

Marine Mammals in Faroese Waters

With Special Attention to the
South-south-eastern Sector of the Region

by

Dorete Bloch¹, Bjarni Mikkelsen² and Lise H. Ofstad²



¹ Museum of Natural History
FO-100 Tórshavn
Faroe Islands
Phone: +298 31 85 88
Fax: +298 31 85 89
E-mail: doreteb@ngs.fo

² Faroese Fisheries Laboratory
Nóatún, FO-100 Tórshavn,
Faroe Islands
Phone: +298 31 50 92
Fax: +298 31 82 64

Contents

Introduction	3
Executive Summary:	
General Observations	4
Observations Specific to the South-south-eastern Sector of Faroese Waters	5
Main Gaps in Knowledge	5
Material and Methods	6
Species Description	
Seals – Pinnipeds	
Hooded Seal – <i>Klappus</i>	7
Bearded Seal – <i>Granarkópur</i>	8
Grey Seal – <i>Láturkópur</i>	8
Harp Seal – <i>Grønlandskópur</i>	9
Ringed Seal – <i>Ringkópur</i>	9
Harbour Seal – <i>Steinkópur</i>	9
Atlantic Walrus – <i>Roysningur</i>	10
Whales – Cetaceans	
Blue Whale – <i>Royður</i>	11
Fin Whale – <i>Nebbfiskur</i>	12
Sei Whale – <i>Seiðhvalur</i>	14
Minke Whale – <i>Sildreki</i>	15
Humpback Whale – <i>Kúlubøka</i>	16
Sperm Whale – <i>Avgustur</i>	17
Northern Bottlenose Whale – <i>Døglingur</i>	18
Killer Whale – <i>Mastrarhvalur</i>	19
Long-Finned Pilot Whale – <i>Grindahvalur</i>	20
White-Beaked Dolphin – <i>Kjafthvítur springari</i>	21
White-Sided Dolphin – <i>Skjórutur springari</i>	22
Bottlenose Dolphin – <i>Hvessingur</i>	23
Harbour Porpoise – <i>Nísa</i>	24
Rarely Observed Marine Mammals	24
Patterns of Marine Mammal Distribution in the Faroese Area	25
Acknowledgements	26

Introduction

With the emergence of oil industry activity in the region of the Faroe Islands and the establishment of an Environmental Impact Assessment Programme, it is necessary to review current knowledge on the marine environment and the gaps that exist in that body of knowledge, especially in the sector that is of especial interest to the oil industry. This review is essential, if appropriate management determinations are to be made regarding possible disturbance to the area due to industry activity and/or the sustainable use of the different resources in the marine environment around the Faroe Islands.

This report, which is based on available research data, reviews current knowledge of the distribution, abundance, and occurrence of the different marine mammal species within the Faroese area. Furthermore, this report identifies the gaps in that knowledge and recommends ways to fill those gaps. Special attention is given to the south-south-eastern sector of the Faroese area – the sector that is of especial interest to the oil industry.

The aim of this report is to present information about the most common occurring marine mammal species in an easily readable format. The Faroese name for each animal is included. The distribution and seasonal use of the area by each species is noted, together with the abundance of each species. Any gaps in our knowledge of the various species are noted. A detailed list of references is not included here, but is available from the first author upon request.



Executive Summary

General Observations

A comparison of whale distribution maps for Faroese waters, based on data from observations, whaling and sighting surveys, reveals that the greatest number of whales and the greatest variety of whale species in this region have been observed in a broad belt along the Wyville-Thomson Ridge from Shetland to the Faroe Islands and the Faroe-Iceland Ridge from the Faroe Islands to East Iceland. This distribution pattern indicates that the shelf border and the northern side of the ridges are main feeding grounds for whales. Sightings surveys also covered the south-western and north-eastern sectors of Faroese waters. Fewer observed sightings from these sectors appear accurate and probably indicate that these regions are not main feeding areas. A similar conclusion can be drawn from observed pod sizes. Comparison of fin whale pod sizes south of Iceland and in the Faroes, and tagged fin whales in the Faroes shows larger pods in the Faroes. Whales south of Iceland, therefore, were probably on their way to feeding areas elsewhere, whereas the whales in Faroese waters remained in the main feeding areas in larger congregations and for a longer time.

