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A genetic study of population structure in Atlantic walrus:
Where do the Canadian walrus fit in?

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Summary

Genetic analyses comparing samples from 70 walrus from Hudson Bay and Hudson Strait (Canada) with previously analysed samples from W Greenland, NW Greenland, E Greenland, Svalbard and Franz Joseph land indicated (1) the existence of two major complexes of walrus consisting of three sub-populations to the west of Greenland (E Hudson Bay/Hudson Strait, W Greenland, NW Greenland) and two sub-populations to the east of Greenland (E Greenland and Svalbard-Franz Joseph Land); (2) that walrus from the E Hudson Bay/Hudson Strait area are genetically different from W Greenland walrus; (3) that walrus from the E Hudson Bay/Hudson Strait area are more closely related to those wintering in W Greenland than to those occurring nearly all-year round in NW Greenland (the NOW sub-population); (4) that the walrus in E Hudson Bay/Hudson Strait area seem to function as a source for the W Greenland walrus; (5) that walrus from the E Hudson Bay/Hudson Strait area probably have been separated from the NW Greenland walrus for a longer period of time compared to W Greenland walrus; (6) that walrus from East Greenland constitute a separate sub-population with limited connection to the Franz Joseph Land- Svalbard sub-population.

Introduction

This report presents the preliminary results of a study in which samples from Atlantic walrus (*Odobenus rosmarus rosmarus* L.) from the SE Hudson Bay and Hudson Strait areas (Canada) are compared genetically to samples from W Greenland, NW Greenland, E Greenland, Svalbard and Franz Joseph Land. The study in particular aims at determining to what extent groups of walrus that currently under exploitation in the eastern Canadian Arctic and W and NW Greenland are genetically distinct and therefore can be regarded as different sub-populations.

Background