

## **SIGHTINGS OF MARINE MAMMALS AND OTHER ANIMALS RECORDED FROM OFFSHORE INSTALLATIONS IN THE NORTH SEA**

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### **1) INTRODUCTION**

The list of marine mammal species recorded by observers on offshore installations and supply vessels has increased over the past decade, from the eight species described in the North Sea Bird Club (NSBC) 10<sup>th</sup> Anniversary report in 1990 (Tasker 1990) to the 12 species currently described. These include both seals and cetaceans (whales, dolphins and porpoises). The increase in species is undoubtedly due to both a heightened awareness of marine mammals in UK waters, and a greater ability on the part of observers to detect, identify and record them.

Cetaceans in particular are notoriously difficult to identify at sea, even for experienced observers. Varying light and sea conditions may result in changes in the appearance of the animals in colour and behaviour. Viewing from the height of an oil or gas platform may restrict views to the dorsal surface of the animal, therefore obscuring the flank markings on dolphins. Viewing from height also presents difficulties in estimating the size of the animals.

The distribution of marine mammals in the North Sea is patchy, with some areas consistently holding higher numbers of both individuals and species. Both grey (*Halichoerus grypus*) and common (*Phoca vitulina*) seals have haul-out sites along the east coasts of Scotland and England, and densities of these animals may be expected to be higher in the vicinity of these areas at certain times of the year. However, both species may travel some distance on foraging trips, and their offshore distribution within the North Sea is poorly known. Cetaceans are generally much more abundant in the northern portion of the North Sea, with both numbers and species diversity decreasing towards the south. The northern area of the North Sea is adjacent to deep Atlantic waters along the continental shelf edge, and pelagic species may enter the North Sea in this region. The highly mobile nature of cetacean species means that their occurrence in an area is often unpredictable. This is particularly the case for pelagic species such as pilot whales (*Globicephala melas*) and Atlantic white-sided dolphins (*Lagenorhynchus acutus*), which may aggregate into large schools at certain times of the year when food resources allow. Other pelagic, deep-water species such as the sperm whale (*Physeter macrocephalus*) and the northern bottlenose whale (*Hyperoodon ampullatus*) occasionally stray into North Sea waters, and even Arctic and tropical water vagrants such as the beluga (*Delphinapterus leucas*) and false killer whale (*Pseudorca crassidens*) have been recorded in the region.

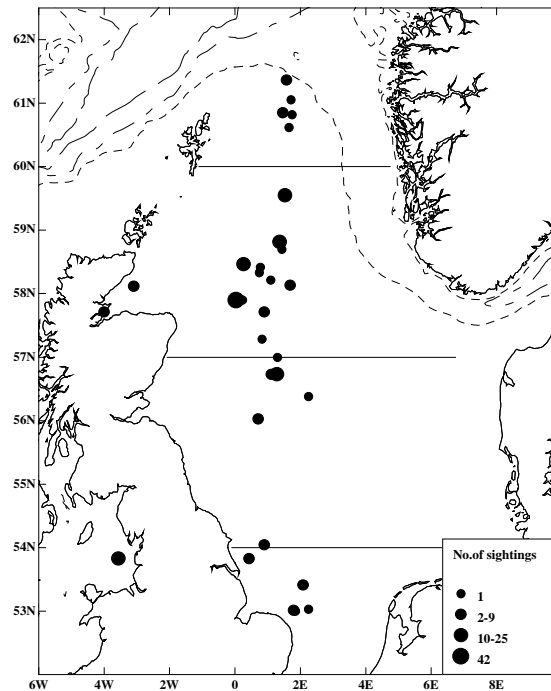
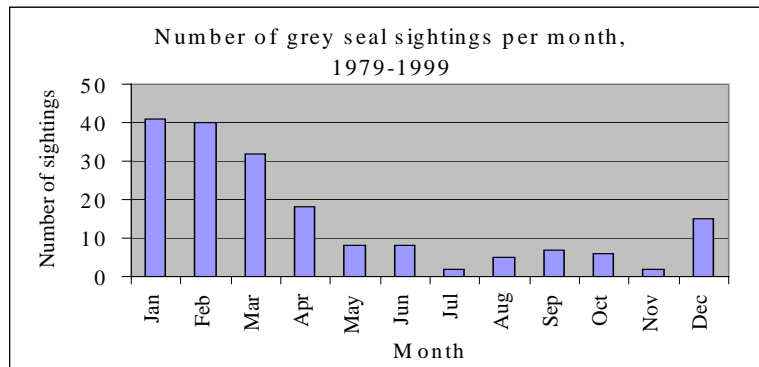
The records are presented here as a systematic list of seals and cetaceans. All records relate to observations made by observers on offshore installations in the North Sea, with the exception of a few records from the Morecambe platform in the Irish Sea. Unidentified animals have not been included in the report. There are few records for the period 1979 to 1983, and no records for the years 1984 to 1986. The sightings described here are therefore predominantly for the period 1987 to 1999.

