



Threats to UK cetaceans

At the start of a new millennium, we find that pressures upon whales and dolphins in UK waters are higher than they have ever been before.

1. Incidental Catches

Every year, more than ten thousand porpoises die in British waters, entangled in fishing gear, particularly bottom set gill nets. In 1993 and 1994, an observer programme estimated that approximately 2,000 harbour porpoises were taken annually as by-catches in the Irish and UK bottom set gillnet fisheries for hake on the Celtic Shelf to the southwest of Britain and Ireland. In 1993, an estimated 7,000 harbour porpoises were taken as a by-catch in the total Danish North Sea gillnet fleet.

Large numbers of common dolphins also drown in trawl fisheries southwest of Britain. In particular, the bass fisheries in the Western Approaches to the English Channel pose a significant threat to the common dolphin population in the area. Between January and April 1992, at least 131 individuals were washed ashore in Cornwall and Devon. This amounts to 3-6 times the total number of common dolphins annually recorded throughout the UK in the previous two years. Post-mortems of several animals indicated that they had died from suffocation thought to be from net entanglement. In March 1997, more than six hundred dolphins of this species came ashore along the Atlantic coasts of France; most of those examined also showed signs of entanglement in fishing nets. During the 2003-04 fishing season in the Southwest, 169 common dolphins were recorded to have died in the bass fishery alone, with an additional mortality from other fisheries (WDCS/Greenpeace 2004).

2. Overfishing

Fisheries themselves can have a major impact upon the status and distribution of various UK cetaceans. Local stocks of sprats, sand eels, herring, whiting, mackerel and haddock have all shown marked changes in population in recent years, associated at least in part with fishing pressure. The over-exploitation of fish stocks and their subsequent dramatic declines impose major pressures upon those marine mammals dependant upon them for food.

North Sea herring stocks were once the mainstay of the economy of several European countries. Accelerated exploitation during this century led to a collapse in numbers to about 5% of post-war levels by 1977. In the 1980s, sand-eel stocks in Shetland declined dramatically and the local industrial fishery was closed following public pressure from local Shetlanders. Over a period of 8 years, local seabirds suffered repeated and widespread breeding failure with thousands of chicks starving to death, and porpoises became scarce in the area.

3. Pollution

As industrial activities continue to develop along European seaboard, pollutants enter the sea and build up in the marine ecosystem. Organochlorine chemicals and heavy metals can persist in the food chain for long periods of time, often stored in an inert state in the fat of marine mammals. Concentrations build up as large predators like whales and dolphins feed upon contaminated prey, and pollutants are passed directly from one generation to the next through the placenta or within the mother's milk.

Some chemicals like polychlorinated biphenyls (PCBs), a by-product of the plastics industry, persist for very long periods in the environment where on uptake they can affect reproduction and resistance to disease. During 1989-1990, several hundred striped dolphins died in the Mediterranean. On autopsy, they were found to have a morbilli virus infection but also contained extremely high levels of PCB's. More than 30,000 tonnes of PCBs are in use by countries bordering the North Sea, and elevated concentrations of PCBs have been detected in marine wildlife (shellfish, fishes, and seals) in the vicinity of Liverpool Bay, northeast Irish Sea where PCBs and other pollutants such as mercury are continually being released into the marine environment from local industrial activities. In Cardigan Bay, West Wales, pollutant levels of some bottlenose dolphins stranding between 1988 and 1991 have been amongst the highest ever recorded.

4. Disturbance

Coastal marine mammal species are being exposed to an increasing amount of noise pollution around UK shores. Marine traffic around the British Isles is amongst the most intense of anywhere in the world, and the North Sea alone receives more than 400,000 ship movements a year. By the end of 1988, over 3,000 miles of major pipelines had been installed in the North Sea with as many as 1,137 exploration surveys taking place. Seismic exploration for oil and gas has now extended to cetacean rich waters west of Scotland where intense low frequency sounds pose a threat particularly to baleen whales. In the last two decades, the coastal zone has received sharply increased public attention for recreational purposes with the inevitable consequences of greater exposure to disturbance from speedboat and other pleasure craft, and the very real possibility of physical damage from collisions.

5. Climate change

Climate change due to anthropogenic causes poses several possible threats to cetaceans. Obvious consequences will be the increase in sea temperature and the subsequent melting of polar ice and drowning of coastal plains, along with changes in levels of primary productivity, which could severely affect the prey distribution of marine mammals. Other less direct implications include an increase in the frequency and velocity of storms; severe storm events could cause substantial physical damage to habitats and species.

The distribution of many marine mammal species may be affected by the shifts in areas of primary productivity and prey distribution caused by climate change. Some species, such as land-breeding pinnipeds, and coastal cetaceans and sirenians, may find it difficult to adjust to the loss of important feeding or breeding habitat due to changing temperatures. On a global scale, predictions state that cold-water species will shift towards the poles and therefore result in the reduction of their global range.

The possible shifts in prey distribution and habitat loss will have potentially grave consequences, influencing mating and breeding success and calf survival rates.

7. Hunting

Most of the great whales of the world's oceans were reduced to near extinction by centuries of hunting, with Britain one of the countries leading the way in causing the demise of these animals. As recently as the 1920s, there were active whaling stations in Shetland and the Outer Hebrides, and on the west coast of Ireland. Collectively, they killed nearly 10,000 whales over a period of fifteen years. Now, species like the northern right whale, humpback whale and blue whale are very rare in UK waters, although, after thirty years of protection in the North Atlantic, there are some signs of recovery at least for blue whales and humpbacks. The 1990s have seen the resumption of hunting in the guise of scientific whaling, with Norway taking around 800 minke whales in waters north of Shetland.

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The conservation of any wild animal or plant is largely dependent upon continuous monitoring. Without such data, it is impossible to assess and amend status on a regular basis. Other important conservation information is also dependent upon monitoring. These include general distribution patterns, identification of important areas, behavioural responses to human activities, and effects on reproduction. Without the monitoring and survey work undertaken by Sea Watch, this information would not be available. The need for a comprehensive system of survey and monitoring is crucial for the future survival of marine mammals.