

COSEWIC
Assessment and Update Status Report
on the
Bowhead Whale
Balaena mysticetus
Bering-Chukchi-Beaufort population
Eastern Canada-West Greenland population

Executive Summary

Species information

The Bowhead Whale (*Balaena mysticetus*) (Linnaeus 1758) is a large baleen whale of the family Balaenidae. The body is mainly black with variable white regions on the chin and tail.

Designatable units

The Bowhead Whale populations in the western and eastern Canadian Arctic are presently recognized as separate designatable units (DUs). The first of these is generally known as the BCB population, referring to the Bering, Chukchi and Beaufort seas, its core range. The other, previously recognized as two units, the Hudson Bay-Foxe Basin and the Baffin Bay-Davis Strait populations, has come to be known recently as the EC-WG population, referring to Eastern Canada and West Greenland, its core range.

Distribution

Bowhead Whales have a nearly circumpolar distribution in the northern hemisphere. There are 2 recognized populations in Canada. The Bering-Chukchi-Beaufort population summers in the eastern Beaufort Sea and Amundsen Gulf and winters in the Bering Sea. The Eastern Canada-West Greenland population summers mainly in northwestern Hudson Bay, Foxe Basin, the Lancaster Sound region (including Prince Regent Inlet and Gulf of Boothia) and western Baffin Bay and winters mainly in Hudson and Davis Straits.

Habitat

Bowhead Whales occur in Arctic and subarctic marine waters and in conditions ranging from open water to thick, extensive (but unconsolidated) pack ice.

Biology

Bowhead Whales become sexually mature at about 25 years of age and give birth to a single calf about every 3-4 years. Longevity can exceed 100 years. The Bering-Chukchi-Beaufort population consists of about 5% calves (<6 m), 54% juveniles (6-13 m) and 41% adults (>13 m), with an equal sex ratio. No data are available on the overall sex and life stage structure of the Eastern Canada-West Greenland population. Age/stage-class segregation has been documented in both populations. The spring and autumn migrations along northern Alaska are age-structured. In the eastern Canadian Arctic, juveniles and mothers with calves tend to remain apart from the rest of the adults during summer. Bowheads eat zooplankton, particularly euphausiids and copepods. Adaptations to their Arctic environment include great longevity, massive energy storage capability, a fairly sophisticated acoustic sense for ice navigation and long-range communication, and a peaked head profile with a “crown” for pushing up through ice to breathe.

Population sizes and trends

All populations of this species were severely depleted by intensive commercial whaling through the early 20th century. In 2001, the Bering-Chukchi-Beaufort population consisted of approximately 10,470 whales (95% CI 8,100-13,500), with an estimated annual rate of increase of 3.4% (95% CI 1.7-5.0%). A series of estimates have been produced for the Eastern Canada-West Greenland population based on aerial surveys in 2002 and 2003. Although relatively imprecise, all estimates suggest that the population currently numbers in the thousands and that numbers have increased significantly since bowheads were first protected from commercial whaling in the first half of the 20th century.

Threats and limiting factors

The Bowhead Whale is a large, long-lived species with low fecundity and high adult survival. It has a fairly narrow feeding niche in high northern latitudes and can be affected by a range of human activities (e.g., by disturbance from shipping, and offshore oil and gas development, and hunting). Reduction in sea ice is likely to affect Bowhead Whales because of greater exposure to human activities.

Special significance

Bowhead Whales are hunted for subsistence by Aboriginal people in Alaska (USA), Chukotka (Russia), the Canadian Arctic, and West Greenland.

Existing protection, status and ranks

Bowhead Whales are legally protected in Canada under the *Marine Mammal Regulations* of 1993, with hunting allowed only by licence. In Canada, Bowhead hunting is co-managed by Fisheries and Oceans Canada and Wildlife Management Boards created under land claims agreements. The federal government listed the Bering-Chukchi-Beaufort population as Special Concern under Schedule 1 of the *Species at*

Risk Act in December 2007. In 2005, COSEWIC forwarded a recommended status of threatened for the Hudson Bay- Foxe Basin and the Baffin Bay-Davis Strait populations, but a listing decision was not made. The Bowhead Whale is currently listed as Endangered under the US *Endangered Species Act* of 1973 and as Depleted under the US *Marine Mammal Protection Act* of 1972. Hunting of Bowhead Whales in the United States, Russia and Greenland is managed (or co-managed) nationally with quotas set by the International Whaling Commission.