons et al. 2016.
Spring Migration	Flint Hills ecoregion	2015	12.7 (5–28.9, 95%CI)	Surveyed area	- Difference with 2014 could be that fewer birds stopped in the study area or could be due to timing of surveys	Lyons et al. 2016.
Spring migration	Coastal Texas	2016–2019	Not yet available	Global	- Stopover duration obtained through tagging data and considered for estimation	J.E. Lyons, pers.comm, 2020; Lanctot et al. 2016.
Breeding grounds	Canadian Arctic	2010–2017	550 (293–719, 85%CI) (358–654, 95%CI)	Canada	- Currently being reviewed to evaluate accuracy - Effects of deviation from random site selection unknown; possible positive bias - Small sample size in marginal habitats; possible unstable estimates - Many of the PRISM estimates are much higher than estimates based on summed winter counts, because for widely dispersed species, there are always birds wintering in low numbers in areas that aren't surveyed	P.A. Smith, pers. comm. 2020; CWS, unpublished data.
Breeding grounds	Arctic Alaska	1997–2007	42.5 (5.8–79, 95%CI)	Surveyed area	- Estimation based on only 60 observations; high uncertainty	Andres et al. 2012; McCarty et al. 2020; Bart and Smith 2020.

Life Cycle Stage	Location	Year	Estimation (thousands)	Scope	Particularities	Reference
Wintering grounds	Argentina, Uruguay, Brazil	1999 & 2001	None provided but could be 100–200	Global	- Not provided for statistical reasons associated with the use of unsupervised satellite image classification	R.B. Lanctot, pers. comm. 2020; Lanctot et al. 2004.
Wintering grounds	South America	-	Less than 50	Global	- Most likely missing important wintering sites or birds too dispersed	A.J. Lesterhuis, pers. comm. 2019.

1342

Archived: August 4, 2022 9:05:14 AM
From: Tufts, Teresa (EC)
Sent: January 17, 2020 1:20:00 PM
Bcc: 'pond@baffinhto.ca'; 'iviq@baffinhto.ca'; 'rbhta@baffinhto.ca'
Subject: Buff-breasted Sandpiper draft Management Plan for review
Sensitivity: Normal
Attachments:
Buffbreasted_sandpiper_MP.pdf uffbreasted-Sandpiper_mp_Factsheet.pdf uffbreasted-Sandpiper_mp_Factsheet-IKB.pdf
;

Good day,

We are seeking comments on the draft Management Plan for the Buff-breasted Sandpiper. This bird breeds along the coast of the Kitikmeot region and as far north as Melville, Bathurst, and Devon Islands. During migration, the Buff-breasted Sandpiper passes through the Kivalliq region of Nunavut.

Buff-breasted Sandpiper was listed as Special Concern under the federal *Species at Risk Act* in 2017. For species of Special Concern, a management plan must be developed to identify measures for its conservation. Attached are a factsheet and a complete draft of the Management Plan for your review. If you have any comments on the draft plan, please send them to me by **February 21, 2020**.

Many thanks and best regards,

Teresa Tufts ᑐ?ᓇ?ᓴ? ᑕ?ᖏ?ᓵ?

Species at Risk Biologist
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Archived: August 4, 2022 9:31:48 AM
From: Tufts, Teresa (EC)
Sent: January 17, 2020 1:28:00 PM
Bcc: 'cambay@kitikmeothto.ca'; 'bathurst@kitikmeothto.ca'; 'gjoa@kitikmeothto.ca'; 'kugaaruk@kitikmeothto.ca'; 'chimo@kitikmeothto.ca'; 'taloyoak@kitikmeothto.ca'; 'arviat@kivalliqhto.ca'; 'bakerlake@kivalliqhto.ca'; 'aqigiq@kivalliqhto.ca'; 'rankin@kivalliqhto.ca'; 'arviq@kivalliqhto.ca'; 'issatik@kivalliqhto.ca'
Subject: Buff-breasted Sandpiper draft Management Plan for review
Sensitivity: Normal
Attachments:
Buffbreasted-Sandpiper_mp_Factsheet-IKK.pdf; uffbreasted_sandpiper_MP.pdf; uffbreasted-Sandpiper_mp_Factsheet.pdf
;

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Many thanks and best regards,

Teresa Tufts ᑐ?ᓗ?ᓴ? ᑕ?ᖏ?ᔪ?

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Archived: August 4, 2022 10:11:58 AM
From: Tufts, Teresa (EC)
Sent: January 14, 2020 10:19:00 AM
Bcc: Smith, Caryn (CSmith@GOV.NU.CA); 'Kyle Ritchie'; 'BDean@tunngavik.com'; 'wildlifeadvisor@niws.ca'; 'kwb@niws.ca'; 'krwb@niws.ca'
Subject: Buff-breasted Sandpiper draft Management Plan for review
Sensitivity: Normal
Attachments:
Buffbreasted-Sandpiper_mp_Factsheet.pdf Buffbreasted_sandpiper_MP.pdf

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Good day,

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Environment and Climate Change Canada
Environnement et Changement climatique Canada



Summary of the draft Management Plan for the

BUFF-BREASTED SANDPIPER

Buff-breasted Sandpiper at Seal River Estuary Important Bird Area © Christian Artuso

Under the *Species at Risk Act* (SARA), a management plan must be developed for each species listed as Special Concern in order to identify measures for the conservation of the species. This document highlights the key sections of the draft management plan.

Species Conservation Status

The Buff-breasted Sandpiper (*Calidris subruficollis, formerly Tryngites subruficollis*) is listed as Special Concern under SARA since 2017.

Description and Distribution

The Buff-breasted Sandpiper is a medium-sized shorebird. This species is marked with dark brown spots or streaks along the crown and sides of the breast, and narrow, dark-brown streaks edged in buff along the feather shafts on their back, scapulars, upper tail, and wing coverts. Male, female, and juvenile plumage is similar. The species has yellow legs and a black bill.

An estimated 75% of the global Buff-breasted Sandpiper population breeds in Canada. The species breeds in low densities in the tundra along the coastline of Alaska (U.S.), Yukon, the Northwest Territories and Nunavut. In the spring, the species migrates mostly in the Prairie Provinces. In the fall, the species migrate on a broad front, from British Columbia to Newfoundland.

Habitat Needs

The Buff-breasted Sandpiper is an upland species, preferring to breed on the drier, elevated ridges of the tundra. Males display in small groups (leks) in moist meadows. Females nest away from lek sites, in well-drained grassy tundra. During migration, the species congregates in natural or managed short-grass (less than 10 cm in height) areas, such as pastures and ploughed fields.

Threats to the Species' Survival

- Habitat loss from wind farm encroachment and direct mortality from collisions with wind turbines at important stopover (in the U.S.) and wintering sites (in South America).
- Permanent habitat loss in the non-breeding period due to fire suppression; resource extraction; conversion to pine, eucalyptus, and acacias plantations; and invasive non-native species.
- Decreased survival in the non-breeding period due to exposition to pesticides and reduced food availability, especially when natural habitats or pastures are not available.
- Decreased survival of juveniles during migration and decreased nesting success on breeding grounds due to severe weather events.

Canada

Management Objective

Over a period of 10 years (2025 to 2035), maintain or, if possible, increase the Buff-breasted Sandpiper population size.

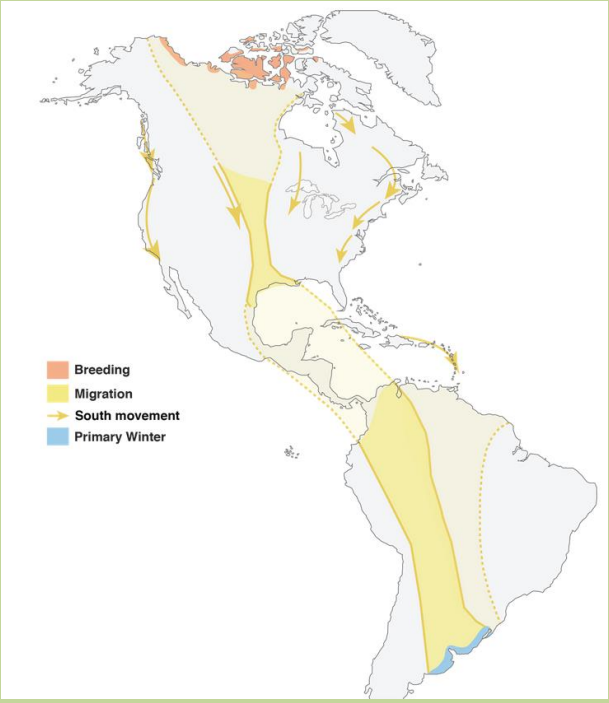
Strategies to Help Meet Objectives

Broad strategies to address the threats to the survival and recovery of the species include:

- Provide resources to landowners through stewardship programs to consider Buff-breasted Sandpiper habitat needs (such as short-grass and adequate soil moisture) when managing their land;
- Protect habitat at sites of key importance;
- Develop new international partnerships for conservation and maintain existing ones;
- Centralize data from past surveys and complete the analysis of tracking studies that identify sites with high densities of Buff-breasted Sandpipers;
- Determine fine-scale landscape features that predict habitat usage on non-breeding grounds;
- Evaluate current and past population monitoring methods and identify the most appropriate methods to assess progress towards the management objective;
- Identify the natural processes that created and maintained suitable habitats to develop land-use practices beneficial for the species.
- Determine level of exposure of the species to pesticide and herbicide and effects of those contaminants on survival, fitness and food availability.

How You Can Help

- Learn more about the Buff-breasted Sandpiper, the threats to its survival and its habitat needs at www.canada.ca/en/environment-climate-change/services/species-risk-public-registry.html;
- Practice voluntary stewardship activities and beneficial management practices, for example:
    - Work in cooperation with Environment and Climate Change Canada and/or local conservation groups to conserve important habitat; and
    - Avoid activities that could harm the species or its habitat.
- Submit observation data to conservation data centres (such as eBird).



Distribution of the Buff-breasted Sandpiper (from Cornell Lab – Birds of North America's Website, McCarty et al. 2017)

For more information, please contact us directly at:
Environment and Climate Change Canada (ECCC) – Canadian Wildlife Service, Northern Region
PO Box 1870, Iqaluit NU X0A 0H0
Fax: 867-975-4645 Phone: 867-979-7058
Email: Teresa.tufts@canada.ca

Archived: June 15, 2022 1:40:27 PM
From: Tamar Mukyunik
Sent: February 4, 2020 12:28:46 PM
To: Tufts, Teresa (EC)
Subject: RE: Buff-breasted Sandpiper draft Management Plan for review
Sensitivity: Normal

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s2]M5yx6 g]En,

]b7N ttc6 gnZ4nE/sMs6g6 vtm4mb s8k4. m5N.

Good morning Teresa,

This item was received as information during last night's meeting. Thanks.

Tamar Mukyunik
Manager

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P.O. Box 529, Arviat, NU X0C 0E0 • Phone (867) 857-2636 • Fax (867) 857-2488

From: Tufts, Teresa (EC) <teresa.tufts@canada.ca>
Sent: January 17, 2020 12:30 PM
Subject: Buff-breasted Sandpiper draft Management Plan for review

Good day,

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Many thanks and best regards,

Teresa Tufts ᑐ?ᓵ?ᓯ? ᑕ?ᕝ?ᔅ?

Species at Risk Biologist
Canadian Wildlife Service
Environment and Climate Change Canada / Government of Canada
Teresa.Tufts@canada.ca / Tel: +1 (867) 979 7058

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Archived: June 15, 2022 1:34:11 PM
From: Smith, Caryn
Sent: November 23, 2020 11:51:20 AM
To: Svoboda, Michael (EC)
Cc: Kyle Ritchie (kritchie@nwmb.com); Roberts, Hayley (EC); Gissing, Drikus; Machtans, Craig (EC)
Subject: Re: ACTION; Support to post Management Plans for HOGR, BBSP and RNPH
Sensitivity: Normal

Hi Michael,

The GN has no issue with these documents being posted for public comment.

Thanks for reaching out to us on this matter.

All the best,
Caryn

From: Svoboda, Michael (EC) <michael.svoboda@canada.ca>
Sent: November 23, 2020 11:34 AM
To: Smith, Caryn <CSmith@GOV.NU.CA>
Cc: Kyle Ritchie (kritchie@nwmb.com) <kritchie@nwmb.com>; Roberts, Hayley (EC) <hayley.roberts@canada.ca>; Gissing, Drikus <DGissing@GOV.NU.CA>; Machtans, Craig (EC) <craig.machtans@canada.ca>
Subject: ACTION; Support to post Management Plans for HOGR, BBSP and RNPH

Hi Caryn:

Hope you are all doing well.

We are seeking GN support to post three Management Plans (Horned Grebe, Red-necked Phalarope and Buff-breasted Sandpiper) for public comment period.

GN would have seen them during the first Jurisdictional Review, and since there were only limited edits a second jurisdictional review is being skipped.

Attached are the three Management Plans and their factsheets.

If you could let us know by December 7th 2020 or earlier would be greatly appreciated.

Thank you,

Michael Svoboda
Head, Conservation Planning and Stewardship
Canadian Wildlife Service
Environment and Climate Change Canada / Government of Canada
Michael.Svoboda@canada.ca

Service Canadien de la faune
Environnement et Changement climatique Canada / Gouvernement du Canada

michael.svoboda@canada.ca

Archived: November 19, 2021 9:25:36 AM
From: Roberts,Hayley (ECCC) Roberts,Hayley (ECCC)
Sent: November 18, 2021 2:55:00 PM
To: Roberts,Hayley (ECCC) Roberts,Hayley (ECCC)
Bcc: 'mcampbell1@gov.nu.ca'; 'kritchie@nwmb.com'; 'Bert Dean'; 'pond@baffinhto.ca'; 'sao@pondinlet.ca'; 'hamletpond_mayor@qiniq.com'; 'rbhta@baffinhto.ca'; 'rbhta@qiniq.com'; 'sao@resolute.ca'; 'hamletcedo1@xplornet.com'; 'iviq@baffinhto.ca'; 'gfsao@qiniq.com'; 'gfasao@qiniq.com'; 'jgroves@qia.ca'; 'info@qia.ca'; 'wildlifeadvisor@niws.ca'; 'qwbac@niws.ca'
Subject: CORRECTED EMAIL SUBJECT LINE : FOR COMMENT: Proposed Management Plan for Buff-breasted Sandpiper in Canada (DUE: February 15 2022)
Sensitivity: Normal
Attachments:
Buffbreasted-Sandpiper_mp_Factsheet_ENG.pdf;Buffbreasted-Sandpiper_mp_Factsheet-IKB.pdf;mp_buff_breasted_sandpiper_e_proposed.pdf

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Hello,

I am writing to notify you that the proposed Management Plan for **Buff-breasted Sandpiper** in Canada was posted on the Species at Risk Public Registry on November 17th, 2021, for a **90-day public comment period** which ends on **February 15th 2022**. Buff-breasted Sandpipers breed along the coast of the Kitikmeot region and as far north as Melville, Bathurst, and Devon Islands. During migration, the Buff-breasted Sandpiper passes through the Kivalliq region of Nunavut. Comments received from provinces, territories, wildlife management boards, and Indigenous governments across Canada were considered in the drafting of the current version of the Management Plan. Following the 90-day public comment period, the Department will then have 30 days to consider the comments received, after which the final version of the Management Plan will go to the Nunavut Wildlife Management Board for decision. The Nunavut Wildlife Management Board process is the final stage before the Management Plan will be posted on the Species at Risk Public Registry as final. Note that as a species of special concern, there are no general prohibitions or critical habitat requirements for this species.

You can read the proposed Management Plan and comment at: Management Plan for the Buff-breasted Sandpiper (Tryngites subruficollis) in Canada - Document search - Species at risk registry. I have also attached the Management Plan to this email for your convenience. You can also provide comments directly to me at hayley.roberts@ec.gc.ca.

There is also a Factsheet attached in both English and Inuktitut that provides an overview of the species and the Management Plan. If you require the email in Inuktitut please let me know and I can provide that for you.

I welcome your participation in this matter.

Hayley Roberts / Hᐊᐃᓕ ᕋᐳᑦᔅ
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Archived: November 19, 2021 9:23:31 AM
From: Roberts,Hayley (ECCC) Roberts,Hayley (ECCC)
Sent: November 18, 2021 3:42:00 PM
To: Roberts,Hayley (ECCC) Roberts,Hayley (ECCC)
Bcc: 'JAliqatuqtuq@tunngavik.com'; 'dlee@tunngavik.com'; 'envofficer@kitia.ca'; 'attima@hadlari.com'; 'execdir@kitia.ca'; 'krwb@niws.ca'; 'Pamela Wong'; 'kwb@niws.ca'; 'dningeongan@kivalliqinuit.ca'; 'reception@kivalliqinuit.ca'; 'cambay@kitikmeothto.ca'; 'cambay@krwb.ca'; 'mlimousin@cambridgebay.ca'; 'chimo@kitikmeothto.ca'; 'bathurst@kitikmeothto.ca'; 'gjoa@kitikmeothto.ca'; 'Gjoa@krwb.ca'; 'saogjoa@qiniq.com'; 'kugaaruk@kitikmeothto.ca'; 'Joshua Kringorn'; 'saokug@qiniq.com'; 'taloyoak@kitikmeothto.ca'; 'taloyoak@krwb.ca'; 'sao@taloyoak.ca'; 'Dorianna Kuksuk'; 'sao@arviat.ca'; 'bakerlake@kivalliqhto.ca'; 'blsao@northwestel.net'; 'aqigiq@kivalliqhto.ca'; 'htochester@qiniq.com'; 'sao_hamlet@qiniq.com'; 'rankin@kivalliqhto.ca'; 'rankinhto@qiniq.com'; 'sao@rankininlet.ca'; 'arviq@kivalliqhto.ca'; 'repulsebayhto@qiniq.com'; 'saonaujaat@qiniq.com'; 'issatik@kivalliqhto.ca'; 'whalecovehto@qiniq.com'; 'sao@whalecove.ca'; 'mayor@whalecove.ca'
Subject: FOR COMMENT: Proposed Management Plan for Buff-breasted Sandpiper in Canada (DUE: February 15 2022)
Sensitivity: Normal
Attachments:
Buffbreasted-Sandpiper_mp_Factsheet_ENG.pdf uffbreasted-Sandpiper_mp_Factsheet-IKK.pdf ;mp_buff_breasted_sandpiper_e_proposed.pdf uffbreasted-Sandpiper_mp_Factsheet-IKB.pdf

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You can read the proposed Management Plan and comment at: Management Plan for the Buff-breasted Sandpiper (Tryngites subruficollis) in Canada - Document search - Species at risk registry. I have also attached the Management Plan to this email for your convenience. You can also provide comments directly to me at hayley.roberts@ec.gc.ca.

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Summary of the draft Management Plan for the

BUFF-BREASTED SANDPIPER

Under the *Species at Risk Act* (SARA), a management plan must be developed for each species listed as Special Concern in order to identify measures for the conservation of the species. This document highlights the key sections of the draft management plan.

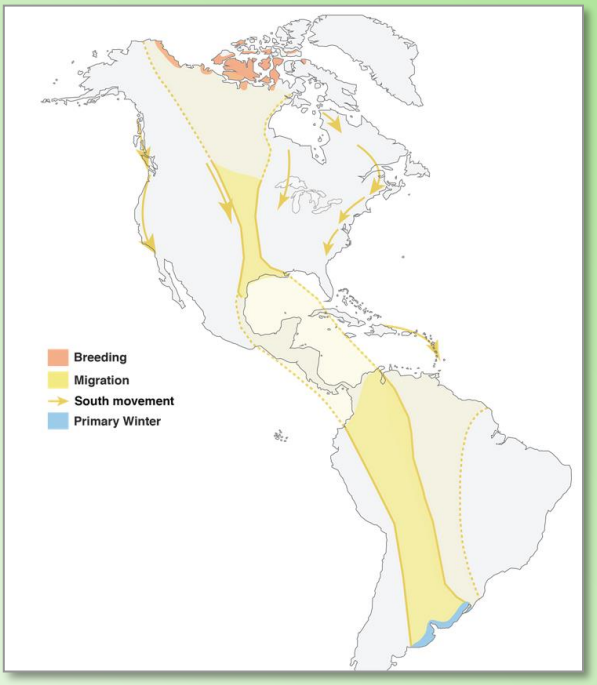
Species Conservation Status

The Buff-breasted Sandpiper (*Calidris subruficollis, formerly Tryngites subruficollis*) is listed as Special Concern under SARA since 2017.

Description

The Buff-breasted Sandpiper is a medium-sized shorebird. This species is marked with dark brown spots or streaks along the crown and sides of the breast, and narrow, dark-brown streaks edged in buff (light brownish yellow) on their back, upper tail, and wing feathers (when viewed at rest). Male, female, and juvenile plumage is similar. The species has yellow legs and a black bill.

Buff-breasted Sandpiper at Seal River Estuary Important Bird Area © Christian Artuso



Distribution of the Buff-breasted Sandpiper (from Cornell Lab – Birds of North America's Website, McCarty et al. 2017)

Distribution

An estimated 75% of the global Buff-breasted Sandpiper population breeds in Canada. The species breeds in low densities in the tundra along the coastline of Alaska, Yukon, the Northwest Territories and Nunavut. On the spring migration, the species follows the Midcontinental Flyway, stopping in the Llanos plains of Columbia and Venezuela before crossing the Gulf of Mexico. In the fall, the species makes multiday stops in southern Saskatchewan, in the Kansas Flint Hills, in southcentral Texas and on the Gulf of Mexico coast.

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Canada

Habitat Needs

The Buff-breasted Sandpiper is an upland species, preferring to breed on the drier, elevated ridges of the tundra. Males display in small groups (leks) in moist meadows. Females nest away from lek sites, in well-drained grassy tundra. During migration, the species congregates in natural or managed short-grass (less than 10 cm in height) areas, such as pastures and plowed fields.

Threats to the Species' Survival

- Habitat loss from wind farm encroachment and direct mortality from collisions with wind turbines at important stopover (in the U.S.) and wintering sites (in South America).
- Permanent habitat loss in the non-breeding period due to fire suppression; resource extraction; and conversion to pine, eucalyptus and acacias plantations.
- Decreased survival in the non-breeding period due to exposure to pesticides and reduced food availability, especially when natural habitats or pastures are not available.
- Decreased survival of juveniles during migration and decreased nesting success on breeding grounds due to severe weather events.

Management Objectives

Over a period of 10 years (2025 to 2035), maintain the Buff-breasted Sandpiper population size.

Strategies to Help Meet Objectives

Broad strategies to address the threats to the survival and recovery of the species include:

- Encourage the wind energy sector to develop, implement, and promote beneficial management practices to mitigate threats to the Buff-breasted Sandpiper and its habitats where the species is known to occur.
- Conserve habitat at sites of key importance.
- Provide resources to landowners through stewardship programs to consider Buff-breasted Sandpiper habitat needs (such as short-grass and adequate soil moisture) when managing their land;
- Identify the natural processes that created and maintained suitable habitats in order to develop land-use practices beneficial for the species.
- Develop new international partnerships and maintain existing ones, for conservation of the species and its habitat
- Centralize data from past surveys and complete the analysis of tracking studies that identify sites with high densities of Buff-breasted Sandpipers;
- Determine fine-scale landscape features that predict habitat usage on non-breeding grounds;
- Determine level of exposure of the species to pesticides and effects of those contaminants on survival, fitness and food availability.

How You Can Help

- Learn more about the Buff-breasted Sandpiper, the threats to its survival and its habitat needs at www.canada.ca/en/environment-climate-change/services/species-risk-public-registry.html;
- Practice voluntary stewardship activities and beneficial management practices, for example:
  - Work in cooperation with Environment and Climate Change Canada and/or local conservation groups to conserve important habitat; and avoid activities that could harm the species or its habitat.
  - Submit observation data to conservation data centres such as eBird.

For more information, please contact us directly at:

Environment and Climate Change Canada (ECCC) – Canadian Wildlife Service Iqaluit
933 Mivvik Street, Iqaluit, Nunavut X0A 0H0 PO Box 1870
Phone: 1-867-979-7045 or **Email**: hayley.roberts@canada.ca
Or visit the Species at Risk Public Registry website at: www.sararegistry.gc.ca

Environment and Climate Change Canada
Environnement et Changement climatique Canada



Summary of the draft Management Plan for the

BUFF-BREASTED SANDPIPER

Buff-breasted Sandpiper at Seal River Estuary Important Bird Area © Christian Artuso

Under the *Species at Risk Act* (SARA), a management plan must be developed for each species listed as Special Concern in order to identify measures for the conservation of the species. This document highlights the key sections of the draft management plan.

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An estimated 75% of the global Buff-breasted Sandpiper population breeds in Canada. The species breeds in low densities in the tundra along the coastline of Alaska (U.S.), Yukon, the Northwest Territories and Nunavut. In the spring, the species migrates mostly in the Prairie Provinces. In the fall, the species migrate on a broad front, from British Columbia to Newfoundland.

