



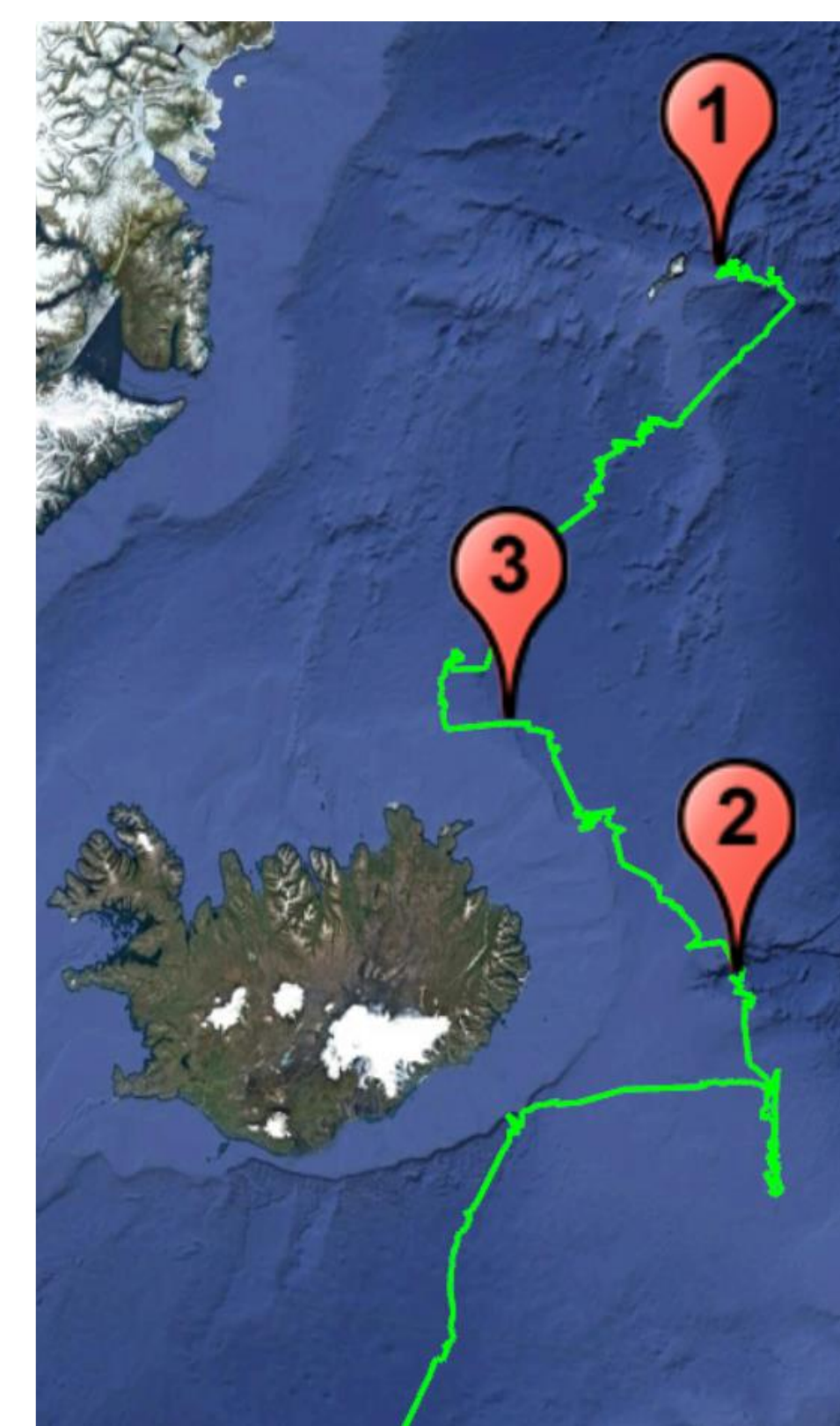
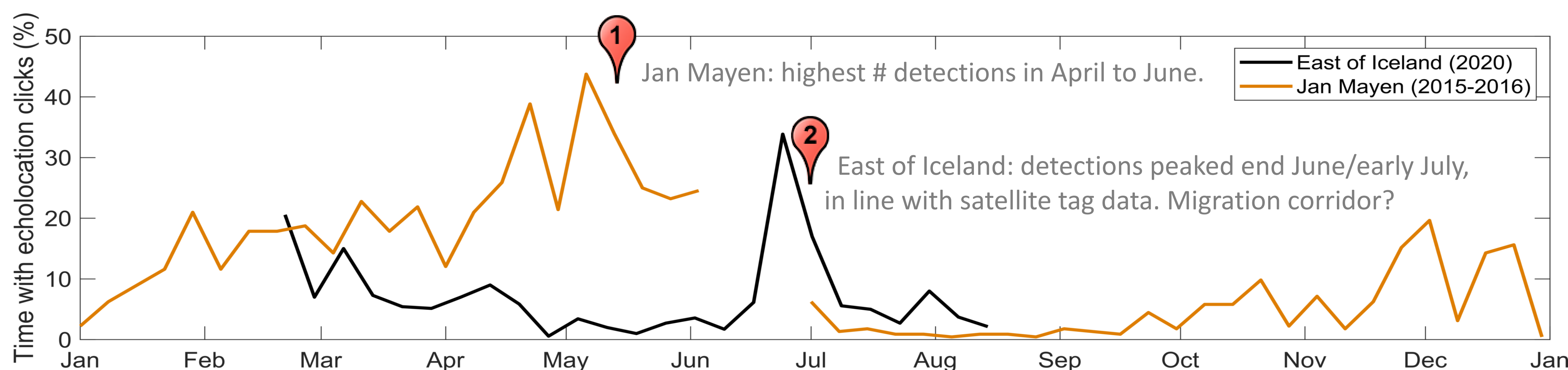
Inferring movement patterns of bottlenose whales from photographic information and long-term passive acoustics

