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The status of grey seals (Halichoerus grypus) in Norway

by

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ABSTRACT

Information on the past and present distribution of grey seals in Norway is reviewed. The distribution of breeding seals is discontinuous with the highest abundance now found between 63° N and 68° N and a concentration in Sør-Trøndelag county.

Surveys through the last decade, which are still not complete, add up to a minimum estimate of about 3,500 grey seals along the outer Norwegian coastline. However, a figure around 7,000 probably is more realistic for the total stock.

The timing of the breeding season varies along the coast without any definite latitudinal cline.

INTRODUCTION

The grey seal, Halichoerus grypus, is a coastal seal living in three separate stocks in the North Atlantic (Bonner, 1981). The Western Atlantic stock is found around the coast of Newfoundland and Nova Scotia and in the Gulf of St. Lawrence. The Eastern Atlantic stock is found from the western coast of France and the British Isles to Faroe Islands, Island and on the coast of Norway and Kola. The third stock is found in the Baltic.

Bonner (1981) reviewed the status of the grey seal stocks and gave 120-124,000 as an estimate of the total world population. Mansfield & Beck (1977) estimated the Western Atlantic stock to 30,000 animals. Smith (1966) gave 5000 as an estimate of the Baltic stock, but Almkvist (1982) suggested that the stock had decreased to 1000-1500 seals. Accordingly most of the grey seals in the world are found in the Eastern Atlantic stock (about 90,000) and about 70,000 of them are found around the British Islands (Bonner, 1981).

The grey seal and the common seal, Phoca vitulina, are the only resident seals in Norwegian coastal waters. The grey seal seems to prefer the outlying skerries throughout the year, and even choose exposed islets and skerries for pupping late in the autumn, while the common seal prefer more sheltered areas.

Øynes (1964, 1966) recorded 660 grey seal pups along the coast from Møre to Finnmark in 1963, but no pup production in Southern Norway, although the grey seal is known to occur at several localities also on this part of the coast.

A study of coastal seals and their interactions with inshore fisheries along the Norwegian coast from Stad (about 62° N) to Lofoten (about 68° N) was initiated by the Institute of Marine Research in 1974, and has later been extended to cover also other parts of the coast. One result of this study is that new and more exact information on the distribution and numbers of grey seals along the Norwegian coast has been obtained, which are reviewed in the present paper.

METHODS

The number of seals have largely been estimated from aerial and ground surveys (Øritsland & Bjørge, 1982). To obtain a minimum estimate of pup production the number of observed pups were corrected in relation to the stage of the breeding season. Corresponding estimates of one year and older seals was obtained by multiplying the minimum production by the factor 3.7 as applied by Mansfield & Beck (1977) to Canadian stocks of grey seals.

REGIONAL DISTRIBUTION

Swedish border to Rogaland

Grey seals are not known to breed between the Swedish border and Rogaland, but individual seals have occasionally been recorded (e.g. Øynes, 1964). Bjørge et al. (1983) observed one young specimen and one adult male at Hvaler near the Swedish border in 1983.

It seems reasonable to relate grey seals at Hvaler to those found further south in the Kattegat. According to Heide-Jørgensen (1980) there is at present a stock of approximately 25 grey seals, mainly males, in the Kattegat. These seals have generally been believed to originate from the Eastern Atlantic stock (e.g. Almkvist, 1978) as indicated by recaptures in this area of specimens marked in the British Islands (Hewer, 1974) and records of attempted breeding on the Swedish west coast in October in 1966, 1967 and 1968 (Dietz & Heide-Jørgensen, 1982). However, the finding of a dead newborn female grey seal pup on the island of Anholt in April 1982 suggests that some of the grey seals in the Kattegat may originate from the Baltic stock.