Habitat Needs

The Buff-breasted Sandpiper is an upland species, preferring to breed on the drier, elevated ridges of the tundra. Males display in small groups (leks) in moist meadows. Females nest away from lek sites, in well-drained grassy tundra. During migration, the species congregates in natural or managed short-grass (less than 10 cm in height) areas, such as pastures and ploughed fields.

Threats to the Species' Survival

- Habitat loss from wind farm encroachment and direct mortality from collisions with wind turbines at important stopover (in the U.S.) and wintering sites (in South America).
- Permanent habitat loss in the non-breeding period due to fire suppression; resource extraction; conversion to pine, eucalyptus, and acacias plantations; and invasive non-native species.
- Decreased survival in the non-breeding period due to exposition to pesticides and reduced food availability, especially when natural habitats or pastures are not available.
- Decreased survival of juveniles during migration and decreased nesting success on breeding grounds due to severe weather events.

Canada

Management Objective

Over a period of 10 years (2025 to 2035), maintain or, if possible, increase the Buff-breasted Sandpiper population size.

Strategies to Help Meet Objectives

Broad strategies to address the threats to the survival and recovery of the species include:

- Provide resources to landowners through stewardship programs to consider Buff-breasted Sandpiper habitat needs (such as short-grass and adequate soil moisture) when managing their land;
- Protect habitat at sites of key importance;
- Develop new international partnerships for conservation and maintain existing ones;
- Centralize data from past surveys and complete the analysis of tracking studies that identify sites with high densities of Buff-breasted Sandpipers;
- Determine fine-scale landscape features that predict habitat usage on non-breeding grounds;
- Evaluate current and past population monitoring methods and identify the most appropriate methods to assess progress towards the management objective;
- Identify the natural processes that created and maintained suitable habitats to develop land-use practices beneficial for the species.
- Determine level of exposure of the species to pesticide and herbicide and effects of those contaminants on survival, fitness and food availability.

How You Can Help

- Learn more about the Buff-breasted Sandpiper, the threats to its survival and its habitat needs at www.canada.ca/en/environment-climate-change/services/species-risk-public-registry.html;
- Practice voluntary stewardship activities and beneficial management practices, for example:
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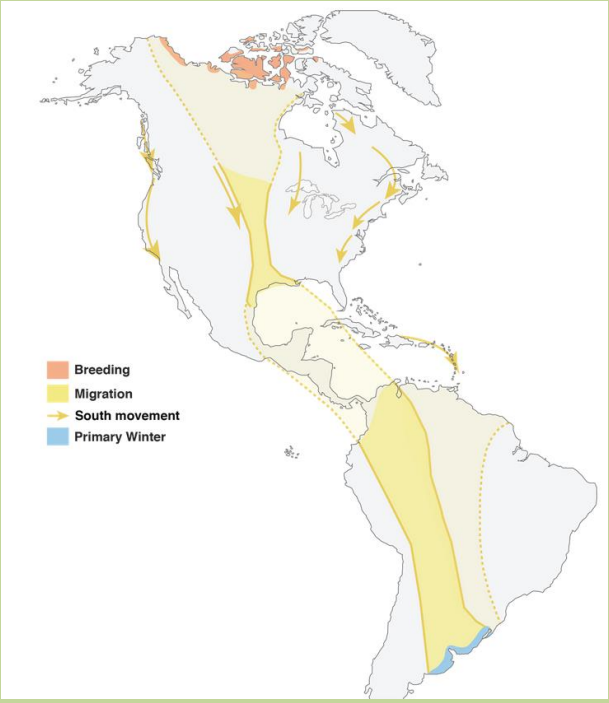
    - Avoid activities that could harm the species or its habitat.
- Submit observation data to conservation data centres (such as eBird).



Distribution of the Buff-breasted Sandpiper (from Cornell Lab – Birds of North America's Website, McCarty et al. 2017)

For more information, please contact us directly at:
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PO Box 1870, Iqaluit NU X0A 0H0
Fax: 867-975-4645 Phone: 867-979-7058
Email: Teresa.tufts@canada.ca

Summary of the proposed final Management Plan for the

Buff-breasted Sandpiper (*Tryngites subruficollis*) in Canada

This is a summary of the information provided in the proposed final management plan for the Buff-breasted Sandpiper. Buff-breasted Sandpiper was listed as a species of Special Concern under the *Species at Risk Act* in 2017.

The management plan is a plan that sets the goals and objectives for maintaining a sustainable population level for Buff-breasted Sandpiper. The summary provided here is based on the information in the English version of the proposed final Buff-breasted Sandpiper management plan in Canada. An English copy of this document has been provided to you for reference.

Committee on the Status of Endangered Wildlife in Canada (COSEWIC) Assessment and Species Status Information (Pages 1-3)

These pages provide the COSEWIC assessment table, which is also included here. It describes why COSEWIC has assessed the Buff-breasted Sandpiper as a species of Special Concern, where it occurs in Canada, and the history of the species status over the years.

This section also provides information on the status of the species throughout Canada, how it is protected in the provinces and territories, and the status given to the species by other conservation programs such as NatureServe. NatureServe has assessed the status of Buff-breasted Sandpiper in Nunavut as S3B, S3M. S = territorial level, 3 = Vulnerable, B = breeding, M = migrant.

Buff-breasted Sandpiper at Seal River Estuary Important Bird Area © Christian Artuso

Date of Assessment: May 2012
Common Name (population): Buff-breasted Sandpiper
Scientific Name: *Tryngites subruficollis* **
COSEWIC Status: Special Concern
Reason for Designation: The Canadian Arctic supports about 87% of the North American breeding range of this shorebird and about 75% of its global population. The species was once common and perhaps even abundant historically, but it suffered severe declines stemming from intensive market hunting in the late 1800s and early 1900s. By the 1920s, it was thought to be at the brink of extinction. Its population has grown since hunting was banned in North America, but numbers remain much lower than those before hunting began. There is evidence for population decline in recent decades, and many conservation organizations consider the species to be of concern throughout its range. However, this species is difficult to monitor effectively, and data necessary to estimate population trends are currently lacking. Outside the breeding period, loss and degradation of its specialized grassland habitat, both on its wintering grounds in South America and along its migration routes, are believed to pose the most significant threats.
Canadian Occurrence: Yukon, Northwest Territories, Nunavut, British Columbia, Alberta, Saskatchewan, Manitoba, Ontario, Quebec
COSEWIC Status History: Designated Special Concern in May 2012.
**The scientific name of the Buff-breasted Sandpiper (*Calidris subruficollis*) changed in 2013 (Chesser et al. 2013), after COSEWIC assessment in May 2012. Documents developed under the S*pecies at Risk Act* (SARA) must follow the species nomenclature used in Schedule 1 of SARA.

Species Information (Pages 3-8)

This section of the proposed management plan for Buff-breasted Sandpiper provides descriptive information such as what they look like, where they live and what they need to survive.

Species Description

- Buff-breasted Sandpiper is a medium-sized, buff-coloured arctic-breeding shorebird. Males weigh around 70 g and females 55 g.
- They are marked with dark brown spots or streaks along the crown and sides of the breast.
- The species has yellow legs and a black bill.
- Males, females and juveniles are similar in colouration.
- Buff-breasted Sandpipers are the only North American shorebird with an exploded lek mating system. A lek is a gathering of males displaying to entice visiting females. In an exploded lek, the males are further away from one another than in a typical lek.

Species Population and Distribution

- Buff-breasted Sandpiper breeds in low densities in the tundra along the coastline of Alaska and Canada from Point Barrow, Alaska through the Northwest Territories and to the Boothia Peninsula and as far north as Melville, Bathurst, and Devon Islands, Nunavut.
- Their local distribution is patchy and variable between and within years.
- Males may display at multiple leks across the breeding range, and <10% of males return to previous leks.
- Buff-breasted Sandpipers migrate south mainly following the Midcontinental flyway through the prairies and the plains with multiple stopover locations.
- Their wintering grounds include the coast of central Argentina, southeast Uruguay, and southeast Brazil.
- On their northbound migration, birds stop in the Llanos plains of Columbia and Venezuela before crossing the Gulf of Mexico, representing an important stopover site.
- Birds show high wintering site fidelity, meaning they return to the same winter location every year.

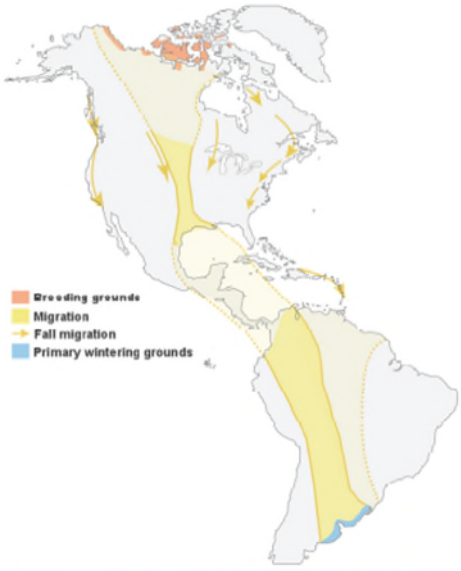

Figure 1. Distribution of the Buff-breasted Sandpiper in the Americas. Shaded yellow areas are migration corridors where the species is found at low densities; the species funnels through areas represented in dark yellow (from Cornell Lab - Birds of North America's Website, McCarty et al. 2017).

Population Size and Trends

- Surveys from stopover sites in the United States estimate the Buff-breasted Sandpiper population to include 56,000 individuals.
- Since stopover durations are short and some birds skip monitored sites, the actual population size might be higher.
- Surveys on the wintering ground suggest a smaller population estimate or the existence of unknown high density wintering sites.

For more information, please contact us directly at:
Environment and Climate Change Canada (ECCC) –
Canadian Wildlife Service, Northern Region
933 Mivvik Street, Iqaluit, Nunavut X0A0H0 PO Box 1870
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Email: Rhiannon.pankratz@ec.gc.ca
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- Arctic Program for Regional and International Shorebird Monitoring (PRISM) surveys from 1997-2007 across Arctic Alaska showed a population estimate of 42,839 individuals.
- PRISM surveys in the Canadian Arctic from 2010-2017 showed higher densities than expected, currently the results are being evaluated to ensure accuracy.
- PRISM estimates have unique challenges because the species breeds at variable densities and they breed in dry upland areas that are less surveyed than wetlands.
- Estimating trends is difficult because of the unpredictable locations on the breeding grounds.
- Historically, Buff-breasted Sandpipers numbered in the hundreds of thousands but by the end of the 19th century, extensive hunting resulted in very low population levels
- The creation of the Migratory Birds Convention Act in 1917 and the Migratory Birds Treaty Act in 1918 lowered the hunting pressure, likely slowing the rapid decline.
- It is unknown whether the population recovered or remained at low levels between the 1920s and 1970s.
- However, declines have been seen since the 1980s.

Needs (Breeding, Migration, Non-breeding and Diet)

- Buff-breasted Sandpiper is an upland species, preferring to breed on drier, elevated tundra.
- Males begin foraging and displaying in the spring in the first snow-free areas.
- Groups of 2 – 20 males display together in a lek. Males will display at one lek for a short time then move to another lek.
- Males leave the breeding grounds once females begin nesting.
- Females nest away from the lek sites in well drained, grassy tundra.
- When not incubating, females forage in areas with little vegetation.
- After hatching, females forage with their brood in wetter areas, but remain in the uplands.
- Historically, during the North American portion of migration, Buff-breasted Sandpipers would stop in short-grass prairies, but most have been converted to agriculture.
- As a result, migrating Buff-breasted Sandpipers congregate in areas that resemble short-grassed areas like newly planted crops, pastures, lawns etc.
- They winter in the Pampas biome, and show high fidelity, preferring short-grass areas.
- Buff-breasted Sandpipers feed on insects, with some seeds, plant material and aquatic zooplankton (particularly after brood-rearing).
- On the wintering grounds, birds eat adult and larval beetles, ants, flies, spiders and earthworms.

Threats (Pages 9-18)

This section of the proposed management plan describes the things that might cause Buff-breasted Sandpiper populations to drop. Threats to Buff-breasted Sandpiper can affect habitat, but can also affect individuals, nests and eggs.

The main threats to Buff-breasted Sandpiper are:

- **Renewable energy**– potential for direct mortality or avoidance of habitat from the development of wind farms. In the US, most wind farms occur along the main migratory route for Buff-breasted Sandpiper.

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- **Fire and fire suppression**– Buff-breasted Sandpiper prefer recently burned grassland. Current fire suppression, allows growth of woody vegetation and reduces habitat availability.
- **Severe weather events** – Climate change causing an increase in severe storms, juveniles are particularly at risk as they migrate along the Atlantic coast where they are more likely to encounter hurricanes.
- **Oil and gas drilling –** Mainly in Alaska but could lead to loss of habitat and disturbance, including reduced nesting success and increased predation.
- **Mining and quarrying –** infrastructure associated is in upland areas where breeding occurs.

Management Objectives (Page 18)

The management objective for the Buff-breasted Sandpiper in Canada is:

- To maintain the population size of the species over a period of 10 years ranging from 2025 to 2035.

Broad Strategies and Conservation Measures (Pages 19-25)

Actions already completed or currently underway

There is little conservation work currently in Canada that specifically targets Buff-breasted Sandpiper, however, work is underway that does include Buff-breasted Sandpiper. This work includes:

- Being a focal species of the Americas Flyway Action Plan of the Arctic Migratory Birds Initiative
- Updating the full life-cycle conservation plan
- Financial incentives to farmers and ranchers to conserve and restore grassland and wetland habitats along the migratory route
- Research identifying key breeding, stopover and wintering locations using satellite and GPS tracking technology

Conservation and management of Buff-breasted Sandpiper in Canada includes:

- Conservation of breeding habitat in National Parks, Migratory Bird Sanctuaries, National Wildlife Areas and through the Inuvialuit community conservation plans
- The Ahiak Migratory Bird Sanctuary Management Plan outlines a plan for the co-management of Buff-breasted Sandpiper.
- New estimates of population size and distribution are being generated from Arctic PRISM data
- Land from the former Prairie Farm Rehabilitation Administration Community Pasture Program is being managed to benefit Buff-breasted Sandpiper.

Conservation and management of Buff-breasted Sandpiper in Canada includes:

- Designating some identified key stopover sites as sites of importance
- Restoration of destroyed migratory habitat (Asuncion Bay, Paraguay)
- Purchase of an additional 681 hectares of grassland
- The management of 15,000 hectares of Buff-breasted Sandpiper habitat at Barba Azul Nature reserve in Bolivia
- Beneficial management practices for sustainable land-use in Argentina, Paraguay, Uruguay, and Brazil
- Important wintering sites designated in Brazil and Argentina
- Surveys to provide a winter-based population estimate and trend.

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Email: Rhiannon.pankratz@ec.gc.ca
You can also visit the following website for more information:
Species at Risk Public Registry (www.sararegistry.gc.ca)

The broad strategy categories of the management plan were developed to address threats across its range and are as follows:

- Livelihood, Economic and Moral Incentives
- Conservation Designation and Planning
- Institutional Development
- Research and Monitoring

There are a number of conservation measures identified in the management plan ranging from high to low priority. The high priority conservation measures include:

- Market-based incentives: provide resources to landowners through stewardship programs.
- Better Products and Management Practices: encourage wind energy sector to develop, implement, and promote beneficial management practices.
- Alliance and Partnership Development: develop new international partnerships for conservation and maintain existing ones.
- Basic Research and Status Monitoring: Centralize data from past surveys and complete the analysis of tracking studies.
- Basic Research and Status Monitoring: Monitor the species at known and potential key sites during migration. Establish a list of key sites where at least 0.2% of the population occur regularly.
- Basic Research and Status Monitoring: develop a more reliable and accurate population estimate within the next 5 years
- Basic Research and Status Monitoring: Determine fine-scale landscape features that predict habitat usage.
- Basic Research and Status Monitoring: Identify the natural processes that created and maintained suitable habitats to develop land-use practices beneficial to the species.
- Basic Research and Status Monitoring: Continue to monitor the species and its habitat on the breeding ground as part of the Arctic PRISM survey.

Measuring Progress (Page 26)

Performance indicators are used to measure progress towards achieving the management objective and monitoring implementation of the management plan.

- By 2025, a more accurate population estimate from stopover sites is available.
- By 2025, key wintering and migratory stopover sites that cumulatively support 80% of the current population estimate are identified. Key sites are defined as areas where at least 0.2% of the population (about 100 birds) occur regularly through time.
- By 2035, the Buff-breasted Sandpiper population is maintained at the 2025 level detected from stopover surveys.

For more information, please contact us directly at:
Environment and Climate Change Canada (ECCC) – Canadian Wildlife Service, Northern Region
933 Mivvik Street, Iqaluit, Nunavut X0A0H0 PO Box 1870
Phone: 867-445-7927
Email: Rhiannon.pankratz@ec.gc.ca
You can also visit the following website for more information:
Species at Risk Public Registry (www.sararegistry.gc.ca)

SUBMISSION TO THE

NUNAVUT WILDLIFE MANAGEMENT BOARD

FOR

Information: X **Decision:**

Issue: Northeast Mainland June 2021 Caribou Abundance Survey

Background:

- The Nunavut Department of Environment (DOE) initiated research into the Northeast Mainland caribou (NEM) herds (Ahiak, Wager Bay and Lorillard herds) in April 1999. Low coverage reconnaissance surveys were followed with the satellite collaring of Lorillard and Wager Bay caribou cows. Collaring from this earlier program stopped in 2006, and a broader scale telemetry program was established north of Baker Lake in 2009, continuing to the present day.
- Herd movements were monitored and in 2013 an assessment of herd seasonal movements undertaken. This distribution information, along with collar movement data, was used to design and adjust survey strata for the NEM abundance survey.
- Using this spatial information along with input received from Hunters and Trappers Organizations (HTO) and Regional Wildlife Organizations (RWO), the GN delineated and flew the calving ranges of the Ahiak, Wager Bay, and Lorillard herds between June 4 and June 15, 2021.

Current Status:

- The NEM caribou abundance survey of the Ahiak, Wager Bay, and Lorillard herds was successfully completed on June 15, 2021 (***Figure 1***). Overall, caribou distribution across the survey area was well predicted by compiled telemetry data and HTO and RWO observed distributions (***Figure 2***).
- Coefficients of Variation (CVs) are a measure of accuracy and precision within the estimates. We plan these surveys to achieve CVs between 10 and 15% which offers good accuracy and precision for trend assessments. CVs were below target for the Wager Bay and Ahiak herds suggesting high confidence in these estimates.
- The Lorillard herd CV of 19.2% was above targeted CVs because of unexpected and a-typical clumping on their calving ground. This type of clumping has not been previously noted; survey data suggests it is a rare event of unknown cause.
- We estimated 23,118 females (CV= 7.6%) within the Ahiak survey strata which yielded a whole herd estimate of 39,131 adults (95% CI=33,385-45,867; CV=7.8%). We

estimated 19,764 females (CV= 19.1%) within the Lorillard survey strata which yielded a whole herd estimate of 33,454 adults (95% CI=22,503-49,735; CV=19.2%). We estimated 26,588 females (CV= 7.1%) within the Wager Bay survey strata which yielded a whole herd estimate of 45,005 adults (95% CI=38,732-52,293; CV=7.3%).

- We observed 122 wolves (30 within Ahiak strata, 60 within the Wager Bay strata, and 32 within the Lorillard strata), 3 Barren-ground grizzly bears all within the Ahiak strata, 16 wolverines (1 in the Ahiak strata, 7 within the Wager Bay strata, and 8 within the Lorillard strata), and 36 polar bears (10 within the Ahiak strata and 27 within the Wager Bay strata) (***Figure 2***). We observed 225 muskoxen (118 muskoxen within the Ahiak survey strata, 46 within the Wager Bay strata, and 61 within the Lorillard survey strata) (***Figure 3***).
- Of the three herds surveyed, only the Ahiak had been previously surveyed in June 2011. Survey strata were similar between the two surveys, however, there was likely some mixing between the Ahiak and Beverly herds on the Adelaide Peninsula (AP) in June 2011; collar data analysis suggests the mixing was small. Regardless of whether estimates included the area of mixing, a statistically significant decline of 5% in Ahiak caribou herd abundance between June 2011 and 2021 was detected.
- As the 2021 June abundance survey represents the first of its kind for the Wager Bay and Lorillard herds, no assessment of trends can be made. These herd estimates will be used as a benchmark for future assessments of trends.
- Although estimates for the Ahiak, Wager Bay, and Lorillard herds have been completed and little to no change is expected during final analysis, further work is being undertaken to better understand how these three barren-ground caribou herds interact across their annual range with a focus on the calving and breeding range.
- Results from all analyses will be provided in the final report which is anticipated to be available in November 2022.

Consultation:

- DOE planned in-person consultations with all affected HTOs and the three RWOs during the winters of 2020 and 2021 however, COVID-19 restrictions and outbreaks in several communities postponed some meetings, leading to the use of virtual meetings for most organizations. Despite these delays and the inability to meet face to face, meetings were successfully held, survey material presented, and Inuit Qaujimajatuqangit (IQ) identified and incorporated into survey plans to the best of the GNs ability given the challenges encountered.
- Affected communities and the three RWOs were generally supportive of the survey efforts and recognize the data gaps in our understanding of the NEM herds and their interactions/distributions across their range.
- DOE will visit the affected HTOs following the completion of the survey analyses and distribution of the final report to discuss survey results and possible management actions. DOE will also attend the RWOs annual general meetings to discuss survey results and possible management actions.

Recommendations:

- N/A

Figure 1. Survey flight tracks flown between June 4 and 15, 2022.

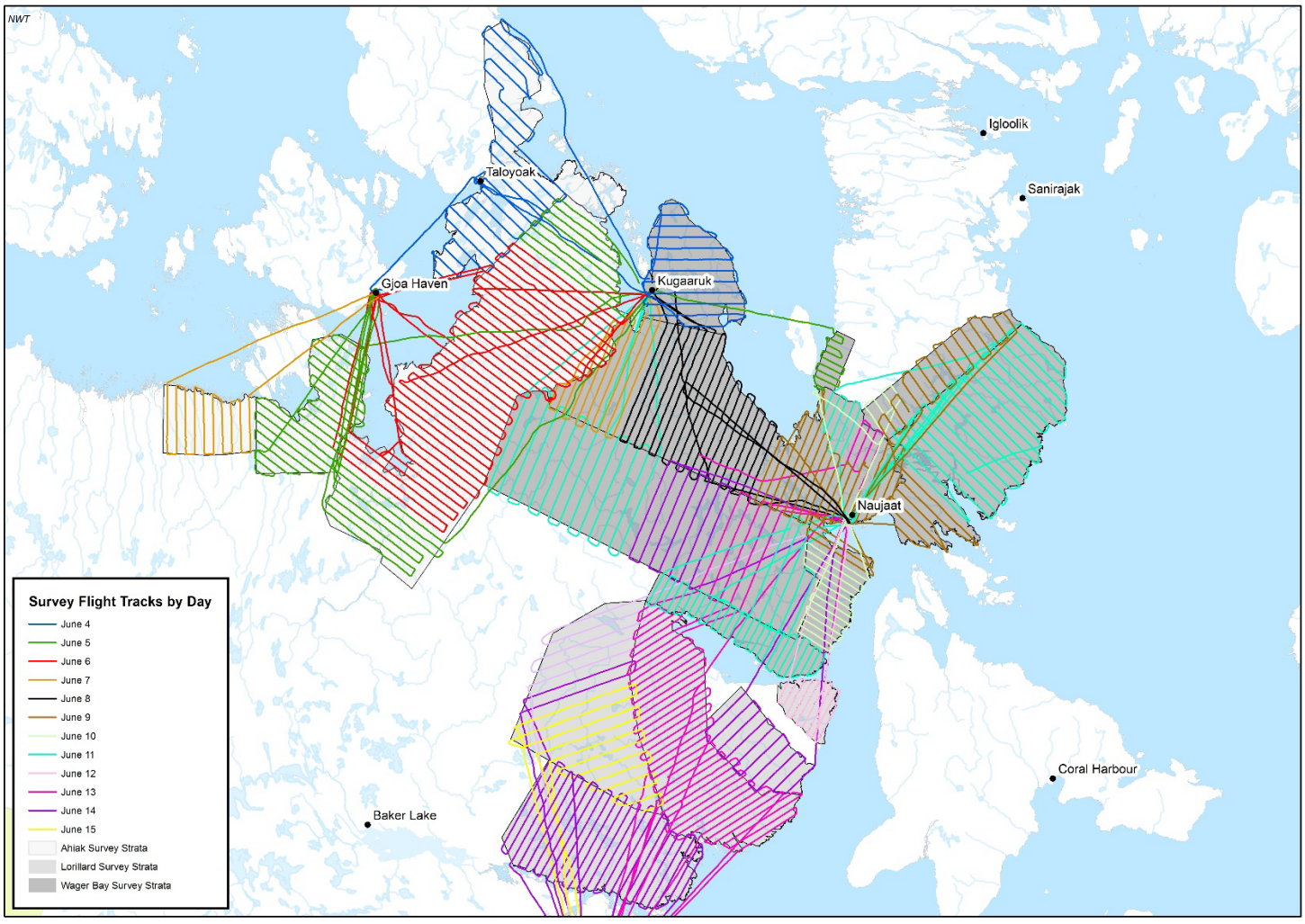


Figure 2. Caribou and carnivore observations made during the June 2021 Northeast Mainland survey. Note Ahiak survey strata as light grey (northwestern extents), Wager Bay survey strata as dark grey, and Lorillard survey strata as medium grey (southern extents).

