SPECIES FACT SHEET –

Sperm Whale
(Physeter macrocephalus)

Photo © Peter GH Evans

Measurements

Length

Newborn: 3.5-4.5 m
Full grown: Up to 12.5 m (female), 19.2 m (male)

Weight

Newborn: c. 1,000 kg
Full grown: Up to 15,000 kg (female), 45,000 kg (male)

Identification

At Sea

Bushy blow directed forwards and to left, 1.5-5.0 m high; may lie log-like on surface; corrugated back with dorsal hump instead of distinct fin; broad, triangular and deeply notched tail flukes thrown into air when diving.

On Land

General form robust, tapering backwards. Head large, one-third of body. Up to 22 curved teeth almost concealed below gums (upper jaw), (34)40-52(58) large conical teeth (lower jaw). Teeth sharply pointed in young animals, become more rounded with age.

Description

Head

Its large square shaped head occupies at least one-third of the body and is particularly pronounced in adult males due to extreme sexual dimorphism. This feature readily distinguishes it from the more streamlined torpedo-shaped body of rorquals such as blue, fin, sei or minke whale. The blowhole is prominent and positioned on left side of head. The lower jaw is much narrower than the upper jaw, and is underslung, and there are 2-10 short, deep throat grooves.

Body, Fin & Markings

Its general body colour is dark grey or brownish grey with variable white areas around the mouth and often on the belly. White scratches and scars are common on the body and especially the head of larger individuals. Corrugations to the skin give it a wrinkled or shrivelled appearance. There are paler patches on belly in genital area. There is a thick, low, rounded dorsal hump two-thirds along the back followed by a series of bumps on the dorsal surface of the tail stock. In adult females and some young males, there are white or yellowish calluses on the dorsal hump. The flippers are short but wide and spatulate in shape. The tail stock may have a post-anal keel tapering sharply to the flukes. When sperm whales make a steep dive, they characteristically throw their broad, triangular and deeply notched tail flukes into the air. The pattern of nicks and notches along the straight trailing edge enables individual recognition.

