

The Life of Harbor Seals



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Kate Orsini ▽ May 11, 2010

The Harbor Seal

The harbor seal, scientific name *Phoca vitulina*, is a pinniped or fin-footed marine mammal. Harbor seals are considered true seals (or phocids), which means that instead of ears they possess ear holes, and their rear flippers (that act as rudders) cannot rotate forward. Like most pinnipeds, harbor seals have a thick layer of blubber to keep them warm in Arctic waters and a hydrodynamic shape, as well as front and rear fin-feet that allow them to swim at great speed to catch prey and avoid predators, such as sharks and orcas.

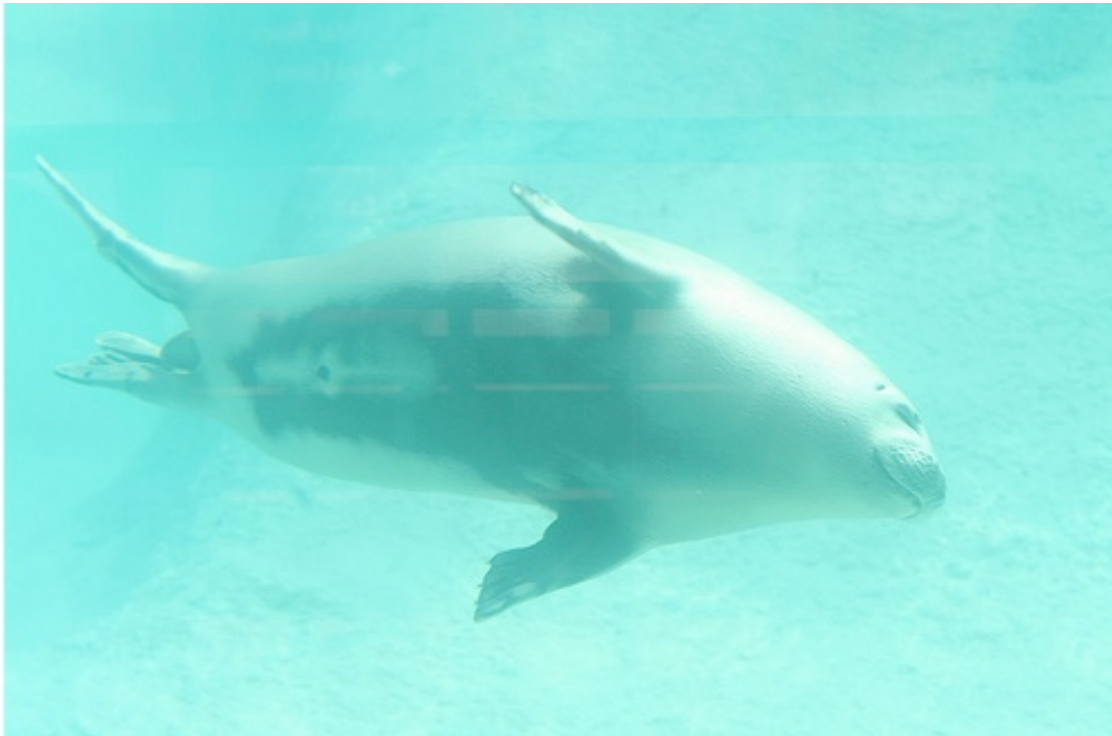


Mother seal and nursing pup (© Flickr user Iijk604)

Harbor seals require open ocean in order to feed, and undisturbed beaches, spits, sandbars, lagoons, bays, and rocky headlands where there is open space at low tide in order to sleep, rest, give birth, nourish young, and mate. Harbor seals migrate annually from cold Arctic waters to warmer shores of the Northern hemisphere in order

to breed. They take part in what is called “hauling out” daily during high tides where adults, mothers with young, and small groups of adolescents all enter the water to feed. When in the open ocean, adult harbor seals maintain distance from one another in order to secure feeding territory. At low tide, they return to land and will bark, chase, and threaten other seals (and humans) that encroach on their territory.

