SPECIES FACT SHEET –

Killer Whale
(Orcinus orca)

Photo © Colin Bird

Measurements

Length

Newborn: 2.08-2.60 m
Full grown: Up to 8.5 m (female), 9.8 m (male)

Weight

Newborn: 160-180 kg
Full grown: Up to 7,500 kg (female), 10,000 kg (male)

Identification

At Sea

Largest of the dolphin species. Distinctive black & white coloration black back and flanks with white oval eye patch and grey saddle behind dorsal fin, white underparts; very tall dorsal fin, particularly in adult males.

On Land

General form robust. Large (up to 2.5 cm in diameter) conical teeth, oval in cross section. Total tooth count: 20-28/20-28 (upper/lower jaw).

Description

Head

The species has a conical-shaped head, black upper jaw and white lower jaw, with an indistinct beak. The mouthline has a slight downward curve toward the corner of the gape.

Body, Fin & Markings

The killer whale or orca is a robust medium sized whale – the largest member of the family Delphinidae. Adult male killer whales are about 25% larger than adult females with a tall (>2 m) sometimes forwards leaning, erect triangular dorsal fin. Immature animals and adult females have a smaller (c .0.9 m), more recurved dorsal fin. Adult females are almost indistinguishable from immature males. The colouration is very striking - black on the back and sides, with a white belly extending as a backwards-pointing lobe up the flanks and less markedly around the throat, chin and undersides of the flippers. There is a white oval patch above and behind the eye, and a less distinct grey saddle on the back behind the dorsal fin, which shows up clearly when the animal surfaces. The species has large paddle-shaped flippers, and broad tail flukes (with white undersides) with a straight or slightly convex trailing edge and tips that particularly in adult males may curl down. Two forms are described in the North Atlantic, one smaller (to 6.6 m length), with a parallel eye patch, that feeds mainly upon fish, and the other larger (to 8.4 m), with an eye patch that slants downward in the rear, and feeds more upon marine mammals (although the latter is based upon a small sample size).

