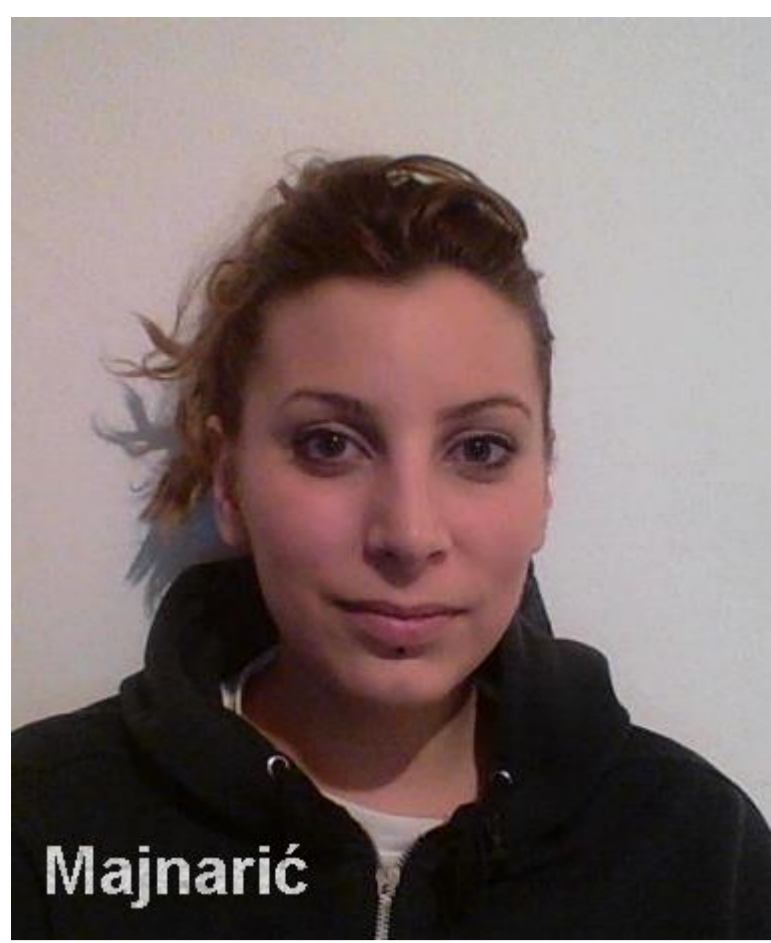




Feeding humpback whales (*Megaptera novaeangliae*) in Northern Norway during the winter

Majnarić, Nina^{1,2}, Aizpurua Quiroga, Iñaki², Broms, Fredrik, Acosta Plata, Marta^{2,3,5}, Cosentino, Andrea^{2,4}, Kovacic, Iva^{2,6}



Majnarić

nmajnarić@gmail.com

(1) University of Zagreb, Department of Genetics and breeding animals, Svetošimuska cesta 25, 10000 Zagreb, Croatia (2) Marine Research and Education Fund of Andenes (MAREFA), Hamnegata 1/C, 8480 Andenes, Norway. (3) Institute of Biological and Environmental Sciences, University of Aberdeen, School of Biological Sciences, Tillydrone Avenue, Aberdeen, AB24 2TZ, United Kingdom. (4) Universidad Rey Juan Carlos, C/Tulipán s/n. 28933 Móstoles. Madrid. Spain (5) Whalesafari Andenes, Postbox 58, 8483 Andenes, Norway. (6) University of Zagreb, Department of Fisheries, Svetošimuska cesta 25, 10000 Zagreb, Croatia.

Introduction

Since 2010, an increased number of humpback whales have been observed in the fjords of Northern Norway during the winter, presumably corresponding to changes in the distribution of the Norwegian spring spawning herring (NSSH). From this year, opportunistic data, including photo identification pictures, has been collected in order to understand this distribution change. In 2011, first sightings were reported in Andfjord (off Andenes) in October while in 2012, first sightings of the species took place around Kvaløya in November and progressively increased in southern areas (off Andenes) in the beginning of 2013. In this study we examine the spatial distribution and movement of the species in this new wintering ground.

