

A review of feeding and reproduction in large baleen whales (Mysticeti) and Sperm whales *Physeter macrocephalus* in Norwegian and adjacent waters

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A review of the feeding and reproduction of Greenland right *Balaena mysticetus*, Blue *Balaenoptera musculus*, Fin *Balaenoptera physalus*, Sei *Balaenoptera borealis*, Humpback *Megaptera novaeangliae* and Sperm whales *Physeter macrocephalus* in Norwegian and adjacent waters is presented. The available information indicates that Greenland right whales and Blue and Sei whales, which are still at low abundances, rely on pelagic crustaceans as their preferred food. Fin and Humpback whales, which are much more numerous, have a broader diet also including Capelin *Mallotus villosus* and Herring *Clupea harengus*. The Sperm whale, which is quite numerous along the continental slope, eats mostly cephalopods and bottom fishes. Data on reproduction are sparse, but indicate that the female reproductive cycle spans at least two years for the large baleen whales, with gestation periods around one year. However, since both reproductive and feeding patterns of whales are likely to change with time, historical information should be supplemented with new investigations, with special emphasis on the ecological contexts.

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INTRODUCTION

Sightings surveys of cetaceans, conducted in Norwegian and adjacent waters during summer in the years 1987—1989, have revealed that up to 10,000 of the large baleen whales (Mysticeti) and Sperm whales *Physeter macrocephalus* may occur in these areas during parts of the year (Christensen et al. 1992). While Sperm whales may number several thousands, the Fin whale *Balaenoptera physalus* and the Humpback whale *Megaptera novaeangliae* are the two most numerous large baleen whale species with respectively 2—2,500 and 1,000 animals being estimated. The abundance of the Greenland right whale *Balaena mysticetus*, the Blue whale *Balaenoptera musculus* and the Sei whale *Balaenoptera borealis*, all once common in Norwegian waters, is at present very low.

All the large whales are migratory animals. The large productivity of the high northern latitudes (including Norwegian and adjacent waters) during summer explains the presence

there of large baleen whales which feed in these areas (Jonsgård 1966a, Christensen et al. 1992). During autumn and winter most of these whales migrate southwards to warmer waters of the North Atlantic where breeding usually takes place and where feeding is thought to be minimal. Sperm whales exhibit different migratory patterns: While most of them, including virtually all the females and probably the immatures of both sexes, remain in tropical and subtropical waters throughout the year, many sexually mature males become solitary and migrate towards high latitudes (including the Norwegian Sea) during summer (Caldwell et al. 1966, Best 1974, 1979, Christensen et al. 1992,). Apparently, thus, the main reason for all large whales to visit Norwegian and adjacent waters during summer is to feed and build up energy reserves on which they can rely during their winter stay in southern and less productive areas.

Recent years developments have confirmed an increased intention of the International Council for the Exploration of the Sea

(ICES) to account for multispecies interactions when giving management advice about marine resources, and multispecies models suggested to be of help in future management are being developed, e.g. the model MULTSPEC for the Barents Sea (see Bogstad & Tjelmeland 1990). Between the late 1960s and today, substantial changes have occurred in marine ecosystems in Norwegian waters, including particularly the stock collapses of the two major pelagic shoaling species Atlantic Scandian Herring *Clupea harengus* and Barents Sea Capelin *Mallotus villosus* (Anon. 1992). This has actualized analyses of the feeding ecology of the most numerous top predators in the area, including Cod *Gadus morhua* (Mehl 1989, Mehl & Sunnanå 1991), sea birds (Erikstad 1990, Erikstad et al. 1990) and Harp seals *Phoca groenlandica* (Haug et al. 1991, Nilssen et al. 1991). An important aim of such studies is to provide the necessary data for the work with multispecies models.

