



Brief on: Important areas for Atlantic salmon (*Salmo salar*) unique to Kapisillit, Greenland, concerning operations related to mineral activities

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Important areas for Atlantic salmon unique to Greenland

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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 are applied 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 2.03.12 *Atlantic salmon in Kapisillit* based on the existing biological knowledge of the stock of *Atlantic salmon* in and near the Kapisillit river, which is the unique stock in Greenland.

Ad. 1: General description and sensitivity

The unique Greenland population of Atlantic salmon on the national Red List is assessed as ‘Vulnerable’ (VU) (Boertmann & Bay, 2018)

The only known spawning stock of Atlantic salmon in Greenland is found in the Kapisillit River in the head of Nuup Kangerlua fjord, West Greenland. The stock is genetically isolated and unique in Greenland. Salmon caught in saltwater near the river are likely all Kapisillit river salmon (Krohn, 2013). The growth of the smolt is slow and smoltification (migration to sea) takes place at the age of 4-6 years. The migration patterns of the Kapisillit salmon in salt water are largely unknown, but a salmon tagged as juvenile in the Kapisillit river has been captured near Maniitsoq (Nielsen, 1961).

The population has been declining (Arnekleiv et al., 2019; Hedeholm et al., 2018; Nielsen, 1961), and is under threat from the invasion of pink salmon (*Oncorhynchus gorbuscha*) (Nielsen et al., 2020).

Ad. 2: Periods of importance

The period below is of particular significance to the Kapisillit Atlantic salmon:

1. January 1 - December 31

Special precautions should be taken concerning human activities causing spill of substances into the areas of importance to the salmon or changes to streams, parts of the river and the flow of freshwater in the catchment area.

The salmon population will be affected by negative changes in its environment all year round. However, some periods are more critical than others. It is recommended not to place buildings, do drainage, make changes to the terrain, or conduct any other activities that might negatively affect the salmon population within 100 m from area 1, or within area 2 and 3. These recommendations are based on the existing biological knowledge of the Kapisillit salmon lifecycle:

- April-June. Particularly vulnerable period due to migration from river to sea. Migration presumably starts when ice breaks.
- April-October. Feeding migration in the ocean.
- July-October. Run period when spawners return to the river. In this period the salmon is particularly vulnerable.
- October-November. Main spawning season. Successful spawning in freshwater requires favorable conditions in terms of bottom type and water quality.
- November-April. Overwintering in deep part of the lakes.
- All year. Some salmon remain in the fjord or the lakes/river all year.

Ad. 3: Areas of importance

Kapisillit River with catchment area and fjord areas in the immediate proximity to the river are important areas for the Greenland stock.

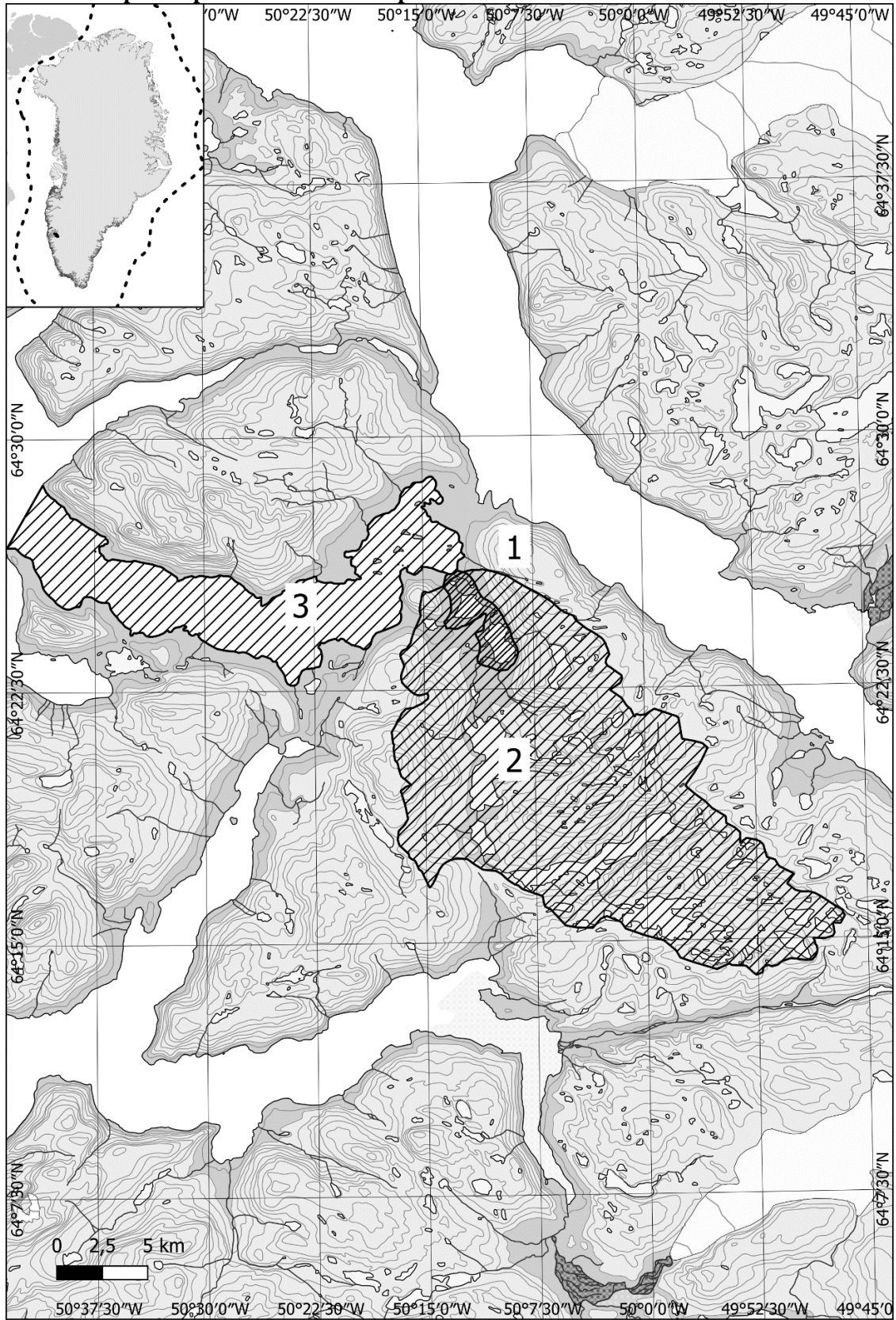
1. River spawning area and immediate vicinity
2. Catchment area corresponding to drinking water catchment area
3. Migration and foraging area in the fjord.

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

2.03.12 Salmon area near Kapisillit. During the period January 1 – December 31, the following regulations apply, unless approved by the Environmental Agency for Mineral Resource Activities:

- a. Not allowed to place buildings, do drainage, make changes in the terrain, or conduct any other activities that might negatively affect the salmon population.*

General map of important areas for Kapisillit salmon



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