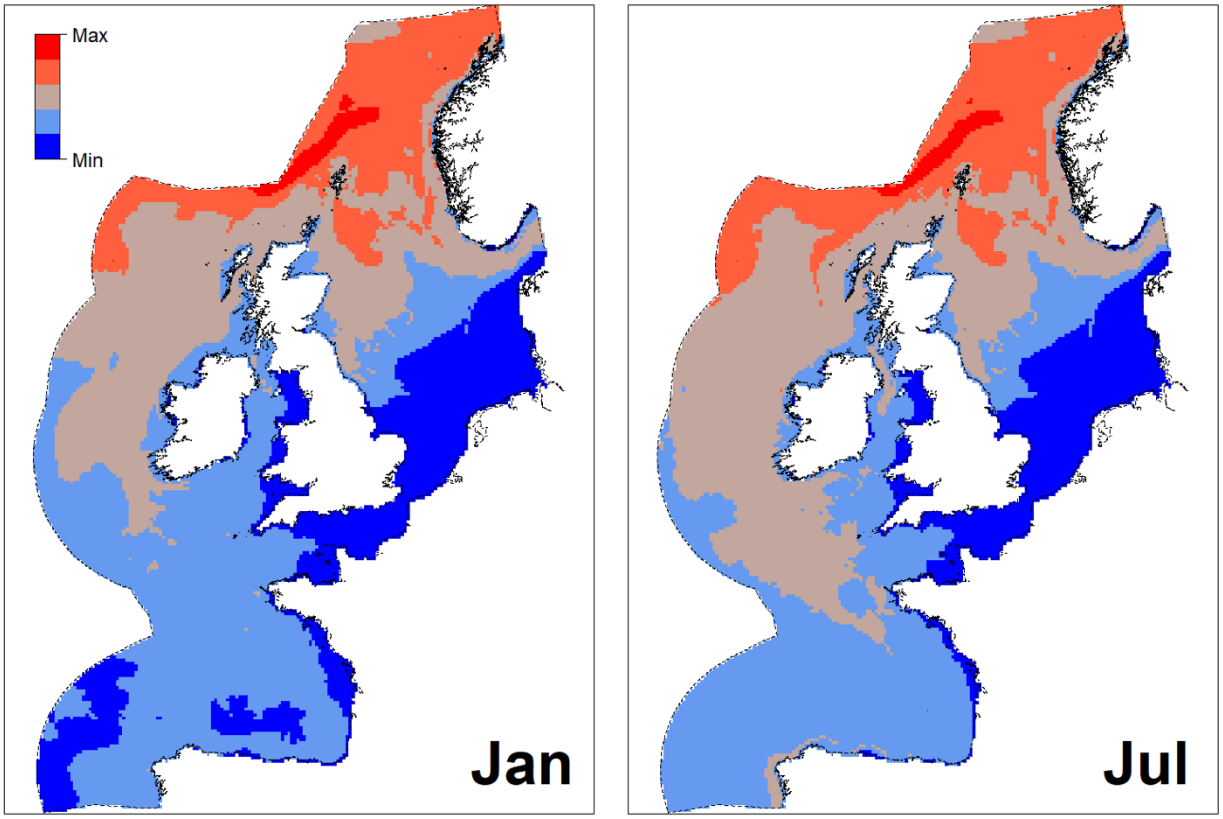
Distribution

Global Distribution

The killer whale has a cosmopolitan distribution but is known primarily to inhabit cold temperate and polar seas. Its global distribution almost certainly exceeds that of all other cetacean species. Several distinct geographical forms are described around the world, some with overlapping ranges.

European Waters

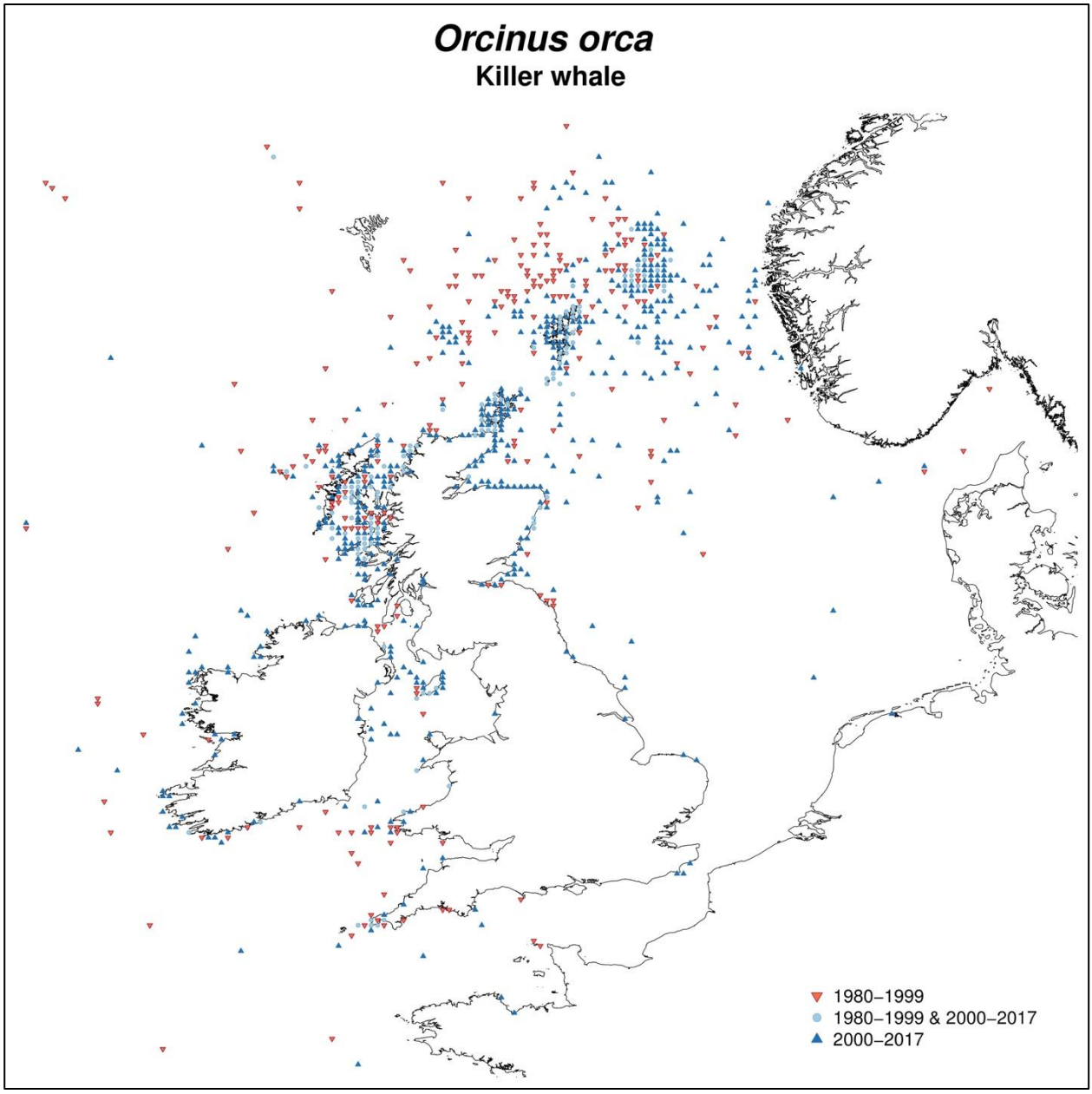
Although widely distributed in the North Atlantic, extending south to regions such as the Caribbean, Azores, Madeira, Canaries and the western end of the Mediterranean, killer whales in coastal northern European waters are most commonly found off Iceland, western Norway and the Faroe Islands. Further east, they only occasionally enter Danish waters and the Baltic Sea. The species is rare south of the British Isles although a small population of around forty animals inhabits the Strait of Gibraltar.