## SEALS

### Grey seal *Halichoerus grypus*

A total of 184 sightings of 229 grey seals have been recorded by the NSBC. Most sightings have occurred as single animals, although groups of two to three are not uncommon. On 20 February 1999, ten grey seals were recorded in the vicinity of Beryl A. Grey seals were regularly observed bringing fish, particularly cod, to the surface to eat, and on occasion were noted to be feeding on conger eel, squid and wolf fish. Grey seals come ashore for the pupping period in the Northern Isles, the Dornoch Firth, the Isle of May, the Farne Islands, and Donna Nook between October and December, and also spend much time ashore during March when they moult. However, immature seals may be widely distributed across the North Sea at all times of year, and breeding adults can move large distances between haul-out areas. Records from the NSBC show that both immature and mature seals of both sexes have travelled some distance from the haul-out sites, being recorded throughout the year and predominantly from the central sector (Figure 1). There is a clear seasonal pattern to the sightings, with the majority occurring between December and April (Table 1). This may represent adults making foraging excursions offshore between the breeding and moulting periods.

**Table 1.** Seasonal occurrence of grey seal sightings at offshore installations

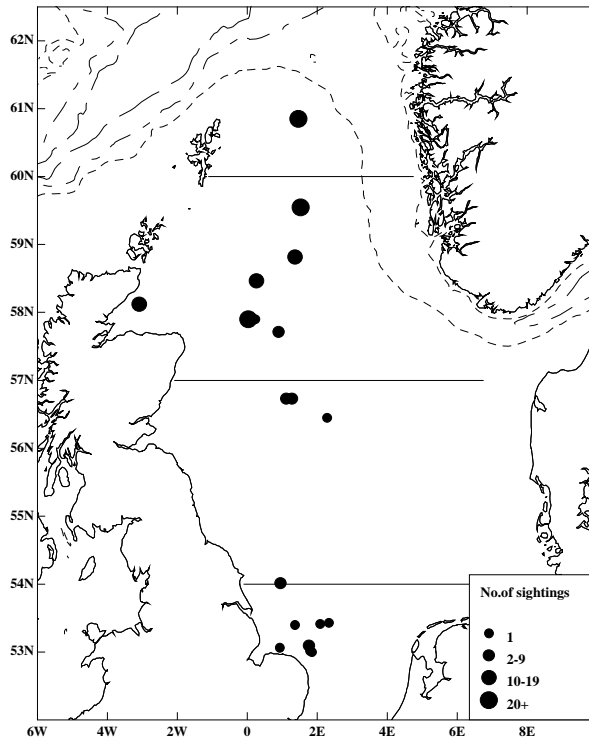
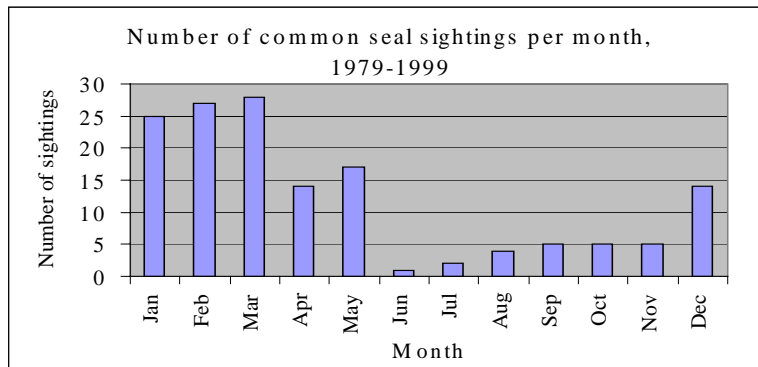