Material and methods

Between October and March 2011-2012 and 2012-2013, humpback whale sighting data was collected opportunistically in the regions of Troms and Vesterålen, with special focus off Andenes and around Kvaløya. Data was collected from whale watching vessels, private boats and the Andenes's land-based research station. Photo identification images were collected whenever possible.

Species distribution modelling was done using MaxEnt software.

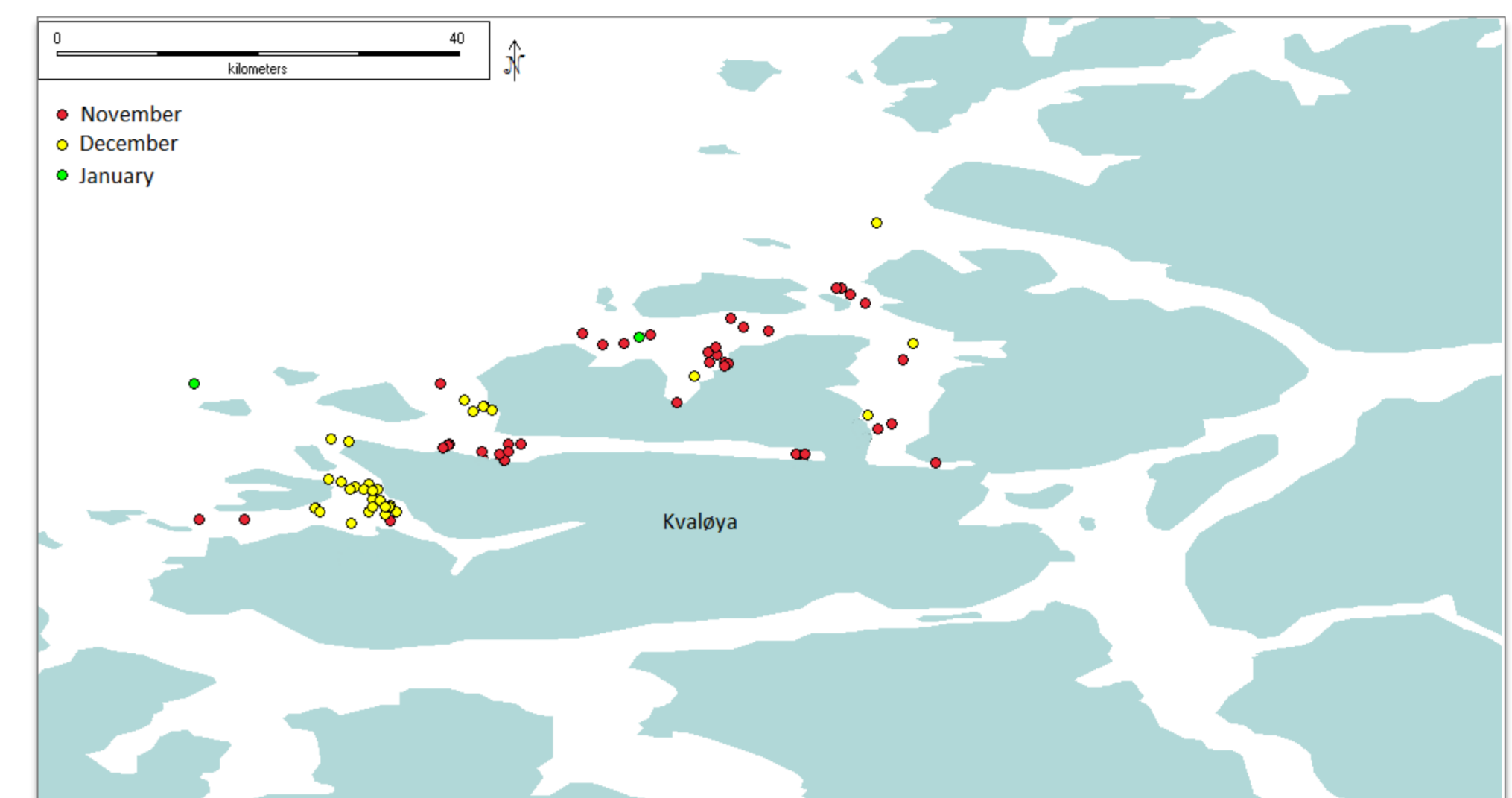


Figure 2. Humpback whale sighting distribution around Kvaløya

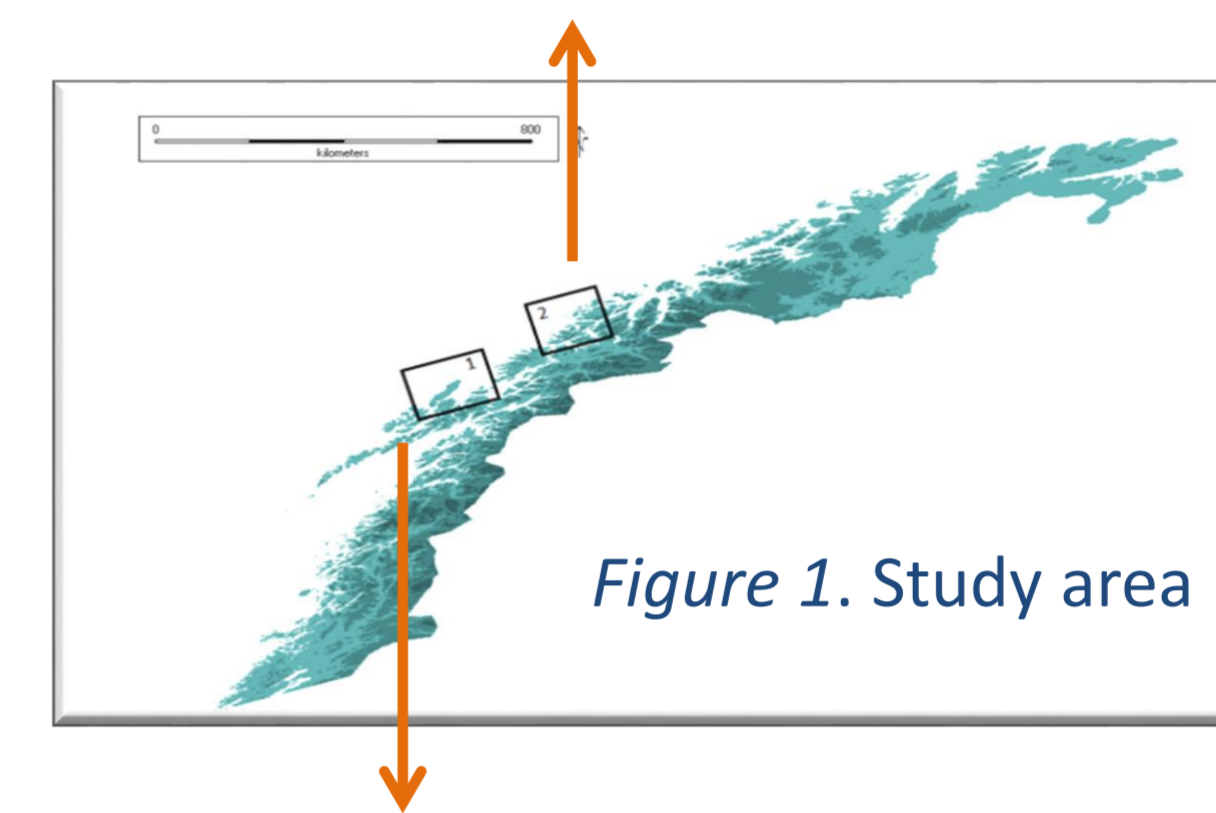


Figure 1. Study area

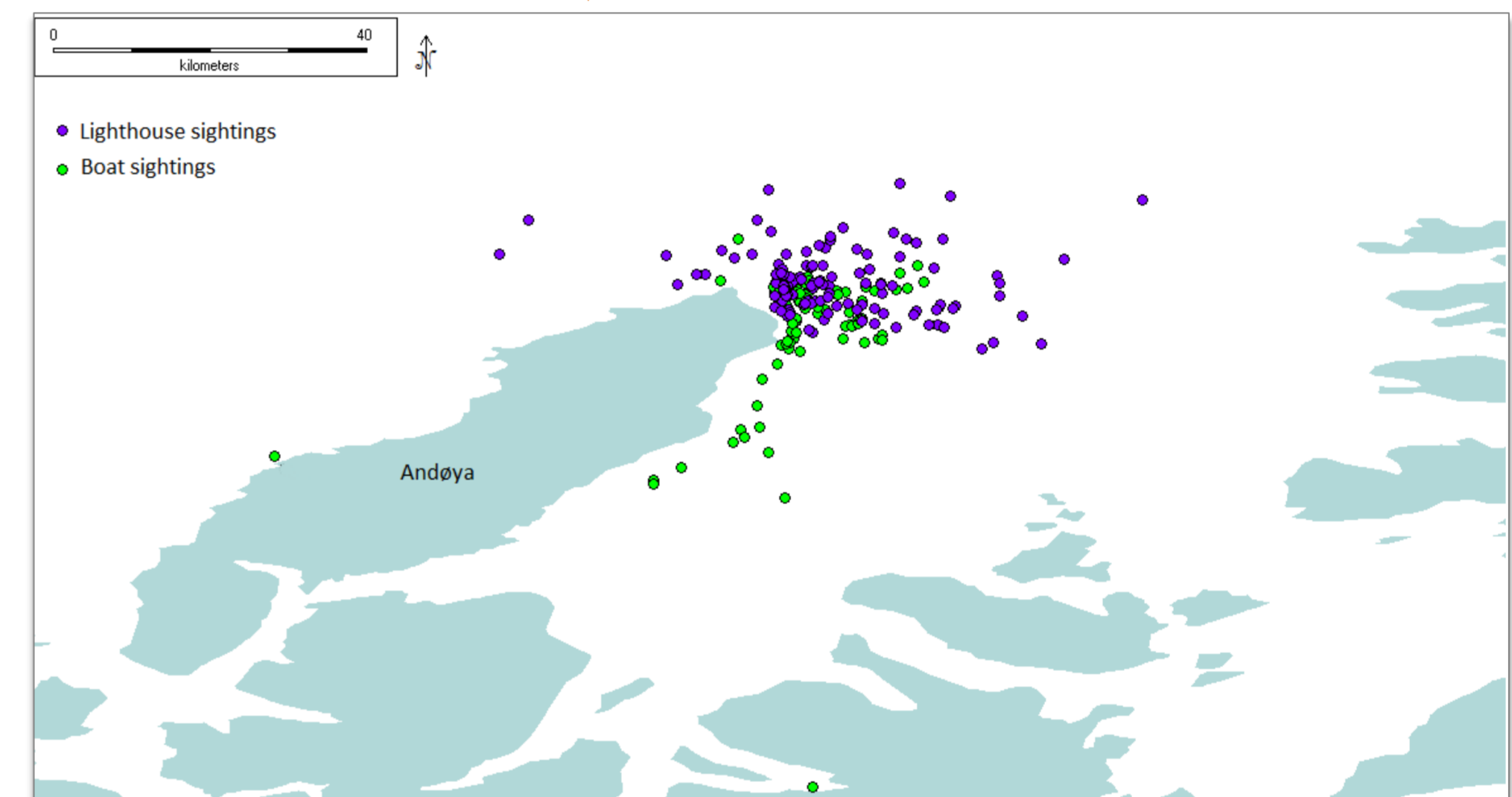


