GREENLAND

Country Wildlife Response Profiles
A Summary of oiled wildlife response arrangements and resources worldwide

VERSION 17/10/2022

Location

Introduction

Greenland, a self-governing part of the Kingdom of Denmark, is bordered on the north by the Arctic Ocean, on the east by the Greenland Sea, Denmark Strait, with Iceland and Norway offshore, on the south by the North Atlantic, on the southeast by the Labrador Sea and on the west by the Davis Strait and Baffin Bay, with Canada offshore.

The world's largest island, Greenland's climate is Arctic to sub-Arctic with cool summers and cold winters. The surrounding seas either remain frozen or are chilled by cold currents. In summer, southern Greenland may experience temperatures at or above 20°C and in winter temperatures falling as low as 10°C. In the north, winter temperatures range between -21 and -0.8°C. Coastal Greenland averages 2000 to 2500mm of rain per year, most of which falls in summer. In winter low humidity predominates.

There is a managed dispute between Canada and Denmark (Greenland) over Hans Island in the Kennedy Channel between Canada's Ellesmere Island and Greenland. Denmark (Greenland) and Norway have made submissions to the UNCLoS's Commission on the Limits of the Continental Shelf which may impact offshore areas.

Regional Seas and Biogeography

Northeast Atlantic Ocean
Arctic Ocean
Labrador Sea
Greenland Sea
Denmark Strait
Baffin Bay

LMEs:
Greenland Sea
Canada Eastern Arctic-West Greenland
Canadian High Arctic-North Greenland.

Habitats

Greenland's 44,087 km of coastline is characterised by many different habitat types – rocky shores and archipelagos are most common, with steep cliffs, fjords, moraines, beaches and saltmarshes also present

Cold-water Corals are found in isolated patches along the southwestern and southern coast.
Seagrass Beds are only found along the extreme south coast.
Saltmarshes are found in isolated patches, largely on the south-central east and west coasts.
Kelp Beds are common on both sides of the southern tip of the island with isolated beds in the bays near Qaanaaq (Thule).
Tidal Flats are confined to the southern reaches of the country.

Biodiversity Hotspots

In this section, acronyms are used for some of the most common types of hotspot: National Park (NP), Marine National Park (MNP), Marine Protected Area (MPA), IBA (Important Bird Area), Important Marine Mammal Area (IMMA), Ramsar Wetland of International Importance (RAMSAR).

In this section, some individual wildlife species are mentioned followed by a letter in parentheses. These are species included in the IUCN Red List of Threatened Species within the top three categories of risk - Vulnerable to extinction (VU), Endangered (EN) or Critically Endangered (CR). A more complete list of IUCN listed species is found in Appendix 1. Latin names for species listed in Appendix I are found in that appendix.

Ramsar Sites

Heden, an extensive tundra area sloping down to the Greenland Sea, is located on the east coast and hosts significant numbers of moulting geese and nesting Snowy Owl (VU).

Hochstetter Forland (also an IBA) is an extensive lowland sloping to the Greenland Sea which includes marshes and numerous ponds supporting diverse breeding waterbirds and Snowy Owl (VU), and moulting geese. Polar Bear (VU) and Grey Wolf (*Canis lupus*) are also found here. The sea around the site is covered in ice most of the year.

Kilen (also an IBA) in the extreme high Arctic, is the northernmost Ramsar site consisting mainly of large, flat gravel plains, and surrounded by glaciers and the Greenland Sea. It is an important moulting site for breeding and moulting geese and gulls. Polar Bear (VU), Walrus (VU), and the Endangered local subpopulation of Bowhead Whale (*Balaena mysticetus East*) are also found here.

Kitsissut Avalliit is a rocky archipelago located 10 km off the southeast mainland coast. Composed of two main islands and several smaller islands and skerries, it is an important breeding area for murres and guillemots, and breeding/moulting Atlantic Puffin (VU) and White-tailed Eagle (*Haliaeetus leucogaster*). The islands are surrounded by drift ice from east Greenland in spring and early summer.