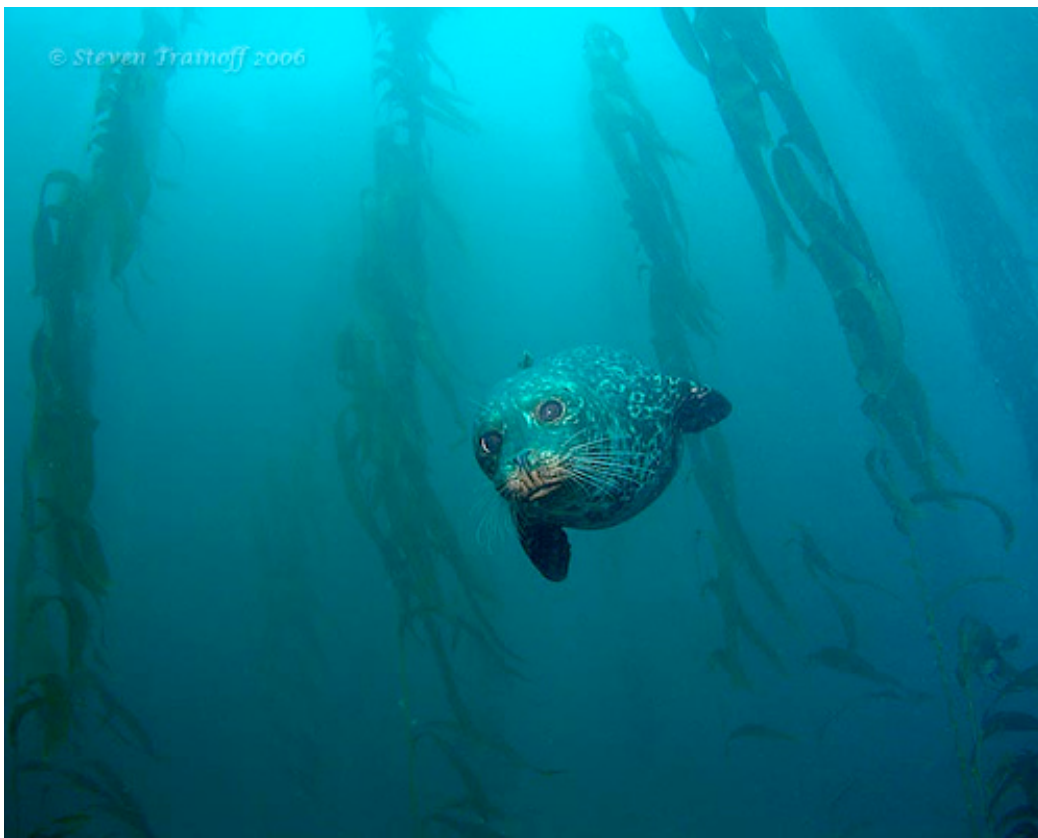
Primary predators of the harbor seal include sharks, orcas, polar bears, walruses, and occasionally sea lions. Seal pup predators may also include raptors, and smaller mammals such as foxes and coyotes. They have evolved predator responses such as speed in water (up to 20 miles per hour) and a grayish coat with black and/or brown spots and a white underside to camouflage themselves on rocks and in water.



Harbor seals are awkward on land, but stealthy and graceful in water (© Flickr user uptonia)

Harbor seals require approximately 5% of their bodyweight in food each day and food selection varies spatially and seasonally. They are considered opportunistic

predators and feed on whatever is available in their particular environment during each season. Their diet consists of schooling fish and bottom dwelling creatures, such as mollusks, crustaceans and squid. As a top order predator in kelp forest and estuarine habitats, the health and availability of the kelp and estuarine grasses affects the quality and availability of food for the harbor seal population that depends on them for survival. The schooling fish that they consume require resources to allow them to survive and reproduce in huge numbers, such as clean water, the health and availability of their own prey species, the health and availability of kelp and aquatic grasses that they (and their prey species) require for protection and spawning, and generally healthy oceanic conditions.



Harbor seal in kelp forest off California coast (© Steven Trainoff Ph.D.)

The harbor seal must co-exist with other species of seals, such as the grey seal and sea lions, which share similar feeding and migration patterns. This not only creates stiff competition, but exposes them to diseases they haven't evolved immunity to. The more habitats become unsuitable for these species, either by overfishing, pollution, and ships, the more they are forced to compete for limited space and resources such as food and available space on land and in water.

Harbor seals' mating strategy involves the formation of harems, where a dominant male harbor seal mates with more than one female. Harbor seal mating season occurs generally from late spring to early fall. They usually feed in the cold waters near the Arctic in winter and spend mating and breeding periods along the west coast of North America, in the Northern Atlantic, and in the Baltic Sea. Harbor seals exhibit certain courtship behaviors, such as rolling in the sand, necking, and blowing nose bubbles. A typical scene is when males perform loud vocal displays and females lay on the beach nursing young and resting.



Male harbor seal barking display (© Pamela Schreckengost)



Mother seal and young (© S.B.L via Flickr)

Harbor seals generally only give birth to one pup at a time each year and gestation lasts nine or ten months. The mother is solely responsible for parenting of the pup and the mother seals and pups form “nurseries” on land. Parenting often ends at the end of lactation, which is approximately 25 days. Seal pups spend roughly half of their adolescence in the water and swim within less than a day of being born. In the water, the pups stay close to and dive with their mother. After they become less dependent on their mother, young seals tend to spend time in the water in groups, unlike the adults who keep uniform distance from one another. The adaptive value of this strategy is that mothers can reserve more energy in order to produce more offspring and fulfill annual migration patterns if they unload their pups early.

Harbor seal populations are currently around half a million worldwide and approximately 40,000 of those (Pacific Harbor Seal subspecies *Phoca vitulina richardsi*) make California coastal areas their home during breeding season. Historically, harbor seals made their breeding destinations all along coasts ranging from Alaska to Baja Mexico, but populations have declined as overfishing occurs, causing their food sources to become limited. Human developments on beaches and on estuaries, and wetland loss have also widely disturbed seal communities that traditionally located there.



A volunteer at The Marine Mammal Center, holding pup rescued at San Francisco Marina (© Flickr user _Nils)

Harbor seals are considered common and generally stable within their range, but their role in the food web is vital. They ensure the survival of not only their predators, but prevent collapse of their prey species by controlling their population so that they don't reach carrying capacity, or the point at which their environment can no

longer provide the resources necessary to sustain them. The importance and influence of harbor seals and other marine mammals to the function of aquatic ecosystems was eventually realized and the Marine Mammal Protection Act of 1972 was placed into effect to protect them from being hunted or otherwise harassed, although certain populations of harbor seals are considered endangered due to threats from overfishing, pollution, and ocean liner traffic.



Harbor seal rookery in Pacific Grove, California (© Steve Johnston)

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