Figure 3. Humpback whale sighting distribution off Andenes

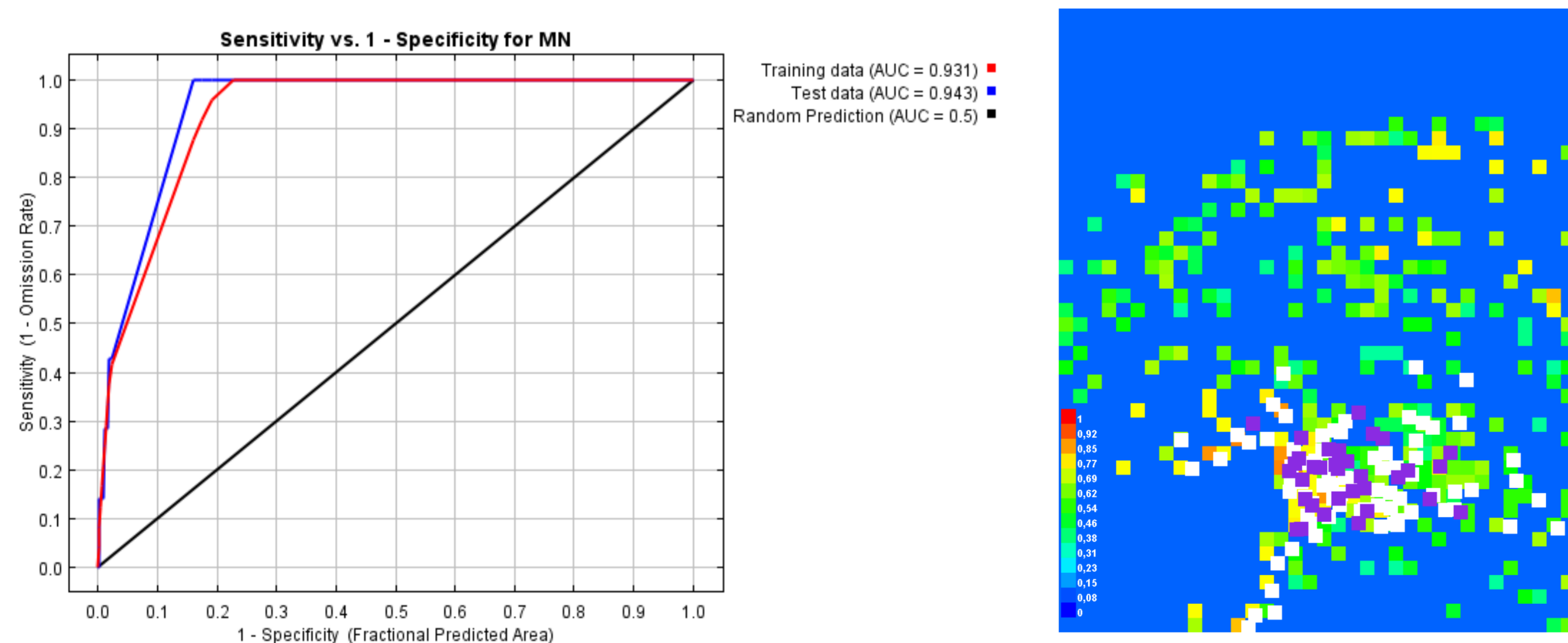


Figure 4. Predicted potential distribution of humpback whales off Andenes obtained with MaxEnt with depth as predictor environmental variable