Recent attempts to analyse multispecies interactions and ecosystem functions along the Norwegian coast and in the Barents Sea have highlighted obvious gaps and deficiencies in both data and knowledge, and this applies in particular to marine mammals (Bax et al. 1991). For this reason, ecological studies are currently carried out of the most numerous whale species in the area, the Minke whale *Balaenoptera acutorostrata*, based on stomach analyses of whales killed for scientific purposes (Haug et al. 1992). Although the large whales are evidently numerous enough to have some impact on the ecosystems in Norwegian and adjacent waters, scientific whaling on them for ecological studies is hardly feasible given the present controversies connected with all whaling operations. From earlier whaling activities in Norway there is, however, some information which certainly would be of value when discussing the possible ecological role of large whales. The aim of this paper is to review existing information on large whale feeding in Norwegian and adjacent waters. Such information will also given a better understanding of which environmental processes reduce feeding opportunities and may cause increased mortality and reduced fecundity, and of possible inter- and intraspecific competition among the large whales and between the large whales and other top predators such as Minke whales and Harp seals. Also, such in-

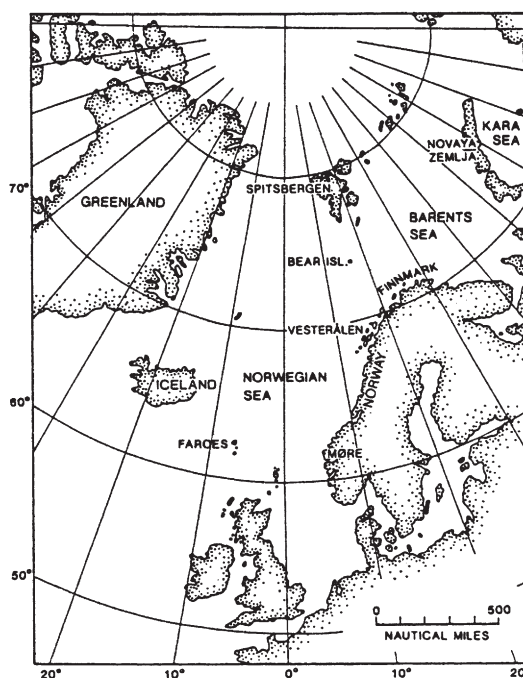


Fig. 1. Northeast Atlantic localities mentioned in the text.

formation is a precondition for the applicability of non-lethal methods which have been used to determine predation patterns in some whale species (e.g., by combined studies of potential prey availability and whale abundance, see Murison & Gaskin 1989, Mayo & Marx 1990, Payne et al. 1986, 1990). Since the reproductive capacity of the stocks is of vital importance when their future ecological importance and inter- and intraspecific competition are to be discussed, also a review of their known reproductive biology in Norwegian waters is included.

GREENLAND RIGHT WHALE *BALAENA MYSTICETUS*

Feeding

Greenland right whales in Norwegian waters belong to the East Greenland-Spitsbergen stock. This stock was very heavily exploited during the period from 1611 to the beginning of the present century, and it is generally recognized that the stock must now be very

close to extinction (Ruud 1937, Reeves 1980, Jonsgård 1981, 1982, McQuaid 1986, Christensen et al. 1992). During summer feeding, the stock appears to have been dispersed along (and to a certain degree within) the drift- and pack-ice belt between Greenland and Spitsbergen (Fig. 1) (Reeves 1980). Reeves (loc. cit.) also discussed observations of Greenland right whales in the northern Barents Sea between Spitsbergen and Novaya Zemlya, and suggested that these might either be stragglers from the East Greenland — Spitsbergen stock, or come from a separate Barents and Kara Sea stock.

The Greenland right whale feeds exclusively upon planktonic crustaceans. In the western Arctic, euphausiids dominate the diet, whereas copepods and, to a certain extent, hyperiid amphipods are also eaten (for review, see Braham 1984). Available information on feeding of the East Greenland — Spitsbergen stock is extremely sparse, although it has been suggested from more or less fragmentary reports that euphausiids were the most important food items here also (see Ruud 1937).