Distribution patterns of the various whale species occurring in Faroese waters are well documented, as is their seasonal abundance. Information from different sources confirms, however, that variations in environmental conditions have impacted the abundance and distribution of whales in the area over the centuries. The Faroe Islands constitute only a small region within the whole North-east Atlantic Ocean, thus, small changes in the environment here can result in large local population fluctuations. North Atlantic Sightings Surveys (NASS) research shows that cetaceans do not occupy the same area year after year. NASS data is available for 1987, 1989, and 1995. The various species were found distributed in about the same areas in 1987 and 1989, but the 1995 survey showed that the abundance of some species was significantly different for some areas. This variation indicates that observations and surveys in the North-east Atlantic Ocean do not give a permanent picture of the distribution and abundance of whale species, but rather are snapshots of distribution patterns occurring in a changing environment according to long-term climatic oscillations in combination with possible man-made impacts.

The seven seal (pinniped) species that inhabit North Atlantic waters have all been observed in Faroese waters. Reported observations here are few and sporadic, however, and give no clear picture of how many, when, and for how long these seals are present.

The more recent use of satellite telemetry for studies on pinnipeds in the North Atlantic has indicated that seals from surrounding populations are more common in Faroese waters, at least during parts of the year, than was previously known. Such studies have found that British grey seals, both from the Shetland/Orkney area and from Scotland, may commonly migrate northward into Faroese waters. Identical studies have also found that hooded seals from the West Ice breeding stock frequently migrate southward during the year, and are than frequently distributed in Faroese waters.

Observations Specific to the South-south-eastern Sector of Faroese Waters

The area south-south-east of the Faroe Islands at the shelf border is quite remarkable. Here the North Atlantic Water Current meets the Arctic Ocean Intermediate and Deep Water Currents. This confluence results in an area of upwelling rich in krill. It has been shown that many cetaceans swim directly to this area and stay here over the summer. Others enter the area first in early autumn, remain for some time, and then depart, swimming south. Thus, it can be concluded that the south-south-eastern area is a main feeding area for a large number of whales and whale species for long periods of the year.

Main Gaps in Knowledge

The first significant gap in our knowledge is that no comprehensive examination has been made of the rich upwelling area south-south-east of the Faroes, where the arctic currents meet the Atlantic Current. A special survey has to be conducted to determine the seasonal occurrence, abundance, and composition of the primary and secondary production, the krill, and the consumers in all trophic layers.

The second significant gap in our knowledge is the poor understanding of the distribution and abundance patterns of the smaller dolphin species in the Faroese area. A sighting survey is needed that focuses on these smaller dolphin species. Biopsy specimens taken from animals encountered in such a sighting survey would allow an eventual determination of the boundaries between subspecies. This work is necessary prior to making any management proposals.

The third significant gap: Grey seal is the only breeding seal species in the Faroes and most likely the only seal species to be found in Faroese waters throughout the year. Faroese grey seals have not, however, been subject to any biological investigations or systematic field survey, thus, the biology and ecology, including distribution, migration patterns and total stock number, is unknown. A study on the summer diet of Faroese grey seal represents the only investigation of seals in Faroese waters.

The fourth significant gap in our knowledge is a poor understanding of possible relationships between marine mammal populations in Iceland, the Faroes, and Shetland. Without a better understanding of these relationships, it is difficult to establish any management predictions for marine mammals in the Faroese area. Possible relationships between smaller species in these areas, such as the grey seal and the harbour porpoise, can only be verified after further research. Satellite tags used to track the movement of these species may be the easiest and least expensive way to conduct thorough research.

