



Brief on: Important areas for walrus (*Odobenus rosmarus*) wintering and spring areas, concerning operations related to mineral activities

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Important winter and spring areas for walrus

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Background

The document *Rules for field work and reporting regarding mineral resources* ('Field Rules') (Anon., 2000) provides special provisions for field work related to mineral activities. The provisions apply to activities within areas and periods of particular significance to wildlife.

The areas and provisions in the Field Rules are defined based on the existing biological knowledge of the time. Government of Greenland has requested a revision of Field Rules' chapter 2 and 3 including report and digital map to be available in NatureMap at www.eamra.gl (naturemap.eamra.gl). NatureMap is an online mapping portal for environment and nature of Greenland. Information from NatureMap can be viewed in NunaGIS and GovMin (Licence-Map) as direct data link service.

This brief is an update to the text of chapter 2 *Areas and periods of particular significance to wildlife* as a provision to section 2.03.10 *Areas with wintering- and spring area for walrus* based on the existing biological knowledge about the Atlantic walrus.

Ad. 1: General description and sensitivity

The Greenland population of Atlantic walrus (*Odobenus rosmarus*) on the national Red List is assessed as mainly ‘*Vulnerable*’ (VU), with the Northeast Greenland population assessed as ‘*Near threatened*’ (NT) (Boertmann & Bay, 2018).

Walrus is protected, and subadults accompanied by females are fully protected under the Executive order of Greenland Home Rule no. 20 of 27th October 2006 §2, (Anon., 2006). The executive order is currently under revision and is expected to add that it is not allowed to generate disturbances and other traffic within 300 m of walrus on land or haul-out sites. Special regulations apply to the nature reserve of Melville Bay (Anon., 1998) and the National Park of North- and East Greenland (Anon., 1992).

Greenland has three populations of walrus. Northeast Greenland has a small endemic population. West Greenland shares populations with Canada: the Hudson Bay – Davis Strait population in Central Arctic and the Baffin Bay (Avannaata Imaa) population in High Arctic (Garde & Hansen, 2021).

The populations of Atlantic walrus in Greenland migrate from summer to wintering areas through October, November, and December and return to summer areas through May and June. Activities in the wintering and spring areas involve feeding and possibly mating and giving birth. Walrus feed intensely on bivalves on shallow water c. 5-100 m depth found on banks or in coastal areas (Garde et al., 2018).

Hunting and disturbances are the significant threats to the populations in Greenland, particularly when hauling out on land or sea ice. Traffic and other activities should be avoided in areas with a high number of walrus on sea ice (Christensen et al, 2016).

Special regulations apply to the nature reserve of Melville Bay and the National Park of North- and East Greenland (Field Rules, November 2000, chapter 3).

Ad. 2: Periods of importance

In the Field Rules (November 2000) the following periods are listed:

In the period October 1 – June 15.

The period is still valid and includes the period of migration. It is advised not to change the period.

The period of migration in spring can change according to annual variabilities in cover and composition of sea ice in Davis Strait suitable as a hauling out habitat. It is advised to monitor the present or predicted sea ice cover via satellite observations or other reports during operations in an area of importance throughout June to estimate the area of importance for walrus specific to the period.

Ad. 3: Areas of importance

Critical areas to walrus in Greenland waters in the periods of importance are polynyas and shallow banks and waters with densities of bivalves (Garde & Hansen, 2021). The extent of polynyas varies annually and over seasons.

The Baffin Bay population migrates from summer areas in Canada to wintering areas in the Avanersuaq region (North-West Greenland) including the eastern part of Pikialasorsuaq (North Water Polynya). Annual and seasonal changes in the distribution of sea ice and the extent of Pikialasorsuaq influence the distribution of walrus during wintering and migration (Hansen & Heide-Jørgensen, 2018).

A part of the Hudson Bay-Davis Strait population is wintering off the West Greenland coast following the sea ice, with probable important migration routes where the Davis Strait is narrow (Dietz et al., 2014). Changes in sea ice distribution can influence the regional and temporal distribution and migration of walrus. The banks Qalerallit Ikkannersuat (Store Hellefiskebanke) and Qeqertarsuup Ikkannersuat (Disko Banke) are important areas for foraging and possibly mating during wintering periods, regardless of ice extent but with a preference for ice floes and less affinity for land for haul out (Heide-Jørgensen et al., 2018, Christensen et al., 2016), however an infrequent use of land is documented through interviews (Born et al., 2017). It is advised to conduct further tracking of walrus migration patterns in the region valuable for determining migration route corridors between Hudson Bay and Davis Strait.