Reproduction

No reliable data concerning the reproductive biology of Greenland right whales from Norwegian and adjacent waters seem to be available (see Ruud 1937). Observations made further west in the western Arctic (Eschricht & Reinhardt 1866, Braham 1984, Nerini et al. 1984) suggest that Greenland right whales in that area mature at average lengths of 13–14 m. Mating activities occur primarily in March, with a gestation period of at least 13 months. The pregnancy rate is estimated to be 0.15–0.33, indicating a female reproductive cycle of 3–6 years. Whether these results are applicable to the East Greenland — Spitsbergen stock is not known.

BLUE WHALE *BALAENOPTERA MUSCULUS*

Feeding

The Blue whale is known to be a pure plankton feeder, pursuing the large shoals of euphausiids which bloom at high latitudes during summer (Gambell 1979, Yochem & Leat-

herwood 1985). At the start of modern whaling in Finnmark, North Norway (Fig. 1), in the 1860s, it was believed that Blue whales (as well as other rorqual species) ate fish as their main food, and this caused several controversies between whalers and fishermen. However, based upon the results of stomach analyses, Sars (1875) concluded that Blue whales, captured in Norwegian waters, fed exclusively on euphausiids, in particular the small krill species *Thysanoessa inermis*.

According to Ingebrigtsen (1929), Blue whales arrived from areas north of Iceland to the Spitsbergen and Bear Island banks in May, and then moved southeastward to the coast of Finnmark, North Norway (Fig. 1). They remained in North Norway and fed upon krill which is particularly abundant during June–August in these areas (see also Hjort & Ruud 1929). Some Blue whales might migrate eastward into the Barents Sea, possibly to spend the summer there feeding on euphausiids (Jonsgård 1955). Jonsgård (loc. cit.) also emphasized that year to year variations in distribution and abundance of Blue whales were most probably caused by variations in the occurrence of krill. This view was supported by Evans (1980) who suggested that Blue whales may move in and out of feeding grounds in response to plankton fronts along the edge of the continental shelf.

If it is clear that most Blue whale stocks in the North Atlantic were heavily depleted during the last quarter of the 19th and the first half of the 20th century (Jonsgård 1955). Thus, the present abundance of Blue whales is very low in Norwegian and adjacent waters where only insignificant numbers of the species have been observed along the coast of Finnmark and on the banks to the west of Bear Island and Spitsbergen during summer (Jonsgård 1955, Christensen 1980, Christensen et al. 1992). This calls into question whether Ingebrigtsen's (1929) description of the patterns of feeding migrations of the species still holds true.

Reproduction

No systematic collection of material for studies of Blue whale reproduction biology appears to have been carried out in Norwegian and adjacent waters (Risting 1928, Yochem & Leatherwood 1985).

FIN WHALE *BALAENOPTERA* *PHYSALUS*

Feeding

Although the stock identity of North Atlantic Fin whales is by no means resolved, there are at least two stocks as presently defined (IWC 1988) which are of relevance to Norwegian and adjacent waters. Those are the North Norway stock, and the West Norway — Faroe Islands stock which at present together probably comprise somewhere between 2,000 and 2,500 individuals (see Christensen et al. 1992). It has been suggested that Fin whales may be more irregular with regard to their general movements than other baleen whales in the North Atlantic. This could be due to the feeding habits of the Fin whale, which is not exclusively plankton consuming, but also a predator upon shoaling pelagic fish species (see Jonsgård 1966a, b).

Up to the turn of this century, the main food of the Fin whales off Norway was assumed to be fish. During the pioneer period of modern whaling in North Norway, it was well known that the occurrence of Fin whales along the coast of Finnmark in spring coincided with the occurrence of large shoals of spawning Capelin (Collett 1877, Sars 1881, Ingebrigtsen 1929). Furthermore, it was believed that the Herring was of particular importance for the West Norway — Faroe stock of Fin whales since these whales approached the Norwegian coast in the Møre area (Fig. 1) in association with the appearance of Herring by the end of January (Sars 1881, Collett 1912, Ingebrigtsen 1929). These associations of Fin whales with Capelin in North Norway, and with Herring in western Norway lead to the local names «Capelin whale» and «Herring whale», respectively (Sars 1881). During the land-based whaling operations in Finnmark in the last decades of the 19th century it was acknowledged, however, that pelagic crustaceans were also important food items for Fin whales in this area, particularly in summer (Collett 1912). Similar findings are reported from the Møre area by Hjort and Ruud (1929) and Ingebrigtsen (1929).

