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# FAROE ISLANDS
# PROGRESS REPORT ON MARINE MAMMALS 2024

By Bjarni Mikkelsen and Katrin Hoydal

## I. INTRODUCTION

This report summarises research on cetaceans and pinnipeds conducted in the Faroe Islands in 2024, by the Faroe Marine Research Institute (FAMRI) and the Faroese Environment Agency.

## II. RESEARCH BY SPECIES 2024

### II.a Species/Stocks studied

- Pilot whale (*Globicephala melas*) – tagging, landed animals
- White-sided dolphin (*Lagenorhynchus acutus*) – landed animals

### II.b Field work

In 2024, biological samples for age and reproductive analysis were collected from 47 **pilot whales**, by FAMRI, in 2 drives. In addition, 7 stomach content samples and 47 necropsies were stored for diet, genetic and ecological studies.

In 2024, the Faroese Environment Agency took samples of **pilot whales** in connection with grinds in Hvannasund on 28 June, Gøta 5 July, and Hvannasund 17 October. In all, 39 individual samples of muscle and blubber, and approximately same number of liver and kidney tissue, were taken.

**Pilot whales** were tagged with satellite-linked transmitters during two events. On 3 September, three whales from a pod of 50 animals were beached in Fuglafjørður and fitted with satellite transmitter; where one of the tags was linked with a stomach pill temperature logger. On 16 September, two individuals from a pod numbering 20 pilot whales were tagged in Klaksvík; of which one was a CTD (temperature, salinity) tag.

Biological samples (teeth, reproductive organs, stomachs, tissues) were collected from 150 **white-sided dolphins**, by FAMRI, during a drive in Skálabotnur on 7 September.

Faroes participated in the North Atlantic Sightings Surveys (NASS) during summer 2024, with two survey vessels, one dedicated vessel consisting eight whale observers, and the Faroese research vessel *Jákup Sverri*, hosting four whale observers, during a combined mackerel and whale survey. The aim of NASS is to provide abundance estimates for the most common whale species in the North Atlantic, including harvested species like the pilot whale. FAMRI was coordinating the Faroese participation.

## II.c Laboratory work

The biological material collected from **pilot whales** in 2024, and materials from previous years, is under processing for analysing the age, reproduction, and diet. The results will be presented for an upcoming assessment of pilot whales by NAMMCO in 2025, and as part of the TOPLINK project. The laboratory procedure for age estimation of marine mammals, from teeth, is now implemented at FAMRI.

Available samples from **white-sided dolphins** were analysed in 2023, and the age and life-history data presented at the NAMMCO Dolphin Working Group assessment meeting in November 2023. New samples, and any old stored material, will be analysed when time allow.

The Environment Agency are regularly collecting **pilot whale** samples for a tissue bank, where the aim is to take samples from three schools a year, with generally 25 individuals from each. The samples are analysed in a pollution monitoring program, as outlined in Table 1. In addition, research activities are done as projects and when funding allows. Such projects could be to investigate the presence of chemicals of emerging environmental concern and elucidate potential negative impact of pollutants on pilot whales.

Table 1. Pollutants in the pilot whale monitoring program of the Environment Agency.

| **Matrix (tissue)** | blubber & muscle | kidney | liver | blubber / liver*,** | blubber* |
|---|---|---|---|---|---|
| **Frequency of sampling** | yearly, pref. from 3 schools, focus incr. on juv. males for timetrend | | | | |
| **number of samples analysed per year** | 25 | 15 | 15 | 5 | 5 |
| *Tissue analysed for:* | Blubber:Legacy persistent organic pollutants$, polybrominated diethyl ethers. Muscle:metals£ | Cadmium, dry mass | Mercury, selenium, cadmium, dry mass | Perfluoroalkyl substances | hexabromo cyclo-dodecane, Dechlorane plus |

*Time trends
** PFAS is analysed in liver
$ PCB, HCH, HCB, DDT, DDE, and from ca. ½ of the samples even o,p-isomer DDT and metabolites, CHL, Mirex, Toxaphene.
£ Mercury, selenium, dry mass and stable N and C isotopes

## II.d Other studies

FAMRI has since 2018 made boat-based abundance censuses of **grey seals** along the shoreline during summer. In order to have a total abundance estimate, a correction factor for the unknown proportion of seals outside the coastal zone, and missed during counts, is needed. Satellite tracking data from fifteen grey seals is available that may provide this information. The plan is to initiate the abundance surveys again in 2025 or 2026, and to tag more seals.

The TOPLINK project is cooperation between FAMRI and Greenland Institute of Natural Resources, for studying the ecological role of killer whales, pilot whales and dolphins along the Greenland-Shetland Ridge. Successful fieldwork was performed both in east Greenland and in the Faroe Islands in 2024. The project will be finalized by the end of 2025.

The MINTAG project, with participation by FAMRI, is cooperation between the NAMMCO member countries (Faroes, Greenland, Iceland and Norway), Japan and the tag manufacturer Wildlife Computers Inc., for developing a small trans-dermal satellite tag that is deployed from distance by an air-gun (www.mintag-project.com). Target species are baleen whales and pilot whales. No fieldwork has been performed by FAMRI so far, or on pilot whales in general, but the plan is to tag whales in the Faroe Islands in 2025.

FAMRI will continue the effort to tag **pilot whales** in the Faroe Islands. Further tagging activities will potentially harmonize with the MINITAG project, the NAMMCO initiative, and a possible follow-up TOPLINK project, and will integrate also advanced tags for feeding behaviour and physical parameters.