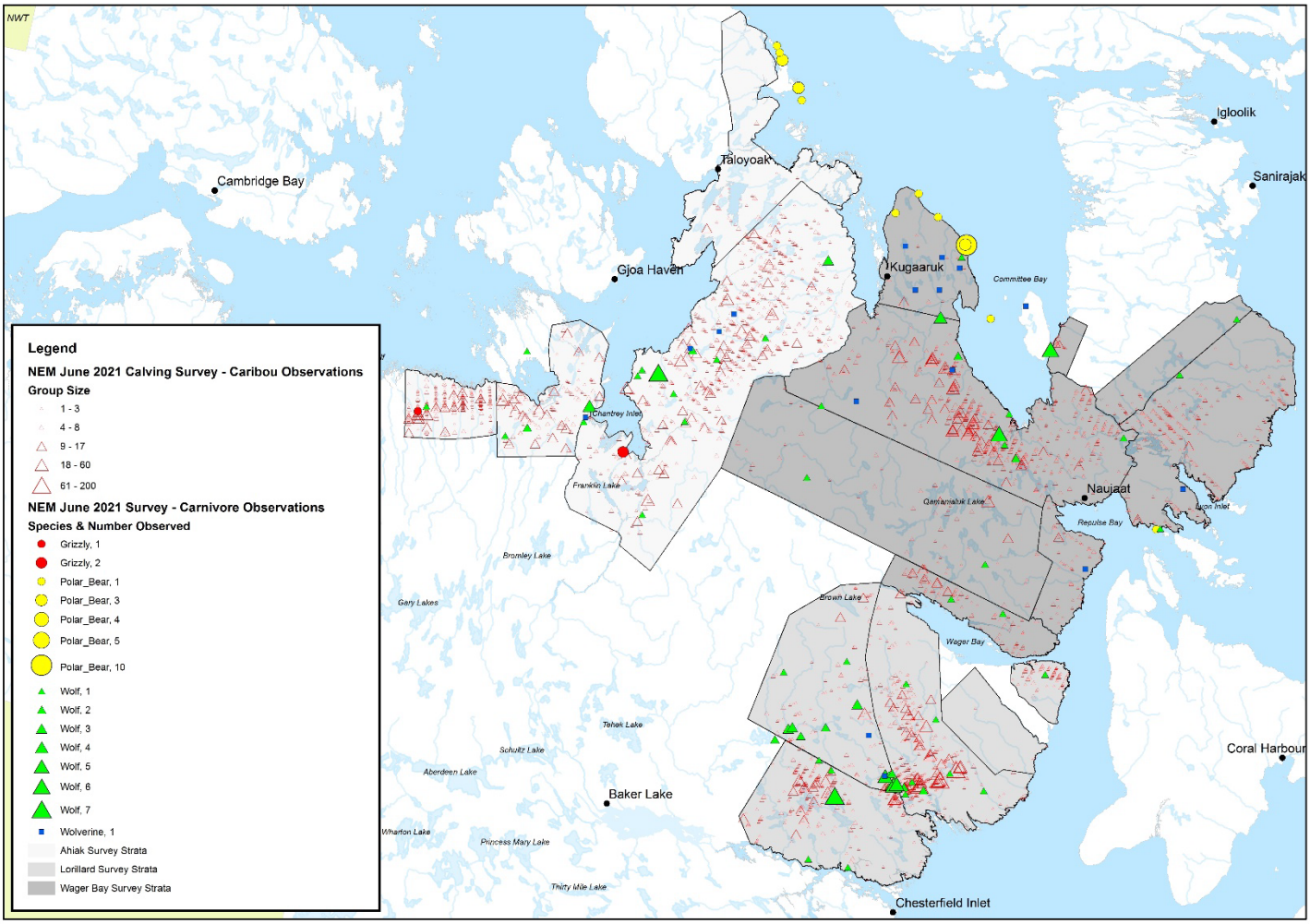
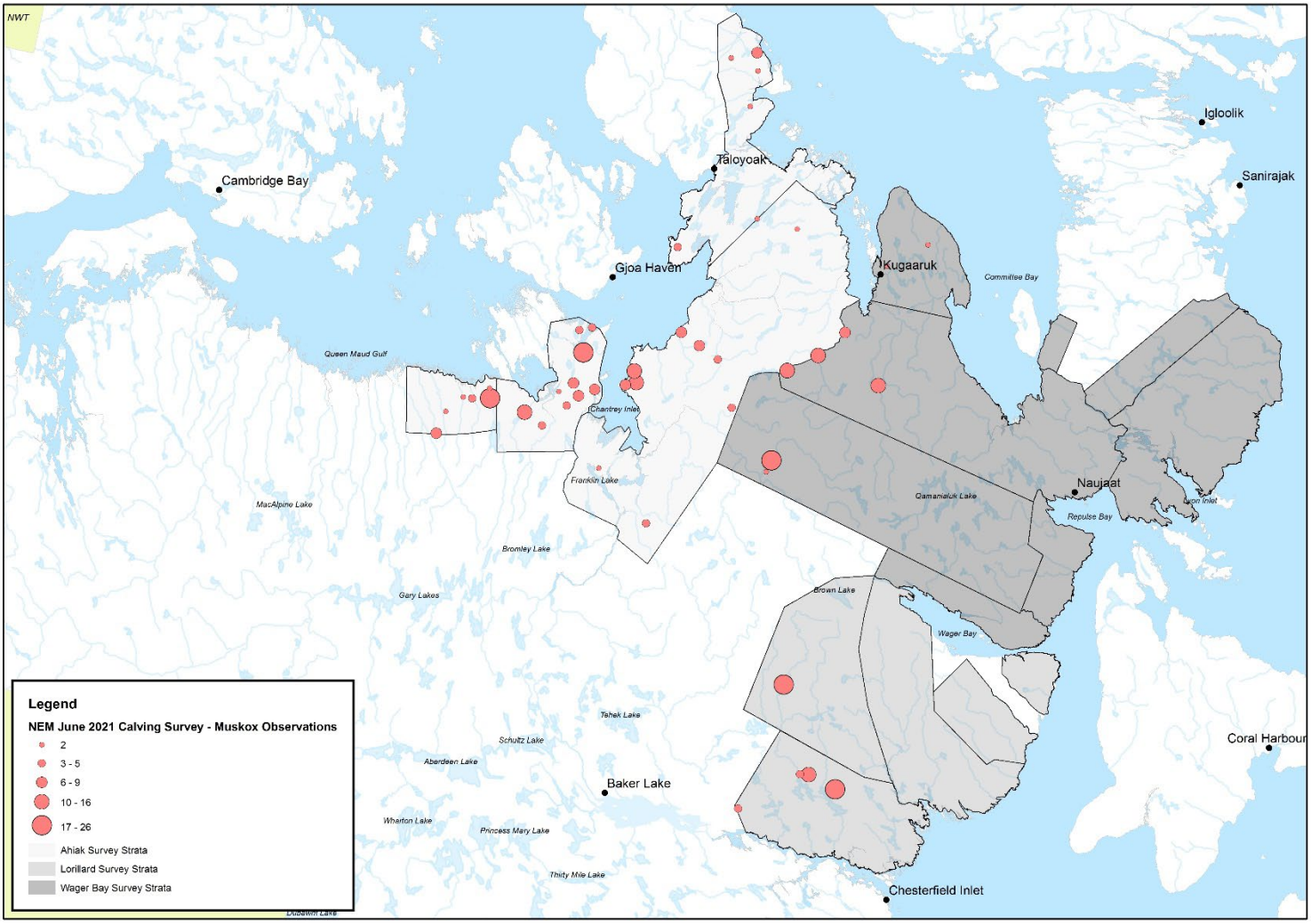


Figure 3 Muskox observations recorded during the June 2021 Northeast Mainland caribou survey.



SUBMISSION TO THE

NUNAVUT WILDLIFE MANAGEMENT BOARD

FOR

Information: **Decision:** **Recommendation: X**

Issue: Total allowable catch levels and 100 tonne inshore quota for Greenland Halibut in Subarea 0 for 2023 and 2024 fishing seasons.

Greenland Halibut (*Reinhardtius hippoglossoides*)

Background

A fishery for Greenland Halibut (GHL) exists in Northwest Atlantic Fishery Organization (NAFO) Subarea (SA) 0 which is divided into a northern region, Division 0A (Baffin Bay) and a southern region, Division 0B (Davis Strait), outside of the Nunavut Settlement Area (NSA). The commercial fishing season for GHL starts on January 1st and ends December 31st. A map illustrating NAFO Subareas and Divisions relevant to the Greenland Halibut fishery can be found in Appendix 1.

The GHL stock in SA0 is a part of transboundary stock shared between Canada (Division 0A and 0B) and Greenland (Division 1A to F offshore). At the request of both countries, the NAFO Scientific Council (SC) provides advice on sustainable harvest levels. NAFO does not regulate this stock; Canada and Greenland are responsible for regulation in their own domestic waters. Canada and Greenland have a longstanding informal agreement that the Total Allowable Catch (TAC) levels established on NAFO SC advice be divided 50/50 between the two countries.

The current SA0 GHL TAC is 18,185 tonnes (t), previously set by the Minister on December 22, 2020 for 2021 and 2022; this is the highest TAC in the history of the SA0 fishery. A current breakdown of the current TAC between Divisions is as follows:

Fishing Area	Fleet/Interest	2021-22 Allocation (t)
NAFO Division 0A	Nunavut	9,592.5
	Total 0A TAC	9,592.5

Fishing Area	Fleet/Interest	2021-22 Allocation (t)
NAFO Division 0B	Nunavut	4,283.25
	Nunavik	449.25
	Enterprise Allocation Holders	2,960
	Fixed Gear Competitive	900
	Total 0B TAC	8,592.5

In 2021, the TAC was fully prosecuted in both Divisions 0A and 0B.

Since 2006, 100 t from the Division 0A TAC has been allocated for inshore fisheries development to be utilized within the Nunavut Settlement Area within NAFO division 0A.

Consultation

Consistent with past practices, consultations with Eastern Arctic Groundfish Stakeholder Advisory Committee (EAGSAC) members will occur following the official publication of the NAFO SC TAC advice for GHL in Subarea 0+1 (offshore) for 2023 and 2024.

Science Information

Fisheries and Oceans Canada (the Department) is anticipating the SC advice to be published in the very near future, and will provide the information to the Board in an addendum to this briefing note as soon as it is available and, prior to the September meeting. The addendum will ensure the Board has all available information to make an informed recommendation to safeguard a timely decision as not to affect fishing operations beginning January 1, 2023.

If the Board is unable to accept an addendum for the September meeting, the Department will request a stand-alone meeting with the Board in early September. This approach would be consistent with section 3.1 of the Nunavut Wildlife Management Board's (NWMB's) manual for the Governance of Co-managers.

Recommendation

TAC decisions, including distribution and allocation determination, will be taken through standard departmental processes and procedures. TAC decisions take into account many factors including: conservation; science advice; socio-economic impacts; industry and stakeholder views; the Board's recommendation; land claims and international obligations.

Summary of Request

The Department is requesting from the Board:

1) Recommendation on setting the SA0 GHL TAC for 2023 and 2024.
2) Recommendation on the allocation of 100 tonnes of GHL in 0A for inshore fisheries development inside the Nunavut Settlement Area.

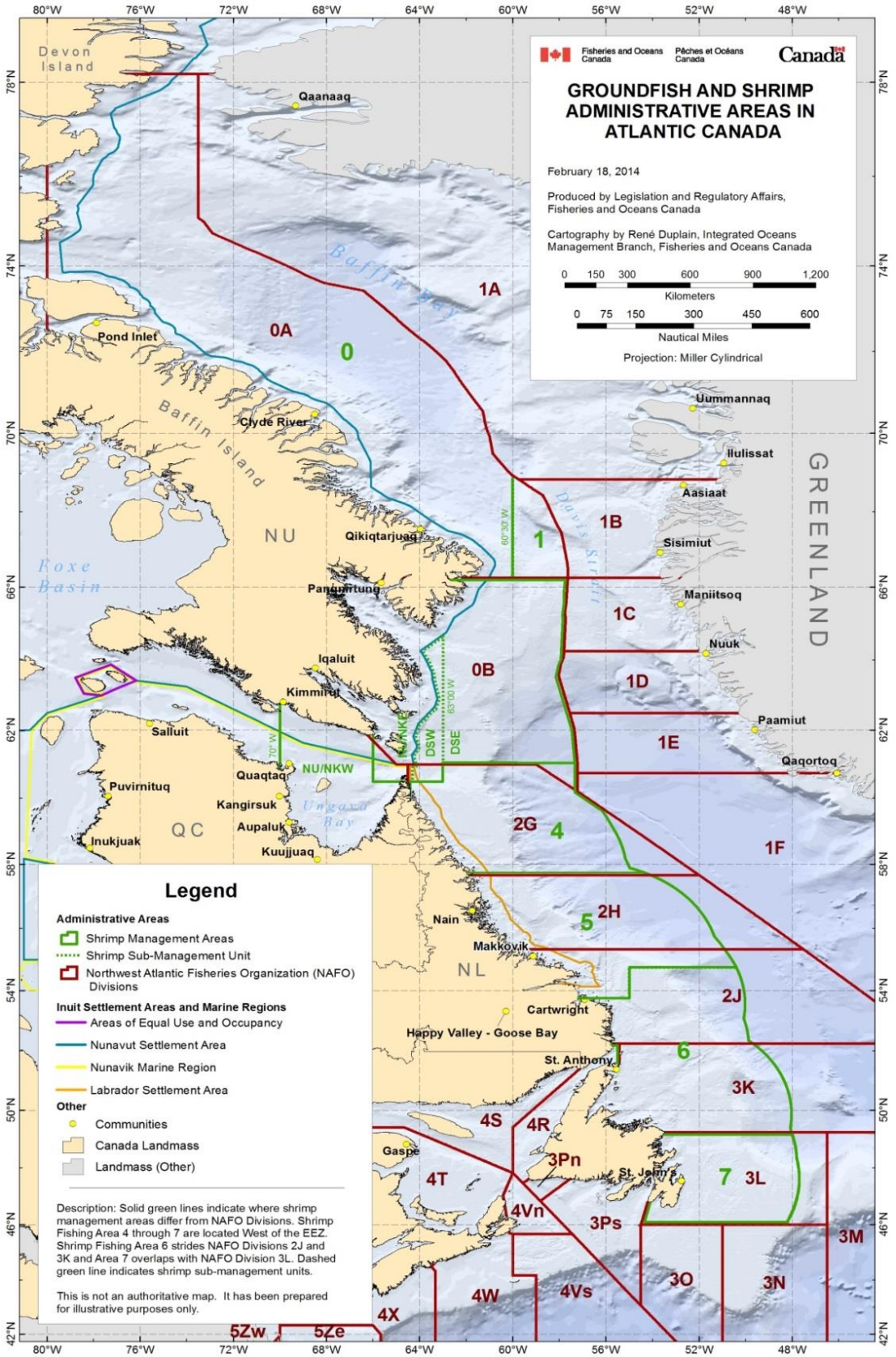
Prepared by: Fisheries Management, Fisheries and Oceans Canada

Date: August 04, 2022

Appendix

Appendix 1 – Map of groundfish and shrimp administrative areas in Atlantic Canada

APPENDIX 1


Fisheries and Oceans Canada
Pêches et Océans Canada
Canada
GROUNDFISH AND SHRIMP ADMINISTRATIVE AREAS IN ATLANTIC CANADA
February 18, 2014
Produced by Legislation and Regulatory Affairs, Fisheries and Oceans Canada
Cartography by René Duplain, Integrated Oceans Management Branch, Fisheries and Oceans Canada
0 150 300 600 900 1,200
Kilometers
0 75 150 300 450 600
Nautical Miles
Projection: Miller Cylindrical
Legend
Administrative Areas
Shrimp Management Areas
Shrimp Sub-Management Unit
Northwest Atlantic Fisheries Organization (NAFO) Divisions
Inuit Settlement Areas and Marine Regions
Areas of Equal Use and Occupancy
Nunavut Settlement Area
Nunavik Marine Region
Labrador Settlement Area
Other
Communities
Canada Landmass
Landmass (Other)
Description: Solid green lines indicate where shrimp management areas differ from NAFO Divisions. Shrimp Fishing Area 4 through 7 are located West of the EEZ. Shrimp Fishing Area 6 strides NAFO Divisions 2J and 3K and Area 7 overlaps with NAFO Division 3L. Dashed green line indicates shrimp sub-management units.
This is not an authoritative map. It has been prepared for illustrative purposes only.
Devon Island
Qaanaaq
Pond Inlet
Clyde River
Baffin Island
Baffin Bay
Davis Strait
Foxe Basin
Ungava Bay
NU
QC
NL
GREENLAND
Qikiqtarjuaq
Pangnirtung
Iqaluit
Kimmirut
Salluit
Quaqtaq
Puvirnituq
Kangirsuk
Aupaluk
Inukjuak
Kuujjuaq
Uummannaq
Ilulissat
Aasiaat
Sisimiut
Maniitsoq
Nuuk
Paamiut
Qaqortoq
Nain
Makkovik
Cartwright
Happy Valley - Goose Bay
St. Anthony
Gaspe
St. John's
0A
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1A
1
1B
1C
1D
1E
1F
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2G
4
2H
5
2J
6
3K
4S
4R
3Pn
4T
4Vn
3Ps
7
3L
3M
3O
3N
4W
4Vs
4X
5Zw
5Ze
NU/NKW
DSW
DSE
60°30'W
63°00'W
70°W

Greenland halibut in Subarea 0+1 (offshore) Advice June 2022 for 2023-2024

Recommendation for 2023 and 2024

The main index for this stock has not been updated since 2017, consequently stock status is increasingly uncertain. However, SC notes that the stock varied without trend between 2013-2017 while the fishery was increasing. Average catches during this period were 29,640 t, therefore, SC recommends catches not to exceed this value in 2023 and 2024.

Management objectives

Canada and Greenland adopted a total allowable catch (TAC) of 36 370 t for 2019 to 2022. Canada requests that stock status be evaluated in the context of management requirements for long-term sustainability and the advice provided should be consistent with the precautionary approach.

Convention General Principles	*Status*	*Comment/consideration*
Restore to or maintain at B_{MSY}	○	B_{MSY} Unknown
Eliminate overfishing	○	F_{MSY} Unknown
Apply Precautionary Approach	●	B_{lim} *valid to 2017*
Minimise harmful impacts on living marine resources and ecosystems	●	Fishing closures are in effect in SA0 and Div. 1A. No specific measures.
Preserve marine biodiversity	○	Cannot be evaluated

● OK
● Intermediate
● Not accomplished
○ Unknown

Management unit

The Greenland halibut stock in Subarea 0 + 1 (offshore) is part of a larger population complex distributed throughout the Northwest Atlantic. From 2020, separate assessments are made on the inshore management units in 1A-F and 0B.

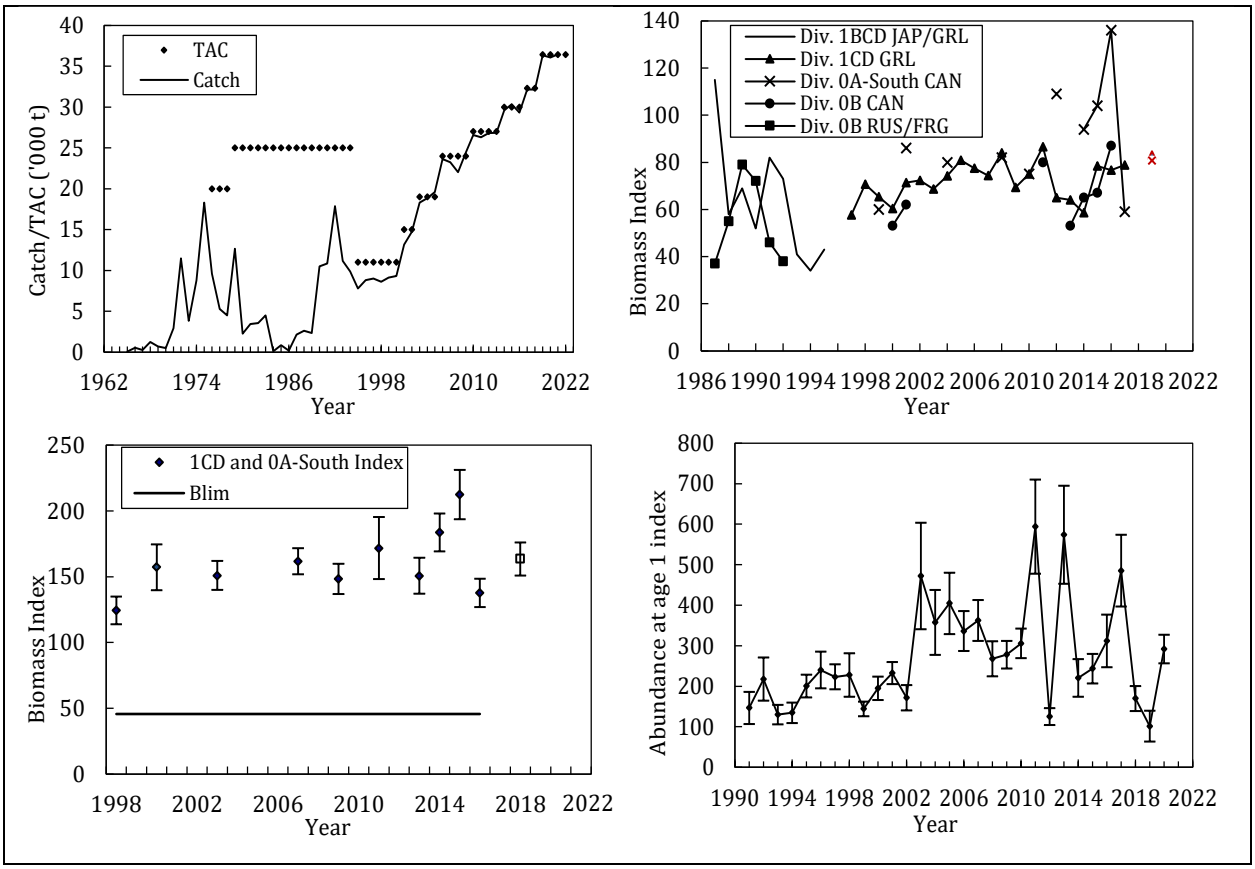
Stock status

The 0A-South and 1CD biomass index was above B_{lim} throughout the time series, 1999 to 2017. The 2019 value is similar in magnitude to previous surveys, however, it is not considered directly comparable. Despite a lack of index survey data in recent years the stock status is not expected to have changed drastically during 2018 to present.

Special Comment

The main index for this stock has not been updated since 2017, consequently stock status is increasingly uncertain: this increases the risks associated with management decisions. It is essential that surveys resume as soon as possible to update indices.

In assessing stock status SC considered the observed stability in length frequencies from surveys and the fishery, the age-1 index, that TACs have been consistently achieved, longevity of the species, and that status in 2017 was well above B_{lim}.



Reference points

B_{MSY} is not known for this stock. In 2015 a proxy for B_{lim} was developed based on 30% of a period of stability in the 0A-South and 1CD index (1999-2012). However, no surveys were conducted in 2018, 2020 or 2021 and the 2019 survey was not considered comparable to previous surveys. The previous B_{lim} was valid to 2017, but needs to be re-evaluated once a new time series is established.

Assessment

The assessment is qualitative with input from research surveys (total biomass and abundance indices to 2017, an index of age 1 fish to 2020, and length frequency distributions to 2017) and fishery length frequencies to 2021.

The next assessment is expected to be in 2024.

Human impact

Mainly fishery related mortality has been documented. Other sources (e.g. pollution, shipping, oil-industry) are undocumented.

Biology and Environmental interactions

No specific studies were reviewed during this assessment

Fishery

Catches were first reported in 1964. Catches increased from 1989 to 1992 due to a new trawl fishery in Div. 0B with participation by Canada, Norway, Russia and Faeroe Islands and an expansion of the Div. 1CD fishery with participation by Japan, Norway and Faeroe Islands. Catch declined from 1992 to 1995 primarily due to a reduction of effort by non-Canadian fleets in Div. 0B. Since 1995 catches have been near the TAC and increasing in step with increases in the TAC, with catches reaching a high of 36 436 t in 2021.

Recent catch and TACs ('000 t)

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
TAC	27	30	30	30	32.3	32.3	36.4	36.4	36.4	36.4
STACFIS SA 0	13.4	14.9	15.4	14.1	15.9	16.0	18.3	17.9	19.1[2]	
STACFIS SA 1	13.5	14.7	14.9	15.2	16.2	16.2	18.0	18.1	17.3	
Total STACFIS[1]	26.9	29.6	30.3	29.3	32.1	32.2	36.3	36.0	36.4	

[1] Based on STATLANT, with information from Canada and Greenland authorities to exclude inshore catches.