Rogaland

The grey seal have been hunted in Rogaland for thousands of years. Archaeological excavations at "Vistehållå", a cave on the coast west of Stavanger, have disclosed more than 200 bone remains from grey seals (Olsen, 1976). The grey seal must have been a very important resource for the settlement there. Pig (Sus scrofa) (49.5%) is the only species which has more abundant remains than the grey seal (13.0%). Only two other archaeological sites have grey seal remains of this abundance in Norway. Both are situated in Nordland county (see below). According to Døgerbøl (1951) there is no doubt that grey seals at that time bred in the neighbourhood of "Vistehållå".

According to Øynes (1964) a few pups are born at Kjør, a group of skerries southwest of Viste, each year. Aerial surveys were performed on 7 November 1981 and 11 October and 7 November 1982 in search for grey seal pups in Rogaland, but with negative results (Øritsland, pers med.). During a survey by boat in May/June 1982 111 grey seals were recorded in Rogaland, 36 of these around Utsira and 60 around Kjør (Bjørge et al. 1982). At another survey on 1 March 1983 60 moulting grey seals were seen at Kjør.

Recently new information on the breeding of grey seal in Rogaland has appeared. One pup (about 40 Kg) with ventral remnants of foetal hair was found several hundred meters from the shore on an island near Kvitsøy northwest of Stavanger, on 2 January 1985. At the same locality a white pup with its mother had been observed (and photographed) in November/-December 1983 (Reinertsen, in lit.). At Kjør one white pup was observed on 13 November 1984. The same day two adult females

with foetuses were shot. There is no doubt therefore that the grey seal actually does breed in Rogaland. The recorded observations suggest that the breeding period in Rogaland lasts from mid-November to December, which is later than than suggested by Øynes (1964) and Bjørge et al. (1982).

The stock of grey seals in Rogaland was provisionally estimated to be 120 specimens in 1983 (Øritsland, 1983). In relation to such a number there are remarkably few records of breeding in the area. Because of many recoveries of young animals marked in the United Kingdom, it has been suggested that the Rogaland stock may be partly recruited from Britain (e.g. Hickling et al., 1962; Øritsland, 1983). However, only three specimens in a total of 60 recaptures in the period 1951-1980 have been older than one year (Bjørge, unpubl.). The recaptured seals had been marked on North Rona, the Orkenays and the Farne Islands.

Hordaland and Sogn og Fjordane

Grey seals are frequently observed along the coasts of Hordaland and Sogn og Fjordane, but breeding has never been recorded. Seals marked at Shetland, North Rona, the Orkenays and the Farne Islands have been recaptured in this area, mostly during their first year.

Møre og Romsdal

Also in this county the abundance of grey seals is low. According to Øynes (1964) the only permanent breeding site is found at Orskjæra, north of Hustavika, where 6-8 pairs are breeding. Breeding at this locality has not been recorded in recent years, but adult seals have been observed in the area in the breeding season (Benjaminsen et al. 1978) as well as during the summer (Benjaminsen, 1979; Bjørge, 1980).

Sør-Trøndelag

The highest abundance of grey seals in Norway is found in Sør-Trøndelag county and the largest colony is found at Froan, which is now protected as a nature reserve. According to Collet (1881) about 5-600 seals were found here in the 1870's, but 30 years later the number had decreased to about 200 probably because of heavy hunting (Collet, 1912). A further reduction seems to have occurred and Gislevoid (1955) reported the number to be approximately 60. Since 1953 grey seals have been protected throughout the county, and this has led to an increase in numbers. Øynes (1964) estimated pup production at Froan to be about 300, a number also found by Frøngen & Røv (1975). In 1979, 185 pups were observed at Froan and 228 in the whole county (Øritsland & Bjørge, 1982) and the minimum stock of grey seals in Sør-Trøndelag was estimated to about be 1400. At Froan most of the pups are born between 8 and 15 October.

Nord-Trøndelag

Øynes (1964) estimated the breeding stock of grey seals in this county to be at least 120 pairs. In 1979 20 pups were counted in the area in the middle of October. However, the number of pups born was probably underestimated because of illegal hunting of pups at one locality before the census. Minimum pup production was therefore estimated to 49 and the corresponding minimum stock in 1979 to 230 grey seals (Øritsland & Bjørge, 1982).