The East Greenland population is small and scattered over a vast region and therefore the precautionary approach of the Rio Declaration's principle 15 should be applied for the region in general and not only the mapped area, as disturbance to a small population will potentially be more severe than similar disturbance on a larger population. Walrus is found year-round in the North-East Water polynya near Nordostrundingen (Garde & Hansen, 2021).

Previously, a terrestrial haul-out was found on the northern side of the mouth of Kangertitivaq fjord (Scoresby Sound), now depleted, but walrus is seen in the polynya occasionally (Born et al., 1997, Garde & Hansen, 2021). The area is not included as an important area due to lack of documentation.

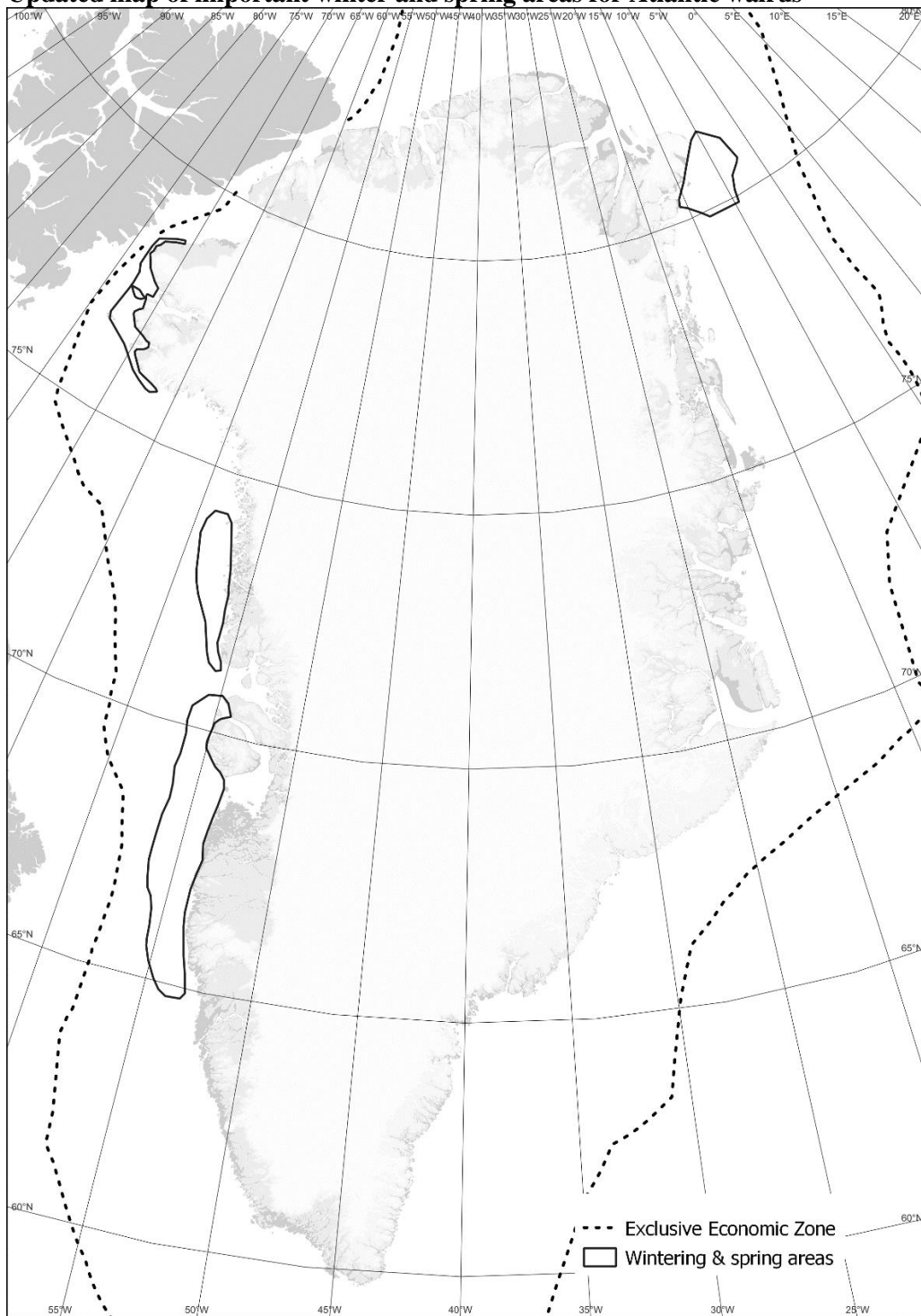
Prior to field work in an area important to walrus, it is advised to consult publicly available satellite imagery and ice charts from Danish Meteorological Institute to assess the abundance of sea ice or ice floes on and around which walrus could be present.