FMRI keeps records of incidental sightings of marine mammals in Faroese waters, including live observations and stranded animals, taken from both direct and indirect sources.

## II.e Research results

The transmitters of the three tagged **pilot whales** from Fuglafjørður provided contacts for up to 94 days. The tagged animals moved from the Faroes in a southeast direction to the UK shelf and south along the slope, thereafter westward to the Rockall Bank. Here they stayed for most of the period, except for two trips north, towards the Bill Bailey and Faroe Banks, and one trip southeast, towards the Porcupine Bank. The transmitters of the two tagged pilot whales from Klaksvík provided contacts for up to 126 days. The tagged animals moved from the Faroes in a southwest direction, west of the Faroe Bank and Hatton Bank, and south to the southern slope of the Rockall Bank. The pod thereafter continued south to 50 degree south, where it stayed for two weeks before turning north to the Rockall Banks.

Ramirez-Martinez *et al.* used data from two series of summer surveys (in Iceland-Faroes and Norway) to model density of sperm (*Physeter macrocephalus*), long-finned pilot (*Globicephala melas*) and northern bottlenose (*Hyperoodon ampullatus*) whales as a function of static (relief), physical, and biological oceanographic covariates using GAMs. The aim was to improve understanding of the underlying ecological drivers of any changes in deep-diving cetacean distribution. The best models, based on a robust model selection framework, were used to predict distribution. The study period was divided into two periods, 1987-1989 and 1998-2015, based on environmental changes in the area and data availability. The common covariates that best explained these three species' distributions (in both periods) were bathymetric variables and SST. The selected dynamic temperature-related covariates for sperm and pilot whales were for spring, but for bottlenose whales were for summer. Summer relationships were also found for the three species for the other dynamic variables, except spring chlorophyll-a for bottlenose whales. The difference in seasonal relationships for

bottlenose whales may be related to a previously suggested north-south summer migration. As expected, the predicted high-use areas for all three species were deep waters, with some overlap among them in the central Norwegian Sea, and the Central North Atlantic, including the Irminger Sea. Differences in distribution likely reflect differences in prey. Changes in distribution between the two periods appear more as a range expansion than a shift, which could result from an increase in suitable habitat due to warming waters. This new knowledge will help improve understanding of how these species may respond over this wide area to a changing environment and inform their conservation.

The abundance estimates from the NASS survey will be analyzed during 2025. First task is to develop a common procedure for duplicate identification for the Icelandic, Faroese and Norwegian data, where after the priority is to have the pilot whale estimate ready for the pilot whale assessment working group meeting in November 2025.

The preliminary abundance estimate of **grey seals**, based on counts along the shoreline in summer in 2018-2021, summarized up to 661 animals. This number represents an absolute minimum, since it is not corrected for the unknown proportion of animals that were not in the coastal zone during the surveys.

Results from time trend analyses of contaminants (heavy metals and persistent organic pollutants) in **pilot whale** from the Faroe Islands monitored the past 25 years as part of the Arctic Monitoring and Assessment Programme (AMAP) were presented at SETAC Europe 34th Annual Meeting in Seville, Spain 4-9 May 2024. The analyses were successfully applied to individual time-series for 65 compounds in four different tissues, resulting in 79 individual time-series. Of these, 21% showed an increasing trend, 26% showed a decreasing trend, and 18% showed no detectable trend. However, only 32 time-series had a statistical power over 80%, which indicates the need for continued monitoring with larger sample number.

## III. ONGOING (CURRENT) RESEARCH

Faroe Islands has requested NAMMCO for management advice on sustainable harvest levels of long-finned **pilot whales**. A NAMMCO assessment working group meeting is planned in November 2025, by when a new abundance estimate from the NASS-2024 survey, and updated life history data, should be available.

The Faroe Marine Research Institute will in 2025 probably continue the summer monitoring census of the **grey seal** population. Research will include tagging more animals and camera trap monitoring at important haul-out locations, for investigating haul-out behaviour and to induce a correction factor for counted animals, in order to have a total population estimate.

The Faroese Environment Agency will continue to sample **pilot whales** for pollution monitoring in 2024. Co-operations with a researcher from Harvard University on PFAS contamination in pilot whale and researchers from the University in Bergen regarding analyses of effects of pollutants on pilot whales are in progress.

Biological sampling from drive hunts and marine mammal standings' continues as a standard monitoring routine.

## IV. ADVICE GIVEN AND MANAGEMENT MEASURES TAKEN

The NAMMCO Scientific Committee Dolphin Working Group provided, at its meeting in 2023, for the first time, management advice for **white-sided dolphins**, valid for the area East Greenland - Faroes. The advice was reviewed and approved by the NAMMCO Scientific Committee at its 2024 meeting and by the NAMMCO Council in March 2024. FAMRI has, base on the recommended catch limit, advised the Ministry of Fisheries that the maximum annual harvest of white-sided dolphins should not exceed 650 animals. The recommendation is valid for six years, when a new abundance estimate and assessment should be available.

Law no. 65, from 14. May 2020, bans all culling of marine mammals in connection with fish farming activities. Prior to this, aquaculture farms were allowed to cull **grey seals** interacting with the farms, but the new law enforcement stop this cull completely. Recreational hunting of grey seals has no tradition and is not practiced. The Ministry of Fisheries has requested FAMRI to provide a management plan for grey seals in the Faroes.

## V. PUBLICATIONS AND DOCUMENTS

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