Ikkattoq and adjacent archipelago consists of a shallow fjord and an archipelago. It is typical south-western Greenland coastal landscape with extensive coastline and tidal mudflats and an important site for breeding and moulting ducks.

Kitsissunnguit is a group of low islands with predominantly rocky shorelines, and their surrounding waters, with pocket beaches, some salt marshes, and lagoons in the larger islands. It is one of the most important avian breeding and staging sites in Greenland, supporting terns, puffins and eiders. Arctic fox (*Vulpes lagopus*) are also found here during winter when they are able to cross from the mainland on the ice.

Aqajarua, Qaamassoq and Sullorsuag consist of, respectively, a shallow marine bay, a coastal foreland, and a valley. In addition to shallow marine bay and lagoons, there are freshwater wetlands, rare in Greenland. The site supports numerous breeding and moulting birds.

Qinnquata Marraa and Kuussuaq includes broad glacial valleys with braided rivers which reach a fjord in a shared delta with large tidal mudflats. The site provides feeding and breeding grounds for multiple avian species including an endemic mallard. Moulting birds also utilise the site.

National Parks
Greenland National Park, is the world's largest national park, covering 972,000 sq. km and including the world's northernmost land mass. It hosts multiple high Arctic avian and mammalian species, including a variety of seabirds, Muskox (*Ovibos moschatus*), Walrus (VU), Polar Bear (VU), Snowshoe Hare (*Lepus americanus*), Arctic Fox (*Vulpes Lagopus),* and Grey Wolf (*Canis lupus*).

IBAs
South Coast of Germania Land and Slaedelandet consists of wide gravel moraines, uplifted former seafloor between Lake Saelsoen and Dove Bay hosting 8 of the 32 European Arctic /tundra biome breeding species.

Albrecht Sletten (Storsletten, Wollaston Forland consists of coastal tundra which hosts breeding ducks, jaegers, eider and Snowy Owl (VU).

Liverpool Land coast, mouth of Scoresby Sund and nearby Kap Brewster and Volquart Boon's Coast
Consists of rocky coastline with cliffs and small offshore islands. Scoresby Sund is a wide fjord between Liverpool Land coast and Kap Brewster which remains ice-free most of the year. The area hosts breeding seabirds including Atlantic Puffin (VU) and Black-legged Kittiwake (VU).

Nordfjord and adjacent valley is an important area for moulting and migratory geese and ducks.

Parker Snow Bay hosts large numbers of breeding seabirds including Black-legged Kittiwake (VU).

Carey Islands are offshore islands important for breeding seabirds.

Henrik Kroyer Holme hosts multiple tern and gull species.

At risk Wildlife

In this section, some individual wildlife species are mentioned followed by a letter in parentheses. These are species included in the IUCN Red List of Threatened Species within the top three categories of risk - Vulnerable

to extinction (VU), Endangered (EN) or Critically Endangered (CR). A more complete list of IUCN listed species is found in Appendix 1.

➔ **At risk birds**
More than 230 avian species have been recorded in Greenland, of which approximately 60 species breed and another 20 are regular migrants. Coastal and marine species include fulmar, eider, guillemots, terns, skuas, ducks, geese and more than 10 species of gull, and at least 15 species of wader.

➔ **At risk reptiles**
There are no marine reptiles in Greenland waters.

➔ **At risk mammals**
Approximately eighteen species of cetacean have been recorded in Greenland's waters. Harbour Porpoise (*Phocoena phocoena*) and Orca (*Orcinus orca)* may be found near-shore, while many of the others inhabit continental shelf and deep ocean areas. The Greenland-Svalbard-Barents Sea subpopulation of Bowhead whale (*Balaena mysticetus East*) is listed as Endangered.
Six species of seal also inhabit Greenland's waters. Grey (*Halichoerus grypus*) and Harbour Seal (*Phoca vitulina*) are most common, while the other species tending to follow the pack ice. Walrus (VU) and Polar Bear (VU) are also resident in Greenland. Reindeer (VU) swim long distances in marine waters and forage nearshore.

IUCN listed species may be found in Appendix 1.