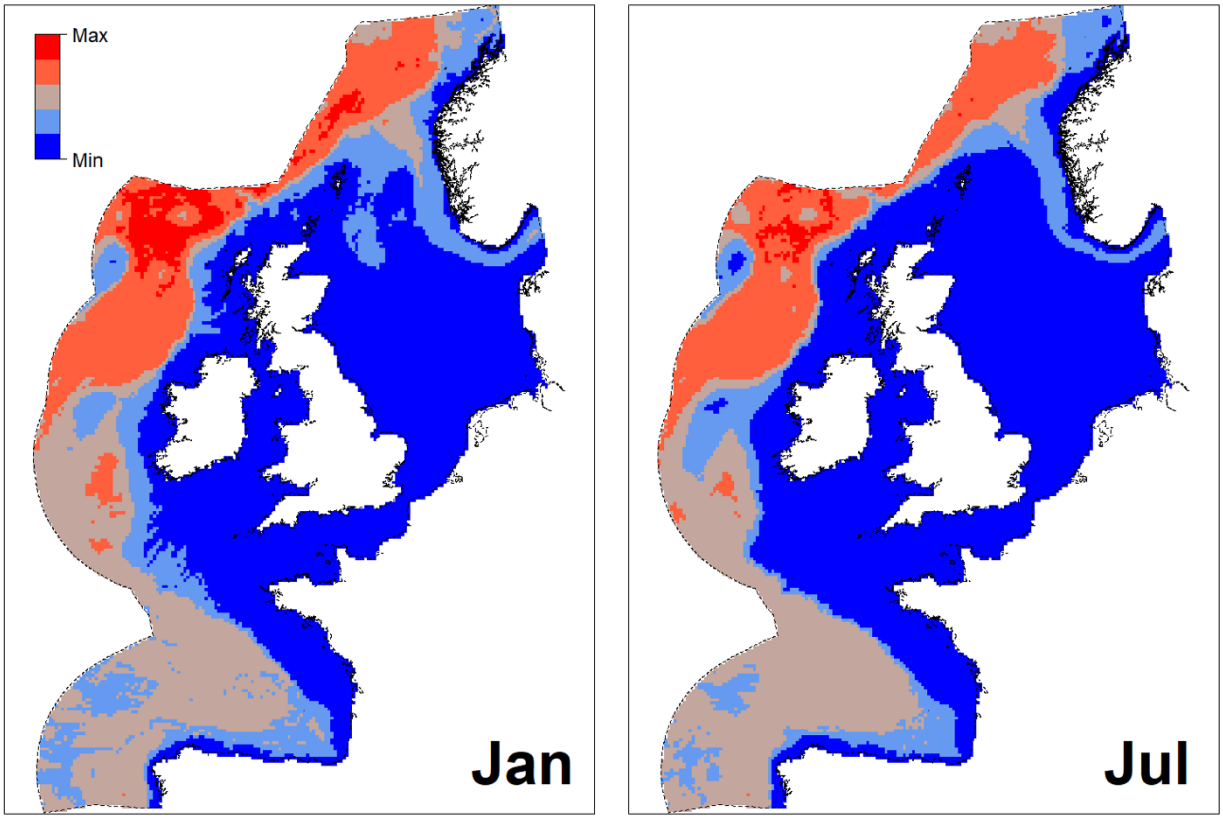
Distribution

Global Distribution

Sperm whales have worldwide distributions, occurring in deep waters of all seas. Females and juvenile males have a more limited range than adolescent and mature males, being confined more or less to warmer waters (generally with sea surface temperatures above 15°C) between c. 45°N and c. 45°S. When young males reach ages of 14-21 years they move increasingly to higher latitudes. Only large males are found at the highest latitudes, sometimes occurring even close to ice edge, but generally in the most productive deep waters.

European Waters

In the North Atlantic, the species is widely distributed mainly off the continental shelf, along the mid-Atlantic Ridge and around oceanic archipelagos (Azores, Madeira, Canaries, Cape Verdes). It can be found from Norway and Iceland in the east, south to breeding grounds in the Caribbean Sea in the west, and the Iberian Peninsula, Macaronesia, and the Mediterranean Sea in the east.



Overall Distribution of Sperm Whale around British Isles (Source: Waggitt et al., 2020)

UK & Ireland

Formerly, sightings around the British Isles were almost exclusively of larger males, singly or in small groups. More recently, records of smaller individuals in larger groups have increased, including some mass strandings of immature males. Sightings in British and Irish waters have been mainly between July and December, with known preferred feeding areas west and north of the British Isles and Ireland including the edge of the Porcupine Bank, the Rockall Trough, and the Faroe-Shetland Channel. Sperm whales often stray into the North Sea and even the Baltic, well outside their normal habitat, resulting in strandings of single animals or loose groups of up to 29. Most strandings are between November and March.

Abundance

Sperm whales are generally the most common large whale in deep waters. Estimates derived from wide-scale surveys in summer 2016 covering mainly shelf waters from southern Norway to Portugal estimated *c.* 13,500 individuals. Further north, in 2015, *c.* 23,300 sperm whales were counted in waters around the Faroes and to the south and west of Iceland, and *c.* 4,900 in Norwegian waters.

Habitat

The species favours waters exceeding 200 m, and usually 500-2,000 m depth. Their preferred habitat is submarine canyons at the edges of continental shelves or beyond. They will also occur close to coasts of volcanic and oceanic islands where deep water is present. They are generally the most common large whale in deep waters.

Diet

Sperm whales are mesopelagic foragers that feed mainly on a variety of deep sea squid. However, they will also take saithe, monkfish, halibut, benthic octopus, and crustaceans. Males tend to take larger items, with females and juveniles eating more demersal fish. Stomach contents from strandings in Europe have revealed that squid *Gonatus fabricii* is an important prey.

Behaviour

Generally, a family unit of sperm whales will consist of 10 females and their young. Females will spend their lives in a close family unit with their young. Mating system is polygynous. Males leave their natal units between 4-21 years and then are found in loose aggregations. “Bachelor schools” are formed of juvenile males of approximately the same size and age. As males get larger, they move to higher latitudes. Around the British Isles, sightings are almost exclusively of larger males singly or in small groups. Adults spend c. 75% of their time making deep dives for feeding. Dives

typically last 25-50 mins and go to 400-600 m depth (but have been known to dive to 3,200 m and remain submerged for as long as two hours). Individuals, particularly juveniles, may breach clear of the surface, or lob-tail. Other typical behaviours include logging on the surface, spy-hopping, and fluke slapping. Low-frequency, stereotyped clicks (some of which are termed "codas"), are apparently distinct to groups of sperm whales and serve as acoustic signatures. Clicks are also probably used for echolocation to help locate prey.

Life History

Sexual maturity is reached at 7-12 years in females and 18-19 years in males. The gestation period is 14-16 months, with a calving interval of between 3 and 15 years. Although young will eat solid food at 1 year of age, they may suckle for up to 12 years. The maximum life span is at least 70 years. Most births are in summer or autumn.

Conservation Threats

Current threats to sperm whales include ship strikes, underwater noise disturbance, plastic ingestion, entanglement in fishing gear, and changes in prey availability. The species was widely exploited during the 19th and 20th century although numbers are not thought to have been depleted to the same level as some baleen whales. It is estimated that current abundance is about one-third of original levels. Legally protected in European, British and Irish waters.

IUCN status: Vulnerable.

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