Nordland

From Nordland several pieces of evidences exist which show that grey seal were hunted here up to 5000 years ago. At the archaeological site "Kirkehelleren", a cave on the island Sande in Trøna, 2402 (18.3%) out of 13.000 mammal remains excavated were from grey seals. This is the richest subfossil material of grey seals in Norway. The site has been dated back to the period between Mesolithicum and the Iron Age. The mesolithic sites "Storbåthelleren" at Flakstadøy in Lofoten also contain many bone remains from grey seals.

Øynes (1964) estimated the breeding population of female grey seals in Nordland to 126. Based on censuses in 1975, 1976 and 1978 Øritsland and Bjørge (1982) estimated the minimum pup production to 183 in this county and the corresponding minimum stock to 860 seals. Concentrations of grey seals are found around Vega, Floholmene, Valvær and between Røst and Lofotodden. The pups are born from mid-October to mid-November (Benjaminsen et al., 1976, 1977, 1978).

Troms

Øynes (1964) did not verify any pup production of grey seals in Troms, and no new survey has been carried out. However, new information indicates that breeding does take place at a few localities in Troms county.

Finnmark

Øynes (1964) reported on two known colonies of grey seals in Finnmark and estimated the number of breeding females to three. Recent surveys have yielded new information on the grey seals in this county. On several occasions pups have been observed on the coast from Sørøya to Vardø (Bergflødt et al., 1985; Wiig, in prep.). During the first half of November 1982, seven pups were found at Store and Lille Kamøy near Sørøya (Øritsland, 1982). The time of breeding seems to be later in the eastern part of the county. According to Bergflødt et al. (1985) grey seals between Tana and Grense-Jakobselv seem to breed in December. During an aerial survey in April 1984 approximately 275 Grey seals were observed along the same coastline (Øien, 1984). The largest aggregation was seen at Revsholmen, north of Hammerfest, where 125 grey seals were counted. Bjørge (unpubl.) estimated the number of grey seals in Finnmark in 1983 to be 400.

DISCUSSION

No other phocid shows such a wide range in the timing of the breeding season as does the grey seal (Bonner, 1981). In Britain the peak pupping time differ around the coast, from the end of September in Wales (range over September and October) (Anderson, 1977) to mid-November at the Farne Islands (range mid-October to mid-December) (Hickling, 1962). A variation in breeding season is also found in Norway, but there is no cline along the coast as may seem to be the case in Britain. In Norway the breeding season in Rogaland and in Finnmark east of North Cape seems to be later than on the rest of the coast. The closely corresponding breeding seasons in Rogaland and on the Farne Islands suggest a close contact between these two stocks, and this is also indicated by several recaptures on the coast of Rogaland of seals marked at the Farnes. The late breeding season in eastern Finnmark is more puzzling, however, as the breeding season further east on the Murman coast is earlier, mostly in November (Karpovich et al. 1968). This apparent difference may, however, merely reflect the scarcity of records of grey seal pups east of North Cape.

The abundance of coastal seals in Norway has increased since 1973, when all seals were protected throughout the year in southern Norway and protected from 1 May to 30 November north of 62° N (Royal Decree of 13 April 1973) (Bjørge et al., 1981). In Sør Trøndelag, however, which has the highest abundance of grey seals in Norway, a local protection has been in force since 1953. In this area some colonies have increased at a rate of 13% per year, while the average rate was approximately 3% (Øritsland & Bjørge, 1982).

The increase in numbers of coastal seals has caused considerable difficulties for inshore fisheries. The most serious and widely distributed problem is the spreading of codworm infestation in fish, particularly in cod. In an attempt to halt the increase of seal numbers, a tentative management program was prepared in 1980 for the five-year period 1980-1984. The program which has now been terminated, implied a total cull of 1220 grey seals at selected localities between Froan and Lofoten through the five-year period. This goal has not been achieved, however, and only about 720 grey seals have been reported killed.

Surveys through the years from 1974 indicate a minimum total stock of 3500 grey seals on the coast of Norway. The surveys were not complete, however, and a figure of about 7000 is probably more realistic for the Norwegian stock (Bjørge, unpubl.).