It is advised to change the regulations of the section in the field rules to the following:

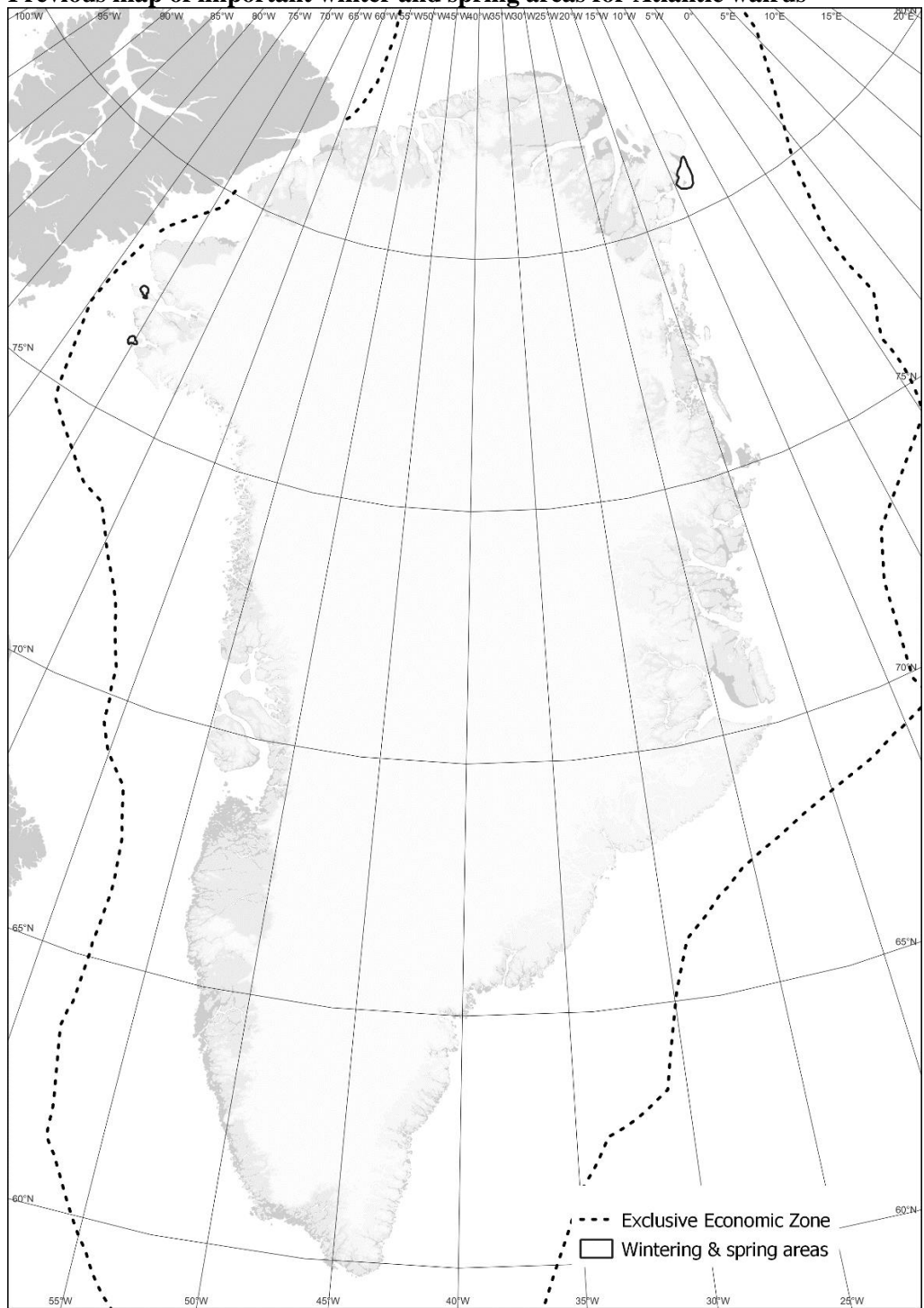
2.03.10 Walrus winter and spring areas. During the period October 1 – June 15, the following regulations apply in winter and spring areas for walrus in areas of sea ice where walrus is recently observed, unless approved by the Environmental Agency for Mineral Resource Activities:

- a. It is not allowed to cause disturbance, including firing guns or traveling by boat at speeds above 8 knots.*
- b. It is not allowed to fly by 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.*
- d. Traffic and going on ice floes are not allowed.*

