

SPECIES OF THE WEEK



Humpback Whale

Megaptera novaeangliae

Míol mór cruiteach

The humpback whale is a species of baleen whale, adults range in length from 12–16m and weigh approximately 36,000 kilograms. The humpback has a distinctive body shape, with unusually long pectoral fins and a knobby head. An acrobatic animal known for breaching and slapping the water with its tail and pectorals.

Acoustic studies have detected this species "singing" off the west coast of Ireland and it has been suggested that they use the deep waters of the Rockall Trough as a migration corridor. Humpbacks have been seen off the east, south and west coast of Ireland.. Sighting trends suggest that humpbacks distribution in Irish waters is similar to that of fin whales. They can be seen throughout much of the year but with a peak in sightings between July-January.

A humpback whale can easily be identified by its stocky body with an obvious hump and black dorsal colouring. The head and lower jaw are covered with knobs called tubercles, which are hair follicles, and are characteristic of the species. The fluked tail, which it lifts above the surface in some dive sequences, has wavy trailing edges. The four global populations, all under study, are: North Pacific, Atlantic, and Southern Ocean humpbacks, which have distinct populations which complete a migratory round-trip each year, and the Indian Ocean population, which does not migrate, prevented by that ocean's northern coastline.

Humpbacks have 270 to 400 darkly coloured baleen plates on each side of their mouths. The plates measure from a mere 46 cm in the front to approximately 0.91m long in the back, behind the hinge. Ventral grooves run from the lower jaw to the umbilicus about halfway along the underside of the whale.

The stubby dorsal fin is visible soon after the blow when the whale surfaces, but disappears by the time the flukes emerge. Humpbacks have a 3m, heart-shaped to bushy blow, or exhalation of water through the blowholes. Because humpback whales breathe voluntarily, the whales possibly shut off only half of their brains when sleeping. Early whalers also noted blows from humpback adults to be 3.0–6.1m high.

Newborn calves are roughly the length of their mother's head. At birth, calves measure 6m and weigh 1.8 tons. The mother, by comparison, is about 15m. They nurse for approximately six months, then mix nursing and independent feeding for possibly six months more. Humpback milk is 50% fat and pink in color.

Females reach sexual maturity at the age of five, achieving full adult size a little later. Males reach sexual maturity at approx. seven years of age. Humpback whale lifespans range from 45–100 years. Fully grown, the males average 13–14m. Females are slightly larger at 15–16m; one large recorded specimen was 19m long and had pectoral fins measuring 6m each. The largest humpback on record, according to whaling records, was killed in the Caribbean. She was 27m long with a weight of 90 metric tons. Body mass typically is in the range of 25–30 metric tons, with large specimens weighing over 40 metric tons.

The humpback social structure is loose-knit. Typically, individuals live alone or in small, transient groups that disband after a few hours. These whales are not excessively social in most cases. Groups may stay together a little longer in summer to forage and feed cooperatively. Longer-term relationships between pairs or small groups, lasting months or even years, have rarely been observed. Some females possibly retain bonds created via cooperative feeding for a lifetime.

Courtship rituals take place during the winter months, following migration toward the equator from summer feeding grounds closer to the poles. Competition is usually fierce, and unrelated males, frequently trail females, as well as mother-calf dyads. Males gather into "competitive groups" and fight for females. Group size ebbs and flows as unsuccessful males retreat and others arrive to try their luck. Behaviors include breaching, spyhopping, lob-tailing, tail-slapping, fin-slapping, peduncle throws, charging and parrying. Whale songs are assumed to have an important role in mate selection; however, they may also be used between males to establish dominance.

Females typically breed every two or three years. The gestation period is 11.5 months

Both male and female humpback whales vocalize, but only males produce the long, loud, complex "songs" for which the species is famous. Each song consists of several sounds in a low register, varying in amplitude and frequency, and typically lasting from 10 to 20 minutes. Humpbacks may sing continuously for more than 24 hours. Cetaceans have no vocal cords, so whales generate their songs by forcing air through their massive nasal cavities.

Whales within a large area sing the same song. All North Atlantic humpbacks sing the same song, and those of the North Pacific sing a different song. Each population's song changes slowly over a period of years without repeating.

Scientists are unsure of the purpose of whale songs. Only males sing, suggesting one purpose is to attract females. However, many of the whales observed to approach a singer are other males, often resulting in conflict. Singing may, therefore, be a challenge to other males. Some scientists have hypothesized the song may serve an echolocative function.

During the feeding season, humpbacks make altogether different vocalizations for herding fish into their bubble nets.

Humpback whales have also been found to make a range of other social sounds to communicate, such as "grunts", "groans", "thwops", "snorts" and "barks".

Humpbacks feed primarily in summer and live off fat reserves during winter. They feed only rarely and opportunistically in their wintering waters. The humpback is an energetic hunter, taking krill and small schooling fish such as Atlantic herring, Atlantic salmon, capelin, and American sand lance, as well as Atlantic mackerel, pollock, and haddock in the North Atlantic. Krill and copepods have been recorded as prey species in Australian and Antarctic waters. Humpbacks hunt by direct attack or by stunning prey by hitting the water with pectoral fins or flukes.

The humpback has the most diverse feeding repertoire of all baleen whales. Its most inventive technique is known as bubble net feeding; a group of whales swims in a shrinking circle blowing bubbles below a school of prey. The shrinking ring of bubbles encircles the school and confines it in an ever-smaller cylinder. This ring can begin at up to 30m in diameter and involve the cooperation of a dozen animals. The whales then suddenly swim upward through the "net", mouths agape, swallowing thousands of fish in one gulp. Plated grooves in the whale's mouth allow the creature to easily drain all the water initially taken in.

This species was commercially overexploited from the 1800s until protected from commercial harvest in 1966. In the Atlantic they are considered endangered. Approximately 8,000 - 10,000 in the N. Atlantic.