

**Melville Bay Narwhal Tagging
1– 28 September 2006
Melville Bay, West Greenland
NOAA Ocean Exploration Cruise Plan**



Table of Contents

Cruise Overview.....	2
Description of Operations.....	2
Itinerary.....	3
Personnel.....	3
Organizational Structure.....	3
Equipment.....	3
Data.....	4
Emergency Information and Communications.....	4
Miscellaneous	4
Map	5

I. Cruise Overview

The cruise will be conducted aboard the vessel m/v *Sila* chartered from Jens Kjeldsen in Aassiaat, Greenland. The wooden boat sleeps 7 people and serves as a platform for coastal transportation and research in West Greenland. The study area encompasses the entire Melville Bay (76°N, 60°W). The cruise does not have a planned route or specific tracklines, instead optimal sites for setting nets to catch whales will be targeted, which include areas with minimal sea ice coverage and high densities of narwhals. PI Laidre can be contacted via cell phone in Greenland at +299 548513 *when in areas with cell phone coverage* (in the town of Upernavik). PI Laidre can be contacted via Iridium Satellite Phone at 00881631426238 if arrangements are made in advance. The phone will not be on during the entire cruise but messages can be left. No email contact will be available the entire time. The objective is to instrument 8-10 narwhals (*Monodon monoceros*) with satellite-linked time-depth-temperature recorders collecting water column temperature profiles in the pack ice to >1,500 m depths. Data collected from diving narwhals will consist of point samples of time-depth- and temperature values at a resolution of 1 meter and 0.1°C. Geographic positions combined with these temperature data will be used to characterize spatial gradients in vertical water column structure based on date-time stamps, latitude and longitude, and horizontal area use.

II. Description of Operations

Traditional narwhal net capturing methods will be used (see Heide-Jørgensen and Dietz 1995, Heide-Jørgensen et al. 2002a, Heide-Jørgensen et al. 2003). Nets are 50-100 m long and approximately 10 m deep. Nets will be set from shore in coastal area. Instruments (Wildlife Computers Mark 10-A) will be mounted on captured whales on the dorsal ridge using two 6 mm nylon pins. The dorsal transmitters are attached to the pins by 0.5-2 mm plastic coated wires secured and cut to restrict the movements of the tags. The handling procedure lasts approximately 30 min and is conducted with the whales held in the net between two inflatables.

III. Itinerary

The cruise will depart from Upernavik, West Greenland 30 August. The cruise will terminate on 27 September in Upernavik. No All dates are dependent on weather. Upon departure from Upernavik, the cruise will head north along the west coast of Greenland towards Melville Bay.

IV. Personnel

Seven people will be onboard:

Kristin Laidre (PI)

Mads Peter Heide-Jørgensen (co-PI)

Hans Christian Schmidt (assistant from Greenland Institute of Natural Resources)

Adam Ravetch (filmmaker from Arctic Bear Productions)

Jens Danielsen (Inuhuit hunter from Qaanaaq)

Kristian Eipe (Inuhuit hunter from Qaanaaq)

Jens Kjeldsen (Captain)

V. Organizational Structure

Captain Kjeldsen will be responsible for daily ship operations and all sailing. Laidre, Heide-Jørgensen, Schmidt, Danielsen, and Eipe will be responsible for setting nets, 24-hour narwhal watch, and instrumentation and release of whales. Ravetch will be filming for Arctic Bear Productions. Kitchen duties will be shared.

VI. Equipment

The vessel is equipped with all necessary sailing equipment and kitchen/cooking gear. Satellite tags have been purchased under the NOAA OE grant. The following additional equipment has been provided by GINR: Three inflatables with engines,

Iridium satellite phone, field clothing, field camp equipment: tents, kitchen, beds etc., generators, spotting scopes, GPS and 20 foot shipping container for gear storage in the town of Upernavik.

VII. Data

Data collected from instrumented narwhals will be obtained via FTP from the ARGOS data location and collection system for the duration the satellite tags are attached to whales. Monthly CD summaries are provided by ARGOS and PI Laidre has coordinated with NOAA OE personnel in transferring the data in the form of maps as they are obtained while whales are tracked. High resolution digital photos and video will be collected during the cruise and will be available at its completion.

VIII. Emergency Information and Communications

PI Laidre cell phone in Greenland: +299 548513

PI Laidre email address: kl@dpc.dk

Co-PI Heide-Jørgensen cell phone in Greenland: +299 550563

Iridium Phone on boat: 00881631426238

IX. Miscellaneous

All departure and return dates are subject to weather and sea conditions. Food is included in the boat charter yet meal preparation and clean-up duties will be shared by the crew.



Figure 1. Map of Greenland with Melville Bay shown in a red box. The cruise will depart and end in the town of Upernavik.