



Brief on: Important areas for bowhead whales (*Balaena mysticetus*), concerning operations related to mineral activities.

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Important areas for Bowhead whale

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Background

Rules for field work and reporting regarding mineral resources ('Field Rules') (Anon., 2000), provides special provisions applied to field work within areas and periods of particular significance to wildlife based on the existing biological knowledge.

The Government of Greenland has requested that area types described in Field Rules chapter 2 and 3 should be available and be displayed geographically in the NatureMap online mapping portal for environment and nature of Greenland, accessible at www.eamra.gl, and the information from there distributed directly and automatically to the national planning and mapping portal NunaGIS, accessible at www.nunagis.gl, and LicenceMap, the mineral mapping portal at www.govmin.gl. Accordingly, information from NatureMap can be viewed also in NunaGIS and LicenceMap as direct data link service.

Considering the latest existing biological knowledge, Greenland Institute of Natural Resources advises the following additions for the use of the rules to environmental advice on field work activities regarding mineral resources, including changes to the geographical outline of areas.

This brief is an addition to the text of chapter 2 *Areas and periods of particular significance to wildlife* as a provision to section 2.03.14 based on the existing biological knowledge of the stocks of bowhead whales (*Balaena mysticetus*).

Ad. 1: Sensitivity and general description

The national Red List assessment of bowhead whale categorize the Baffin Bay stock as Near Threatened [NT] and the East Greenland and Spitzbergen stock as Vulnerable [VU] (Boertmann & Bay, 2018). On the international IUCN red list, bowhead whales are assessed to be of Least concern [LC] for the global population (IUCN, 2023).

The Government of Greenland's *Act on protection and catch of large whales* (Selvstyrets bekendtgørelse om beskyttelse og fangst af store hvaler) states that large whales are protected except for hunting (Anon., 2018; OSPAR, 2023).

Bowhead whales are like other whale species covered by the international bodies of the *Convention on Environmental Impact Assessment in a Transboundary Context* (Espoo Convention), the *Convention on International Trade in Endangered Species of Wild Fauna and Flora* (CITES), and the *OSPAR Commission*.

The bowhead population in Greenland is divided into two management stocks:

1. Eastern Canada - Western Greenland,
2. Spitzbergen (North-East Greenland, Svalbard and Franz Joseph Land).

Bowheads are endemic to the Arctic and Subarctic waters and prefer cold water, however not strictly. They are filter feeders, depending almost solely on copepods, migratory between certain areas, and are the longest-living mammal on the planet (NAMMCO). They are highly vocal, singing intensely in the breeding season (Stafford et al, 2012). Mating takes place in late March and this period is considered sensitive (Reese et al. 2001, Heide-Jørgensen et al. 2007).

Bowhead whales of the Eastern Canada – Western Greenland stock are highly migratory moving between summer and winter areas and occur mainly in offshore waters; but in the summer-time they also enter fjords and bays. The stock in this region occurs mainly in late winter and spring (January-June) in the waters between the Sisimiut and Qaanaaq regions. The whales spend the winter along the pack-ice edge and move gradually northwards when the ice opens in spring, and the Disko Bay/Qeqertarsuup Tunua-area is a particularly important feeding area. Most of the whales of this stock spend the summer in the waters of the Eastern Arctic Canadian Archipelago (Ferguson et al., 2021), however, they have recently been observed in the Uummannaq Fjord-area in summer (July-September).

The migration routes vary in time and space (George & Thewissen, 2021, Heide-Jørgensen et al., 2007), why it has not been possible to identify specific areas and periods of particular importance and sensitivity related to their migration.

The whales of the Spitzbergen stock have an annual presence in the Northeast Water Polynya region. The majority of the stock spend winter in the pack ice of the Fram Strait and more recently also in the Scoresby Sund / Kangertittivaq Polynya (Boertmann et al., 2020, Tervo et al., 2023). When the sea ice retrieves, they migrate along the pack ice edge and the shelf break to summer grounds off Northeast Greenland and in the coastal waters and fjords of Northeast Greenland.

Some move eastwards to waters north of Svalbard and further on to Franz Joseph Land (Kovacs et al., 2020). The population is small after the historic commercial whaling it was previously considered to be in the few 10s. But it shows signs of recovery, and the numbers are in the 100s today (Tervo et al., 2023). The Spitzbergen stock is heavily depleted, and knowledge and data are limited, why more information is needed to designate other important areas.

Bowhead whales are sensitive to underwater noise and to collisions with vessels, and in Canada, vessels traveling through important habitats are requested to travel at 10 knots or less (Halliday et. al., 2022).

Ad. 2: Periods of importance

Bowhead whale was not included in the Field Rules (November 2000).

We here recommend the following periods of importance to bowhead whales dependent of their significant occurrence in Greenland:

1. Migration periods in East and North-East Greenland
 - a. During the period June 15 to July 31.
 - b. During the period November 1 to March 31.
2. Winter and spring areas in North-West and West Greenland:
 - a. During the period: January 1 to June 30.
3. Winter and spring areas in Kangertittivaq (Scoresby Sound) polynya:
 - a. During the period: March 1 to April 30.

Ad. 3: Areas of importance

In Greenland waters, the areas of importance are:

1. Pikialaarsoq, North Water polynya in North-West Greenland.
2. Qeqertarsuup Tunua (Disko Bay) region in West Greenland.
3. Kangertittivaq (Scoresby Sound) polynya in East Greenland.
4. The migration area along the North-East Greenland continental shelf break.
5. Northeast Water polynya.

The migration route areas off West and North-West Greenland vary too much in time and space to be designated as significant and important areas. However, it is recommended to monitor the ice condition of the region and assess the risk of disturbing bowheads in proximity to sea ice, and generally keep a safe distance to whales.

