Northern Elephant Seal

Mirounga angustirostris

Photo by John Aschoff

Mirounga - the aboriginal name given to the Southern Elephant Seal
angustirostris – Latin for 'narrow nosed' meaning narrower than its southern cousin

Physical Description:

An adult male elephant seal is quite distinctive. As he reaches maturity he develops a large nose that resembles the trunk of an elephant and a gnarly calloused chest shield. The male can grow to about half the weight of an elephant, ranging between 3,000-5,000 pounds, and 12-14 feet in length. The male Northern Elephant Seal is the second largest pinniped, second to and half the weight of its relative, the Southern Elephant Seal. Adult females are much smaller than males, ranging between 900-1,700 pounds and 8-12 feet in length, with much narrower noses. However, the weight of both males and females is highly variable during the year (see Fun Facts).

The elephant seal is in the *phocid* (true seal) family. Unlike a sea lion, it lacks external ear flaps and moves on land by flopping on its belly. While it may appear slow and clumsy on land, it is an agile and strong swimmer while traveling and foraging. At sea it is rarely seen by humans. A typical dive ranges between 1,200-1,400 feet for 15-30 minutes, followed by breathing at the surface for 2-3 minutes. An adult male can travel over 60 miles per day.

Natural History:

An elephant seal spends most of its life at sea, but must come ashore to island or coastal haul-outs twice during the year: to mate and to give birth in the winter, and to molt mid-year. Most of the animals haul out onto islands off the coast of California and Baja California. However, in recent decades as the islands have become heavily populated several rookeries have been established on mainland beaches. Some of them have become major tourist attractions - Año Nuevo State Park in California hosts a population of about 10,000 animals, and a peak of about 5,000 simultaneously on the beach during breeding season. While the elephant seals appear quite social on land, they are solitary at sea, and the migration patterns of the males and females are quite different. Although there are significant variations among tracked individuals, females tend to head to deeper waters in the northeast Pacific, feeding on small fish and squid. Adult males tend to follow a more northerly route, off the continental shelf in Alaska, feeding on larger bottom dwelling fish. Elephant seals then return to land for about a month in the spring, summer, or fall, with different timeframes for adult males, females, and juveniles.

Reproduction:
Adult male elephant seals start to arrive at the breeding haul-outs in late-November, a little earlier than the females, and begin sorting out their dominance position with other males, a process that continues throughout the breeding season. Males announce themselves ("I am here and I am big") with a distinctive vocalization that sounds like starting a motorcycle engine. The fighting among two large males can be quite bloody and dramatic, with males going chest to chest, biting and slapping the other male's chest, neck, and head until one retreats. This most often occurs between two equally matched males. However, most contests are resolved long before it reaches that bloody climax, often with a quick retreat by a less dominant male once he realizes he might be making a mistake. Although there is usually a single alpha male that tries to control the *harem* (groups of females along with their newly-born pups seeking security in numbers), several less dominant beta males periodically sneak into the harem when the alpha is preoccupied, and can successfully mate with a female.

Starting in mid-December and heavily through January, pregnant females arrive at the breeding haul-outs. Within five or six days of arriving, a female gives birth to a single pup who nurses for about a month. After she stops nursing she remains on the beach for another week or two with the other females and pups in her harem and becomes receptive to the constant advances of the sex-crazed males. Probably pregnant, she then heads back to sea, where she will feed in open ocean waters until her return for molting in a few months.

Life Cycle: A newborn elephant seal pup resembles a three-foot long seventy-pound cigar. Through their squealing and bleating, the mother and pup try to keep track of each other on the crowded beaches. The pup nurses on the mother's thick and fatty milk, which is more than half fat content, and grows to about 300 pounds in a month. By then the mother has done everything she can for her weaned pup (called a *weaner.)* Weaners seem to learn the art of survival on their own. They tend to stay together in weaner pods for 8-10 weeks, where they play and venture into the water to learn to swim. It's a dangerous life for a young elephant seal. About 10% never make it off the beach: they may be separated from a mother and starve, be crushed by a large male in the chaos of mating, or be swept to sea during a winter storm. The weaners eventually venture out to sea. For the first several years, only about half make it back to land, and only about one in five survive the first four years.