From quantitative analyses of stomach contents from Fin whales landed at Norwegian whaling stations in 1952 and 1953, Jonsgård (1966b) concluded that euphausiid crustaceans, in particular *Meganyctiphanes norvegica* and, to a lesser extent, *T. inermis*, were in fact the predominant and most im-

portant food for the species in the area (found in 73% of the stomachs). Jonsgård (loc.cit.) also acknowledged the importance of fish (found in 10% of the stomachs) in the Fin whale diet, and emphasized the typical seasonal nature of the food intake of the species: in North Norway Capelin dominated the diet in spring, whereas the summer diet was comprised mainly of crustaceans (almost exclusively *M. norvegica*) and to much lesser extent Herring. This is in good agreement with previous observations that most Fin whales disappeared from the coast of Finnmark in April, the bulk of them presumably moving westward into the Norwegian Sea, while in June—August they were again found off Finnmark as well as in Bear Island and Spitsbergen waters (Fig. 1) preying mainly upon euphausiids (Ingebrigtsen 1929). In western Norway the crustacean diet was also dominated by *M. norvegica*, although considerable amounts of *T. inermis* and some copepods *Calanus finmarchicus* were also observed. Furthermore, fish appeared to play a much less important role in the diet of the Fin whales from this area, where Herring was the only species found. This is in agreement with previous studies of western Norway Fin whales in the 1920s by Hjort & Ruud (1929). They suggested that, in this area, Herring had importance only during the winter, usually found in the stomach samples together with the small euphausiid species *T. inermis*. In spring (April—May) Hjort & Ruud (loc.cit.) still found *T. inermis* to be important, but now in combination with the copepod *C. finmarchicus*, whereas the summer diet consisted exclusively of the large krill species *M. norvegica*. Capelin and Herring were the only fish species observed to be of some importance to Fin whales in Norwegian and adjacent waters (Jonsgård 1966b).

Reproduction

Fin whales in the North Atlantic never reach the lengths of their counterparts in the Southern Hemisphere (Jonsgård 1952). They also mature at shorter body lengths. Based on analyses of material collected at Norwegian land stations in 1951, Jonsgård (loc.cit.) proposed body length at sexual maturity of 61—62 feet for females, and 58 feet for males. In a more detailed reproduction study, based on a larger material collected at the Norwegian land stations in 1951—1961, Haug (1981) con-

cluded that Fin whale females caught off West Norway matured at a significantly shorter length (60 feet) than those taken off North Norway (61—62 feet), whereas males appeared to mature at an average length of 57—58 feet in both areas. No information about age is available.

By applying a method described by Laws (1959), Haug (1981) used observed foetal lengths, as recorded at Norwegian land stations in 1882—1926 and 1951—1961, to calculate the time of mating and parturition (which occurs after 11 1/4 months of pregnancy (Laws 1959, Harrison 1969)) for Fin whales in Norwegian waters. He concluded that, in both areas, these events might occur throughout the year except mid summer. The main reproductive period (when 60—80% of all matings and births took place) was from November to the end of March, with an average conception time around the end of January and the beginning of February. This was consistent with earlier suggestions made by Risting (1928).

Haug (1981) observed pregnancy rates of 52.3% and 40.3% for Fin whales caught off West Norway and North Norway, respectively. This suggests an average reproductive cycle of c. two years.

SEI WHALE *BALAENOPTERA BOREALIS*

Feeding

Like the Blue whale, the Sei whale also appears to be an exclusive plankton feeder. Upon inspection of stomach contents from Sei whales caught off Møre in the 1920's, Hjort & Ruud (1929) concluded that the species fed almost exclusively upon crustacean copepods of the genus *Calanus*. As also mentioned by Ingebrigtsen (1929), euphausiids might occur in the Sei whale diet from time to time. Collett (1886) also reports that the krill species *T. inermis* was sometimes found in the stomachs of Sei whales caught off Finnmark.

