NORWAY - PROGRESS REPORT ON MARINE MAMMALS 2018

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I INTRODUCTION

This report summarises Norwegian research on pinnipeds and cetaceans conducted in 2018 and conveyed to the compilators. The research presented here was conducted at, or by representatives and associated groups of,

The Institute of Marine Research (IMR): https://www.hi.no/hi
The Norwegian Polar Institute (NP): http://www.npolar.no/no/
The Arctic University of Norway, Forskningsgruppe for arktisk marin systemøkologi (UiT-AMSE): https://uit.no/ansatsenhet/forsiden?p_dimension_id=88163
Norwegian Orca Survey, Andenes: https://www.norwegianorcasurvey.no/

II RESEARCH BY SPECIES 2018

PINNIPEDS

Aerial surveys were conducted in the period 18 - 31 March 2018 in the Greenland Sea pack-ice (the West Ice) to assess the pup production of the Greenland Sea populations of **harp** and **hooded seals**. Reconnaissance surveys were flown by helicopter (18 – 22 March) and a fixed-wing aircraft (18 - 31 March) in an area along the eastern ice edge between 68°40' and 74°47'N. Harp seal breeding was first observed from the fixed-wing on 18 March at approximately 74°00'N / 13°47'W, along with scattered hooded seal families further south. On 21 March, however, a large patch (considered to be the same patch as observed on 18 March) containing whelping harp and hooded seals was discovered in an area between 72°25'N and 72°35'N; 14°30'W and 16°00'W. Color markers and satellite-based GPS beacons were deployed on ice floes north, east and south of the patch. On 27 March, two photographic surveys were flown to cover the entire whelping patch area which was a little more than 60 nm in south-north direction. Due to fog in the northwest areas, these areas had to be re-visited with new transect surveys the following day (28 March). To define the transect lines for this second survey day, data from the ice deployed GPS beacons were used to account for the ice drift between the two days. In total, 3104 photos were taken during the surveys (3016 photos on 27 March; 2088 photos on 28 March). Results from the aerial surveys will be used to estimate the 2018 harp and hooded seal pup production in the West Ice. Subsequently, the status of the stocks will be assessed by incorporating the pup production estimates into population models. (IMR).

As part of a collaboration with the Greenland Institute of Natural Resources, 26 newborn **harp seal** pups were tagged with satellite-linked dive recorders during the 2017 breeding season. In addition, two female adult harp seals were tagged with so-called Conductivity-Temperature-Depth Satellite Relay Data Loggers in summer 2018, part of a collaboration with the ArcticPREZE and ARISE projects funded by the UK's Natural Environment Research Council. The 26 tags on pups provides the first description of the foraging migrations and diving behavior of young harp seals and show that these also move preferentially into the Barents Sea, where they spend several months feeding in areas also utilized by adult harp seals. Data from the two adult harp seals have shown remarkable migrations throughout the eastern and northern Barents Sea, and has also collected extremely valuable oceanographic data from regions where such data are otherwise difficult and expensive to obtain. Further tagging studies are planned for coming years to gradually build up a more comprehensive understanding of feeding migrations of this key Barents Sea predator, and additionally to build up a valuable oceanographic dataset to complement other oceanographic sampling activities in the region. (UiT, IMR).