

Terms of Reference
Intersessional Quantitative Subworking Group (QSG) of
Joint Working Group Meeting of the
NAMMCO Scientific Committee Working Group on the Population Status
of Narwhal and Beluga in the North Atlantic
and the
Canada/Greenland Joint Commission on Conservation and
Management of Narwhal and Beluga Scientific Working Group

Online 11 October 2021

Background

Analysis of recent aerial surveys of narwhals and reanalysis/correction of older surveys presented during the October 2020 JWG meeting demonstrated that the choice of analysis method made substantial differences in both the final point estimate and its standard error. Of particular concern are the choices of correction methods for availability and perception bias including the forward distribution and the assumptions regarding the spatial distribution of narwhals in the survey area. In the past, each survey and analysis result has been considered separately. The quantitative subworking group (QSG) is requested to review analysis methods for abundance estimation used by this group, and identify preferred and/or comparable methods that can be applied to the current and past survey data.

Also recent tag data from Eclipse sound has brought into question some of the assumptions on which the hunt availability matrix is based. The QSG is requested to revise the matrix to accommodate the new movement and distribution data and update the probable zeros and hunts.

Each of these can not be completed during the period of the Oct 26-30, 2020 meeting of the JWG thus this QSG is requested to work through these issues and report back to the JWG at its next plenary session.

The **Terms of Reference** of this QSG are to:

- review recent information on abundance, distribution, movements, and harvest locations of Baffin Bay narwhals to revise and update the availability matrix to assign harvested animals to individual summer stocks;

- review methods and dive data used to analyse and correct aerial surveys to identify a set of preferred methods and corrections that meet criteria developed by this QSG; and apply these to the recent and past surveys where needed;

- review surveys and analysis of Eclipse Sound and Admiralty Inlet narwhal abundance prepared by Golder Associates Ltd.; and revise estimates of variance and recommend to

JWG which if any surveys or combination of surveys are suitable for use in the assessment;

- Update allocation matrix and assessment with the revised inputs.