**Figure 1.** Sightings of grey seals from offshore installations  
*Bathymetry: dot (200 m isobath); dotteddash (500 m isobath); long dash (1,000 m isobath)*

**Common seal *Phoca vitulina***

A total of 147 sightings of 182 common seals have been recorded. Common seals were most often recorded as single animals or pairs, although as many as six animals were recorded in the vicinity of Claymore on 29 February 1990. On 20 occasions it was noted that seals were feeding on unidentified large fish, cod, starfish and cuttlefish, and animals were also observed resting and basking at the surface. Common seals come ashore to breed between May and July, at haul-out sites in the Northern Isles, the Firth of Tay, Donna Nook and the Wash (Northridge 1990). Moulting occurs during August. The sightings by the NSBC show very few seals in offshore waters over the breeding and moulting period, with most records coming from the winter and spring months between December and May (Table 2).

**Table 2.** Seasonal occurrence of common seal sightings at offshore installations



**Figure 2.** Sightings of common seals from offshore installations  
*Bathymetry: dot (200 m isobath); dotdash (500 m isobath); long dash (1,000 m isobath)*

Common seals show a similar pattern in occurrence of sightings to grey seals, although with more animals recorded in the region of the Wash in the southern sector (Figure 2), where the largest population of common seals in the UK is located.

## CETACEANS

### Fin whale *Balaenoptera physalus*

There have been two fin whales reported by the NSBC. One adult whale travelled past Drillstar in the Central North Sea on 15 July 1995. A second was reported from Thistle A in the northern sector on 24 June 1998. Fin whales are generally more typical of the deep waters to the north and west of Scotland rather than the North Sea, but small numbers are reported in the region annually (Evans 1990; Camphuysen & Winter 1995). They can be distinguished from the minke whale by their larger size (At approximately 23 m they are double the length of a minke whale) and their conspicuous blow, which is usually tall and straight.

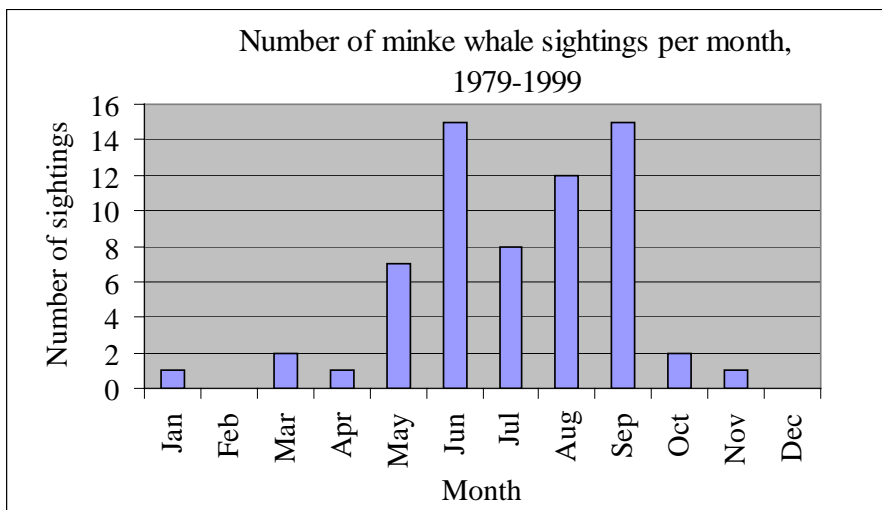
### Minke whale *Balaenoptera acutorostrata*

The minke whale is the most frequently recorded species of baleen whale in UK coastal waters, and is particularly common around the Western and Northern Isles, and in regions of the North Sea. There have been 64 sightings of minke whales from offshore installations.

