

SUBMISSION TO THE
NUNAVUT WILDLIFE MANAGEMENT BOARD

FOR

Information: X

Decision:

Issue: Allocation Model for Baffin Bay Narwhal

Background:

Revisions to the current narwhal management regime will treat the Northern Hudson Bay narwhal population, and four known summering stocks of the Baffin Bay narwhal population, as individual Management Units (MU). Abundance estimates are available for the Northern Hudson Bay MU, and the four known Baffin Bay narwhal MU. A corresponding sustainable harvest limit for each MU (presented as Total Allowable Landed Catch, "TALC") has been recommended (DFO 2008). The TALC for each management unit applies throughout the year, i.e. for narwhals on their summer and winter ranges and during seasonal migrations.

Current Situation:

It is not possible to directly assess the number of narwhals from different Baffin Bay MU that are killed during spring/fall migration. An approved narwhal Allocation Model ('Model') (Richard 2011/056) is available to assist the co-management partners sub-allocate the BNL for each of the four known Baffin Bay narwhal MUs, when Total Allowable Harvest (TAH) and Basic Needs Level (BNL) have been established. The co-management partners can explore the impact of different harvest scenarios, before finalizing sub-allocation decisions for the upcoming harvest year

The Model has two parts, an allocation step and a risk analysis step, which should be used together. The first step uses information provided by Inuit to determine the maximum possible summer (open water) catch for Baffin Bay communities who harvest migrating narwhal in spring and fall (Arctic Bay, Pond Inlet, Clyde River and Qikiqtarjuaq), without exceeding the harvest limit for any of the four Baffin Bay narwhal MU.

The second step evaluates the risk of over-harvest on each of the Baffin Bay narwhal MU, if the Model's assumption about the composition of migratory narwhal mixtures is wrong. (The model assumes that the ratio of MU represented in migratory mixtures is proportional to the size of the stock of origin). Co-

managers can examine how additional small reductions to the catch limits produced in the first step can reduce the risk of over harvest for any one MU.

The Model recommends allocations to each community using specific seasonal proportions. It is recommended that communities follow the agreed seasonal harvest proportions for that year and, if desired, consider changes for future years after a post season review and assessment.

The Model can be updated as information becomes available that changes the underlying spatial model, information that has been scientifically peer-reviewed and agreed with co-managers.

Next Steps:

A narwhal co-management workshop will take place in Iqaluit, from December 13-16. A one day session is dedicated to a tutorial and interactive demonstration of the Allocation Model. Example scenarios have been developed using narwhal harvest data reported by Nunavut communities. These scenarios are intended to demonstrate the Model's capabilities, and stimulate further discussion among co-management partners.

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Date: 15 November 2011

Attachments:

Richard, P.R. 2011. Allocation Model for Landed Catches from Baffin Bay Narwhal Stocks. Research Document 2011/056.