The fifth significant research gap is the need for a comparison of the different databases containing acoustic and visual observations of marine mammals. Some of these databases exist in the Museum of Natural History in Tórshavn and others in the Joint Nature Conservation Committee archives. A complete picture of the distribution and abundance of marine mammals and a better understanding of their behaviour can be obtained by combining all available observation data so that scientists can easily access it.

Materials and Methods

This report is based on data obtained by and archived at the Museum of Natural History in Tórshavn. The data comprises:

1. A hunting study of seals in 1963 – 1967;
2. A study of the feeding habits of grey seals in the Faroes in 1993-95;
3. Biological data from the period 1584 – 2000 of the Faroese drive fishery taking long-finned pilot whales, bottlenose whales, bottlenose dolphins, and white-sided dolphins;
4. Position and data of whales shot during the commercial offshore whaling period, 1894 – 1984;
5. Opportunistic observations of marine mammals made in the Faroes in the period, 1978 – 2000;
6. Different papers and reports from the International Whaling Commission (IWC);
7. Abundance estimates resulting from the North Atlantic Sightings Surveys (NASS) in 1987, 1989, and 1995;
8. Biological studies from the international research programme on the ecology and status of the long-finned pilot whale off the Faroe Islands;
9. Results from the different working groups under the North Atlantic Marine Mammal Commission (NAMMCO);
10. Tagging experiments of marine mammals in the North Atlantic.

Moreover, comparisons are made to some of the reports by the Joint Nature Conservation Committee:

- 1) *The distribution of seabirds and cetaceans around the Faroe Islands;*
- 2) *The distribution of seabirds and marine mammals in the Atlantic Frontier, north and west of Scotland;* and
- 3) *Acoustic monitoring of large whales to the west of Britain and Ireland using bottom-mounted hydrophone arrays.*

Species Description

Seals - Pinnipeds

Hooded Seal – *Klappus*



Hooded seal is an arctic ice-breeding mammal. The breeding stock closest to the Faroes is along the ice edge in the Jan Mayen area. It is observed in Faroese waters most frequently as by-catch in pelagic long-line fisheries for salmon (*Salmo salar*) north of the Faroes. It has been observed near-shore as well. A bounty-hunting period in the Faroes in 1963 – 1967 resulted in three records of hunted hooded seals, two juveniles and one adult. These animals were most probably taken in inshore waters.

Satellite tagging studies of hooded seals, both sub-adults and adults, from the West Ice breeding stock (Jan Mayen area) has shown that these mammals frequently made excursions to remote areas, most frequently to Faroese waters. The seals were found to spend 15% of the year in Faroese waters, mostly in May and autumn/winter. Their migration to and stay in Faroese waters is related to foraging. The seals may feed mainly on the frequently occurring blue whiting (*Micromesistius poutassou*), which spawns west of the Hebrides in April and then migrates northward through Faroese waters in May and southward again in winter.

Hooded seals prefer the deeper waters (> 200 m) of the Faroe Shelf. Reported sightings of hooded seals in the open sea have been in deep waters, predominantly in the deep, Faroe – Shetland Channel area. However, the distribution of this species in Faroese waters may be determined by the accessibility of potential food. The offshore distribution of hooded seals, together with the fact that seals stay submerged for a high portion of time when at sea, certainly would explain the few reported observations of this mammal in Faroese waters.

With a stock number of West Ice hooded seals of approximately 250,000, the annual number of migrating hooded seals in Faroese waters may be significant, and could make this the most numerous seal species in Faroese waters on an annual basis.

Bearded Seal – *Granarkópur*



No ancient documentation exists of bearded seal observations in Faroese waters. However, five individuals have been seen here recently, in 1982, 1989, 1994, 1998 and 2000. The two seals observed most recently were juveniles and they spent several months in the Faroes, foraging and visibly fattening before they disappeared again. Of note, this pattern is also observed in Shetland, although bearded seal is an arctic species.