Minke whales have been recorded in all sectors of the North Sea, but over half of the records have come from the central section, in particular from Beatrice in the outer Moray Firth. Seventeen records are from the southern sector, all except one being sighted from Rough. This distribution agrees with that of the JNCC's Seabirds at Sea Team (Northridge *et al.* 1997), who found that minke whales occur along the western portion of the North Sea between Flamborough Head and Orkney, and in the central and eastern North Sea. During 1998 and 1999, the majority of minke whales have been sighted from platforms in the eastern sector; it is likely that this reflects the distribution of observers rather than a change in distribution of the animals.

Almost all sightings (70%) were of single animals, but five were present at Beatrice A on 11 September 1990, 12 were sighted at Thistle A on 10 November 1984, and 30 were recorded from Ninian N on 20 September 1996.

**Table 3.** Seasonal occurrence of minke whale sightings at offshore installations



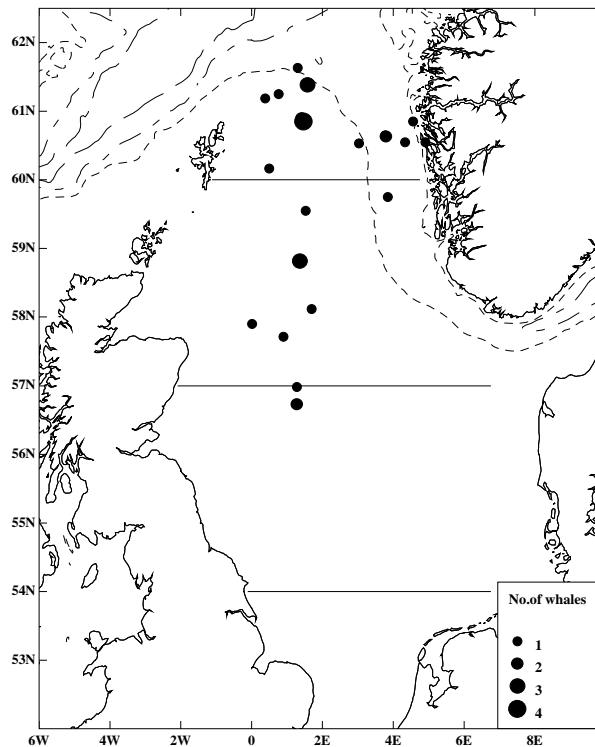
Around 90% of records occurred between May and September, with seasonal peaks in sightings during June and September (Table 3). Although the minke whale may be resident in areas of its range, it is generally considered a seasonal visitor to UK coastal waters with most sightings occurring over the summer months.

### Beaked whale sp.

A single unidentified species of beaked whale was found dead at Drillstar on 5 August 1994. The northern bottlenose whale, Cuvier's beaked whale *Ziphius cavirostris* and Sowerby's beaked whale *Mesoplodon bidens* have been reported in North Sea waters (Evans 1992), but are all generally associated with deep water off the shelf edge to the north and west of Scotland.

### Killer whale *Orcinus orca*

There have been 33 sightings (301 animals) of killer whales by the NSBC, and also one dead animal reported at Ninian C in November 1987. The most unusual record comes from Brae A, where a pod of 20 to 30 animals were sighted on 2 April 1988. A young killer whale from this pod remained in the vicinity of Brae A until 21 March 1989, associating with standby vessels and rescue craft. Killer whales show a distinctly northern distribution in the North Sea (Figure 3), with 22 of the 33 sightings being recorded in, or beyond, the northern sector. Of the remaining sightings, eight occurred in the central sector, and three in the eastern sector, with no killer whales recorded from the south.



**Figure 3.** Sightings of killer whales from offshore installations  
*Bathymetry: dot (200 m isobath); dotdash (500 m isobath); long dash (1,000 m isobath)*

The largest pod size was 50 animals observed from FFPV Trollness off Norway in March 1994. However, killer whales were usually sighted in pods of fewer than ten animals. A pod of 12 animals recorded by the Highland Pride in June 1997, appeared to be feeding on herring *Clupea harengus*. Killer whales were recorded in most months of the year, but sightings peaked in June and July.

### Long-finned pilot whale *Globicephala melas*

Pilot whales were one of the most frequently reported cetacean species from offshore installations, with a total of 61 sightings for the period 1981-1999. This is likely to be partially a result of their being relatively easy to identify and slow moving compared to other cetacean species. Over 50% (n=31) of pilot whale sightings occurred in the northern sector, with a further 18 in the central sector. Only one pilot whale was recorded in the southern sector, in June 1990.

