

# Marine Mammals

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## Summary and Introduction

Many people are attracted to the Gulf of the Farallones by the variety and abundance of marine mammals that can be seen there. In the gulf, they reign as both apex predators and high-profile or “heroic” species. Some marine mammals migrate through the gulf, whereas others come there to “haul out” on land, rest, and (or) rear their young. They are attracted to the gulf because of the high biological productivity of its waters and the variety of prey species that are distributed and retained there by oceanic circulatory patterns and intense upwelling of nutrient-rich water.

The gulf attracts at least 33 species of marine mammals. Of the 11 species that dominate the coastal and pelagic (open ocean) zones, the humpback whale and blue whale are Federally listed as endangered species and the Steller sea lion is listed as a threatened species. The other dominant species are the gray whale, Pacific white-sided dolphin, harbor porpoise, Dall’s porpoise, California sea lion, northern fur seal, northern elephant seal, and harbor seal.

From the shore, the gray whale is the most commonly seen of the cetaceans (whales, dolphins, and porpoises) in the gulf. Gray whales annually migrate from their feeding grounds in the Arctic Ocean and Bering Sea to the warm lagoons of Baja California (Mexico), where they give birth to their young. They can be seen migrating southward through the gulf beginning in November, and peak sightings are during January and March. A few juveniles may be seen year round. Gray whales are “baleen” whales—instead of teeth, they have numerous long overlapping strips of elastic fingernail-like material (baleen) hanging from their upper jaws that they use to filter out food. Gray whales feed primarily on the shallow bottom (less than about 120 m or 400 ft deep), where they swim on their sides while shoveling up mouthfuls of mud and water to strain out small crustaceans, such as amphipods, and other animals living in the sediment. They also feed in the water column on euphausiid shrimp (krill) and a few fish species, such as herring.

Humpback whales are the most acrobatic of the baleen whales seen in the gulf. They use the gulf and Cordell Bank to the north as feeding grounds during the summer and fall months. Their prey consist primarily of the krill species *Thysanoessa spinifera* and *Euphausia pacifica*, and they also feed on schooling fish, such as herring, juvenile rockfish, and anchovy.

Blue whales migrate to the Gulf of the Farallones during the late summer and are found there throughout the fall. As adults, these giant whales generally weigh more than 100 tons and may be the largest animals that ever lived on Earth, possibly exceeded only by the dinosaur *Ultrasaurus*. These baleen whales feed primarily on krill and, infrequently, red pelagic crabs. Red pelagic crabs are found in the gulf only during warmer-water conditions, such as occur when El Niño events affect the gulf (see chapter on Current Patterns Over the Continental Shelf and Slope).

The most familiar of the pinnipeds (seals and sea lions) in the gulf is the California sea lion. During its nonbreeding season from August through May, males, juveniles, and some females of this species are abundant in the gulf. During that period, 10 to 40 percent of the total local population are females. The sea lions are seen locally on docks, on nearshore rocks, and in large numbers on the Farallon and Año Nuevo Islands, along the Point Reyes headlands, and at Bodega Rock. They feed on anchovy, herring, hake, mackerel, crabs, and squid. In times of low productivity, they have been known to feed on red pelagic crabs, sharks, eels, birds, and algae.

Also common in the Gulf of the Farallones is the northern elephant seal, one of the deepest-diving marine mammals. Adult female elephant seals can dive to depths of 1,200 m (4,000 ft) and males to 1,750 m (5,700 ft). While at sea, these seals are submerged 80 to 90 percent of the time. Hunting, feeding, and sleeping all take place underwater. They come on land only to breed and molt. Their breeding season begins during December and ends in mid-March. Deep-water fish and invertebrates—squid, octopus, hagfish, rattfish, hake, and rockfish—are their primary foods.

Other marine mammals observed in the gulf include four species Federally listed as endangered—fin whale, sei whale, right whale, and sperm whale. Two other species are listed as threatened—Guadalupe fur seal and southern sea otter. Many additional species of marine mammals have been observed in the gulf. Apart from the minke whale, which is a baleen whale, these species are all members of the group known as “toothed whales.” They include the northern right-whale dolphin, short-beaked common dolphin, long-beaked common dolphin, bottlenose dolphin, striped dolphin, spinner dolphin, Risso’s dolphin, killer whale, short-finned pilot whale, pygmy sperm whale, dwarf sperm whale, Cuvier’s beaked whale, Baird’s beaked whale, Hubb’s beaked whale, and Blainville’s beaked whale.

## Cetaceans

The gray whale (fig. 1) is the most commonly seen cetacean (whales, dolphins, and porpoises) from the shore of the Gulf of the Farallones. These baleen whales annually migrate from their feeding grounds in the Arctic Ocean and Bering Sea to the warm lagoons of Baja California (Mexico), where they give birth to their young. They can be seen migrating southward through the Gulf of the Farallones beginning in November; peak sightings are during January and March. Males, newly impregnated females, and juveniles can be seen from February through April, and females with their newborn calves are seen in the gulf from April through June. A few juvenile gray whales may be seen year round. Gray whales are primarily bottom feeders, who power-shovel on their side for bottom-dwelling amphipods (small crustaceans), euphausiid shrimp (krill), and a few fish species, such as herring.