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Background

Little is known about the northern bottlenose whale (NBW), *Hyperoodon ampullatus*, a deep-diving beaked whale currently listed as “data-deficient” on the red list of the Icelandic Institute of Natural History. Commercial exploitation of this long-lived species in the 19th-20th centuries severely reduced its numbers and likely continues to provide challenges to its recovery. The HYPMO project aims to study NBW movement ecology (when, where, why and which animals move) in the Northeast Atlantic and their vulnerability to anthropogenic noise exposure.

First results of the project

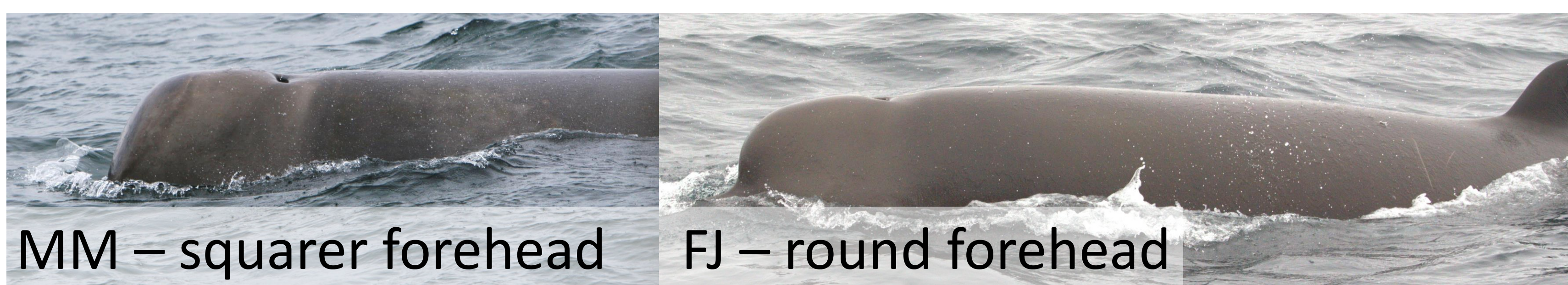


1. Click detections on acoustic recorders over 2 km deep provided support that NBWs migrate from Jan Mayen to East of Iceland in June-July.
2. 173/145 individuals (L/R sides) around Jan Mayen and north of Iceland were photo-identified based on their dorsal fin area. Another 110/170 individuals were marked having “low distinctiveness”. Very few individuals were resighted.
3. Age-sex classification of the left sides catalogue based the shape of the melon (forehead) resulted in 18 mature male (MM) and 90 female-juvenile (FJ). The method was in agreement with previous genetic sexing (subset of 12 melons w. samples) which also indicated more females had been encountered (M/F = 6/16 samples).
4. Ongoing work on group compositions suggests a tendency for associations with own sex.

Recorders currently deployed
: Satellite tag (2015) that stopped transmitting in the Azores



Version 1 of the photo-ID catalogue is publicly available (hypmo.org)



Research activities in 2020 and 2021

2020: We focused analysing existing data, mainly collected off Jan Mayen in previous projects, as fieldwork was postponed.

2021: We will 1) conduct fieldwork in the Azores and Iceland to deploy satellite tags and collect photos, tissue samples, acoustics and visual observations; 2) create a second version of the photo-ID catalogue with larger spatial coverage and compare to other photo-ID catalogues; and 3) recover and redeploy the recorders E and NE of Iceland. Analysis work will focus on quantifying whale movement and understanding its drivers and the function and use of different habitats, particularly around Iceland.

Project partners and funding

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