[2] STACFIS estimate using 1.5 conversion factor for J-cut, tailed product; 1 129 t increase over reported catch.

Effects of the fishery on the ecosystem

The impact of bottom fishing activities on VMEs in SA 0 was assessed in 2016. Three areas have been designated as marine refuges, that exclude bottom contact fisheries: Disko Fan, Davis Strait and Hatton Basin. Areas in SA 1 have also been closed to fishing to protect benthic habitats.

Greenland Shark is a bycatch species of concern in the SA 0+1 (offshore) fishery given its low reproductive rate, slow growth rate and limited ecological information. SC has examined Greenland Shark bycatch records and survey encounters in the NAFO Convention Area to determine the amount of, and spatial and temporal patterns in Greenland Shark bycatch.

Basis for Advice

A quantitative assessment of risk at various catch options is not possible for this stock, therefore, it is not possible to quantitatively evaluate the sustainability of the TAC. There was no biomass index available for 2018, 2020 or 2021, and there is uncertainty in the comparability of the 2019 estimate. TAC advice in 2022 is based on a qualitative review of available data.

Sources of information

SCR 22/022, 023, 21/014; SCS Doc. 22/009, 012, 017

III. STOCKS ASSESSMENTS

A. STOCKS OFF GREENLAND AND IN DAVIS STRAIT: SUBAREA 0 AND SUBAREA 1

Recent Conditions in Ocean Climate and Lower Trophic Levels

- The ocean climate index in Subarea 0-1 above normal in 2021.
- Mean initiation timing of the spring phytoplankton bloom in 2021 was the earliest of the time series.
- Spring bloom magnitude (total production) was slightly below normal in 2021

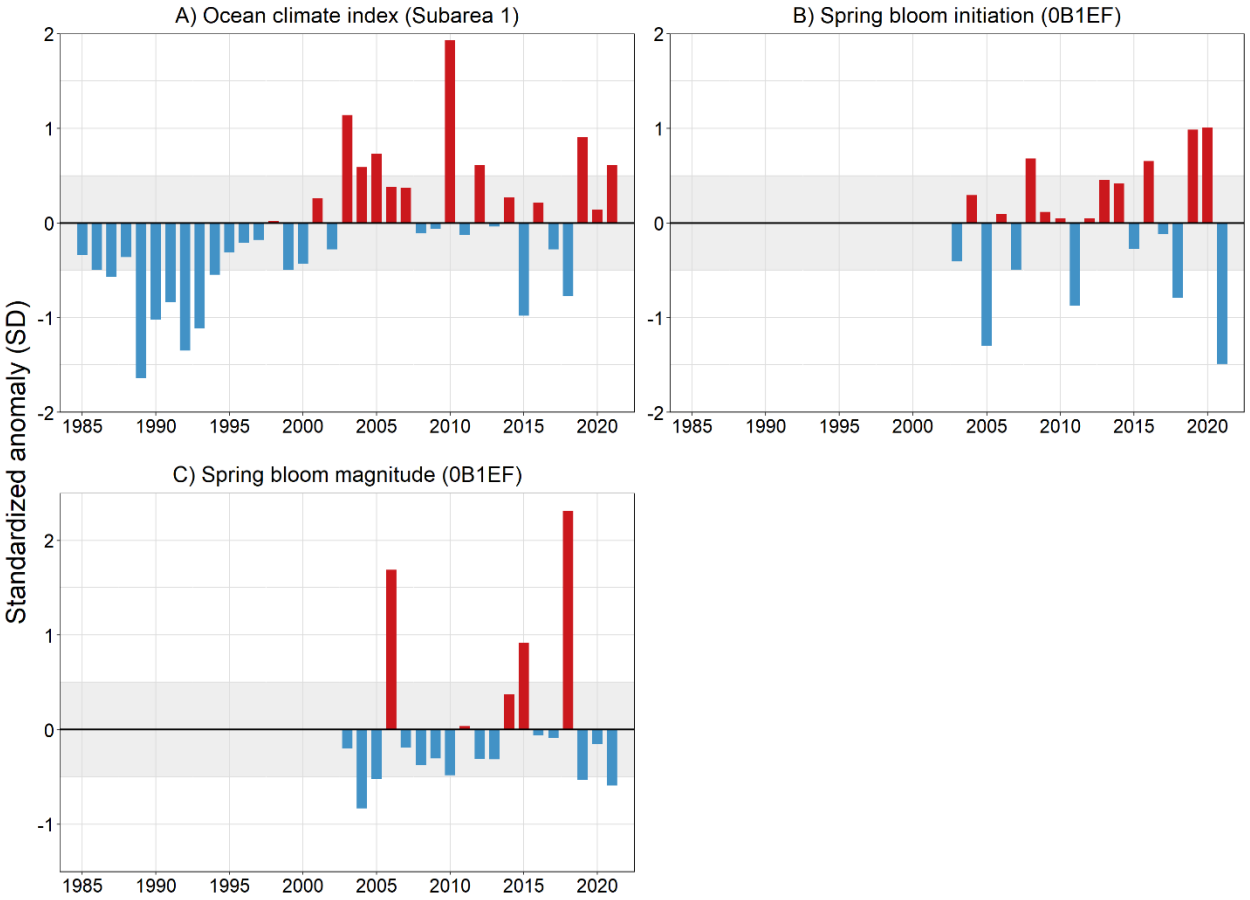


Figure A1. Annual anomalies of environmental indices for NAFO Subareas 0 and 1. The ocean climate index (A) for the period 1990-2020 is the average of 10 individual time series. These includes standardized anomalies of 4 SSTs time series, 4 temperature time series at 3 hydrographic stations and 2 air temperatures time series (see Cyr and Belanger 2022 for details). Spring bloom anomalies (B, C) for the 2003-2021 period are derived from four satellite boxes (HS, NLAB, CLAB, GS – see Cyr and Belanger 2022 for details). Positive (negative) anomalies indicate late (early) bloom timing or magnitude above (below) the mean for the reference period. Anomalies were calculated using the following reference periods: ocean climate index: 1981-2010, spring bloom indices: 2003-2020. Anomalies within ± 0.5 SD (shaded area) are considered near-normal conditions.

Environmental Overview

Hydrographic conditions in this region depend on a balance of ice melt, advection of polar and sub-polar waters and atmospheric forcing, including the major winter heat loss to the atmosphere that occurs in the central Labrador Sea. The cold and fresh polar waters carried south by the east Baffin Island Current are counter balanced by warmer waters are carried northward by the offshore branch of the West Greenland Current (WGC). The water masses constituting the WGC originate from the western Irminger Basin where the East Greenland Currents (EGC) meets the Irminger Current (IC). While the EGC transports ice and cold low-salinity Surface Polar Water to the south along the eastern coast of Greenland, the IC is a branch of the North Atlantic current and transports warm and salty Atlantic Waters northwards along the Reykjanes Ridge. After the currents converge, they turn around the southern tip of Greenland, forming a single jet (the WGC) that propagates northward along the western coast of Greenland. The WGC is important for Labrador Sea Water formation, which is an essential element of the Atlantic Meridional Overturning Circulation. At the northern edge of the Labrador Sea, after receiving freshwater input from Greenland and Davis Strait, part of the WGC bifurcates southward along the Canadian shelf edge as the Labrador Current.

Ocean Climate and Ecosystem Indicators

The ocean climate index in Subarea 0-1 has been predominantly above or near normal since the early 2000s, except for 2015 and 2018 that were below normal (1A). After being in 2019 at its highest value since the record high of 2010, the index was normal in 2020 and again above normal in 2021. Before the warm period of the last decade, cold conditions persisted in the early to mid-1990s.

Spring bloom initiation has been oscillating between early (negative anomalies) and late (positive anomalies) timing between 2003 and 2020. In 2021, the average timing of the spring bloom in Subarea 0B1EFT was the earliest of the time series and followed the two latest bloom onset on record for the region (Figure A1B). Spring bloom magnitude (total production) remained mostly below or near-normal between 2003 and 2020 with the exception of a few highly productive bloom in 2006, 2015 and 2018 (Figure A1C). In 2021, mean bloom magnitude in the region was slightly higher than normal (Figure A1C).

1. Greenland Halibut (*Reinhardtius hippoglossoides*) in Subarea 0 and 1 (Offshore)

(SCR Doc. 22/022, 22/023, 21/014; SCS Doc. 22/009, 22/012)

a) Introduction

The Greenland halibut stock in Subarea 0 and 1 (offshore) is part of a larger population complex distributed throughout the Northwest Atlantic (Roy et al. 2014). The fishery distribution includes Canadian (SA0) and Greenland (SA1) offshore waters. Canada and Greenland manage the fisheries independently and request advice from NAFO SC. The fishery came under quota regulation in 1976 when a TAC of 20,000 t was established. TAC was increased to 25,000 t in 1979. In 1994 analysis of tagging and other biological information resulted in the creation of separate management areas for inshore Div. 1A. The portion of the TAC allocated to Subarea 0+1A (offshore) and 1B-F was set at 11 000 t and the TAC remained at this level from 1995-2001, during which time the TAC was fished almost exclusively in Div. 0B and Div. 1CD. A series of surveys took place during 1999-2004 in areas of Div. 0A and 1AB that had not been surveyed before resulting in an expansion of the fishery into these northern divisions between 2001 and 2006. In 2020 studies of parasites, analysis of historic taggings and fishery data resulted in the creation of separate management areas for inshore Div. 1B-F (SCR Doc. 20/034).

The assessment is qualitative, and since 2014 has been based on an index of survey biomass that combines Divisions 0A-South and 1CD surveys (ICES 2013). The surveys are conducted by the same vessel and gear during the fall which allows for a combination of the survey results. An index based harvest control rule was accepted as the basis for TAC advice in 2016 and 2018.

The vessel that conducted surveys from 1997 to 2017 was retired in 2018 and a new research vessel built by the Greenland Institute of Natural Resources will begin a new survey time series in 2022. No survey was conducted in 2018, 2020 and 2021. A commercial vessel was used for the 2019 survey. This change in vessel had an effect on gear performance such that the 2019 index is not directly comparable to previous years. Also, earlier timing for the 0A-South survey in 2019 introduced additional uncertainty to the comparability of this index. Assessment and advice in 2020 and 2022 were based on a qualitative review of available survey and fisheries data. The absence of a continuous survey series limits the assessment and STACFIS may be unable to evaluate the impact of the advised TAC.

Fishery and Catch: Bottom otter trawl gear is used by most fleets in the Subarea 1 fishery. There have been longline vessels occasionally in the offshore, however gillnet gear is not allowed. The Subarea 0 fishery is a mix of trawl and gillnet (between 30-40% of the catch in recent years) with the occasional use of longline. The trawlers in both Subareas have been using both single and double trawl configurations since about 2000. The gillnet fishery in Subarea 0 began in 2005 and has been using baited gillnets since about 2015. Baiting gillnets has been shown to increase catch rates (Bayse and Grant 2020).

Catches were first reported in 1964 and rose to 20,027 t in 1975 before declining to 2,031 t in 1986. Catches increased from 1989 to 1992 (reaching a level of 17,888 t) due to a new trawl fishery in Div. 0B with participation by Canada, Norway, Russia and Faeroe Islands and an expansion of the 1CD fishery with participation by Japan, Norway and Faeroe Islands. Catch declined from 1992 to 1995 primarily due to a reduction of effort by non-Canadian fleets in Div. 0B. Since 1995 catches have been near the TAC, increasing in step with increases in the TAC. Since 2019 the TAC has been 36,400 t. In 2021 catches were 36,436 t (Figure 1.1).

Fisheries and Oceans Canada does not include the J-cut and tail off product in its product list for Greenland halibut, however, the majority of the catch in this fishery (~90%) is processed as this product. An interim conversion factor (CF) of 1.49 was therefore provided in at-sea observer manuals and used by vessel operators and observers since 2007. In 2021, the CF for J-cut, tail off product was lowered by Canadian authorities from 1.49 to 1.4. Based on a review of at-sea observer experiments conducted in Subarea 0 the appropriate value to estimate round weight from J-cut, tail off, dressed weight is 1.5, which is comparable with J-cut, tail off CF values used by other countries that fish in the SA0+1 stock area (SCR Doc. 22/023). The catch in SA 0 for 2021 was adjusted accordingly.

Recent catch and TACs ('000 t):

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
TAC	27	30	30	30	32.3	32.3	36.4	36.4	36.4	36.4
STACFIS SA 0	13.4	14.9	15.4	14.1	15.9	16.0	18.3	17.9	19.1[2]	
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Total STACFIS[1]	26.9	29.6	30.3	29.3	32.1	32.2	36.3	36.0	36.4	

[1] Based on STATLANT, with information from Canada and Greenland authorities to exclude inshore catches.

[2] STACFIS estimate using 1.5 conversion factor for J-cut, tailed product; 1,129 t increase over reported catch.

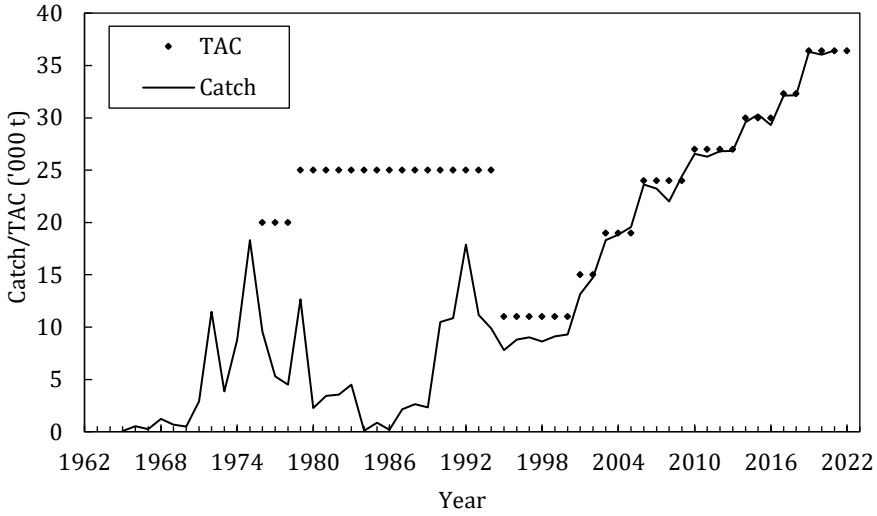

Figure 1.1. Greenland halibut in Subarea 0 and 1 (offshore): catches and TACs.

b) Data Overview

i) Commercial fishery

Length frequencies were available for 2021 from Greenland trawl fisheries in Div. 1AB, , Greenland, German, trawl fisheries in Div. 1CD, and from Canadian gillnet and trawl fisheries in Div. 0AB.

Length frequency data have been combined to produce an overview for the SA0+1 trawl fleets and the SA0 gillnet fleet. Modal length for the trawl fleets has varied from 49 to 51 cm and since 2014 the mode has remained above 50 cm. Modal length in the SA 0 gillnet fleet was approximately 61 cm prior to 2014 and since then has declined to about 56 cm observed in 2021.

ii) Research surveys

In the past, surveys were conducted by Russia and the Federal Republic of Germany in 0B (1987-1992) and by Greenland and Japan in 1BCD (1987-1995). Greenland and Canada began conducting surveys in 1997 and 1999, respectively (Figure 1.2).

Greenland Surveys (Div. 1CD)– Buffered stratified random bottom trawl surveys conducted during fall from 400 to 1500 m, from 1997-2017, and in 2019. Biomass in 1CD fluctuated with a slight positive trend through most of the time series (Figure 1.2). In 2017, biomass was similar to levels seen in 2015 and 2016. There were no surveys in years 2018, 2020 and 2021. The 2019 estimate is not comparable to previous values.

Canada Surveys (Div. 0A-South and occasionally in 0B and 0A-North**) –** Buffered stratified random bottom trawl surveys conducted during fall from 400 to 1500 m, in 1999, 2001, every second year between 2004 and 2014, annually to 2017 and in 2019. Biomass in Div. 0A-South varied with an increasing trend from 1999 to 2016 followed by a marked decline in 2017 (Figure 1.2). Biomass in Div. 0B in 2016 was similar to a previous high

observed in 2011. There were no surveys in years 2018, 2020, and 2021. The 2019 0A-South estimate is not comparable to previous values.

Combined 0A-South and 1CD Surveys - In 2014 STACFIS adopted a recommendation from the ICES Greenland halibut benchmark meeting (ICES 2013) to create a combined survey index with which to monitor the overall Subarea 0+1 (offshore) stock. The surveys are conducted with the same vessel and gear during the fall which allowed for simple addition of the survey estimates to create the index. The biomass index had remained stable at a relatively high level during 1999-2012 and therefore, based on Precautionary Approach Framework guidance from NAFO SC for stocks assessed using an index (SCS Doc. 04/12), the average over this period was accepted as a proxy for $B_{MSY,}$ and B_{lim} was set as 30% of the proxy $B_{MSY.}$ The index increased between 2014 and 2016 and while it declined in 2017 it remained well above B_{lim} (Figure 1.3). Abundance followed a similar trend. The decline observed in 2017 was a result of a decline in 0A-South. The 2019 value is similar in magnitude to previous surveys, however, it is not considered directly comparable for use in provision of advice.

The length distribution for 0A-South and 1CD surveys combined ranged from about 5 cm to 100 cm. Modal lengths have shifted from 42-43 cm at the beginning of the time series to a high of 51 cm in 2015. Secondary modes were clearly present in 2008 and 2012-2017.

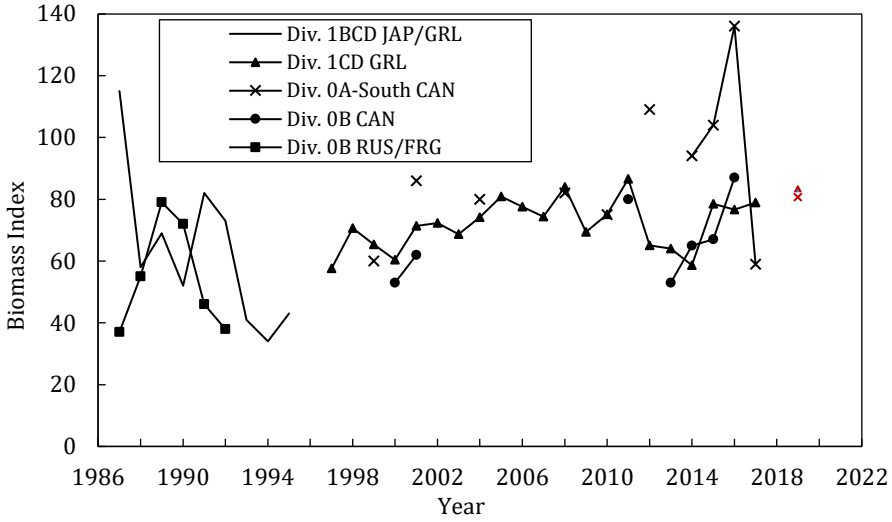

Figure 1.2 Greenland halibut in Subarea 0 and 1 (offshore): biomass indices from bottom trawl surveys. A survey in Div. 0A in 2006 is not included due to poor coverage.

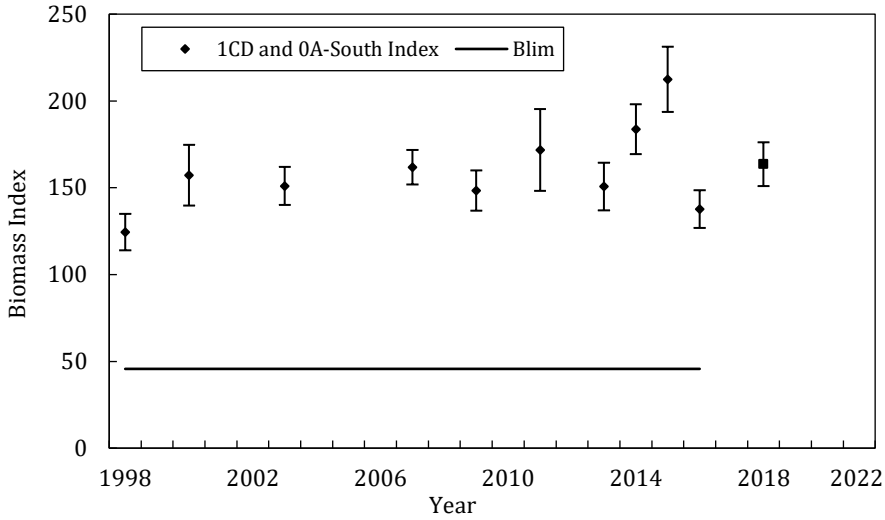

Figure 1.3 Greenland halibut in Subarea 0 and 1 (offshore): Biomass trends in Div. 0A-South + Div. 1CD survey and the proxy for B_{lim}.

Age-1 Abundance Index - The Petersen-method is used to assign Greenland halibut caught during the West Greenland shrimp survey to age 1, 2 and 3+ using length data. The survey takes place on the Greenland shelf in Div. 1A-F at depths 50 m to 600 m for fish sampling (SCR Doc. 21/014). The number of 1 year old fish in the survey area, including Disko Bay (also area within Division 0A when available), is used as an age-1 index. The index was generally increasing from 1988 to 2003, followed by a declining trend to 2010, and since then the index has been variable with series high values observed in 2011, 2013 and 2017 (Figure 1.4). Abundance in 2020 is near the series average. A change in survey vessel occurred in 2018, but gear performance analyses concluded the surveys were comparable (SCR 20/15).

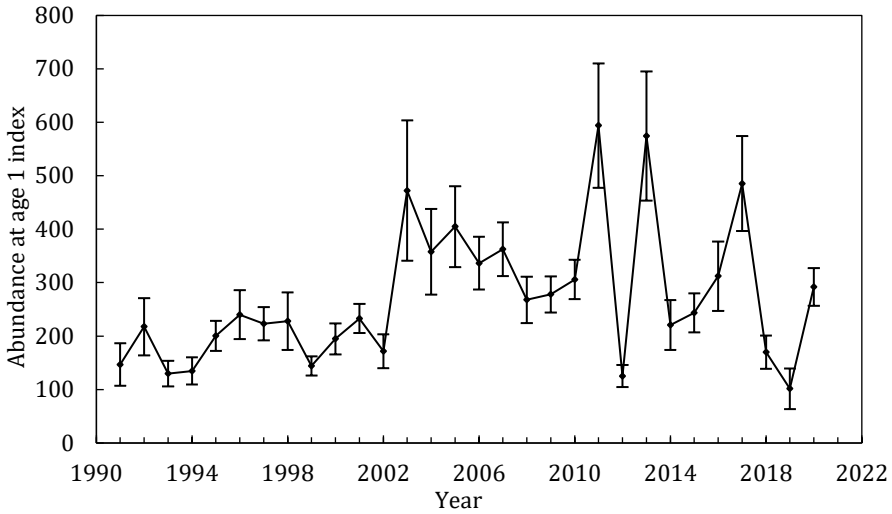

Figure 1.4 Greenland halibut in Subarea 0 and 1 (offshore): index at age 1 derived from the Greenland Shrimp and Fish Survey.

c) Assessment Results

There is no accepted analytical model. Several attempts to model the stock dynamics have been tried over the years using methods such as Yield per Recruit Analysis, XSA, ASPIC and Schaefer surplus production model.

i) Subarea 0 and 1 (offshore)

Biomass: The RV Pâmiut 0A-South+Div. 1CD combined survey biomass index, 1999 – 2017 had been relatively stable from 1999 to 2014 then more variable with a time series high in 2016 and a level near the series low in 2017, all values were above B_{lim}.

Recruitment: Recruitment is uncertain.

Fishing mortality: Fishing mortality is uncertain.

State of the Stock: The 0A-South and 1CD biomass index was above B_{lim} throughout the time series, 1999 to 2017. The 2019 value is similar in magnitude to previous surveys, however, it is not considered directly comparable. Despite a lack of index survey data in recent years the stock status is not expected to have changed drastically during 2018 to present.

d) Reference Points

B_{MSY} is not known for this stock. In 2015 a proxy for B_{lim} was developed based on 30% of a period of stability in the 0A-South and 1CD index (1999-2012). However, no surveys were conducted in 2018, 2020 or 2021 and the 2019 survey was not considered comparable to previous surveys. The previous B_{lim} was valid to 2017, but needs to be re-evaluated once a new time series is established.

The next full assessment of this stock is expected to be in 2024.

e) Recommendations:

In 2018 STACFIS **recommended** that *the CPUE data be explored and the General Linear Model examined to better understand the observed trends.*

In 2020 STACFIS **recommended** that *the overall 1A-F survey biomass be explored as an index of stock status instead of only the age 1 portion of this survey.*

STATUS: No progress has been made on these recommendations in 2022. However, effort is underway to explore spatial and length based models using all available survey indices as well as fishery catch and length frequencies, to identify the potential for their use in future assessments of this stock.

References

ICES 2013. Report of the benchmark on Greenland halibut stocks (WKBUT). ICES CM 2013/ACOM:44. 74pp.

