

ICELAND

PROGRESS REPORT ON MARINE MAMMALS IN 2017

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I INTRODUCTION

The following text reports on studies on marine mammals in Icelandic and adjacent waters in 2016. Most of the studies were conducted by the Marine Research Institute. In co-operation with various research partners including Hásvík Research Centre (HRC), Hásvík Whale Museum (HWM), Pasafellá Cetacean Research project (PCR), Innovation Centre, Iceland (ICI), Keldur, Institute for Experimental Pathology (KEP), The Institute of Natural History (INH), University of Iceland (UI), University of British Columbia in Canada, University of Barcelona in Spain, University of St Andrews in Scotland, Icelandic Seal Center (ISC), BioPol, Hólar University College, the University of Stockholm, Natural history museums of Sweden, Natural History Museum of Denmark, Maastricht University and University of Southern Denmark in Odense, University of Potsdam. Queries for information on research were sent to all offices, individuals and private commercial platforms such as whaling and whale watching companies known to have been involved in marine mammal research or data collection during the period.

II RESEARCH BY SPECIES 2017

Fin whale

No fin whaling was conducted in Iceland in 2017 and thus the proposed sampling program was postponed. A whale research team from the University of British Columbia has conducted various research projects on fin whales at the whaling station in Hvalfjörður in recent years. In recent years the research program focused on analysis of anatomical features related to engulfment feeding and diving in fin whales. This includes a study of many structures in the head and thorax including diaphragm, arteries, nerves and muscles in the ventral groove blubber and tongue, esophagus, pharynx, lung and baleen. The aim is two-fold: 1. to understand how rorqual whales have evolved the capacity to engulf extremely large volumes of water containing prey, filter the prey items from the water, and swallow the prey rapidly with total protection of the airway. 2. to explore mechanisms that protect against adverse effects of rapid descent in the ocean that must cause transient pressure gradients in the thorax, vascular system, and lungs.

Starting in 2014, a research collaboration has been established between the marine mammal research group of the University of Barcelona, led by Ales Aguilar and Associaió Horrell, and the MFRI. The objective is to validate and expand the use of a number of chemical tracers to investigate the ecology and demographic structure of baleen whales, particularly fin and common minke whales. Research has focused on the use of stable isotopes of various elements (C, N, O, S), trace elements, as well as biochemical and molecular markers. A number of communications to conferences has already been presented on the validation of faeces to assess diet in baleen whales and on the use of baleen plates to investigate migration and winter destinations of fin whales.