



U.S. Fish & Wildlife Service

# Pacific Walrus

*Odobenus rosemarus divergens*

Walruses, whose Latin name translates as “tooth-walking sea horse”, are found in the Northern Hemisphere along the perimeter of the Arctic Ocean and sub-arctic seas. The Pacific population ranges across the international boundaries of the United States and Russia.

Pacific walrus distribution varies seasonally and is limited by water depth and ice conditions. It is considered an ice-dependent species because it uses floating sea ice for birthing and nursing calves, resting, isolation from predators, and for passive transport to new feeding areas. Most of the population spends the summer months in the pack-ice of the Chukchi Sea; however several thousand animals, primarily adult males, use coastal haulouts in the Bering Sea during the ice-free season.

## Appearance

Walrus are large and powerful animals. Males are approximately 20% longer and 50% heavier than females. Males also tend to have more massive skulls and tusks.

Adult females can reach lengths of up to 10 feet and weigh approximately 1,200 to 2,500 pounds. After the first few years of life, the growth rate of female walruses declines rapidly and they reach a maximum body size by approximately 10 years of age. Males tend to grow faster and for a longer period of time than females. They usually do not reach a full adult body size, 10 to 12 feet in length and weighing as much as 4,000 pounds, until they are 15 to 16 years of age.

## Special Adaptations

Blubber serves as an efficient insulation layer in the cold marine environment and plays an important role in energy storage. Blubber is a dynamic tissue and its thickness can vary greatly depending upon the nutritional state and life history stage of the animal.



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*Walrus are extremely social and gregarious animals. They tend to travel and haulout onto ice or land in groups. Walrus prefer to lie in close physical contact with each other; young often lie on top of the adults.*

Like most diving marine mammals, walrus store oxygen in their blood and muscles. Due to this adaptation, they have an enormous blood volume; up to two to three times larger than a terrestrial animal of comparable size.

## Feeding Habits

Walruses are highly specialized benthic (ocean bottom) feeders. Bivalve mollusks (clams) are their most common food; however, other invertebrates such as sea cucumbers, crabs, and segmented worms are also frequently found in their stomachs. Walrus frequently feed at night and in murky water, suggesting that the sensitivity of their whiskers may be more important than vision in locating food items. Walrus feed intermittently, hauling out on land or ice floes to rest between foraging bouts. Feeding trips can last up to several days, during which they dive to the bottom nearly continuously. Most feeding dives last between 5 and 10

minutes, with a relatively short surface interval of 1 to 2 minutes.

## Reproduction

Walruses are long lived animals, up to 40 years or more, with low rates of reproduction. Most females attain full reproductive potential at 4 to 9 years of age. Male walruses become fertile at 5 to 7 years of age; however do not usually mate until they reach full physical maturity at 15 to 16 years of age. Adult males compete for choice areas near the females, and perform elaborate visual and acoustic displays in the water. Individual females leave the herd to join a courting male in the water where breeding occurs.

Breeding occurs in late winter, from January through March, in areas of broken ice. The embryo implants in the uterus in late June, three to four months after breeding occurs, and the fetus

resumes development for eleven months. Calves are usually born in late April or May.

To compensate for their low reproductive rate, walrus have relatively low rates of natural mortality. The mother-calf bond is extremely strong; the calf normally remains in her care for at least 2 years, sometimes longer if not replaced by a new calf. A mother walrus is very protective of her new-born calf and will defend it with vigor.

### Population Trends

The current size and trend of the Pacific walrus population is unknown. Previous efforts to estimate abundance have met with limited success because the population is distributed over such a large and generally inaccessible area. A joint U.S./Russia aerial survey was conducted in April, 2006. Thermal infrared scanners were used to detect walrus resting on pack ice in the Bering Sea. Satellite telemetry tags were used to account for diving animals not detected by scanners. Survey efforts produced a minimum population estimate

of 129,000 walrus.

### Conservation and Management

Pacific walrus are an important subsistence resource in Alaska and Chukotka. Since the 1960s, U.S./Russia harvest levels have ranged from 3,200 to 16,000 animals/year. Population research, harvest monitoring programs, local management efforts, and international coordination are necessary to ensure that harvest levels remain sustainable. The U.S. Fish and Wildlife Service and Eskimo Walrus Commission work together to address subsistence harvest issues in Alaska through a formal co-management agreement, and coordinate with Russian scientists and subsistence user groups to monitor subsistence walrus harvests in Chukotka.

Observed and projected trends of diminishing sea ice habitat over shallow continental shelf waters and the expansion of commercial activities into the Arctic present significant conservation and management challenges for this species. In recent years, summer sea ice has retreated beyond the shallow continental shelf



Adult female hauled out on sea ice with her calf.

waters where walrus feed and the number of walrus using coastal resting areas has increased. Local management programs and conservation initiatives are going to become increasingly important for the co-existence of walrus and humans along the Arctic coast.

### For more information, contact:

**U.S. Fish and Wildlife Service, Alaska**  
**1011 E. Tudor Road, MS-341**  
**Anchorage, Alaska 99503**  
**907/786 3800 or 800/362 5148**  
<http://alaska.fws.gov>

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