Roy, D., D. C. Hardie, M. A. Treble, J. D. Reist and D. E. Ruzzante. 2014. Evidence of high gene flow in a locally adapted species: the paradox of Greenland Halibut (Reinhardtius hippoglossoides) panmixia in the Northwest Atlantic. Canadian Journal of Fisheries and Aquatic Science 71: 763-774.

2. Greenland Halibut (*Reinhardtius hippoglossoides*) in Subarea 1 inshore

(SCR Doc. 18/023, 22/008, 009, 010, 024, 029, 031, 035, 036, 037, 038; SCS Doc. 22/11) Full assessment.

a) Introduction

The fishery targeting Greenland halibut developed in the Disko Bay and south Greenland in the beginning of the twentieth century. The fishery is conducted with longlines or gillnets from small vessels, open boats and through holes in the sea ice during the winter months. The fishery gradually spread from the Disko Bay to Uummannaq and Upernavik, but the catches remained low until the 1980s.

Quota regulations were introduced in 2008 as a shared quota for all vessels . In 2012, the TAC was split in two components with ITQ's for vessels and shared quota for small open boats. In 2014, the Government of Greenland set "quota free" areas within each subarea, and in these areas, catches were not drawn from the total quota, although still included in landing statistics. In 2022 the quota free areas were abolished.

To protect juvenile fish in the area, sorting grids have been mandatory since 2002 in the offshore shrimp fishery at West Greenland and since 2011 in the inshore shrimp fishery in the Disko Bay. Trawl fishery is not allowed

August 30, 2022

Board Members
Nunavut Wildlife Management Board
PO Box 1379
Iqaluit, NU
X0A 0H0

Dear the Nunavut Wildlife Management Board Members:

Re: NAFO Scientific Council's advice regarding SA0 +1 Greenland Halibut TAC for 2023-2024

The recent advice provided to the Department of Fisheries and Oceans Canada (DFO) from the Northwest Atlantic Fisheries Organization (NAFO) Scientific Council (SC) for Greenland Halibut (turbot) in Subareas 0+1 for the 2023-2024 fishing seasons is incredibly concerning and has prompted this joint response from the Nunavut Fisheries Association (NFA), the Government of Nunavut (GN), and Industry to communicate the concern and disagreement.

All parties strongly disagree with the recommendation from NAFO SC on the potential decrease in Total Allowable Catch (TAC) from 36,370 t to 29,640 t for SA 0+1 turbot and, therefore, a reduction in Division 0A + 0B TAC. We present the following rationale for why the TAC should remain the same in Divisions 0A + 0B:

1) There is no scientific justification to warrant a reduction; the current TAC was established from the previous long-term stock assessment data.
2) A reduction in TAC would have an adverse effect on Nunavummiut.
3) The NAFO Precautionary Approach (PA) was not completely adhered to when formulating the advice.

There is no scientific justification to warrant a reduction; the current TAC was established from the previous long-term stock assessment data:

NAFO SC's 2022 report and recommendation for a reduction are not supported by sound scientific rationale and evidence. The rationale given by the SC for a reduction is that the "*main index for this stock has not been updated since 2017, consequently stock status is increasingly uncertain*". However, there is just as much evidence to say that the stock continues to be stable.

The evidence presented in the SC report shows stock stability and minimal harvesting impacts at the current TAC, as illustrated by the following direct points taken from the 2022 report.

1. *The stock likely remains healthy and well above B_{LIM};*
    - All survey index values have remained above the NAFO B_{LIM} for the entire time series, including 2013-2017, where it had a time series high (2016) and near low (2017) (Figure 1). Even the low value in 2017 was within the range of survey index values (1999-2012) considered by NAFO to be a proxy for B_{MSY}. This means that the stock was considered healthy even at this low value.
    - A survey with a commercial vessel was completed in 2019. While not considered directly comparable to the existing time series, it does not mean the data from 2019 does not accurately represent the stock. We want to point out that the 2019 value was in the same range as previous surveys and higher than 2017. It is within the range of the values of the years used as a proxy of B_{MSY}, providing some confidence that current harvest levels are sustainable and the stock is healthy.
    - The 2023-2024 NAFO Advice even states: "*Despite a lack of index survey data in recent years the stock status is not expected to have changed drastically during 2018 to present*" [Emphasis added]. For a stock status that has not expected to have drastically changed, and for which there is no evidence that it has changed at all, it is concerning that there is a recommended drastic reduction in the overall TAC.

2. *With similar information available in 2020, the NAFO SC advised there was low risk of being below B_{LIM} if the TAC remained at 36,370 mt;*

    - The only new information used in the 2022 assessment was fishery length frequencies to 2021, and an index of age-1 fish to 2020.
    - The NAFO SC notes in the advice (SCS Doc. 22/18, P. 74) that both were stable.
    - There was less data used within the 2020 report, and the recommendation was that there was low risk to the stock if the TAC remained at 36,370 mt.

3. *Additionally, some Greenland inshore research shows stable trends in recent years, evidence of stock stability;*

    "In assessing stock status, SC considered the observed stability in length frequencies from surveys and the fishery, the age-1 index, that TACs have been consistently achieved, longevity of the species, and that status in 2017 was well above B_{lim}." (SCS Doc. 22/18, P. 74)

    - Specifically, NAFO states that from the Greenland inshore surveys, abundance in 2020 is near the series average and that the change in survey vessel occurred in 2018, but gear performance analyses concluded the surveys were comparable (SCR 20/15 P. 118).
    - The NAFO SC noted it observed stability in length frequencies from surveys and the fishery, and the age-1 index of abundance. In 2020, the age-1 abundance index was near the series average and was at high levels in 2017. While it is unclear if this index is representative of recruitment, the SC has noted in the past it contributes to perception of stock status.

Given the information presented above from the NAFO SC within this report and previous reports, the current TAC of 36, 370 t for SA 0+1 falls within a low risk of the stock falling below B_{lim}. From fisheries stock assessment literature, this indicates stock stability which does not warrant or support any recommendation for TAC decreases.

4. *The present TAC was determined sustainable from long-term stock assessment data*

The present TAC of 36,370 t for SA 0+1 was determined to be of low-risk harm to the stock (well above the B_{lim} proxy) by NAFO from the previous long-standing time series analysis (2018 and 2020 stock assessment reports). In 2018, the NWMB made the recommendation to support the increases proposed by the NAFO SC, which has resulted in the current TAC. DFO accepted this recommendation and supported the conservative and cautious approach to increase incrementally over the years.

We have confidence in the previous science advice based on the long-term time series, and present TAC levels are of low risk of harm to the stock. There has been no evidence or argument brought forward to show that the past advice was wrong or needing adjustment. In contrast, the data that is available since 2018 shows stock stability.

5. *There is ongoing scientific work to combine the existing survey index time series with future surveys anticipated to be ready for the 2024 stock assessment (SCR Doc.22/022, Appendix 4).*

There are scientific analyses ongoing in Canada to provide science advice on methods to mitigate the impact of a change in Research Vessel on the assessment. Indications are that progresses has been made to combine the existing survey index time series with a new time series beginning in 2022. These methods are anticipated to be available for 2024 stock assessment and allow for the use the new survey data. It is possible this may allow for continued use of the survey index-based HCR already established for this stock. At minimum, in 2024 the assessment will be quantitative and informed by new data.

The available information in 2022 indicates to the NAFO SC that the stock status is not expected to have changed drastically from 2018 to present, therefore maintaining a stable overall TAC until a more quantitative assessment can be undertaken does not seem unreasonable.

With the lack of time series data collection in recent years by Canada and Greenland we must rely on the data we know to be accurate and sound; this is the scientific approach. We strongly encourage the NWMB and DFO to only consider TAC recommendations that are supported by scientific evidence and data.

Reduction in TAC would have an adverse effect on Inuit in Nunavut

The *Fisheries Act* Section 2.4 states that the "Minister shall consider any adverse effects that the decision may have on the rights of the Indigenous peoples of Canada recognized and affirmed by section 35 of the *Constitution Act, 1982.*" A reduction in TAC would have an adverse effect on Inuit.

Fisheries and Oceans Canada and the Canadian Coast Guard have stated that they have a "key role in the transformation of Canada's relationship with Indigenous peoples". The reduction in TAC put forward by NAFO SC is forecasted to cause an annual loss of $20,00,000 to Inuit-owned businesses in Nunavut.

Given the science's rule that a minimum of five years of new survey data is necessary to decide on TAC, this reduction would result in a loss of upwards of $100,000,000 to Nunavut over the next five years. This reduction in TAC would result in a direct loss of jobs, social development, and community-level benefits. In a territory where economic opportunities are limited and investments into our sustainable resource development are in their infancy, a recommendation to reduce the TAC without any scientific justification unjustly penalizes Inuit. A robust assessment of a long-term data set on the stock was used to determine current TAC, and SC deemed it to be low-risk.

The NAFO Precautionary Approach (PA) was not completely adhered to when formulating the advice:

Canada requested the NAFO SC follow the PA. According to the NAFO PA, in the absence of the probability that current or projected biomass is below B_{LIM}, stocks should also have a B_{BUF} (FC Doc. 04/18, P. 3).[1] According to the NAFO PA:

> "*B_{BUF} should be specified by managers and should satisfy the requirement that there is a very low probability that any biomass estimated to be above B_{BUF} will actually be below B_{LIM}. The more uncertain the stock assessment, the greater the buffer zone should be. In all cases, a buffer is required to signify the need for more restrictive measures.*" [emphasis added].

The NAFO SC should have requested management (i.e., Canada and Greenland) establish a B_{BUF} to enable adherence to the NAFO PA in the provision of the advice. Without a B_{BUF} more restrictive measures (i.e., substantial TAC reduction) are being applied without knowledge of where the stock aligned relative to the B_{BUF} during the last viable survey year or during the reference period (2013-2017) chosen for the 2023 to 2024 advice. Without an established B_{BUF} the proposed reductions are out of place as a recommendation and can be seen solely as punitive.

Conclusion

Individually and collaboratively, our organizations aim to live by the Inuit Societal Values:

- Piliriqatigiinniq (working together for a common cause),
- Inuuqatigiitsiarniq (respect for relationships and caring for one and another) and;
- Avatittinnik Kamatsiarniq (respect and care for the land, animals and environment).

As stakeholders and rights-holders in this fishery, we advocate strongly that this recommendation by the NAFO SC to reduce the TAC of turbot in Division 0A + 0B is not justified by the evidence presented and will cause undue harm to Inuit and Nunavummiut. Additionally, we want to state that if the recommendation from NAFO SC is accepted, the quota reduction suggested would represent the lowest TAC in Subarea 0 since 2013, or the lowest TAC in 10 years, despite the fact that there is no evidence of decline in the health of the stock.

We have advocated for years that the multispecies research needed to be resumed, with potential solutions offered by industry to support these efforts. Unfortunately, none of the options offered were realized. Additionally, there was assurance from DFO Science in 2019 that despite the lack of continued research, there was confidence in the past assessments and that the TAC would remain consistent. DFO

[1] https://www.nafo.int/Portals/0/PDFs/fc/2004/fcdoc04-18.pdf

Science further stated that there should be no expectation of increased TAC until a new time series was established.

In answer to your questions:

1. Given the advice from NAFO SC, what should be the TAC for NAFO Subarea 0?

The TAC for Greenland Halibut in NAFO Subarea 0 should remain at 18,185 t. As discussed above, there is no scientific evidence warranting a decrease, and a dramatic cut in quota is out of place under the precautionary framework.

2. Distribution of TAC between NAFO divisions 0A and 0B?

Distribution of TAC between NAFO divisions 0A and 0B should remain the same at 9,592.5 t in Division 0A, and 8,592.5 t in Division 0B.

3. Nunavut's share in 0A and 0B and why?

Nunavut's share of Division 0A turbot is 100%, and its direct share of 0B is approximately 50%, or 4,283.25 t, plus participation with licenses in the 900t competitive fishery. Nunavut's overall direct share of 0A-0B combined is 76.2%. For the last several allocation cycles, in keeping with Land Claim agreements, DFO has provided Nunavut with 100% of any 0A quota increases and 90% of any 0B quota increases (with the remaining 10% going to Nunavik).

Based on the above recommendations to maintain the overall TAC at current levels, the current sharing arrangements would be maintained. However, Nunavut interests continue to consider the territory's share of the 0B quota to be inequitable and not in line with adjacency and Indigenous reconciliation considerations.

We appreciate that the NWMB Board Members will meaningfully and fairly consider all the points we brought forward when considering your recommendation. We wish you luck in your deliberation and trust you have all the information you need.

Sincerely,

David Akeeagok, Minister of Economic Development and Transportation, Government of Nunavut

____

Chair of Arctic Fishery Alliance

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Chair of Baffin Fisheries

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Chair of Cumberland Sound Fisheries Limited

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Chair of Qikiqtaaluk Corporation

Cc:

Nunavut Tunngavik Incorporated - Aluki Kotierk
Qikiqtani Inuit Association – Olayuk Akesuk
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Minister of Fisheries and Oceans Canada – Government of Canada - Minister Murray
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Minister of Crown Indigenous Relations and Northern Affairs Canada – Government of Canada– Minister Miller
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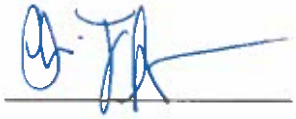

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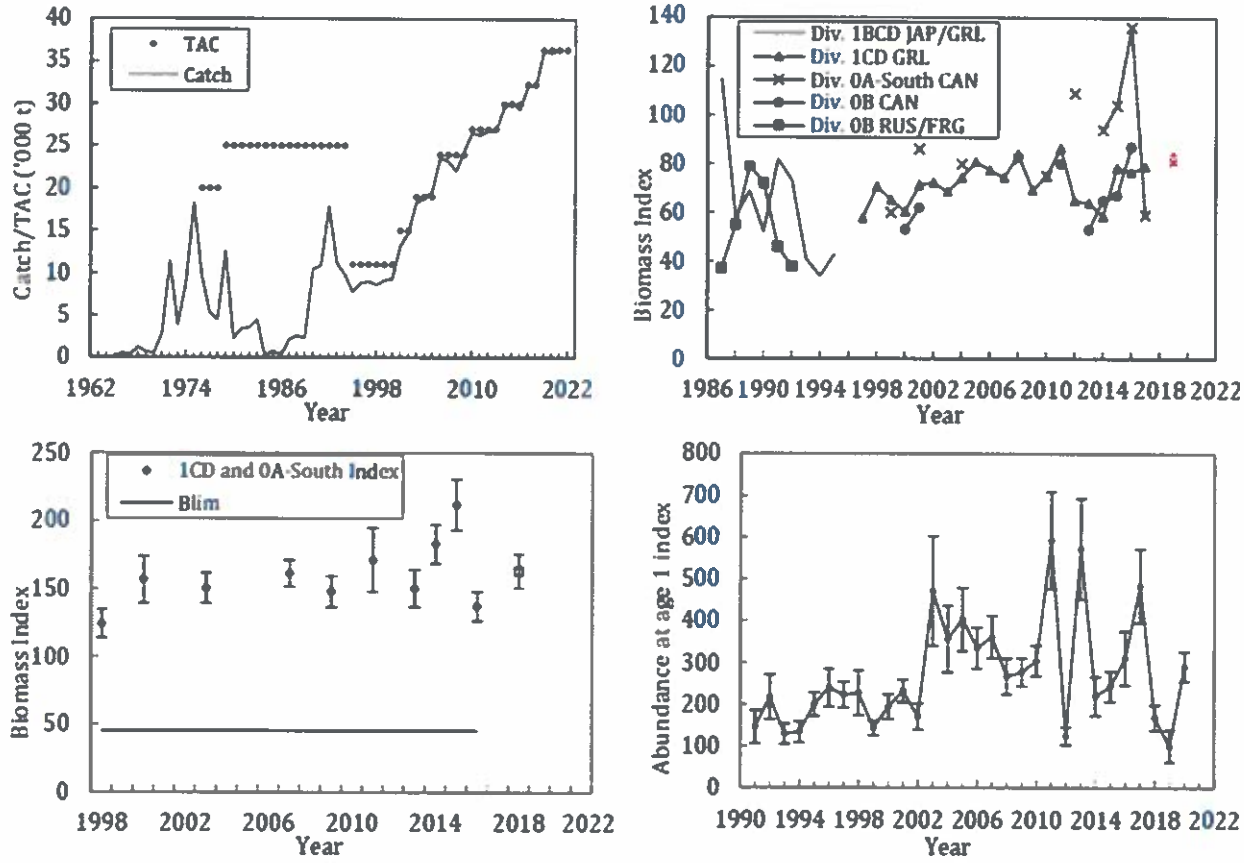
Minister of Fishery, Forest and Agriculture - Government of Newfoundland, Minister Bragg
Ministery of Fisheries, Hunting and Agriculture - Government of Greenland

Annex 1:

Figure 1. Greenland halibut in NAFO Subarea 0+1 (offshore) catches and TAC (top left panel), survey biomass indices (top right panel), combined survey biomass index and B_{lim} (bottom left panel) and abundance at age 1 index (bottom right panel). Modified from figure included in NAFO SCS Doc. 22/18 (page 75).



SUBMISSION TO THE

NUNAVUT WILDLIFE MANAGEMENT BOARD AND NUNAVIK MARINE REGION WILDLIFE BOARD

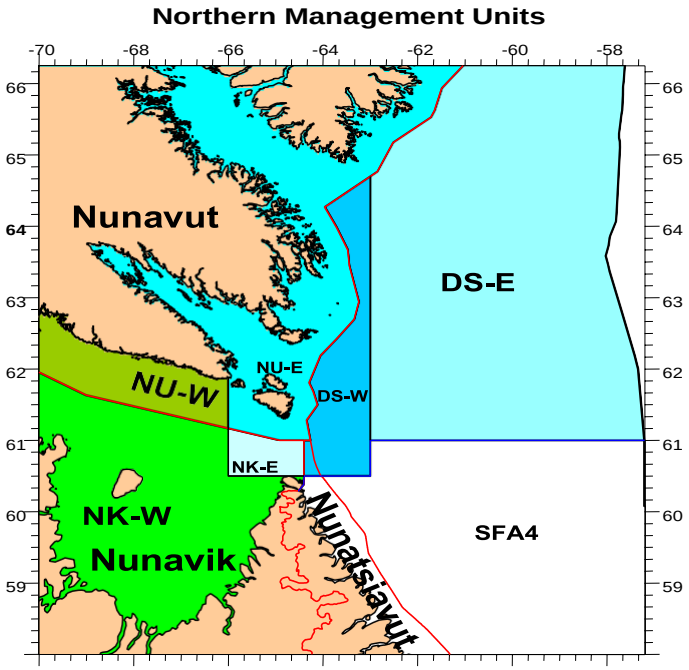
FOR

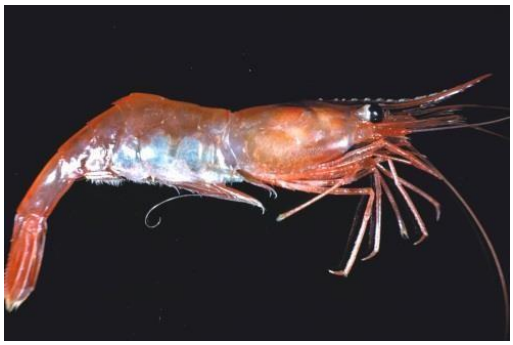
Information: X **Decision:** **Recommendation:**

Issue: Extension of carry forward provisions for the Northern shrimp fishery in the Eastern Assessment Zone (EAZ) due to unseasonal ice conditions.

Map:

Blue areas – Eastern Assessment Zone
Green areas – Western Assessment Zone





Northern shrimp (*Pandalus borealis*)

Striped shrimp (*Pandalus montagui*)

Background

Two shrimp species (*P. borealis* and *P. montagui*) occur in the Northern shrimp fishery that takes place in the Davis Strait and eastern Hudson Strait. This fishery is managed according to two distinct stock assessment zones, the Western Assessment Zone (WAZ)

and the Eastern Assessment Zone (EAZ) (Appendix 1).

While allocations are provided annually for commercial fishing, season bridging of quota is regarded as a useful operational flexibility in the WAZ and EAZ shrimp fisheries that allows for additional opportunities to catch allocations in full, without compromising the sustainability of the resource.

Collectively, season bridging in the shrimp fisheries refers to 1) borrowing from the following year's quota to be fished in the current year; and 2) transferring some of the current year's unused quota to be caught in the following year (carry forward). Under the current bridging protocols in the EAZ, up to 350t is available for carry forward for Nunavut and 20t for Nunavik allocations, to be fished within the first 120 days (April 1 - July 31 of the following year) (Appendix 2). Quota that is not caught by this date will remain unfished.

In late June 2022, industry requested to the Department that the carry forward provisions be extended in the Davis Strait West portion of the EAZ due to heavy ice conditions persisting delaying industry's ability to prosecute the fishery. In mid-July, the request to extend the carry forward date was also made by Baffin Fisheries to include the areas of Nunavut-East (NU-E) and Nunavik (NK-E) due to persistent ice condition in those areas as well.

Science Considerations

The *P. borealis* stock in the EAZ is in the Healthy Zone of the Precautionary Approach (PA) Framework. Despite the recent reduction in the estimate of the fishable biomass and the spawning stock biomass in 2021 for the EAZ stock, *P. borealis* remains in the healthy zone of the PA Framework, and as such DFO Science does not foresee negative consequences of allowing an extension of the carry-forward provisions as prescribed for the stock.

Ice cover persisting later than normal into the summer season in the EAZ would likely delay development of larval shrimp and the recruitment for the 2022 season until such time as ice cover is reduced and ice-free conditions occur later in the summer.

Next Steps

Ice charts obtained from Environment and Climate Change Canada (ECCC) have confirmed that ice continues to remain in the EAZ (Appendix 3). DFO Science has indicated there are no conservation concerns with extending the current deadline, given the ice cover and its effect on the spawning period. As ice remains an impediment to the prosecution of the Northern shrimp fishery in the EAZ, and after discussions with Nunavut Wildlife Management Board staff given that there was no possibility of briefing the Board in advance of the decision, the Department has decided to extend the deadline for harvesting carry forward quota in all areas of the EAZ, including Nunavut East, from July 31 to August 31, 2022. This approach is consistent with actions taken elsewhere in situations where ice conditions have prevented normal, timely fishing activities.