Later examinations of stomach contents from Sei whales caught off Møre in 1952 and 1953 have also shown the predominance of calanoid copepods in the diet of this species. Jonsgård & Darling (1977) observed only this food item in 48% of the stomachs examined, whereas about 10% of the whales had eaten euphausiids and about 8% a mixture of these mentioned crustacean groups. The

euphausiid species found in these studies were *M. norvegica* and several species of the genus *Thysanoessa*, while the only copepod species observed was *C. finmarchicus*. Jonsgård & Darling (loc.cit.) observed that only calanoids were found in April and May, whereas euphausiids started to appear in the diet later in the summer. From July on, many stomachs were empty.

The yearly abundance of Sei whales in Norwegian waters, in particular along the coast of North Norway, seems to have been characterized by sudden appearances and disappearances. Ingebrigtsen (1969) suggests that such irregularities might be due to variations in the occurrence of their main food, in particular the *C. finmarchicus*. Thus, if the Sei whales found enough of their favourite prey off Møre (Fig. 1), they might remain there throughout the whole summer (i.e., until the beginning of September). In years with unfavourable food conditions in these areas, the animals might proceed further northward to the coast of Finnmark, appearing in July and staying until the end of August. After 1960, very few Sei whales have been observed in Norwegian waters, and their present numbers in these areas are probably very low (Jonsgård 1974, Christensen et al. 1992).

Reproduction

From analyses of material collected at land stations on the coast of western Norway during the period 1951—1957, Jonsgård & Darling (1977) concluded that male and female Sei whales inhabiting these waters during summer attained sexual maturity at average lengths of 42 and 44 feet, respectively. Unfortunately, no age data are available.

The gestation period of the sei whale lasts from 11 to 12 months (see Harrison 1969). During the first period of modern whaling off the Finnmark coast, it was generally thought that Sei whales did not have a very definite mating time, with mating extending over a long period in winter (Risting 1922). Risting (1928) revised this theory, based upon analyses of an accumulated number (95) of length measurements of fetuses from Sei whale females caught in the northeastern Atlantic (mainly off the coast of Møre) during the period 1885—1926. In fact, the lengths of the fetuses showed an exceptionally regular increase throughout the season, indicating

that the Sei whale has a breeding season more restricted in time than both Blue and Fin whales. Risting (1928) calculated that 64% of the measured foetuses must have been conceived between 25 November and 10 March, and that 55% had been conceived between 26 November and 12 February.

Reported observations from early Sei whale investigations on the coast of Norway indicated that a considerable number of mature females mated immediately after giving birth, i.e., on average a reproductive cycle of less than two years (see Collett 1886, Ingebrigtsen 1929). In later studies, however, Jonsgård & Darling (1977) observed that only approximately half of the mature females captured off Møre in the 1950s were pregnant. This would imply a two year reproductive cycle which is similar to observations made of Sei whale females captured further west in the North Atlantic, in Icelandic waters, during the period 1967—1975 (Lockyer 1978).

HUMPBACK WHALE MEGAPTERA NOVAEANGLIAE

Feeding

During the pioneer period of modern land-based whaling in Finnmark, North Norway, in the last decades of the 19th century it was well known that Humpback whales fed upon Capelin which they followed towards the coast in winter and early spring (Sars 1881). Upon examination of a Humpback captured off Finnmark in July 1879, Sars (loc.cit.) observed that the stomach contents solely comprised the euphausiid species *T. inermis*.