Past experience with oil spill and potential risks

There have been no significant oil spills in Greenland waters.

There are extensive offshore oil operations taking place around Greenland, mostly off the west Coast, mostly within Baffin Bay between the southwest coast and northeast Canadian coast. Further exploration drilling will likely take place in the Greenland Sea. So far, no commercial discoveries or oil or gas have been made so Greenland remains reliant on imports. The main supply port is Aasiaat.

Many of the offshore exploration areas are close to seabird colonies and IMMAs. On the east coast, north of Scoresbysund, oil production sites overlap part of the *North Greenland National Park.*

International and Regional Treaties and Agreements

➔ **Oil spill and HNS Response**

➔ **Marine Biodiversity Protection**

- North Atlantic Marine Mammal Commission

Oil Spill Response and HNS Spill Response

➔ **National Contingency Plan?**
Home rule gives Greenland significant powers, although Denmark still retains responsibility for some Areas. The Danish National Oil Spill Contingency Plan (NOSCP) would be followed.

➔ **Role of Competent National Authorities**
Management of spills in Greenland waters is dependent on the location of the incident. For spills inside three nautical miles the Ministry for Agriculture, Self-Sufficiency, Energy and Environment (NIP) is responsible for management of the response including wildlife, under the National Contingency Commission, which also involves the 4 Greenland municipalities. For incidents outside 3nm, the Danish NOSCP applies. The Greenland Police respond on land and within the fjord areas from Siorapaluk to Cape Farewell on the west coast and in fjords from 62°N to 72°N (the southern tip at the entrance to Kong Oscars Fjord.

Spills from exploration or production installations are regulated by the Ministry of Minerals and Justice under the Mineral Resources Act. The Ministry would implement the NOSCP in this case.

The North Atlantic Sensitivity and Response Map (NASARM), developed by Iceland, Greenland, the Faroe Islands and Norway may be used guide response and prevention activities based on knowledge of natural areas at risk, types of risk present and location of response personnel and equipment.

For incidents in the Arctic, the Joint Arctic Command Centre Greenland would likely be activated.
The Danish Centre for Environment and Energy (DCE), the Greenland Institute for Natural Resources (GINR) have prepared Regional Environmental Assessment Reports for the Environmental Agency for Mineral Resource Activities (EAMRA) of the Government of Greenland. These reports cover the sea and coast throughout West and Northeast Greenland, as well as land areas of South Greenland, Jameson Land and Disko-Nuussuaq.

Oiled Wildlife Preparedness and Response

➔ **Formal guidelines?**
Although wildlife is addressed under the above listed documents, there is no dedicated oiled wildlife response plan.

➔ **Response objectives and strategy**
Guidance on dealing with oiled wildlife will be sought from Denmark. As is the case in Denmark, some private organisations or individuals may be allowed to rehabilitate endangered species.

➔ **Euthanasia or rehabilitation?**
Euthanasia is the primary response policy, although, as noted above, some exceptions may be made for endangered species.

➔ **Impact assessment**
The DCE and Greenland Institute of Natural Resources would be in charge of collecting wildlife carcasses and carrying out necropsies following an oiled wildlife incident. In 2010, Guidelines for oil spill monitoring were developed in case of an oil spill during offshore drilling, which include impact assessment guidelines for seabirds and marine mammals.

➔ **Notification and early response**
The Joint Arctic Command functions as the Greenland coast guard and is the primary notification point for offshore oil spills. Within 3nm, the Ministry for Agriculture, Self-Sufficiency, Energy and Environment would be notified and report to the government of Greenland..

➔ **Wildlife responders**
The NIP would likely oversee any rescue and rehabilitation efforts, approving any group or individual for work with endangered species. The Greenland Institute of Natural Resources works with the government on oil spill response. Its Department of Birds and Mammals would likely be the primary response organisation. It is not clear whether there are any private wildlife rehabilitators or organisations in the country.

➔ **Cooperation between stakeholders**
The above-named government and private institutes cooperate during an oil spill response.