Prepared by: Fisheries Resource Management, Fisheries and Oceans Canada

Date: August 4, 2022

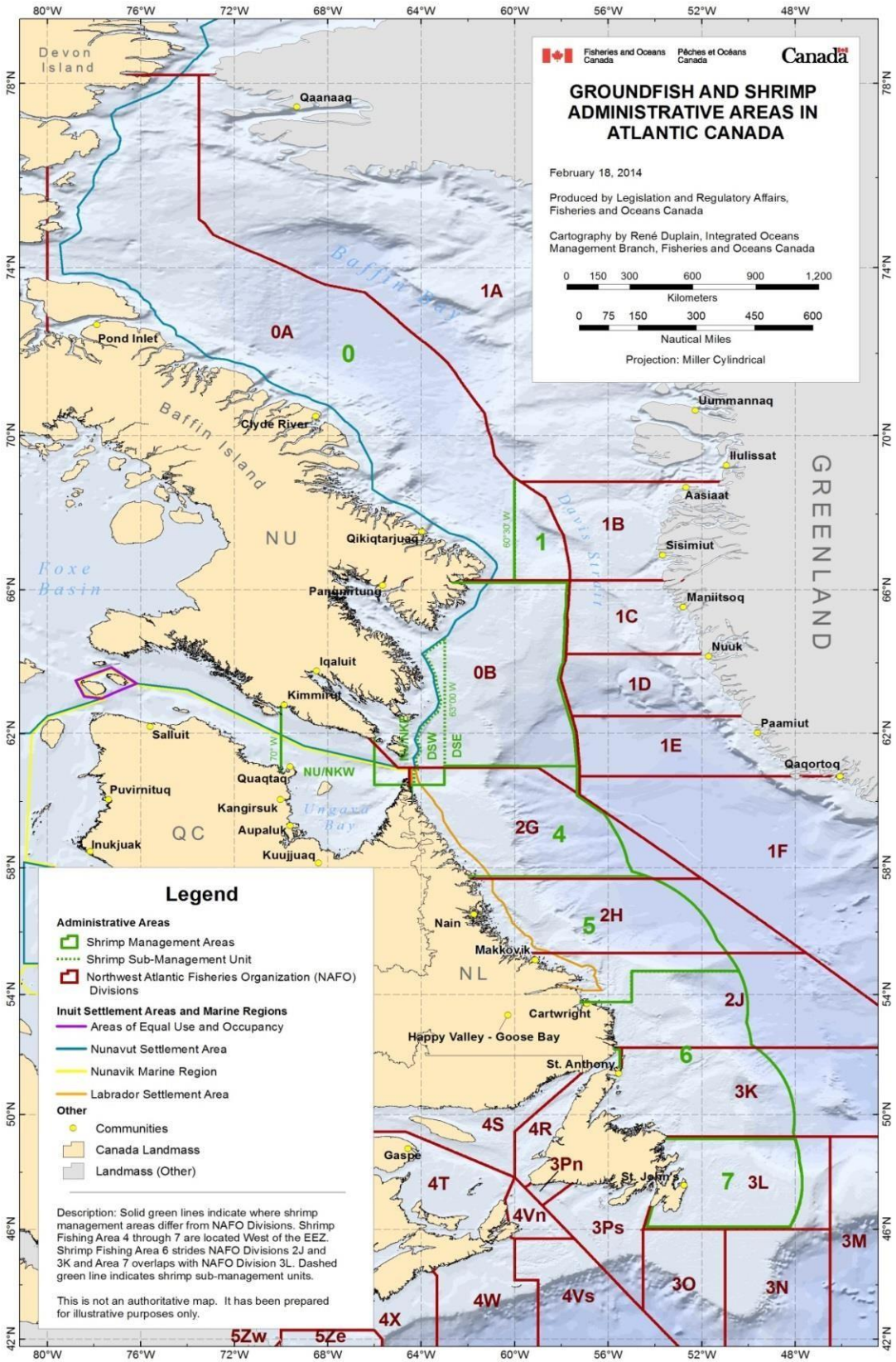
Appendices

Appendix 1 – Map of groundfish and shrimp administrative areas in Atlantic Canada

Appendix 2 – Season bridging protocol for NU and NK Allocations in the WAZ and EAZ

Appendix 3 – Maps illustrating ice conditions in late June 2022, late June 2021

APPENDIX 1


Fisheries and Oceans Canada
Pêches et Océans Canada
Canada
GROUNDFISH AND SHRIMP ADMINISTRATIVE AREAS IN ATLANTIC CANADA
February 18, 2014
Produced by Legislation and Regulatory Affairs, Fisheries and Oceans Canada
Cartography by René Duplain, Integrated Oceans Management Branch, Fisheries and Oceans Canada
0 150 300 600 900 1,200
Kilometers
0 75 150 300 450 600
Nautical Miles
Projection: Miller Cylindrical
Legend
Administrative Areas
Shrimp Management Areas
Shrimp Sub-Management Unit
Northwest Atlantic Fisheries Organization (NAFO) Divisions
Inuit Settlement Areas and Marine Regions
Areas of Equal Use and Occupancy
Nunavut Settlement Area
Nunavik Marine Region
Labrador Settlement Area
Other
Communities
Canada Landmass
Landmass (Other)
Description: Solid green lines indicate where shrimp management areas differ from NAFO Divisions. Shrimp Fishing Area 4 through 7 are located West of the EEZ. Shrimp Fishing Area 6 strides NAFO Divisions 2J and 3K and Area 7 overlaps with NAFO Division 3L. Dashed green line indicates shrimp sub-management units.
This is not an authoritative map. It has been prepared for illustrative purposes only.
Devon Island
Qaanaaq
Baffin Bay
Pond Inlet
Baffin Island
Clyde River
NU
Qikiqtarjuaq
Foxe Basin
Pangnirtung
Iqaluit
Kimmirut
Salluit
Puvirnituq
Quaqtaq
Kangirsuk
Aupaluk
Inukjuak
Kuujjuaq
QC
Ungava Bay
NU/NKW
NK/NKW
DSW
DSE
60°30'W
63°00'W
70°W
Uummannaq
Ilulissat
Aasiaat
Sisimiut
Davis Strait
Maniitsoq
Nuuk
Paamiut
Qaqortoq
GREENLAND
Nain
Makkovik
NL
Cartwright
Happy Valley - Goose Bay
St. Anthony
Gaspe
St. John's
0
1
0A
1A
1B
1C
1D
1E
1F
0B
2G
4
2H
5
2J
6
3K
4S
4R
4T
3Pn
4Vn
3Ps
7
3L
3M
3O
3N
4W
4Vs
4X
5Zw
5Ze
80°W
76°W
72°W
68°W
64°W
60°W
56°W
52°W
48°W
78°N
74°N
70°N
66°N
62°N
58°N
54°N
50°N
46°N
42°N

APPENDIX 2

Season Bridging Protocol for NU and NK Allocations in the WAZ and EAZ

Carry Forward

WAZ (*P. montagui)*
The Department will make 800t available in the WAZ for carry forward to Nunavut and Nunavik allocation holders annually; sharing of this amount will be consistent with the sharing arrangement established by the Boards.

Currently, based on the 50/50 split, Nunavut and Nunavik will each be able to bridge a total of 400t each. Any carry forward quota not caught by September 30 of the following year will remain unfished.

EAZ - Davis Strait, NU/NK E[1] *(P. borealis)*
350t will be available for carry forward for Nunavut and 20t for Nunavik allocations, to be fished by July 31 of the following year. Quota that is not caught by this date will remain unfished.

Where the *P. borealis* stock is no longer in the Healthy Zone, carry forward amounts are reduced such that:

- If the stock is in the Cautious Zone, original carry forward amounts for Nunavut and Nunavik allocations are reduced by 13% and 26% in the upper- and lower-half of the Cautious Zone, respectively.

- If the stock is in the Critical Zone, no carry forward is permitted.

Borrowing

WAZ (*P. montagui)*
Nunavut and Nunavik shall share a total of 550t annually for borrowing based on sharing arrangements established by the Boards, which is currently 275t each. Requests to borrow quota will be assessed by the Department on a case by case basis in consideration of ice and climate conditions.

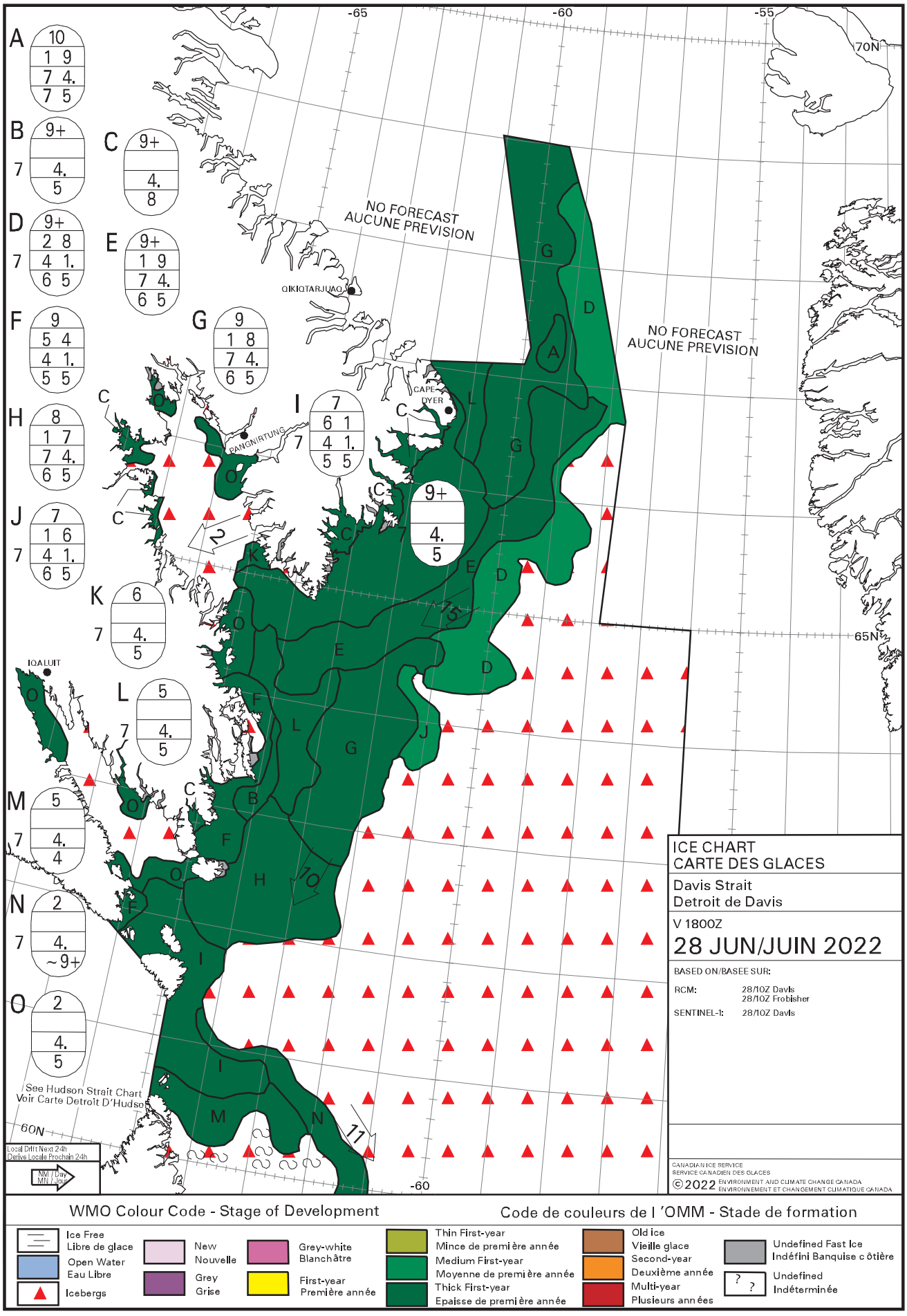
EAZ - Davis Strait, NU/NK E[2] *(P. borealis)*
Nunavut and Nunavik entities shall be allowed to borrow a total of 225t and 10t respectively from their following year's allocations, to be fished in the last month (March) of the current fishery.

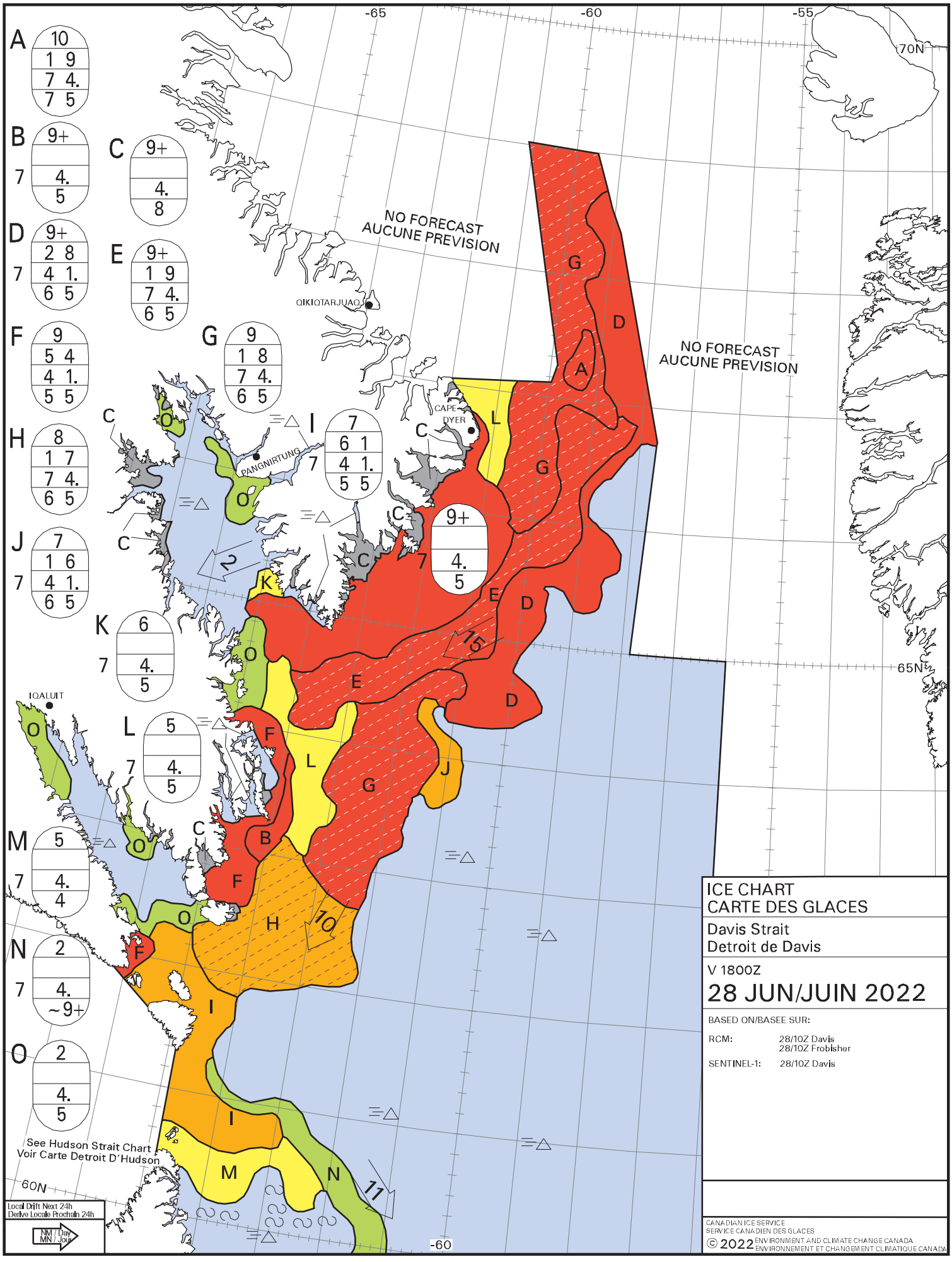
[1] Subject to the Minister's decision to remove the bycatch designation for *P. Borealis* in NU/NK E.
[2] Subject to the Minister's decision to remove the bycatch designation for *P. Borealis* in NU/NK E.

Table 1. Nunavut and Nunavik allocations available for carry forward and borrow.

Area	**Nunavik**		**Nunavut**	
	Carry forward	**Borrow**	**Carry forward**	**Borrow**
WAZ ***P. montagui***	400t	275t	400t	275t
WAZ ***P. borealis***	*N/A - Bycatch*			
EAZ ***P. montagui***	*N/A - Bycatch*			
EAZ ***P. borealis (Davis Strait NU/NK E[1])***	20t	10t	350t	225t

[1] Subject to the Minister's decision to remove the bycatch designation for *P.* borealis in NU/NK E.


-65
-60
-55
70N
65N
60N
NO FORECAST
AUCUNE PREVISION
NO FORECAST
AUCUNE PREVISION
QIKIQTARJUAQ
CAPE DYER
PANGNIRTUNG
IQALUIT
See Hudson Strait Chart
Voir Carte Detroit D'Hudson
Local Drift Next 24h
Derive Locale Prochain 24h
NM / Day
MN / Jour
ICE CHART
CARTE DES GLACES
Davis Strait
Detroit de Davis
V 1800Z
28 JUN/JUIN 2022
BASED ON/BASEE SUR:
RCM: 28/10Z Davis
28/10Z Frobisher
SENTINEL-1: 28/10Z Davis
CANADIAN ICE SERVICE
SERVICE CANADIEN DES GLACES
©2022 ENVIRONMENT AND CLIMATE CHANGE CANADA
ENVIRONNEMENT ET CHANGEMENT CLIMATIQUE CANADA
WMO Colour Code - Stage of Development
Code de couleurs de l 'OMM - Stade de formation
Ice Free
Libre de glace
Open Water
Eau Libre
Icebergs
New
Nouvelle
Grey
Grise
Grey-white
Blanchâtre
First-year
Première année
Thin First-year
Mince de première année
Medium First-year
Moyenne de première année
Thick First-year
Epaisse de première année
Old ice
Vieille glace
Second-year
Deuxième année
Multi-year
Plusieurs années
Undefined Fast Ice
Indéfini Banquise c ôtière
Undefined
Indéterminée


-65
-60
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70N
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-60
NO FORECAST
AUCUNE PREVISION
NO FORECAST
AUCUNE PREVISION
QIKIQTARJUAQ
PANGNIRTUNG
CAPE DYER
IQALUIT
A 10 / 19 / 74. / 75
B 9+ / 74. / 5
C 9+ / 4. / 8
D 9+ / 28 / 41. / 65
E 9+ / 19 / 74. / 65
F 9 / 54 / 41. / 55
G 9 / 18 / 74. / 65
H 8 / 17 / 74. / 65
I 7 / 61 / 41. / 55
J 7 / 16 / 41. / 65
K 6 / 74. / 5
L 5 / 74. / 5
M 5 / 74. / 4
N 2 / 74. / ~9+
O 2 / 4. / 5
9+ / 4. / 5
See Hudson Strait Chart
Voir Carte Detroit D'Hudson
60N
Local Drift Next 24h
Derive Locale Prochain 24h
NM / Day
MN / Jour
ICE CHART
CARTE DES GLACES
Davis Strait
Detroit de Davis
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RCM: 28/10Z Davis
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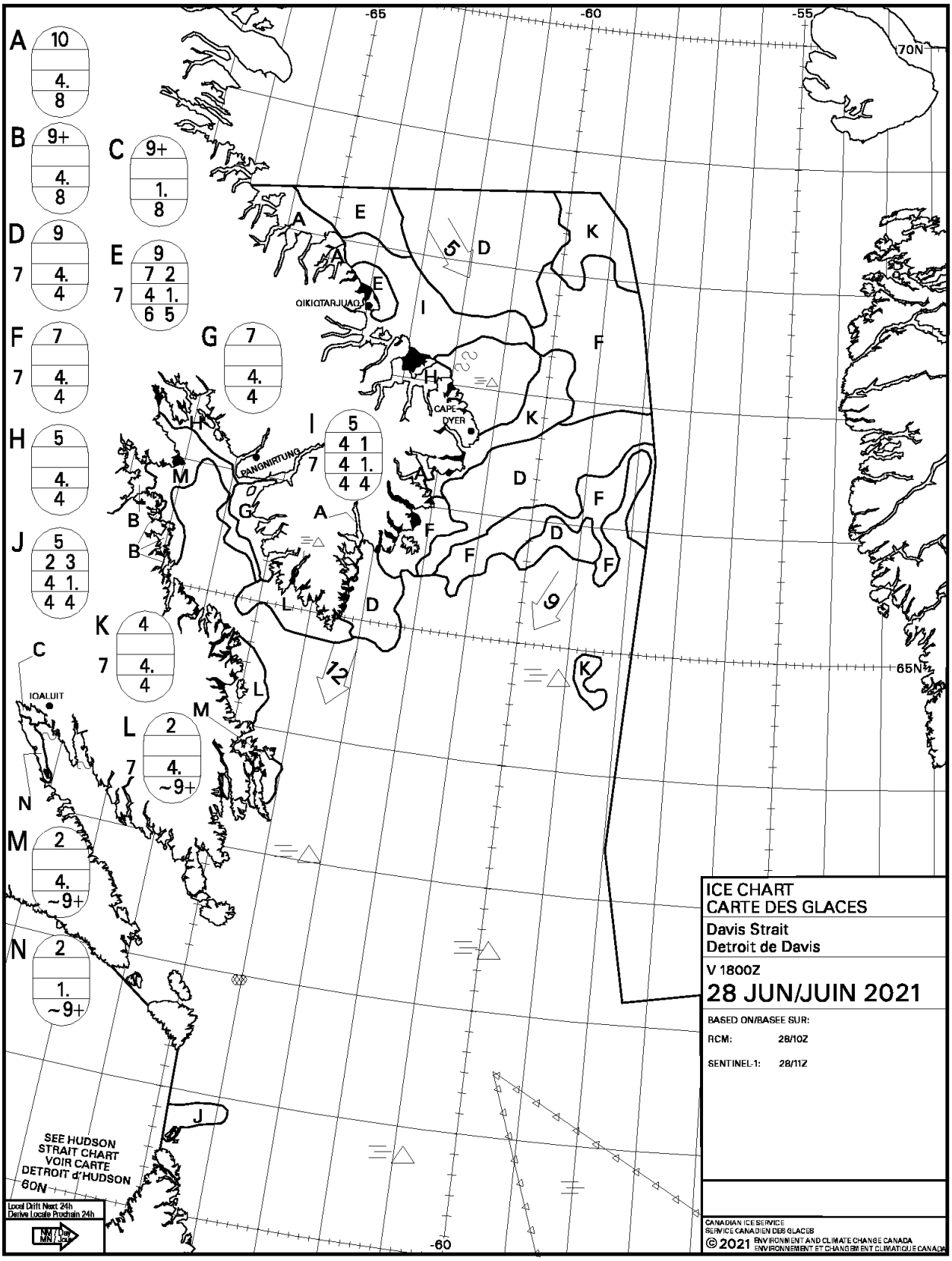
A 10 4. 8
B 9+ 4. 8
C 9+ 1. 8
D 9 7 4. 4
E 9 7 2 4 1. 6 5
F 7 7 4. 4
G 7 4. 4
H 5 4. 4
I 5 4 1 7 4 1. 4 4
J 5 2 3 4 1. 4 4
K 4 7 4. 4
L 2 7 4. ~9+
M 2 4. ~9+
N 2 1. ~9+
-65
-60
-55
70N
65N
60N
QIKIQTARJUAQ
CAPE DYER
PANGNIRTUNG
IQALUIT
SEE HUDSON STRAIT CHART
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KM / Day
MN / Jr
ICE CHART
CARTE DES GLACES
Davis Strait
Detroit de Davis
V 1800Z
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CANADIAN ICE SERVICE
SERVICE CANADIEN DES GLACES
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Polar Knowledge Canada

POLAR Report 2022

Presented to Nunavut Wildlife Management Board

Rankin Inlet, September 8, 2022

Polar Knowledge Canada's Mandate

- **Advance knowledge** of the Canadian North in order to improve:

  1) economic opportunities

  2) environmental stewardship

  3) quality of life of its residents & Canadians

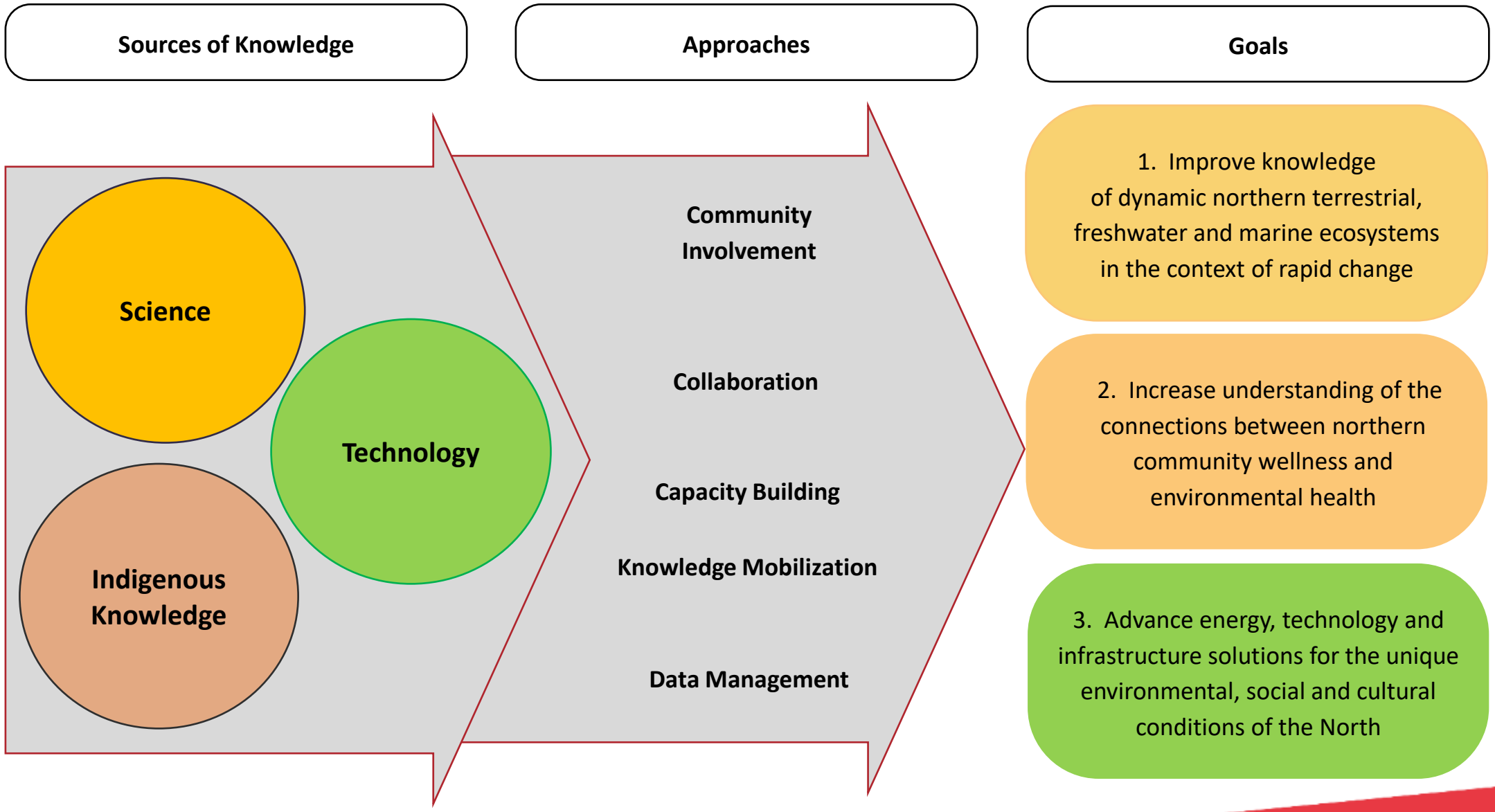
- Promote the development and **dissemination of knowledge** of the other circumpolar regions, including the Antarctic

- Strengthen **Canada's leadership** on Northern issues

- Operate a hub for scientific research at the Canadian High Arctic Research Station **(CHARS)** campus in Cambridge Bay, NU

The operating area for POLAR's research, monitoring and related activities is depicted in orange.

