



species factsheet

| species introduction |

Common name: Beluga whale

Scientific name: *Delphinapterus leucas*

Beluga whales live in Arctic and subarctic waters. Beluga populations range throughout the Arctic Ocean and its adjoining seas, including the Sea of Okhotsk, the Bering Sea, the Gulf of Alaska, the Beaufort Sea, Baffin Bay, Hudson Bay and the Gulf of St. Lawrence. During certain times of the year, belugas can be found in large rivers such as the Amur River in Russia and the Yukon and St. Lawrence rivers of Canada. Belugas have been found 1,995km up the Amur River.

Some beluga populations make seasonal migrations while others remain in a relatively small area year-round. Environmental conditions and food availability determine migration behaviour. For most beluga populations, seasonal migrations coincide with the advance and retreat of the polar ice pack. In autumn, most belugas migrate south to remain near the edge of the growing ice-sheet. They travel north as the ice breaks-up in the spring. However, some belugas overwinter within the pack ice, relying on leads in the ice and *polynyas* (patches of open water) for breathing holes.

Belugas are highly social and live in groups of 2 to 25 whales. Several pods may join occasionally to form larger groups of 200 to thousands of individuals. Such herds often form during migrations or in near-shore summering grounds.

Beluga whales typically do not dive very deep, usually to about 20 meters. Although they are not generally thought of as deep-diving marine mammals, belugas are capable of diving to extreme depths of more than 1,000 meters. A typical dive usually lasts less than ten minutes, but belugas can stay submerged for more than 25 minutes.

The rounded structure on the dorsal surface of a whale's head is called a melon. A beluga has a prominent melon that is composed of lipids (fats). The melon changes shape as the whale produces sounds and probably focuses sound waves produced by the beluga.



| status in the wild |

Beluga whales are Near Threatened (IUCN Red List status 2012). The world population is estimated at more than 100,000 whales (IUCN 2010). At the global level the species does not qualify for Threatened status under any of the criteria although there is substantial uncertainty about numbers and trends for at least some large parts of the range, especially in the Russian Arctic. The beluga whale is unquestionably a conservation-dependant species.

| species reproduction |

Female beluga whales become sexually mature at about 9 to 12 years of age, and males slightly later. The gestation is about 14 to 15 months. Most calves are born May through July. Mating generally takes place in March through May, about ten months after calving. A female may give birth every two to three years. They breed and give birth in small bays and estuaries where the water is relatively warm. A mother beluga whale nurses her calf. A calf suckles below the water from nipples concealed in abdominal mammary slits. Beluga calves are dependent upon nursing for the first year, until their teeth emerge. They then supplement their diet with shrimps and small fishes. Most calves nurse for 20 to 24 months.

Young belugas learn survival behaviours by observing and mimicking adults in their pod. Mothers with calves often form pods separate from males. Beluga whales probably live to a maximum of 60 years.

| species habitat |

Belugas swim among icebergs and ice floes in the icy waters of the Arctic and subarctic. Their range even extends into the polar ice cap where sea ice covers 90% of the water. Here the belugas rely on echolocation to locate cracks in the sea ice to break through to breathe. In the summer many populations are found in warm-water estuaries, river basins and shallow, near shore habitats. Belugas seem well adapted to both cold ocean habitat and warmer fresh water habitat.

| species food |

Beluga whales are opportunistic feeders. They prey on about 100 different kinds of primarily bottom-dwelling animals. They mainly eat fish such as salmon, capelin, cod, herring, smelt and halibut. Their diet also includes squid, octopus, shrimps, crabs, sandworms and other marine invertebrates. The belugas' diet varies between the different populations. A beluga whale's flexible neck allows a wide range of motion while foraging on the ocean floor. Observations suggest that belugas can produce both suction and a strong jet of water with their mouths which, like that of walruses, may dislodge prey from the bottom. Beluga whales also hunt schooling fishes. In groups of five or more, belugas herd fish into swallow water before attacking. They do not chew their food; they swallow it whole.

Polar bears and Killer whales are known predators of belugas throughout their Arctic range. Belugas are especially vulnerable to polar bears when trapped in sea ice.

| threats |

Hunting for human consumption is the biggest known threat to belugas across certain portions of their range. The most immediate concerns relate to continuing harvests from

small and depleted subpopulations (IWC 2000). Because belugas return to the same estuaries year after year, they are highly vulnerable to overexploitation. This behavioural trait is undoubtedly the most important natural factor that has led to the local extinction of belugas from some parts of their range by a combination of commercial and subsistence hunting.

Known or potential threats include a variety of human activities in addition to hunting: oil and gas development, expansion of fisheries (with possible implications for by-catch and resource depletion), hydroelectric development (in Hudson Bay), and industrial and urban pollution.

Climate change will likely increase the scale and distribution of these activities. Hydroelectric development may affect belugas because of their dependence on estuarine conditions. Areas such as the McKenzie Delta and West Greenland are subject to oil exploration, which often includes seismic surveys, offshore drilling, and artificial island construction. These activities are undertaken in the summer months in the same areas occupied by belugas at that time of year.

Belugas may also experience climate-induced geographic shifts or altered reproductive success due to persistent changes in the extent of sea ice. Belugas may become trapped by pack ice in a pool of open water when sea ice conditions change rapidly.

Threats from contaminants are of concern in some areas. Studies of the small, geographically isolated subpopulation in the St. Lawrence River have found that concentrations of both total PCBs and chlorinated PCB congeners are much higher in these belugas than in Arctic belugas. Some scientists believe that the increased occurrence of opportunistic bacterial infections, parasitic infestation, gastric ulcers and other disorders in St. Lawrence belugas is evidence of a link between immune system dysfunction and PCB exposure.

| conservation |

Although the beluga was hunted intensively on a commercial basis in many parts of its range during the 20th century, the only known direct removals at present are for food (subsistence use) and the aquarium trade (there is a limited live-capture fishery in Russia). A regional management body, the Joint Committee on Narwhal and Beluga/North Atlantic Marine Mammal Commission (JCNB/NAMMCO), exists in Canada and Greenland with the expectation that it will ensure the conservation of belugas. This body sets or recommends catch limits for beluga populations within member countries. Catch levels from subpopulations range anywhere from <10 to a few hundred animals per year. Removals from some subpopulations/stocks are considered sustainable, however, there is concern and evidence that removals from other subpopulations/stocks are not (e.g. Eastern Hudson Bay and West Greenland).

| find out more |

- 2013 the IUCN red list of threatened species (2013)
- Beluga whales, a Seaworld Education & Conservation Department publication

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