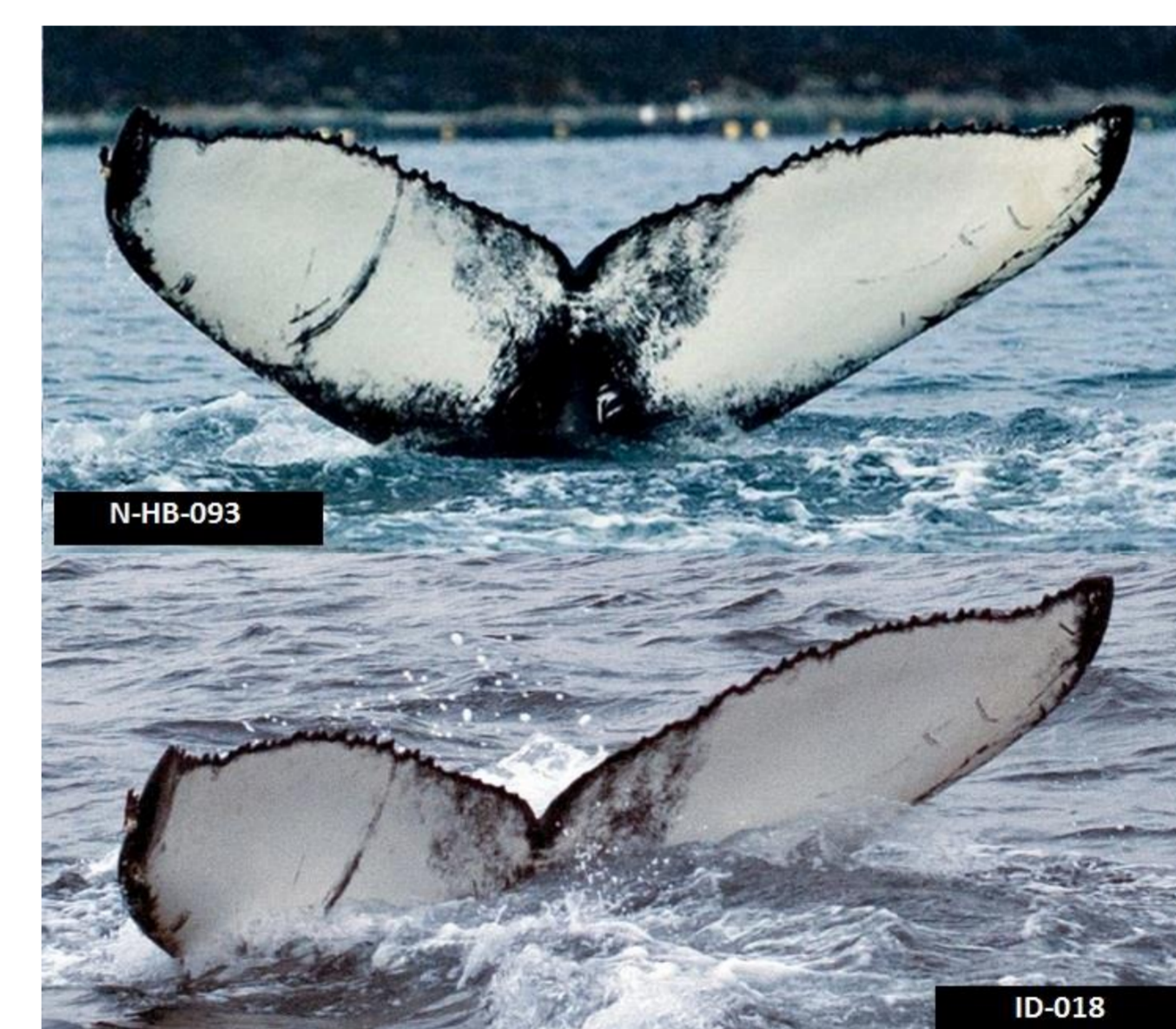


Figure 5. Humpback whale resighting

Results and Conclusions

- Total number of individuals identified was 128 in Troms and 49 off Andenes
- 3 resightings were found between the two areas. All 3 individuals were seen in Troms area in November 2012 and in Andfjord in January 2013
- Distribution is correlated with depth, probably due to prey distribution in the fjords
 - Further studies on feeding behaviour are planned for upcoming years



Acknowledgements:

This work has been done thanks to data, platforms and support provided by Whalesafari Ltd.