



SPECIES FACT SHEET –

Bowhead Whale

(Balaena mysticetus)



Photo © Caroline Weir

Measurements

Length

Newborn: 3.6-4.5 m

Full grown: 18-20 m

Weight

Newborn: c. 1,000 kg

Full grown: 80,000 kg

Identification

At Sea

Bowheads are characterised by a highly arched rostrum (hence the name “bowhead”), black skin, thick blubber, long baleen, lack of a dorsal fin, and rotund profile. The blow is bushy and V-shaped.

On Land

The bowhead whale has the longest baleen plates (up to 5.2 m) of any whale. The plates are dark grey to brown or black, generally with lighter fringes, which from the front may show as a white patch in front of the lower jaw. The 600-640 baleen plates have long, fine fringes.

Description

Head

The species has a large (up to 40% of its body), though relatively narrow, head and strongly arched lower jaw, proportionally the largest head of any cetacean. The skull increases in size through life from 30% the length as a juvenile. The eye is situated just above the corner of the mouth.

Body, Fin & Markings

It has a very rotund body (with the thickest skin (up to 2.5 cm) and thickest, at 28 cm, blubber of any cetacean). It is black in colour and its smooth back has no dorsal fin. A distinctive feature is the prominent muscular bulge in the area of the blowhole with an obvious depression behind. The flippers are large, fan shaped with blunt tips. The tail flukes are wide and tapered at the tips with no central notch, and there is often a light grey or white band across the tail-stock. It has a white chin patch extending posteriorly that is highly variable in size and shape.

Distribution

Global Distribution

The bowhead whale is an arctic species with a circumpolar distribution. The species favours the ice edge around the Arctic Ocean and the waters surrounding Greenland and Svalbard across to Novaya Zemlya, migrating northwards in summer into the high Arctic as the ice retreats. In recent years, however, the species has been recorded much further south - in Cape Cod Bay, New England (eastern USA) in 2012 and 2014, and even in Europe in 2015-17. This may reflect the break-up and southwards drift of ice that the Arctic is experiencing.

European Waters

In the last few years, there have been sightings of the bowhead whale in the east side of the North Atlantic as well, off the coast of SW England (Feb 2015, May 2016), Northern Ireland (May 2016), France (May 2016), Belgium (Mar - Apr 2017), The Netherlands (Apr 2017), and Republic of Ireland (Apr 2017). The European sightings could all represent the same lone individual.

UK & Ireland

First sighted and photographed in the Isles of Scilly in Feb 2015, then seen off the coast of Cornwall in May 2016) and later that month in Northern Ireland.

Abundance

Heavily exploited by whalers in the Arctic Ocean, in Baffin Bay off Greenland, and the Barents Sea north of Norway, the population seriously declined during the early 20th century, reaching a low in the 1920s of 3,000. The number of bowhead whales using West Greenland waters in the winter/spring period increased from 1998 to 2006 but has levelled off since then. Numbers in the East Canada - West Greenland subpopulation were estimated at 4,000-10,500 in 2013 from aerial surveys, or 4,500-11,000 in 2008-12 from genetic mark-recapture. The population size for the East Greenland - Svalbard - Barents Sea subpopulation may be increasing slightly, and is now known to be greater than 50 mature animals, but still probably fewer than 250 mature individuals.

Range & Habitat

It inhabits the ice-associated regions of arctic and subarctic seas, generally between about 60 and 85 degrees North.

Diet

Stomach examinations indicate that bowheads feed primarily on zooplankton, with copepods and euphausiids being the dominant prey items. However, several species of fish (e.g., arctic cod and sandeel) and a variety of benthic and epibenthic invertebrate species have been identified as well, in lower abundance.

Behaviour

Group sizes are usually three or less although they may aggregate during migration or at food concentrations. They are generally slow moving but will occasionally breach, or fluke slap. Bowheads begin life in freezing sea water in spring often in heavy sea ice. Being a coastal species, their dives tend to be relatively shallow < 200 m, although dives to 400+ m are not uncommon. During a steep dive, they lift their tail flukes. Maximum dive duration has been measured up to 85 minutes. They sieve plankton by swimming slowly, at the surface. They are adept at navigating sea ice and can break through it in order to breathe. Bowheads have a diverse and complex vocal repertoire that includes simple calls and songs, sung during the winter and early spring. It is likely that songs play a role in mating behaviour.

Life History

Bowheads apparently conceive in March and have a 13 to 14-month gestation period; however, sexual activity has been observed from spring through autumn. Calves are born April through June. Calving interval is c. 4 years. A neonate weighs c. 1,000 kg at birth and grows rapidly to 10–12 metric tons in its first year. Sexual maturity is achieved around 13.4 m in females at c. 25 years and around 12.5–13 m in males. Maximum age based on the “eye lens aging” method suggests they can exceed 200 years in age. The oldest individuals (>150 years) have been males.

Conservation Threats

Several indigenous cultures evolved around hunting bowheads and using their products for food, fuel, and building materials. Since the 1600s, numbers decreased largely due to commercial whaling by European whalers. The greatest threats currently are likely to be climate change, ship strikes, disturbance from underwater noise, and entanglement in fishing gear. Interactions between bowheads and commercial fishing operations in the Bering Sea appear to be increasing. In the Bering-Chukchi-Beaufort Seas stock, about 12% of the population show entanglement injuries, and several beach cast dead bowheads have been found entangled with commercial crab gear. The species is legally protected in European, British and Irish waters.

IUCN status: Globally: Least Concern. Svalbard/Barents Sea stock: Critically Endangered.

References

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