Observations of bearded seals in Faroese waters could indicate that juveniles of this seal species are stragglers in their first ages. Modest population sizes would, however, imply that this seal species, which prefers shallow waters in the arctic, might not be an annual visitor to Faroese waters.

Grey Seal – *Láturkópur*



The grey seal is the only pinniped species currently breeding in the Faroes. This resident species is distributed throughout the Faroes, most frequently in remote areas facing the sea. The bounty period in 1963-1967 resulted in 970 animals taken, and the population was then estimated to number 3,000.

Today, the stock is probably smaller although the exact number is unknown. Grey seals in the Faroes are a nuisance to salmon farmers and some are shot every year. This protective response may explain, however, why the stock has not increased considerably during the last twenty years.

Tagging studies have indicated that grey seals from British waters may commonly migrate northward into Faroese waters. Although the Faroese grey seal stock may not number more than 2,000 individuals, the relatively frequent migration of British seals into Faroese waters would result in higher annual numbers of this species, although it may be difficult to determine exact numbers. Foraging and migrating grey seals may be distributed throughout the Faroe Shelf and slope area, but their chief foraging areas are shallower than 500 m.

Harp Seal - *Grønlandskópur*



Harp seals, an arctic seal species, were formerly taken quite frequently in Faroese waters. More recently, harp seals, together with hooded seals, have also been seen in connection with the salmon fishery north of the Faroes. No individuals have beached in the islands.

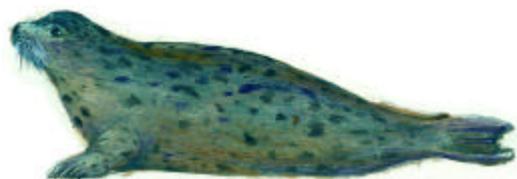
The distribution of harp seal deviates from that of the hooded seal with regard to food preference and migration pattern. Variation in distribution is observed between years with the changing accessibility of potential food species at their main feeding grounds. Thus, harp seals from the East Ice breeding stock may search out foraging grounds further south in the North Atlantic during periods with low food accessibility in the north and, as a result, could be more numerous in Faroese waters during such periods. However, the overall occurrence of harp seal in Faroese waters may be low on an annual basis.

Ringed seal – *Ringkópur*



Ringed seal, which is the most northerly distributed or arctic pinniped species in the North Atlantic, has been reported in the Faroes, but only in association with the 1963 – 1967 bounty period during which five animals were taken. It is not anticipated that this arctic mammal will frequently occur in Faroese waters.

Harbour Seal – *Steinkópur*



A breeding stock of harbour seal previously existed in the Faroes. Supposedly, the hunting pressure for this resident seal species rose too high, and the last was taken in 1845. Since then, harbour seals have only been observed in connection with bounty hunts, first in 1889 – 1891 where one specimen was caught, and again in 1963 – 1967 where four harbour seals were shot. These four harbour seals, all taken from the southernmost part of Suðuroy, were supposedly migrating.

Both Iceland and Great Britain possess breeding populations of harbour seals. Surprisingly, this species, which is a more resident, inshore species than the grey seal, but which has been observed in offshore deep-sea waters of Britain, has not re-established a breeding stock in Faroese waters.

Atlantic Walrus – *Roysningur*



The walrus is a high arctic species, but is known to migrate for long distances. Eleven walrus have been reported from Faroese waters, the last time in April 1998. All records have been in winter-spring, from December-April. The walrus occurring in the Faroes supposedly come from the Svalbard-Barents Sea-White Sea region or north-eastern Greenland. With increasing populations in these areas, the frequency of straggling walrus appearing in Faroese waters may increase. On an annual basis, however, the annual number of walrus in Faroese waters is most likely on the order of none to a few.