Females start breeding at about three years old, and can have a pup each year for their whole life. Males are sexually mature after 5-6 years and full-grown after about 8-9 years. However, in the high pressure contest for females, successful breeding usually happens when they are 10-12 years old. The maximum life span for a female is around 21 years, and 14 years for a male.

Range:
Coast of California and Baja California to the northern Pacific Ocean and Gulf of Alaska.

Diet:
Mostly very small fish and squid for females and larger bottom dwelling fish for adult males, such as hakes, rays, small sharks, and rockfish.

Status:
Protected by the Marine Mammal Protection Act. Listed as "Least Concern" by the International Union for the Conservation of Nature (IUCN). In 2010, the total population size

was estimated to be between 210,000 and 239,000 animals. Information for the population in Mexico is lacking, but at least for US waters most of the growth in population size has been associated with an increase in the size and number of rookeries in southern California's Channel Islands. At rookeries in the USA, the population grew at a rate of 17% per year during 1958-1987, slowing to a growth rate of 3.8% per year during 1988-2010. As of today, the animals have recovered to historical levels, with perhaps as many as over 200,000 animals.

Threats:

Historical:
In the 19th century, Northern Elephant Seals were hunted to near extinction, all for the sake of their blubber, used for oil lamps and soap. They were declared extinct on three separate occasions. Then a small colony of perhaps a few dozen animals (the exact number of survivors is a little uncertain) was found on Guadalupe Island off the Baja Coast. The Mexican government first established protections for the animals.

Current:
Current threats include entanglement in marine debris, fishery interactions, and boat strikes. Orca whales and great white sharks are the major predators of elephant seals.

Fun Facts:

- Elephant seals undergo a *catastrophic molt*. While humans lose and grow layers of skin all the time, an elephant seal must do this all at one time during its molting cycle on land. Because an elephant seal must conserve body heat while at sea, blood is normally shunted away from the skin. During the molt, the seal loses the outer layer of epidermis along with the hair, and blood can then go to the surface to help grow the new layer. Some people mistake the blotchy skin falling off as a disease.

- Elephant seals use delayed implantation to maintain their yearly mating cycle. Since they mate and give birth on land, forage far out to sea, and since their active gestation is a shorter period, the implantation of embryo in the uterus is delayed for several months to accommodate this annual gestation cycle.

- Elephant seals have one of the longest migrations of any marine mammal. The more mature male elephant seals migrate from their haul-outs on the California coast to as far as the Aleutian Islands, a round trip journey of over 5,000 miles as the crow flies, though quite a bit longer as the seal zigs and zags and dives. Keep in mind that they make this journey not ONCE but TWICE a year, once after mating and once after molting.

- Elephant seals usually return throughout their lives to the beach on which they were born. No one knows how they accomplish this feat of navigation. Some animals do relocate to other colonies.

- Elephant seal pups usually only nurse with their biological mother, although some find a second female to nurse from. While a normal weaner grows to about 300 pounds, these *super-weaners* may grow to as much as 600 pounds. These are also known to some naturalists as *double mother sucklers*. There is no apparent survival benefit to this strategy.

- Elephant seals are great dieters. When they are on land, such as during breeding season, they do not eat or drink anything. Both the adult males, which may be on land for 2-3 months, and the females, who give birth and nurse, can lose a third of their body weight during that time.

- Sometimes a few elephant seals travel to the Salish Sea. An adult female made its way to Crescent Beach in East Sound on Orcas Island in 2008. On a few occasions elephant seals have hauled out on San Juan Island to complete their catastrophic molt – once right in the kayak launch spot of San Juan County Park! A few elephant seals consistently haul out on Race Rocks near Victoria, British Columbia, where there have also been several births over the years.

- The longest dive recorded for an elephant seal was over 2 hours. A female that typically feeds off Vancouver Island was tracked at 5,788 feet (the current world record!)

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