➔ **Permanent facilities**
There are no permanent facilities for oiled wildlife response and there do not appear to be any wildlife rehabilitators active in the country.

➔ **Current processes**
N/A

Documentation and references

ITOPF Country Profile 2012: https://www.itopf.org/knowledge-resources/countries-territories-regions/greenland
Sea Alarm Country Wildlife Response Profile 2011: https://www.sea-alarm.org/publications/country-wildlife-response-profiles
Coastline lengths, Countries of the world: https://www.citypopulation.de/en/world/bymap/coastlines
Greenland climate: https://www.worldatlas.com/articles/what-type-of-climate-does-greenland-have.htm
UNCLOS Convention on the Limits of the Continental Shelf: https://www.un.org/depts/los/clcs_new/clcs_home.htm
North Atlantic Sensitivity and Response Map: https://vdocument.in/north-atlantic-sensitivity-and-response-map-nasarm-project-funded-by-the-nordic.html
Birdlife Data Zone: http://datazone.birdlife.org/home
IUCN Red List: https://www.iucnredlist.org/species

Ugarte, F. et al. 2020. Marine Mammals of the Greenland Seas. Greenland Institute of Natural Resources. Elsevier. Accessed online: https://natur.gl/wp-content/uploads/2020/06/Ugarte-et-al-2020-Marine-Mammals-Greenland.pdf
West Greenland Oil Spill Sensitivity Atlas: https://dce.au.dk/fileadmin/dmu.dk/en/arctic/oil/sensitivityatlas/environmental%20oil%20spill%20sensitivity%20atlas%20of%20west%20greenland.pdf
Environment and Oil Spill Response Tool and Handbook: https://ecos.au.dk/en/researchconsultancy/themes/eos-environment-oil-spill-response
Greenland Sea and Land Area Strategic Assessments: https://ecos.au.dk/en/researchconsultancy/themes/regional-background-studies

Terms and Conditions

Appendix 1

➔ **At risk birds**

Common name / Latin name / IUCN Red List Category (CR,EN,VU) / Resident-Migratory (season) / Breeding-Nesting-Pupping (season)

Long-tailed Duck / Clangula hyemalis / VU / Migratory (Spring/summer) / Breeding/nesting (Spring/Summer)
Horned Grebe / Podiceps auritus / VU / Migratory (Spring/summer) / Breeding/nesting (Spring/Summer)
Black-legged Kittiwake / Rissa Tridactyla / VU / Migratory (Spring/summer) / Breeding/nesting (Spring/Summer)
Atlantic Puffin / Fraterccula arctica / VU / Migratory (Spring/summer) / Breeding/nesting (Spring/Summer)
Snowy Owl / Bubo scandiacus / VU / Migratory (Spring/summer) / Breeding/nesting (Spring/Summer)

➔ **At risk reptiles**

Common name / Latin name / IUCN Red List Category (CR,EN,VU) / Resident-Migratory (season) / Breeding-Nesting-Pupping (season)

None / / / /

➔ **At risk mammals**

Common name / Latin name / IUCN Red List Category (CR,EN,VU) / Resident-Migratory (season) / Breeding-Nesting-Pupping (season)

Polar Bear / Ursus maritimus / VU / Resident / Breeding(Apr-May)/cubs (Dec-Jan)
Walrus / Odobenus rosmarus / VU / Resident / Breeding (winter)/Calving (May)
Reindeer / Rangifer tarandus / VU / Resident / Breeding (Sept-Oct.)/Calving (June)
Hooded Seal / Cystophora cristata / VU / Resident / Breeding/Pupping (Spring)

Blue Whale / Balaenoptera musculus / EN / Migratory (pattern not well understood / Breeding (unknown)/non-calving
Fin Whale / Balaenoptera physalus / EN / Migratory (pattern not well understood / Breeding (unknown)/non-calving
Sei Whale / Balaenoptera physalus / EN / Migratory (pattern not well understood / Breeding (unknown)/non-calving
Sperm Whale / Physeter macrocephalus / VU / Migratory (pattern not well understood / Breeding (unknown)/non-calving