Pod size also tended to be larger in the northern sector, with groups of 30+ not uncommon. Groups of 200 whales were sighted from Ninian N in November and December 1982, and 80-100 animals were recorded at Ninian C during November 1995. In the central, eastern and southern regions, most pilot whale sightings consisted of one to eight animals, although 50 were recorded from Buchan A on 11 September 1990.

Pilot whales were sighted during every month of the year, but with clear peaks in the number of sightings during June and July, and in October. However, pod size tended to be much larger in those pods sighted over the winter months of November and December. Three juvenile pilot whales were recorded amongst a pod of 13 animals in the northern sector on 1 November 1993, and a single calf was sighted with four adults from the Highland Pride in June 1998.

### **Atlantic white-sided dolphin *Lagenorhynchus acutus***

The Atlantic white-sided dolphin is the most numerous cetacean species recorded in the offshore waters north and west of Scotland (Pollock *et al.* 2000). It is also a very gregarious species, regularly sighted in large pods of 100+ animals. Although typical of deep waters along the continental shelf edge, this species regularly enters the North Sea over the summer months.

There have been 22 sightings of this species by the NSBC, with records occurring in the northern, central and eastern sectors, reflecting the northerly distribution of this species. Many of these sightings have been recorded in 1998 and 1999, perhaps suggesting a recent increase of this species in the North Sea. The majority of sightings occurred between April and October, with occasional records over the winter months. This is a very similar seasonal occurrence to that shown by pilot whales, with which white-sided dolphins are often associated in deep, offshore waters. It is a likely reflection of the movement of a shared prey species. White-sided dolphins were observed most often in groups of 15-150 animals, which may result from the aggregation of a number of smaller pods in an area when food resources are high. Immature dolphins were noted during two sightings, both in the eastern sector; four immatures in a pod of 20 dolphins on 12 June 1999, and eight juveniles in a pod of 34 animals on 5 August 1999.

### **White-beaked dolphin *Lagenorhynchus albirostris***

The white-beaked dolphin is the most common dolphin species on the Scottish continental shelf, and is generally sighted within the North Sea in small groups of three to four animals (Hammond *et al.* 1995). Larger groups have been reported on occasion in the North Sea. Surprisingly, there have only been about 16 sightings by the NSBC, mostly occurring in the central and eastern sectors. A single sighting of five animals was recorded in the southern sector during May 1990. White-beaked dolphins occur in the North Sea throughout the year, and while most records by the NSBC occur over the summer months, this is most likely a reflection of better weather conditions for detecting dolphins. Several sightings of this species report animals playing around vessels; white-beaked dolphins regularly approach the bow of vessels, where their distinct white saddle behind the dorsal fin can be easily seen and used for identification. Immature dolphins were reported on four occasions, all between June and September in the eastern and central sectors.

### **Bottlenose dolphin *Tursiops truncatus***

Within the North Sea, bottlenose dolphins occur year round in the Moray and Cromarty Firth regions, and are regularly sighted off the coastal waters of Aberdeenshire and the Firth of Forth. However their occurrence elsewhere in North Sea waters is sporadic. The majority of sightings (n=8) of bottlenose dolphins by the NSBC have occurred from Drillstar in the Moray Firth during March 1994. Groups of between 1 and 19 dolphins were seen over a week. Three sightings have occurred in the central and eastern sectors, including one sighting of 25 animals which accompanied a vessel for two hours in August 1991. A single bottlenose dolphin was reported from Morecambe in the Irish Sea during March 1995.

A further two sightings from the central sector, one of 200 dolphins during August 1992, and one involving 100 animals in August 1997, were thought to be bottlenose dolphins. However, with the exception of the coastal waters of the Moray Firth, the bottlenose dolphin must be considered scarce in the North Sea, and the latter two sightings of large groups of animals may refer to a different dolphin species.