The mixed diet of fish and euphausiids for the northeast Atlantic Humpbacks has later been confirmed by Ingebrigtsen (1929), and it is also reported to be typical for Humpbacks in other areas (Winn & Reichley 1985). Ingebrigtsen (1929) suggested that Humpbacks in the northeast Atlantic stay in their northern feeding areas during most of the year, migrating out only during a short period in winter/spring for breeding purposes. In Norwegian waters, Humpbacks captured off Finnmark at the beginning of their southwestwards breeding migration (January/February) were often reported to have empty stomachs, whereas those taken in March/April had fed on Capelin from time to time (Ingebrigtsen 1929). Upon return to the

Bear Island areas in May, somewhat later also along the coast of Finnmark, the Humpbacks might stay for several weeks feeding upon the masses of euphausiids occurring in these areas in early summer (Hjort 1902, Ingebrigtsen 1929). When the euphausiids disappeared in the Bear Island and Finnmark area (by the end of August, according to Ingebrigtsen 1929) the Humpbacks presumably proceeded eastward into the Barents Sea to pursue the shoals of Capelin during the rest of the autumn and in early winter. Upon arrival at the coast of Finnmark on their westward breeding migration in January/February, the Humpbacks were generally fat and in very good condition (Ingebrigtsen 1929).

The occurrence of Humpback whales in the Arctic regions during the whole winter in the Northeast Atlantic differs from observations in other Arctic and Antarctic regions, and may be attributable to the high abundance of Capelin in the Barents Sea (Jonsgård 1966a). The present abundance of Humpbacks in Norwegian and adjacent waters is probably around 1,000 individuals (Christensen et al. 1992).

Reproduction

Very little systematic collection of material for studies of Humpback whale reproductive biology appears to have been carried out in Norwegian and adjacent waters. Nevertheless, some valuable observations have been made. Both Collett (1912) and Ingebrigtsen (1929) observed that the majority of adult females captured on their southwestward migration in winter were pregnant with large (12—14 feet) foetuses. Upon arrival in Bear Island waters in May and later, some adult females were accompanied by calves, and those not accompanied by calves carried small foetuses in the uterus (Ingebrigtsen 1929). It thus seems that the breeding season is in winter and early spring, and that the sexual cycle must be longer than one year. The latter conclusion is supported by observations from other areas where it has been observed that breeding usually occurs once every two or three years but may take place twice every three years (Winn & Reichley 1985, Clapham & Mayo 1987). Ingebrigtsen (1929) suggested that female Humpbacks must attain a length of at least 45 feet before they are sexually mature.

SPERM WHALES *PHYSETER MACROCEPHALUS*

Feeding

Sperm whales in Norwegian waters are known to occur most frequently in the deep waters along the continental slope. In previous years of whaling, the best Sperm whale catches were made in the slope waters off Møre and off Vesterålen (Fig. 1) (Øynes 1957). Results from recent sightings surveys seem to indicate a summering population of Sperm whale males in the Norwegian Sea of a few thousand animals (Christensen et al. 1992).

In general, the staple food of Sperm whales is cephalopods, with deep water fish as a subsidiary item of the diet (Clarke 1956, Caldwell et al. 1966, Martin & Clarke 1986). Systematic collections of information on the particular food of Sperm whales in Norwegian waters have not been carried out, although Øynes (1957) reports that the general impression during the land-based whaling in the area was that cephalopods, in particular individuals of the genus *Gonatus*, were important prey items here. Øynes (loc.cit.) also reports the quite frequent occurrence of several fish species (e.g., the Lump sucker *Cyclopterus lumpus*) in these Sperm whale stomachs. The importance of fish in the Sperm whale diet in Norwegian waters is also supported by Christensen (1980) who observed that Sperm whales tagged off North Norway in 1978 were feeding on redfish (*Sebastes* sp.).

Reproduction

Due to the peculiar social organization of the Sperm whales resulting in the presence of only mature males at high latitudes (Caldwell et al. 1966, Best 1974, 1978), no reproductive activity takes place in Norwegian and adjacent waters. Sperm whale males are polygamous, and the fact that not all mature males (in fact less than 25%) take part in the reproductive activities is thought to contribute significantly to their segregation to higher latitudes, although some of the active harem bulls may also segregate to higher latitudes after the exhaustions of the breeding season in spring (Best 1974, 1979). Better feeding conditions in the polar regions may then facilitate the build-up of sufficient energy reserves to make them fit for harem defense and breeding in subsequent years (see Martin 1980).