A matrix of important areas and the sensitive periods is displayed below:

Pikialasorsuaq, North Water polynya in Northwest Greenland.	January 1 to June 30
Qeqertarsuup Tunua (Disko Bay) region in West Greenland.	January 1 to June 30
Kangertittivaq (Scoresby Sound) polynya in East Greenland.	March 1 to April 30
North-East Greenland continental shelf break.	June 15 to July 31, November 1 to March 31
Northeast Water polynya.	All year

Ad. 4: Recommended regulation

It is advised to add a new section to the Field Rules with the following:

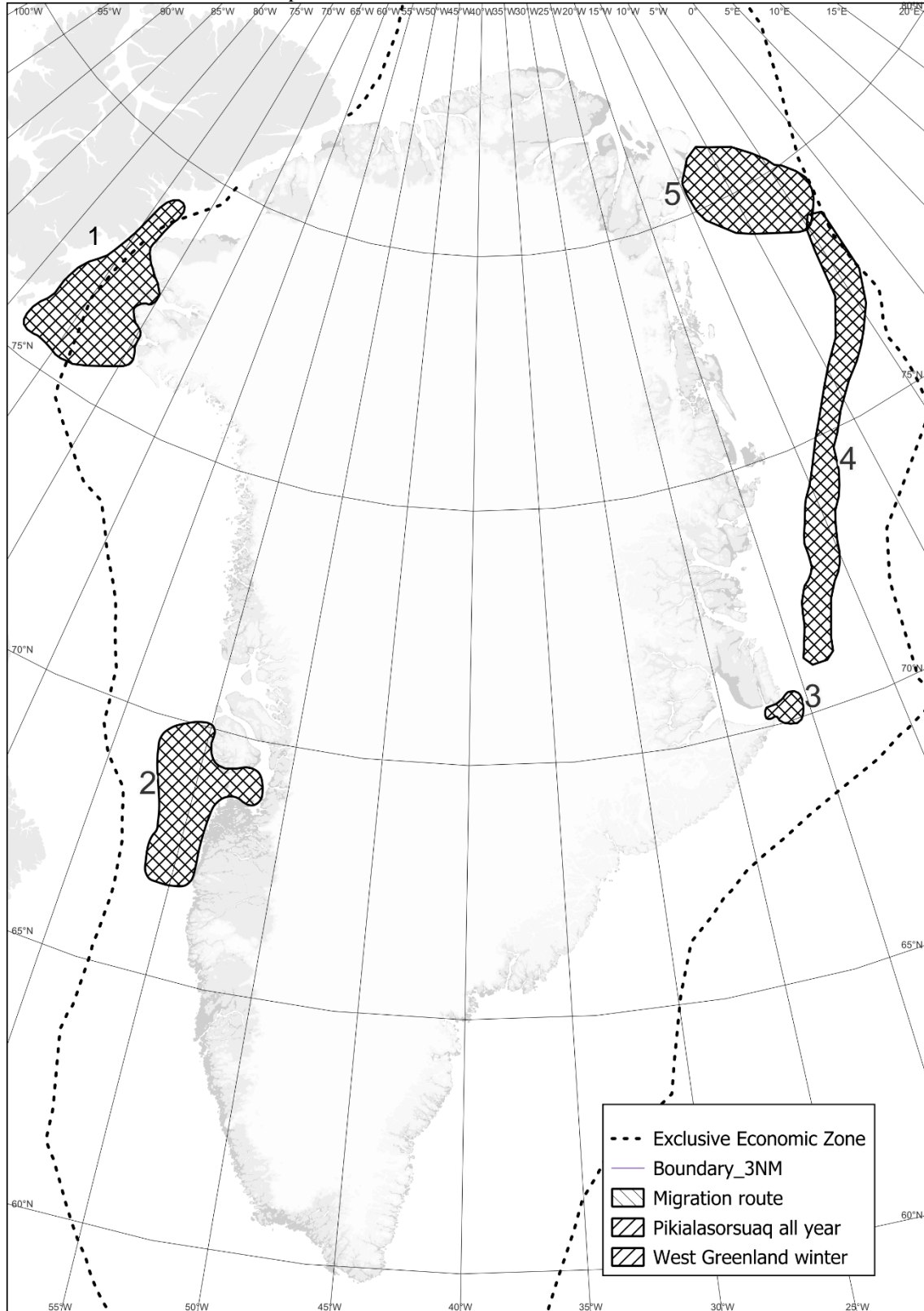
2.03.14 Bowhead whale areas.

- *During the period January 1 to June 30 in Pikialasorsuaq (North Water polynya) and Qeqertarsuup Tunua (Disko Bay),*
- *during the period March 1 to April 30 in the Kangertittivaq (Scoresby Sound) polynya,*
- *during the period June 15 to July 31 and November 1 to March 31 in the North-East Greenland migration corridor, and*
- *during all year in the North-East Water polynya, and when bowhead is observed, unless approved by the Environmental Agency for Mineral Resources and Activities:*
 - a. It is not allowed to cause disturbance, including traveling by boat at speeds above 10 knots.*
 - b. It is not allowed to fly by of fixed-wing plane or helicopter within a vertical distance of 500 meters.*
 - c. It is not allowed to fly drones within a vertical or horizontal distance of 100 meters.*

It is advised to employ Marine Mammal and Seabird Observers (MMSOs) when conducting extensive activities in all the named areas during the sensitive periods.

Map of important areas for bowhead whales

Numbers refer to Areas of importance



Previous map of important areas for bowhead whales

A map of important areas for bowhead whales have not been included in previous editions of the Field Rules.

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