### **Common dolphin *Delphinus delphis***

The common dolphin is generally associated with the warmer, deeper waters to the south and west of the UK, than the North Sea. Although regularly reported in the western approaches to the English Channel and along the west coast of Scotland, this species is generally much scarcer along the east coast of the UK. However, small pods of common dolphins have been recorded mostly in the northern sector (Evans, 1990), in the central North Sea (M. Tasker, pers. comm.) and around Shetland in recent years (Shetland Sea Mammal Group reports 1996, 1998, 1999).

Although the NSBC have reported common dolphins in the North Sea on 38 occasions, it seems likely that many of these may be a case of mistaken identification. Other surveys show both the Atlantic white-sided dolphin and the white-beaked dolphin to be much more frequently observed than the common dolphin in North Sea waters (Hammond et al. 1995; JNCC data), and it is likely that there has been some confusion between these species. The majority of NSBC common dolphin records are from July and August, and they have occurred in all North Sea sectors. In addition to the North Sea records, a single common dolphin has been recorded in successive years between 1992 and 1995 at Morecambe in the Irish Sea. All records relate to February and March. It is unclear whether these records relate to a single animal returning to the area in successive years, or to several different animals.



Short-beaked common dolphin (©Caroline Weir)

### **Harbour porpoise *Phocoena phocoena***

The harbour porpoise is the smallest cetacean species (approximately 1.5 m in length) found in UK waters and is therefore likely to be overlooked when recording from the height of an offshore installation. However, despite its small size and inconspicuous behaviour, the NSBC has recorded more porpoise sightings than for any other cetacean species. Harbour porpoises are generally sighted in small groups of between one and six animals, and occur throughout the North Sea. Although recorded from all North Sea sectors, the majority of sightings by the NSBC are from the southern sector, particularly around the Hewitt and Conoco LOGGS platforms. Apparent mother and calf pairs are regularly recorded in the southern sector. On occasion, large numbers of porpoises can occur in areas where a rich food supply accumulates. Counts of between 100 and 750 porpoises have been recorded by the NSBC on four occasions (two in central sector and two in southern). While it is possible that such large numbers of animals may in fact be a mistaken identity with a different species, such numbers of porpoises do occur when conditions are favourable.

Harbour porpoises were recorded throughout the year, but numbers and sightings peaked over the summer months between May and September.

### **OTHER OFFSHORE ANIMALS**

In addition to marine mammals, NSBC observers have recorded turtle and fish species from offshore installations. Both turtles and sharks may spend brief periods of time near the surface of the sea, where their shape, size and behaviour allow a positive identification to be made. Two small fish species are also described here, after being landed onboard vessels in the North Sea.

### **Leatherback turtle *Dermochelys coriacea***

Although four species of turtle have been recorded in Scottish waters, only one, the leatherback turtle, is regular in the region. The leatherback turtle is relatively common in waters to the south and west of the UK, but becomes scarcer further north. There have been several records in the coastal waters of the Shetland Islands in recent years (Harvey *et al.* 2000). Leatherback turtles can reach 2.5 metres in length, and can be identified from the series of 5-7 longitudinal ridges on the shell. There are two records of this species from the NSBC; one was seen from Troll A on 13 September 1995, and a second was recorded by the Seaway Falcon in the Northern sector on 31 August 1998. In addition, an unidentified turtle was observed from Thistle A in the Northern sector on 23 June 1998.

### **Basking shark *Cetorhinus maximus***

Basking sharks are found throughout the world's temperate oceans, and are the largest fish species recorded in UK waters, reaching lengths of 13.7 metres. They can be primarily distinguished from cetaceans by their slow movement at the surface, and the large, broad dorsal fin. The tail fin may also be visible. Basking sharks occur throughout UK waters, but are more abundant along the south-west coast of England, around the Isle of Man in the Irish Sea and along the west coast of Scotland. There have been four records of basking sharks from the NSBC. The largest record was of 20 sharks at Miller on 22 September 1993, which were presumably attracted to high densities of plankton. Single sharks were observed at Juliet on 20 October 1993 and Britannia on 12 June 1997. Three basking sharks were reported from Buchan A on 20 April 1998.