CONCLUSIONS

The recent sightings surveys have revealed that up to 10,000 of the large baleen whales and sperm whales may reside in Norwegian waters during summer (Christensen et al. 1992). Our intention has been to provide information that could contribute to a better understanding of the possible ecological significance of this number of whales in Norwegian and adjacent waters.

The reviewed biological data collected through previous catch operations have shown that the sperm whales and the most numerous baleen whales (Fin whales and Humpback whales) are quite euryphagous with fish being important constituents of the menu (Herring and Capelin for the Fin and Humpback whales, bottom fishes for the Sperm whale, Table 1). For Fin and Humpback whales also pelagic crustaceans are very important food items. Greenland right whales, Blue whales and Sei whales, all once common in Norwegian and adjacent waters but still at very low stock levels following the intensive hunt in previous years, seem to be of a much more stenophagous nature with pelagic crustaceans as their only preferred food.

Available information on reproduction (Table 1) indicates that the fecundity in large whale species is lower than in the smaller Minke whales which apparently reproduce annually after the attainment of sexual maturity (see Jønsgård 1951).

It is important to note that both reproduction and feeding in whales are likely to change with time due to environmental and other extrinsic changes. Historical information may, therefore, not be applicable to the present day situation. This calls for new data which need not necessarily imply catch operations. Some problems could certainly be addressed using non-lethal methods which, in combination with historical data, may provide valuable results, also for management purposes. Such studies are currently being started on Humpback whales (see Beard et al. 1990) and could possibly also be applied to other species. One area of research which needs to be addressed is how large whales compete for resources, both with one another (within and between species) and with other numerous top predators such as Minke whales, Harp seals and some of the most common sea-birds.

Table 1. Summary of feeding and reproduction in large baleen and sperm whales from Norwegian and adjacent waters. Greenland right whale data are given by analogy with data from the western Arctic.

	Baleen whales					Sperm whales
	Greenland right	Blue	Fin	Sei	Humpback	
<i>Food groups</i>						
Copepods	X		X	X		
Amphipods	X					
Euphausiids	X	X	X	X	X	
Cephalopods						X
Capelin			X		X	
Herring			X			
Other fish spp.						X
<i>Reproduction</i>						
Pregnancy rate	0.15-0.333	?	0.52/040	?	?	-
Calving interval (years)	3-6	?	2	2	>1	-
Gestation (months)	13	?	11.25	111-12	?	
Length at maturity (feet)						
Females	43-45	?	60/61-62	44	>45	-
Males	43-45	?	57-58	42	?	?

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SAMMENDRAG

Føde og reproduksjon hos bardekval og spermkval i norske og tilgrensende farvann

Artikkelen er basert på historiske data, og gir en oversikt over tilgjengelig informasjon vedrørende ernæring og reproduksjon hos de store bardekvalartene grønlandskval, blåkval, finnkval, seikval og knølqual og hos tannkvalarten spermkval i norske og tilstøtende farvann. Det framgår at de nå svært sparsomt forekommende artene grønlandskval, blåkval og seikval utelukkende ernærer seg på pelagiske krepsdyr. Finnkval og knølqual er mer hyppig forekommende, og har en variert diett som i tillegg til pelagiske krepsdyr også inkluderer en betydelig mengde lodde og sild. Spermkvalen er vanlig forekommende langs eggakanten der den i all hovedsak ernærer seg av blekksprut og bunnfisk. Den svært begrensede informasjon som finnes tilgjengelig vedrørende forplantning

tyder på en reproduksjonssyklus på minst to år og en drektighetstid på rundt et år for hunner av alle de aktuelle bardekvalartene. Det er rimelig å anta at både næringsvalg og sider ved forplantingsbiologien vil kunne forandre seg med ytre miljøendringer over tid, så historiske data bør derfor suppleres med nye undersøkelser og observasjoner.

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