Overall Approach to Deliver Science & Technology Goals



Polar Knowledge Canada

Regional Planning and Knowledge Sharing Workshop

Setting a foundation for respectful relationships

March 10 – 11, 2020

Canadian High Arctic Research Station, Cambridge Bay, Nunavut, Canada

Co-developing priority themes and questions –
POLAR's Regional Planning and Knowledge Sharing Workshop, 2020, CHARS

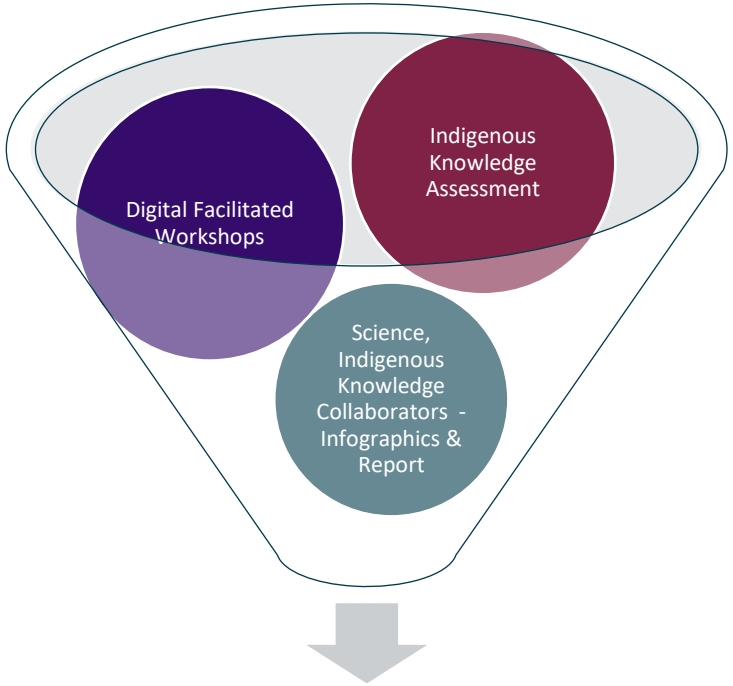
After meaningful discussion the participants selected the following five themes of highest relevance:

- Caribou population abundance and migration
- Arctic char and other fish population dynamics
- Whale populations and marine ecosystem biodiversity
- Climate Change research and monitoring
- Environmental change- snow, ice, precipitation, permafrost

Creating collaborative synthesis technical papers, 2022

Synthesis technical papers available at POLAR's on-line Journal, *Aqhaliat*:

https://www.canada.ca/en/polar-knowledge/aqhaliat.html



5 thematic technical papers

to support a Knowledge Sharing Forum, 2023-24

POLAR Synthesis Technical Papers – Collaborators Affiliation

"The Collaborative Assessment project that you describe is exactly the kind of work that is needed to begin to change how science is done in the North. I would welcome the opportunity to join the Whale Population and Marine Ecosystem Biodiversity Working Group, and work with Indigenous Knowledge holders and researchers to co-develop a paper."

- Valeria Vergara, PhD, Program Director, Ocean Wise

The Knowledge Sharing Webinar Series, 2022

Canadian High Arctic Research Station

Caribou abundance and migration

Arctic char and fish population

Whale population and marine ecosystem biodiversity

Climate change research and monitoring

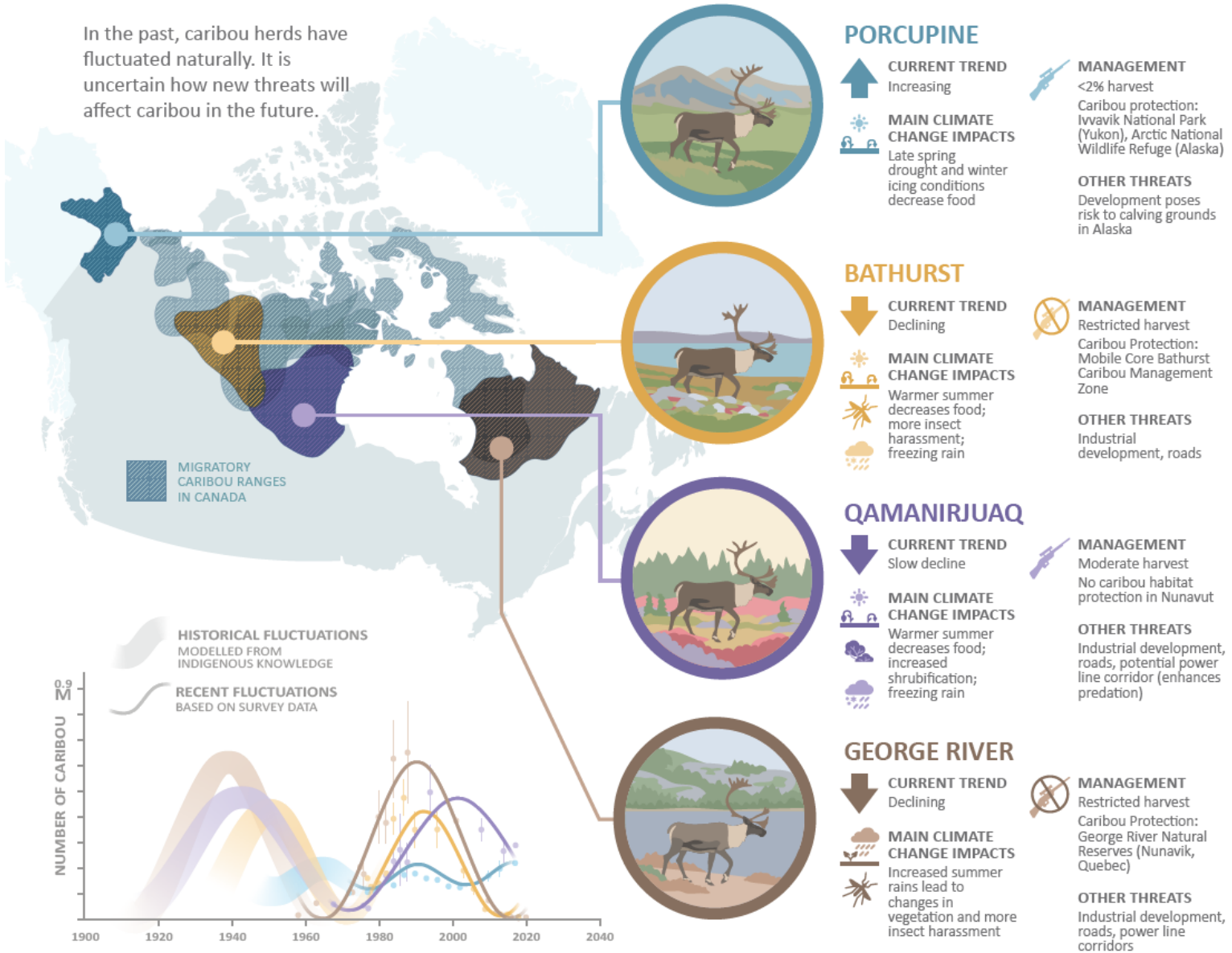
Environmental change - snow, ice and precipitation

Canada and the Antarctic

Learn more about each individual webinar (March, 2022):

Google search: Polar Knowledge Canada - YouTube

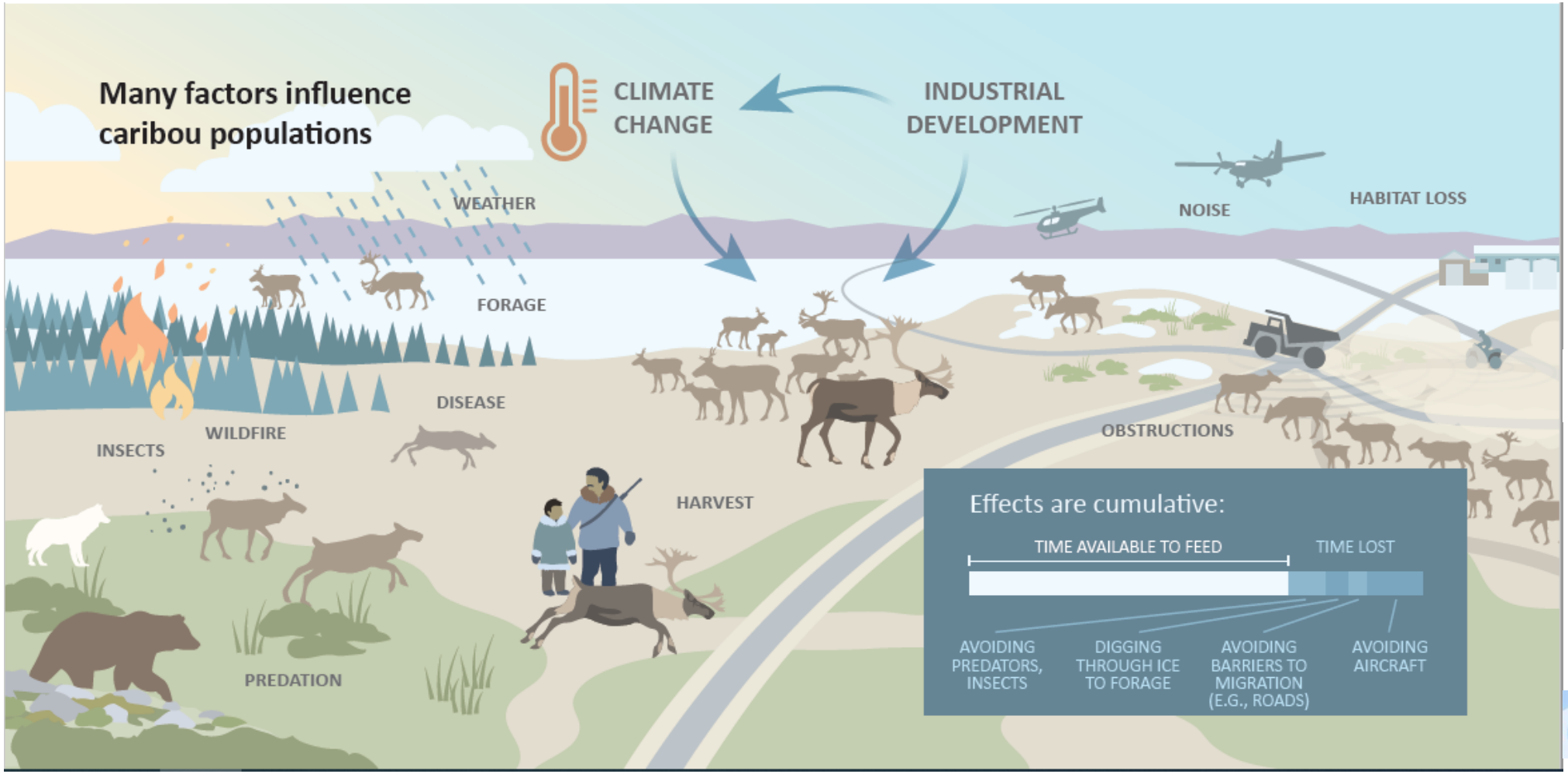
POLAR Caribou Working Group – Caribou Population Dynamics



https://www.canada.ca/en/polar-knowledge/infographics/caribou-abundance-and-migration.html

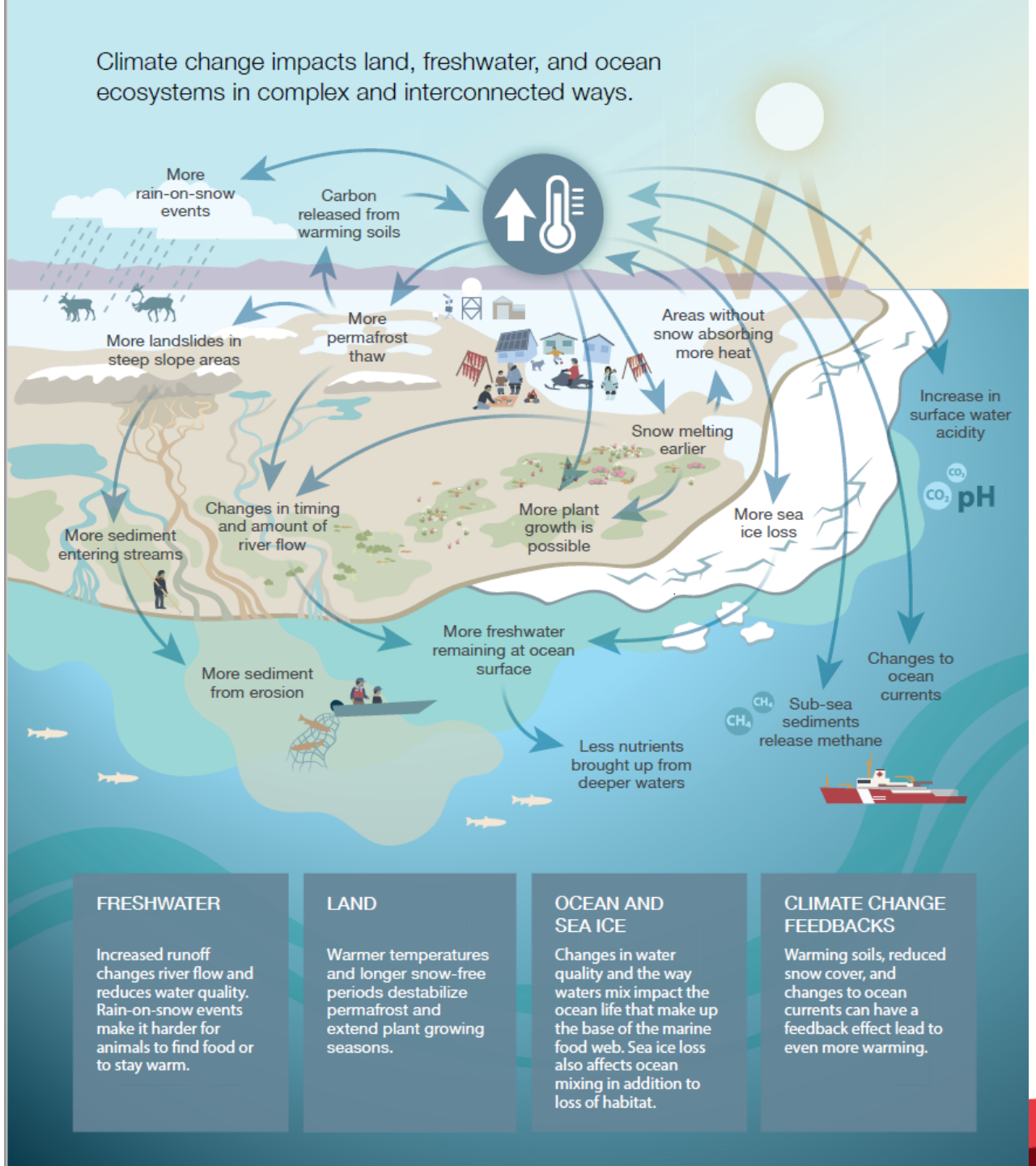
Nunavut
Porcupine Caribou Management Board
WCS CANADA
Government of Northwest Territories
Polar Knowledge Canada
Savoir polaire Canada
Lakehead UNIVERSITY
Newfoundland Labrador
Forêts, Faune et Parcs Québec
Wek'èezhìi Renewable Resources Board
Yukon
KITIKMEOT REGIONAL WILDLIFE BOARD

POLAR Caribou Working Group - Caribou Cumulative Effects Science & *Inuit Qaujimajatuqangit*



https://www.canada.ca/en/polar-knowledge/infographics/caribou-abundance-and-migration.html

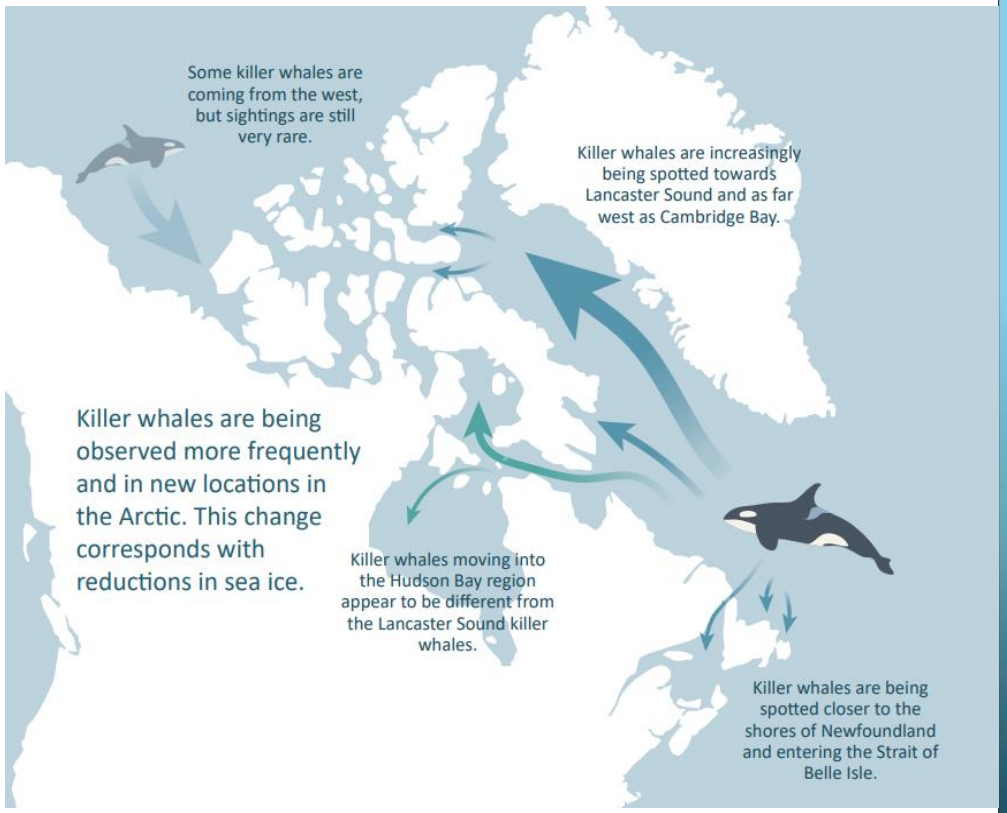
POLAR Working Group - Climate Change

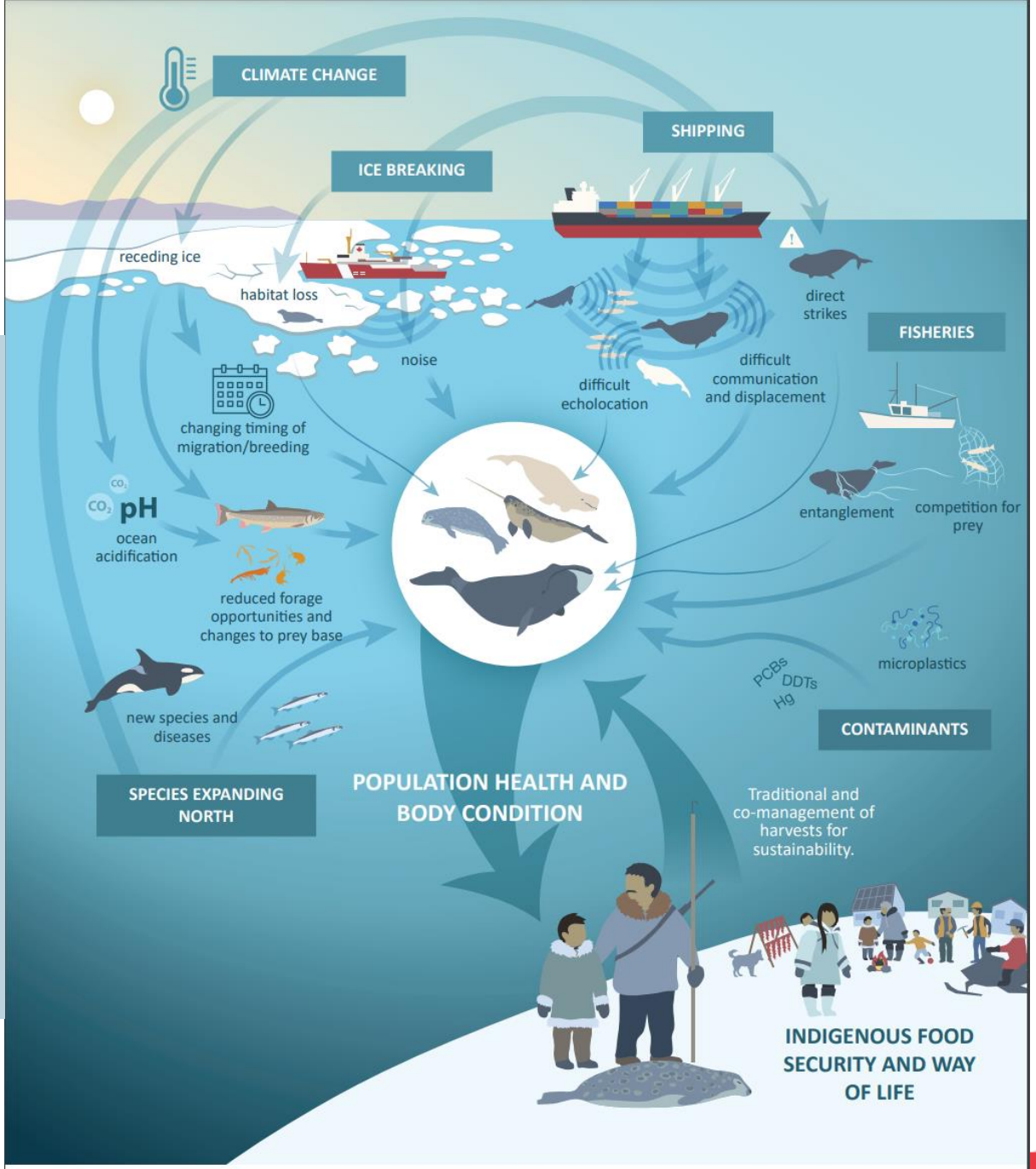


https://www.canada.ca/en/polar-knowledge/infographics/environmental-changes-temperature-impacts.html

Government of Northwest Territories
Polar Knowledge Canada
Savoir polaire Canada
UNIVERSITÉ DE SHERBROOKE
Queen's University
UBC
WILFRID LAURIER UNIVERSITY LAURIER Inspiring Lives.
University of Victoria
Ocean Networks Canada
UNIVERSITY OF CALGARY
MEMORIAL UNIVERSITY

POLAR Working Group - Whales and Marine Ecosystem Biodiversity





Fisheries and Oceans Canada

University of Manitoba

FJMC
FISHERIES JOINT MANAGEMENT COMMITTEE

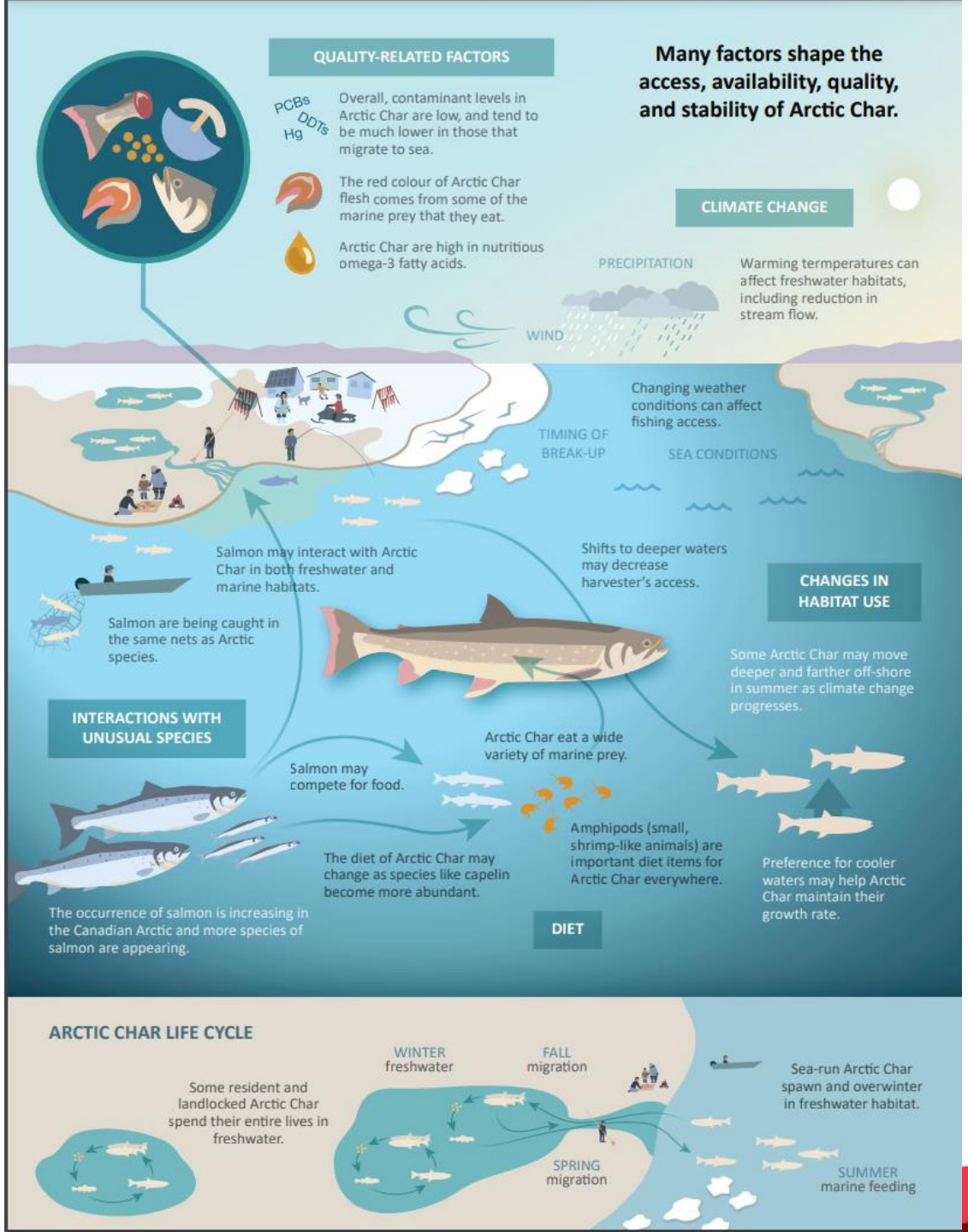
OCEANS NORTH

ocean wise

WCS CANADA

https://www.canada.ca/en/polar-knowledge/infographics/whale-population-and-marine-ecosystem-biodiversity.html