### **Porbeagle shark *Lamna nasus***

The porbeagle shark is found throughout the North Atlantic, and ranges as far north as Greenland and Iceland. The largest porbeagle sharks in UK waters are found to the north of Scotland, and appear to belong to a Norwegian population. There have been nine records of porbeagle sharks by the NSBC, most of which involve single animals. In addition to those, observers on Beryl A recorded three to

five porbeagle sharks over a 4-day period between 26 and 29 August 1997, with a total of 25 sharks in the vicinity of the platform on 31 August 1997. Interestingly, all records of porbeagle sharks have been reported from Beryl A in the central sector, with the exception of one record of six sharks from nearby Brae B on 21 August 1996. All records of porbeagle sharks from these two platforms have occurred between May and September, with a very distinct seasonal peak during August. Almost all records have also occurred during 1997 and 1998.

### **Garfish *Belone belone***

The FPSO Usige Gorm reported a single garfish on 9 January 1998 and three separate fish during February 1998. Garfish are a surface-dwelling predatory fish, reaching about 80 cm in length. They are more usually encountered on the western seaboard.

### **Lumpfish *Cyclopterus rumpus***

A lumpfish was reported from FPSO Usige Gorm on 5 January 1998. Lumpfish are primarily bottom-feeding fish, but occur near the surface relatively frequently. Females are larger, reaching lengths of about 30 cm, although up to 60 cm has been recorded.

## **CONCLUSIONS**

The sightings described in this report, result from over ten years of opportunistic observations carried out by observers on offshore installations. It is not possible to draw any firm conclusions from this data regarding the distribution of marine mammals in the North Sea, since the very static nature of the observation platforms mean that any distribution of sightings will likely mimic that of the platforms. However, certain species still show a tendency to occur more regularly in certain areas. For example, very few sightings of killer whales occurred south of the central sector, indicating their northerly distribution, whereas the majority of harbour porpoise sightings occurred in the southern sector.

A large number of marine mammal sightings were not identified to a species level, and have not therefore been described in this report. As mentioned already, the identification of cetaceans can be extremely difficult even in favourable weather conditions, and it is probable that some of the dolphin species have been wrongly identified by some observers. In general however, the prevalence of killer and pilot whales in the northern sector, minke whales in the northern and central sectors and off Yorkshire, and harbour porpoise widespread throughout the region fits in well with the observed distributions of these species during other surveys. Platforms in the northern sector in proximity to the shelf edge are likely to receive both a higher number and a higher diversity of sightings than those further south, with a mixture of both deep water and continental shelf species.

A number of cetacean species such as the Risso's dolphin *Grampus griseus*, and several larger whale species such as the humpback whale *Novaeangliae megaptera* and the sperm whale, remain to be recorded by NSBC observers, although they are likely to occur occasionally in the North Sea.

Sightings of marine mammals by the NSBC provide valuable data. However, great care must be taken in allocating a definite species identification. In many cases, insufficient information was available to determine species identification; detailed notes on what an observer has seen can be very useful in confirming an observation. Important features to note are the shape of the head in seals, and the size, flank markings, dorsal fin shape and behaviour of cetaceans. In large whales, the shape and size of the blow can be useful for identification. Colour is generally a less reliable feature to use, since it tends to vary greatly according to weather conditions. However, the yellow flank markings on common and Atlantic white-sided dolphins are a primary identification cue. Although the behaviour of cetaceans is also very variable, certain features such as the tendency to bow-ride vessels and breaching are more frequent in some species than others, and are worth noting during sightings.

Several good identification guides to marine mammals are available in bookshops (see Recommended Reading), and it is recommended that observers consult these during sightings.

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Tasker, M. 1990. Checklist of marine mammals seen at or near offshore installations. *In: North Sea Bird Club 10<sup>th</sup> Anniversary report*, ed. By S.M.D. Alexander. Pp. 157-159.

## RECOMMENDED READING

Eyewitness Guide to Whales, Dolphins and Porpoises. Mark Carwardine. 1995. ISBN 0-7513-1030-1.

A field guide to whales, porpoises and seals from Cape Cod to Newfoundland. Steven K. Katona, Valerie Rough and David T. Richardson. 1993. ISBN 1-56098-333-7.

Guide to the identification of whales, dolphins and porpoises in European seas. Peter Evans. 1995. Sea Watch Foundation Publication, Oxford, UK.