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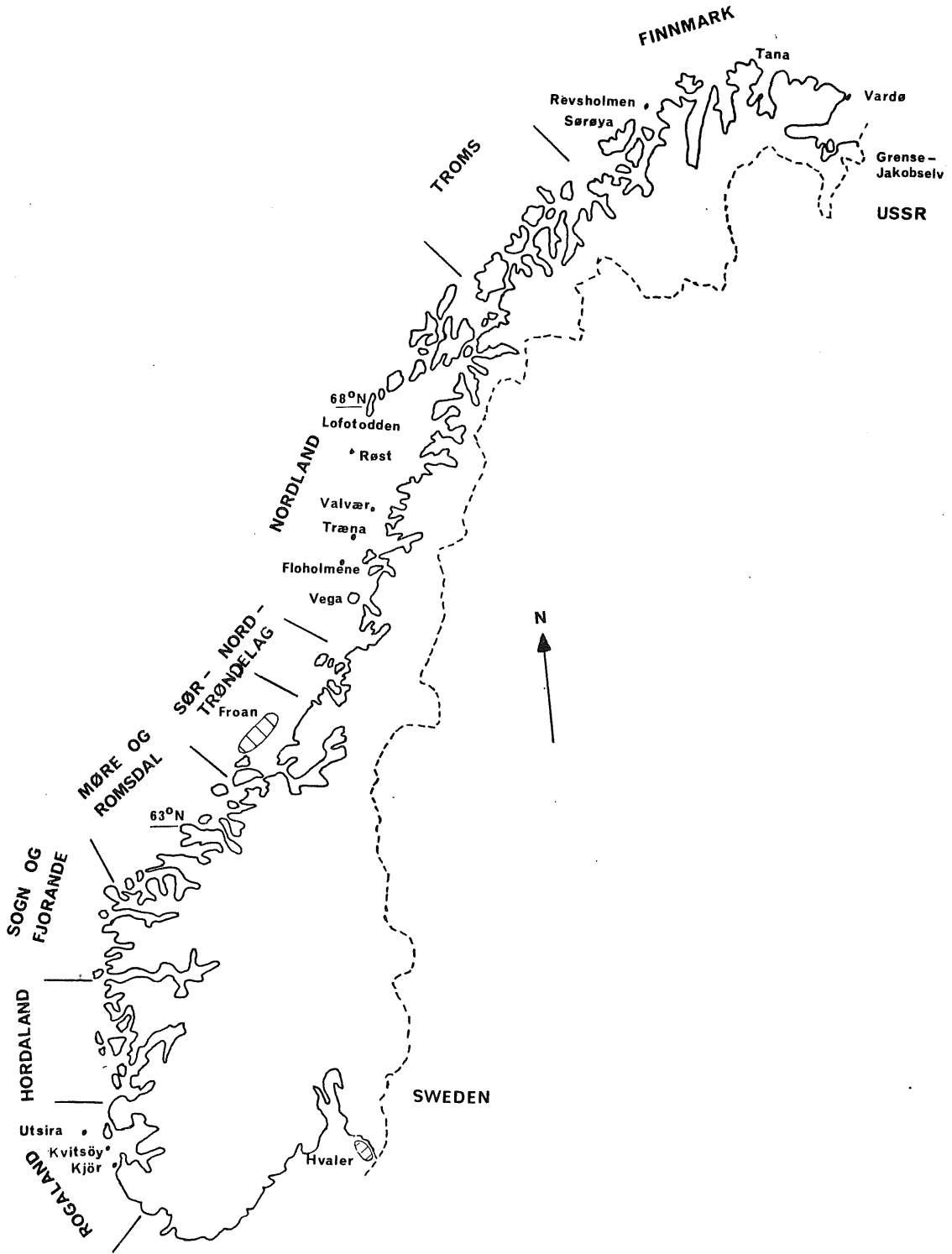


Figure 1. Grey seal localities in Norway (see text).