



## Walrus

**Pacific walrus** (*Odobenus rosmarus divergens*) belong to a group of marine mammals known as pinnipeds (*pinna*, a wing or fin; and *pedis*, a foot), this group also includes the seals and sea lions. Walrus are most commonly found in relatively shallow water areas, close to ice or land. In Alaska, their geographic range includes the Bering and Chukchi Seas.

**General description:** Walrus are the largest pinnipeds in arctic and subarctic seas. The genus name *Odobenus* means "tooth-walker." Walrus tusks are elongated upper canine teeth both males and females have tusks. Walrus and sea lions can rotate their hind flippers forward to 'walk' on them but seals cannot and drag their hind limbs when moving on land or ice. Walrus are large pinnipeds and adult males (bulls) may weigh 2 tons and the females (cows) may exceed 1 ton. Bulls can be identified by their larger size, broad muzzle, heavy tusks, and the presence of numerous large bumps, called bosses, on the neck and shoulders.

**Food habits:** Walrus feed mainly on invertebrates such as clams and snails found on the bottom of the relatively shallow and rich Bering and Chukchi Seas. Walrus find food by brushing the sea-bottom with their broad, flat muzzles using their sensitive whiskers to locate food items. Tusks are not used for finding food. Walrus feed using suction formed by pulling back a thick piston-like tongue inside their narrow mouth. Walrus are able to suck the soft parts out of the shells; few hard parts are ingested. The rejected shells of clams and snails can be found on the sea floor near the furrows made during feeding. Other food items include crabs, shrimps, worms, sea cucumbers, and seals. It is unknown if walrus kill seals or just scavenge seals they find dead.

**Life history:** Walrus calves are born in late April or early May during the spring migration. They weigh about 140 pounds (64 kg) at birth. Calves are dependent upon their mothers for at least 18 months and occasionally for as long as 2 1/2 years. Most females do not begin to breed until 6 or 7 years of age. Mating occurs during January and February, but the fetus does not begin to grow until about mid-June. This delay in fetal development is called delayed implantation and is thought to occur in all pinnipeds. Although the total time period, from conception to birth, is about 15 months, the actual period of fetal growth is about 11 months. Most females do not breed again until the year following the birth of their last calf. Thus, calves are produced in alternate years by females in their prime. Calves are produced less frequently by older females.

By 2 years of age, the young weigh about 750 pounds (341 kg). Females reach their maximum weight of approximately 2,000 pounds (909 kg) at the age of 11 or 12 years. The males continue growing until at least 14 to 16 years of age.

Age can be determined by the number of annual rings observed in cross-sections of the teeth. In the very old animals, some of the rings laid down during the first few years of life are worn away; examination of teeth has shown that walrus live at least 40 years.

**Seasonal movements:** Most of the population makes a northward spring migration and southward fall migration that is related to the seasonal advance and retreat of the sea ice. Several thousand adult males remain in the Bristol Bay area from March through October. These bulls migrate northward in the fall to the St. Lawrence Island area, where they join the rest of the herd to spend the winter and spring in the ice pack. This is where breeding occurs.

**Behavior:** Tusks are used for displaying and fighting to establish position on ice floes. When jockeying for position on an ice floe walrus will raise their tusks. Walrus with smaller tusks will move away. Fighting occurs between walrus of similar tusk size and includes brutal jabs with the tusks into the opponent's neck and body. Tusks are also used for climbing on both land and ice, pushing ice floes to make a space to enter the water and at least in one case as a pick axe. A female walrus was observed using her tusks to chop a piece of ice to free her calf, which had fallen into a crevasse. Tusks are not used during feeding.

The mother-calf bond is very strong and females will not abandon their calves. Social bonds among other walrus are also present and the calling of a walrus in distress can bring others back to help.

**Population size:** The most recent estimate of the Pacific walrus population was ~ 200,000 in 1990. Recent reductions in the extent, thickness, and duration of the summer sea ice may have profound effects on walrus distribution, movement patterns, and feeding opportunities as less ice is available for a resting platform while feeding. In 2006, a population survey was conducted by the U. S. Fish and Wildlife Service, U. S. Geological Survey, and agencies in Russia in an attempt at a current population estimate. An estimate is not yet available. Walrus are not currently listed as 'threatened' or 'endangered' under the Endangered Species Act, nor are they designated as 'depleted' under the Marine Mammal Protection Act.

**Predators, hunting, and other mortality:** Polar bears prey on walrus by stampeding herds hauled out on land and dragging off calves that get separated from their mothers. Polar bears will also attack adult walrus in small groups on ice floes. Walrus are also preyed upon by killer whales in areas scarce ice or open water. Walrus are culturally and nutritionally important to coastal Alaska Natives from Bristol Bay to Barrow although most of the annual harvest occurs near St. Lawrence Island and in the Bering Strait region where walrus are especially important. Walrus meat, blubber, skin, and organs are used for food. Walrus hide is split and used for boat coverings and ivory is used for carving artworks, jewelry and handicrafts. The lining of the stomach is used to make drums used for traditional dances. The most favorable period for hunting is during the spring and summer when walrus are passing the villages on their way north. The U.S. Fish and Wildlife Service monitors the annual harvest and works with the Eskimo Walrus Commission on walrus management issues. Several thousand walrus are harvested annually in Alaska.

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