Updated map of important winter and spring areas for Atlantic walrus



Previous map of important winter and spring areas for Atlantic walrus



References

- Anon. (1989). Hjemmestyrets bekendtgørelse nr. 21 af 17. maj 1989 om naturreservatet i Melville Bugt
- Anon. (1992). Hjemmestyrets bekendtgørelse nr. 7 af 17. juni 1992 om Nationalparken i Nord- og Østgrønland
- Anon. (1992). United Nations Rio Declaration on Environment and Development, MLA (7th ed.) Agenda 21.
- Anon. (2006). Hjemmestyrets bekendtgørelse nr. 20 af 27. oktober 2006 om beskyttelse og fangst af hvalros
- Boertmann, D., Blockley, D., & Mosbech, A. 2020. Greenland Sea – an updated strategic environmental impact assessment of petroleum activities. 2nd revised edition. Scientific Report from DCE - Danish Centre for Environment and Energy No. 375, 386 pp. <https://dce2.au.dk/pub/SR375.pdf>
- Boertmann, D. & Mosbech, A. 2020. Disko West – an updated strategic environmental impact assessment of oil and gas activities. Scientific Report from DCE – Danish Centre for Environment and Energy No. 438, 384 pp. <http://dce2.au.dk/pub/SR438.pdf>
- Born, E.W., Dietz, R., Heide-Jørgensen, M.P., Knutsen, L.Ø., 1997. Historical and present distribution of Atlantic walrus (*Odobenus rosmarus rosmarus* L.) in Eastern Greenland. Medd. Grønland. Biosci. 46, 73.
- Born, E, Heilmann, A, Holm, L.K., Laidre, K.L., Iversen, M.: Walruses & the Walrus Hunt in West & Northwest Greenland: An Interview Survey about the Catch and the Climate (Monographs on Greenland, Volume 355 / Man & Society, Volume 44) Hardcover – 15 Aug. 2017
- Christensen, T., Aastrup, P., Boye, T., Boertmann, D., Hedeholm, R., Johansen, K.L., Merkel, F., Rosing-Asvid, A., Bay, C., Blicher, M., Clausen, D.S., Ugarte, F., Arendt, K., Burmeister, A., Topp-Jørgensen, E., Retzel, A, Hammeken, N., Falk, K., Frederiksen, M., Bjerrum, M. & Mosbech, A. 2016. Biologiske interesseområder i Vest- og Sydøstgrønland. Kortlægning af vigtige biologiske områder. Aarhus Universitet, DCE – Nationalt Center for Miljø og Energi, 210 s. - Teknisk rapport fra DCE – Nationalt Center for Miljø og Energi nr. 89. <http://dce2.au.dk/pub/TR89.pdf>
- Dietz, R., Born, E. W., Stewart, R. E., Heide-Jørgensen, M. P., Stern, H., Rigét, F., Toudal, L., Lanthier, C., Jensen, M. V., & Teilmann, J. (2014). Movements of walruses (*Odobenus rosmarus*) between Central West Greenland and Southeast Baffin Island, 2005-2008. NAMMCO Scientific Publications, 9, 53–74. <https://doi.org/10.7557/3.2605>
- Garde, E., Hansen, R.G., 2021. Chapter 4 – Stocks, distribution, and abundance. In: The Atlantic Walrus. Multidisciplinary insights into human-animal interactions, pp. 77-95, Academic Press. <https://doi.org/10.1016/B978-0-12-817430-2.00011-X>, 978-0-12-817430-2.
- Garde, E., Jung-Madsen, S., Ditlevsen, S., Hansen, R.G., Zinglarsen, K.B., Heide-Jørgensen, M.P., 2018. Diving behavior of the Atlantic walrus in high arctic Greenland and Canada. Journal of Experimental Marine Biology and Ecology 500, 89-99.
- Heide-Jørgensen, M.P., Sinding, M.S., Nielsen, N.H., Rosing-Asvid, A., Hansen, R.G., 2016. Large numbers of marine mammals winter in the North Water polynya. Polar Biology 39 (9), 1605-1614.

- Heide-Jørgensen, M.P., Merkel, F., Stern, H., Garde, E., Hansen, R.G. 2018. The sea ice recedes – but the walrus just stay. NAMMCO SC WG ON WALRUS, Copenhagen 23-25 October 2018. NAMMCO/SC/25/14-WWG/05.
- Merkel, F., Boertmann, D. & Mosbech, A. 2020. Davis Strait – an updated strategic environmental impact assessment of petroleum activities. Scientific Report from DCE – Danish Centre for Environment and Energy No. 439, 332 pp. <http://dce2.au.dk/pub/SR439.pdf>
- NAMMCO - North Atlantic Marine Mammal Commission, 2018. Report of the NAMMCO Scientific Working Group on Walrus, October 2018, pp. 22. https://nammco.no/wwg_reports/.