POLAR Working Group - Arctic Char and other fish populations



https://www.canada.ca/en/polar-knowledge/infographics/arctic-char-and-other-fish-population-dynamics.html

Fisheries and Oceans Canada
Université Laval
McGill University
University of Waterloo
UBC
Environment and Climate Change Canada

POLAR Working Group - Climate Change affects Indigenous Food Security

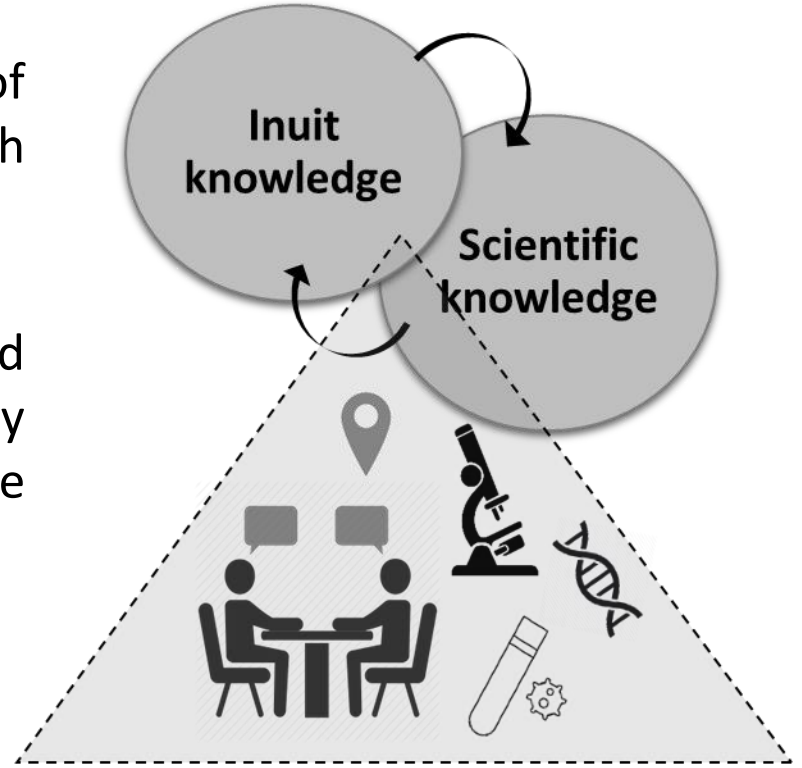
https://www.canada.ca/en/polar-knowledge/infographics/climate-change-research-and-monitoring.html

EHTO – POLAR wildlife monitoring: Community-driven program to monitor caribou, muskoxen, and predators on Victoria Island

- Partnership between Ekaluktutiak Hunters & Trappers Association of Cambridge Bay and POLAR in the Kitikmeot Region of Nunavut, with collaboration of University of Calgary

- Objective: To monitor the health status and trends of Dolphin and Union caribou, muskoxen and predators – wolves, wolverines, grizzly bears - on Victoria Island (Cambridge Bay area) using Inuit knowledge in combination with scientific knowledge

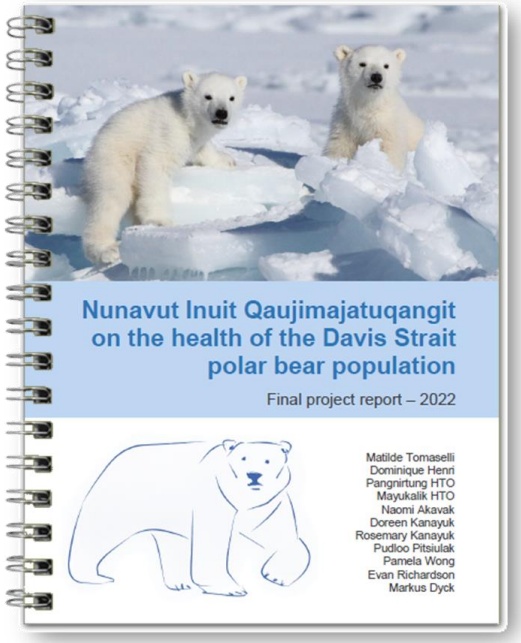
- Project initiated in 2019 and still ongoing



Participatory implementation and interpretation

Nunavut *Inuit Qaujimajatuqangit* on the health of the Davis Strait polar bear population

- Partnership between Government of Canada (POLAR, ECCC), Government of Nunavut (DOE) and HTOs of Pangnirtung and Kimmirut in the Qikiqtani region of Nunavut
- Objective: Gathering and documenting *Inuit Qaujimajatuqangit* on polar bear health around the communities of Kimmirut and Pangnirtung, Nunavut, to support management decisions for the Davis Strait polar bear subpopulation
- Report is publicly available: https://www.nwmb.com/en/conservation-education/list-all-documents/docs-for-articles/inuit-qaujimajatuqangit-documents/9383-nunavut-iq-polar-bear-report-davis-strait-june-2022-eng/file



Polar Knowledge Canada | Savoir polaire Canada

Environment and Climate Change Canada | Environnement et Changement climatique Canada

Avian Influenza monitoring in wild birds

- POLAR is working to increase understanding of the connections between northern community wellness and environmental health
- This includes work to advance and share knowledge of avian influenza in Arctic and Northern Canada
- To guide this work, early engagement with partners including Inuit organizations and other collaborators was initiated in 2022
- Remember to:
  - Consult and follow public health advisory of territorial governments
  - Report dead/sick wild birds to your Conservation/Wildlife Office
  - Remain informed by checking the National Avian Influenza public interface (updated real time)
  - Available searching: National Avian Influenza – Wild Positives (argis.com)
- More Info: https://www.canada.ca/en/polar-knowledge/publications/avian-influenza-in-canada.html
- Community Poster: https://www.gov.nu.ca/sites/default/files/en_prevent_the_spread_06062022.pdf ;

https://www.gov.nu.ca/health/information/programs/avian-influenza; and Avian influenza in Canada - Canada.ca

Kitikmeot Health and Food Security Workshop, CHARS 2022

- Kitikmeot Health and Food Security Workshop hosted at CHARS campus, May 2022
- sponsored by Canadian Northern Economic Development Agency (CANNOR) - Northern Innovation Food Challenge fund
- Collaboration led by Government of Nunavut Department of Health with University of Carleton researchers and HTOs
- Using POLAR-funded research: Advancing Community Biomonitoring, Fishery Assessment and Data Stewardship in Nunavut (University of Carleton)
- POLAR presentation and active participation in Kitikmeot Health and Food Security Workshop and working group; ongoing workshops 2022-23

Niqihaqut - A new country food cut-and-wrap facility is coming to Taloyoak. *Niqihaqut* aims to provide affordable healthy food, preserve traditional knowledge, get people out on the land to hone their skills and learn new skills, foster a country food-based economy, and create new jobs for Inuit. *(Screenshot from Arctic Inspiration Prize broadcast/APTN)*

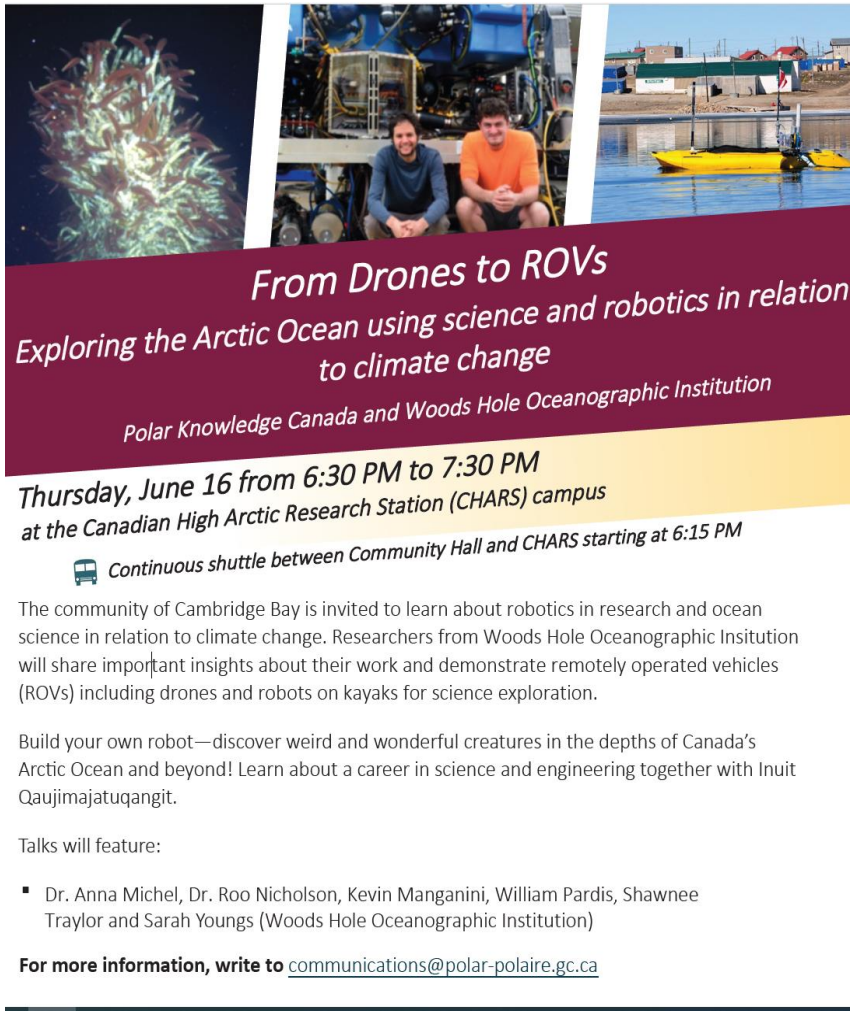
POLAR Speaker Series at CHARS, 2022

- POLAR Speaker Series brings visiting researchers to share and exchange knowledge with the community and Kitikmeot region

- POLAR collaboration and partnership with research institutions, knowledge holders and Municipality of Cambridge Bay
  - >100 students in schools enjoyed hands-on robotics demos

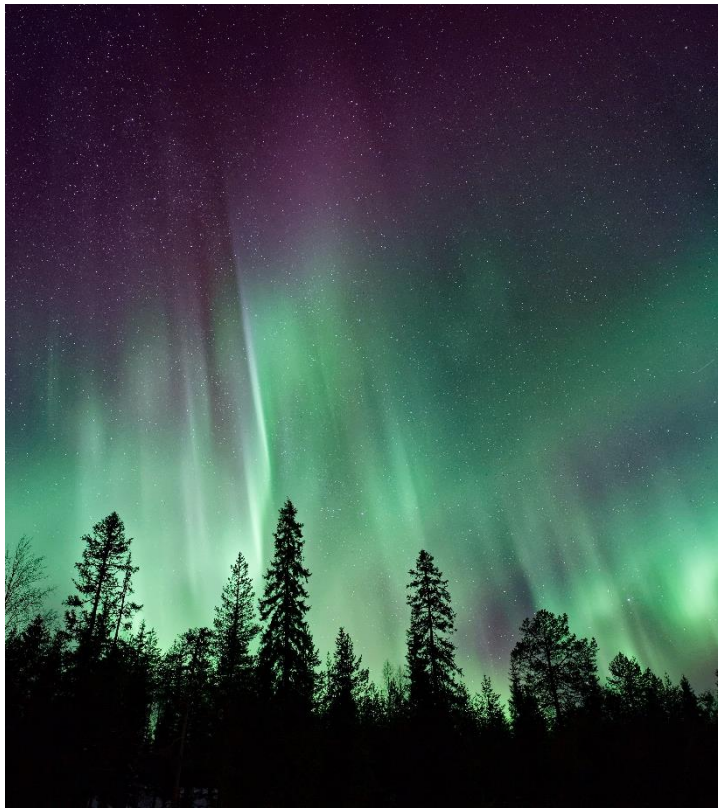
- POLAR Speaker Series 2022 to feature, among others:
  - Woods Hole Oceanographic Institution – robotics in ocean research in relation to climate change
  - Government of Nunavut – Kitikmeot Grizzly Bear population assessment – non-invasive, community-based initiative
  - Canadian Museum of Nature – Arctic plant responses to climate change

- All welcome – keep an eye out for community posters!



POLAR Grants and Contributions - select funded projects

- University of Calgary - Healthy Animals, Healthy Communities: Using complementary knowledge systems to promote wildlife sustainability
- Kivalliq Inuit Association - Braiding western science and *Inuit Qaujimajatuqangit* monitoring in support of freshwater and fish health characterization for Inuu'tuti, the Baker Lake Regional Cumulative Effects Monitoring Program
- Kitikmeot Regional Wildlife Board - Kitikmeot caribou IQ: developing an Inuit-led monitoring program
- University of Windsor - Co-Producing Indigenous knowledge and scientific understanding to avoid conflict between polar bears and humans in common eider colonies
- Government of Nunavut - Kitikmeot Grizzly bear monitoring– non-invasive and community-based initiative
- Carleton University– Advancing community biomonitoring, fishery assessment, data stewardship in Nunavut
- World Wildlife Fund Canada - Future-proofing community access to country foods: generating community conservation strategies for terrestrial and marine ecosystems in the east Kitikmeot Region of Nunavut
- Arctic Eider Society - The Hudson Bay Consortium: mobilizing knowledge for environmental stewardship
- Qikiqtani Inuit Association - Food sovereignty and harvesting: Arctic Bay, Iqaluit, Qikiqtarjuaq
- Kugluktuk Angoniatit Association – Community monitoring of the health and geochemical composition of the Coppermine River
- Université Laval - Arctic Char migrations in a changing Arctic
- Kitikmeot Inuit Association - Integration of archival Inuit Knowledge into the Kitikmeot Naonaiyaotit Traditional Knowledge Project



POLAR Grants and Contributions - select funded projects

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- Kivalliq Inuit Association - Braiding western science and *Inuit Qaujimajatuqangit* monitoring in support of freshwater and fish health characterization for Inuu'tuti, the Baker Lake Regional Cumulative Effects Monitoring Program
- University of Calgary - Healthy Animals, Healthy Communities: Using complementary knowledge systems to promote wildlife sustainability
- Qulliq Energy Corporation – Geothermal Resource Assessment for Community Energy planning, Nunavut
- Kitikmeot Regional Wildlife Board - Kitikmeot caribou IQ: developing an Inuit-led monitoring program
- Ocean Wise Conservation Association – Arctic Community Ocean Plastics Initiative
- Carleton University - Advancing community biomonitoring, fishery assessment, data stewardship in Nunavut
- Illu Inc – Arctic Homes of the Future: Renewable Energy Technologies and Energy-efficiency
- World Wildlife Fund Canada - Future-proofing community access to country foods: generating community conservation strategies for terrestrial and marine ecosystems in the east Kitikmeot Region of Nunavut
- Government of Nunavut – Coastal Restoration Nunavut: Understanding the impacts of rapid ecosystem change on northern communities
- University of Ottawa – Glacier2Ocean Watch: Community-led environmental monitoring in Aujuittuq
- Institut National de la Recherche Scientifique – Vulnerability of northern drinking water sources to environmental change
- Kitikmeot Inuit Association - Integration of archival Inuit Knowledge into the Kitikmeot Naonaiyaotit Traditional Knowledge Project

Canada - Inuit Nunangat - United Kingdom Arctic Research Program (#CINUK)

- **CINUK** - a collaborative research funding program led by Canada (POLAR, National Research Council, Parks Canada and Fonds du Recherche du Quebec), Inuit Tapiriit Kanatami and the United Kingdom
- Leverages funding from UK and Canada supporting a 20.1M investment in cutting-edge Arctic research, 2022 – 2024/25

- **Each project must have an Inuit lead investigator and demonstrate community partnership and investment**

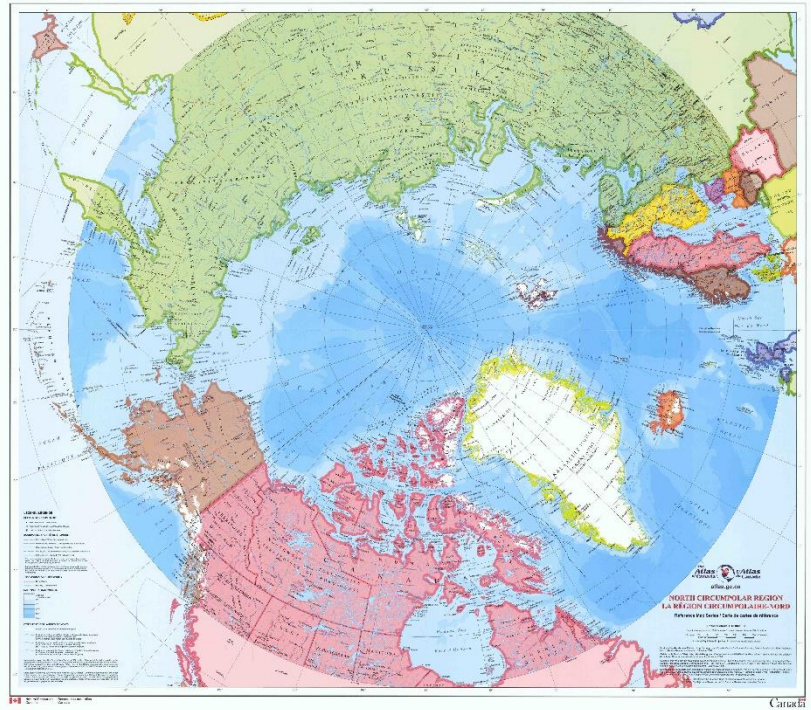
- 13 projects began in April 2022:
- English: https://www.canada.ca/en/polar-knowledge/news/2022/05/successful-canadian-inuit-and-uk-research-teams-announced-for-major-new-arctic-research-programme.html
- Inuktitut: https://www.canada.ca/content/dam/polar-polaire/news/CINUK-2021-2025-announcement-new-release-inuktitut.pdf

POLAR Research Funding - select CINUK funded projects

- Inuit Qaujisarnirmut Pilirijjutit on Arctic shipping risks in Inuit Nunangat – University of Ottawa
- Carving and Climate Testimony – Inuit Youth, Wellness, and Environmental Stewardship – University of Saskatchewan
- SmartICE – Empowering our communities to map rough ice and slush for safer travel in Inuit Nunangat – Memorial University
- Effective mitigation and adaptation to changing ground conditions for resilient coastal futures – Hamlet of Tuktoyaktuk
- Beavers and socio-ecological resilience in Inuit Nunangat – Wilfred Laurier University
- Nunavut Search and Rescue (NSAR) Project: Supporting Inuit health and well-being, food security, economic development, and community resilience by strengthening Nunavut's whole of society SAR capabilities – St. Francis Xavier University
- Renewable energy microgrid integration for remote, off-grid cabins in Nunavut - Nunavut Nukkiksautiit Corporation
- Inuksiutit: Food sovereignty in Nunavut and the coproduction of country food knowledge – York University

International Activities Update

- Canada and 6 other Arctic countries have suspended Arctic Council activities in response to Russian invasion of Ukraine
- COP26 Climate Change meeting, Glasgow, Scotland, 2021 – POLAR panel member: Indigenous Self-determination in Research for Better Climate Outcomes
- POLAR is developing an environmental scan of Arctic and non-Arctic country research interests and capabilities
- Advancing Canada's Antarctic research activity in 2022 for:
  - Consultative Party status under the Antarctic Treaty
  - Full membership status under the Council of Managers of National Antarctic Programs



3rd ARCTIC SCIENCE MINISTERIAL

IASC

ARCTIC COUNCIL

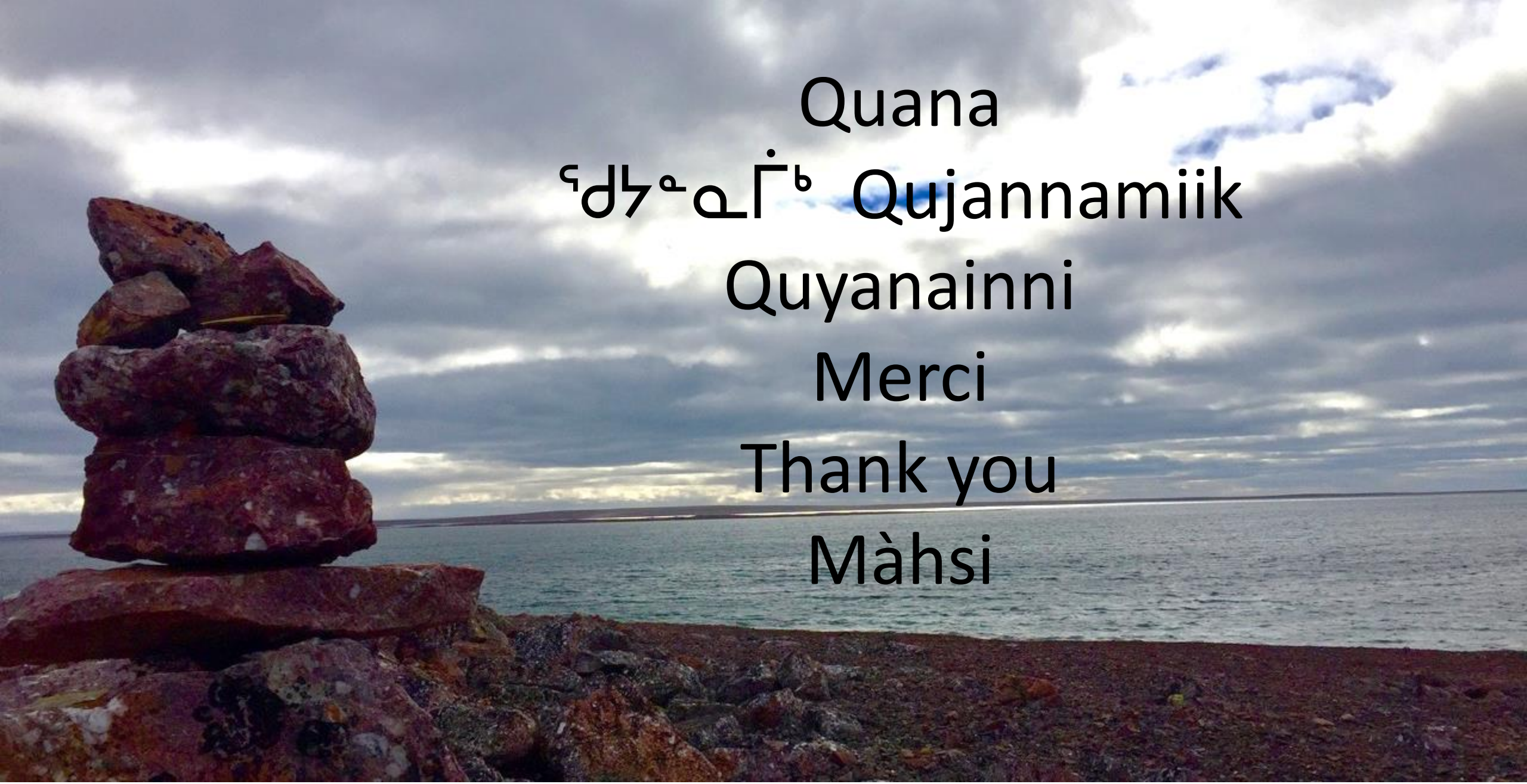
COMNAP Council of Managers of National Antarctic Programs

Looking Ahead and Working Together

1) **POLAR Program review, 2022-23** – Science, Technology, Knowledge Management & Engagement

   POLAR invites input on:

   - POLAR Programs evaluation - new ideas, direction (INP)
   - 2023 POLAR engagement process to develop new S&T Framework and Goals, 2025-30
   - anticipate 2024 Call for Proposals – new science, IQ and technology research funding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