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

UK & Ireland

In British and Irish waters, killer whales are most frequently seen in northern and western Scotland and western Ireland; they are rare in the Irish Sea, central & southern North Sea and English Channel. Although most often seen in coastal waters during the summer months (May-September), they have been recorded in all months of the year (and in Shetland, now shows no strong seasonal peak).



Killer Whale sightings around British Isles (Source: Evans & Waggitt, 2020)

The pods regularly visiting coastal regions of northern Britain appear to be quite small, although the Scottish photo-ID catalogue now numbers around 150 individuals. Photo-identification of individuals indicate that these are linked to the northern community of killer whales that follow the Icelandic summer-spawning herring and range widely between Iceland, the Faroes and northern Britain, and are separate from the small (<10) pod forming the west coast community that inhabits shelf waters largely to the west of Britain (from Hebrides south to W Ireland and Irish Sea). Photo-ID has recorded links between Iceland, Faroes and Scotland for at least 20 animals belonging to the Northern Isles community. In addition, large groups of the offshore community are often associated with trawlers fishing for herring or mackerel. There are no recorded links in recent years between orcas seen around Scottish shores and those in Norway.

Abundance

The population size of killer whales in the North Atlantic is unknown but wide-scale abundance surveys in the central and eastern parts of the northern North Atlantic in 2005 indicated an abundance of around 30,000 individuals. From the North Atlantic Sightings Survey (NASS) in 2001, it was estimated that there were around 15,000 killer whales in the North Atlantic between the Faroe Islands and Canada. From the 2014-2018 Norwegian surveys (covering southern Norway, the northern North Sea, and the Barents Sea) around 14,000 killer whales were estimated in this area.

Habitat

Found in a wide variety of habitats, it is common in cold, nearshore waters but is also reported from the polar ice caps to tropical oceanic islands.

Diet

They have a highly variable diet due to a wide variety of foraging methods used. It Includes fish such as herring, mackerel, salmon, cod, halibut; also, squid, rays, marine mammals, and occasionally turtles and birds. There may be some specialism towards a diet of marine mammals or a diet largely of fish.

Behaviour

The ecological specialisations of killer whales are associated with highly divergent lifestyles among populations, including differences in social structure, foraging behaviour, and the use of underwater sound. Sightings around the British Isles are mainly of single individuals or small groups of <15 animals, and typically <10. Groups of 100-300 have been sighted in northern North Sea and east of Shetland, associated with trawling activity. Groups are often matriarchal, where the base unit is a mother with their calves.

Life History

Most life history information comes from photo-identification studies in British Columbia and Alaska. Sexual maturity is reached at 8-10 years in females and 15-16 years in males. It is suggested that mating peaks around October-November and may be associated with offshore movement. Gestation period is 15-18 months. Calves are nursed for at least 12 months, with weaning probably between 1-2 years of age. Calving interval is very variable, between 2 and 14 years. Maximum life span is 60 years for males and c. 90 years for females. Mortality within the first 6 months of life estimated at 43%, after which it is very low with average life expectancy 30 years in males and 50 years in females.

Conservation Threats

The main threats to killer whales are the depletion of stocks of favoured prey such as herring and mackerel, and the high levels of man-made contaminants such as PCBs, PBDEs and DDT that exist in the eastern North Atlantic, which may affect their reproductive success. Until recently, killer whales were also regularly hunted in Norwegian, Icelandic and Faroese waters. The species is legally protected in European, British and Irish waters.

IUCN status: Data Deficient.

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