Humpback whales (fig. 2) are the most acrobatic of the baleen whales seen in the Gulf of the Farallones. They use the gulf and Cordell Bank to the north as a feeding ground during the summer and fall months. They feed primarily over the Continental Shelf and the slope break. Surface feeding can be seen as lunges, surface thrusts, and use of bubble nets to entrap their prey. Their prey consist primarily of the euphausiids *Thysanoessa spinifera* and *Euphausia pacifica*, and they also feed on schooling fish, such as herring, juvenile rockfish, and anchovy. Humpback-whale distribution within the gulf depends on the distribution of prey species.

Blue whales (fig. 3), perhaps the largest animal ever to live on the Earth, migrate to the gulf during the late summer and are found here throughout the fall. Their population in the gulf is increasing. At least 785 individual blue whales are found off the coast of California. Their primary feeding grounds are in the Gulf of the Farallones, Cordell Bank, and the Southern California Bight. Their prey consist of krill species, such as *Thysanoessa spinifera* and *Euphausia pacifica*, and, infrequently, red pelagic crabs (*Pleuroncodes planipes*). Red pelagic crabs are found in the gulf only during warm-water events, which may occur during an El Niño-Southern Oscillation.

Pacific white-sided dolphins (fig. 4) are small odontocetes (toothed whales and dolphins) that are seasonally abundant in the gulf from July through October. These small, schooling dolphins occur over the Continental Slope and in deeper waters in large schools ranging in size from tens to thousands of individuals. They are commonly found in mixed groups with Risso’s

dolphins or northern right-whale dolphins. Calves are seen during the spring and summer months. They feed on small schooling fish and squid.

Harbor porpoises (fig. 5) are shy and generally elusive. Sightings are most abundant in nearshore waters, less than 110 m (360 ft) deep. All that is commonly observable of a group of harbor porpoises may be a few (1 to 25) small, dark triangular dorsal fins and no spout or splash. They feed primarily on schooling fish, such as anchovy, mackerel, herring, and smelt, and squid and other invertebrates. Calves can be seen in the gulf during the summer months.

Dall's porpoises (fig. 6) are found farther offshore, along the seaward edge of the Continental Shelf and along the Continental Slope. They are fast moving and often inclined to ride the bow wave in front of a boat. From a distance, their rooster-tail-like splash can be seen as they surface to breathe. They may migrate seasonally between inshore to offshore, and are found inshore during the summer months. Dall's porpoises are primarily nocturnal feeders, seeking such prey as anchovies, squid, crustaceans, and deep-water fish.

Males, juveniles, and some female California sea lions (fig. 7) are abundant in the gulf during their nonbreeding season, August through May; 10 to 40 percent of the total local population are females. The sea lions are seen locally on docks, on nearshore rocks, and in large numbers on the Farallon and Año Nuevo Islands, along the Point Reyes Headlands, and at Bodega Rock. A few pups are born on South Farallon and Año Nuevo Islands during the summer months. California sea lions are gregarious and can be seen leaving their haulouts (onshore resting areas) in large numbers in search of prey. They feed on anchovy, herring, hake, mackerel, crabs, and squid. In times of low productivity, they have been known to feed on red pelagic crabs, sharks, eels, birds, and algae.

Fur seals were once abundant along the California coast, but it is uncertain which species (either the northern fur seal or the Guadalupe fur seal). Fur seals were all but exterminated from their breeding areas within California during the early 1800's; an estimated 100,000 hides were collected from the Farallon Islands. Today, northern fur seals (fig. 8) migrate to the Gulf of the Farallones in relatively dense numbers, about one fur seal per square kilometer (about 2/3 square mile). Visitors to the shorelines of the gulf do not readily find fur seals on beaches or rocks. The seals are pelagic during their nonbreeding season (September through May), and individuals seldom come ashore. Their dense fur protects them from heat loss to the water and allows them to spend more time feeding at night on such species as sablefish, rockfish, anchovies, squid, and crabs. Northern fur seals have been known to feed on birds in times of low productivity and low food availability. During 1996, two potential breeding harems were discovered on West End Island, in the South Farallon Islands group.

Steller sea lions (fig. 9) are Federally listed as threatened under the Endangered Species Act; their population has been in decline since the mid-1970's. Steller sea lions once bred in great numbers at the Channel Islands in the Southern California Bight, but since 1982, the southernmost breeding colonies of Steller sea lions are within the Gulf of the Farallones on Año Nuevo Island and in the Farallon Islands. Steller sea lions are the largest of the otariid species found worldwide. The males can reach a length of 280 cm (9.2 ft) and weigh 1,000 kg (2,200 lbs), and adult females can reach a length of 240 cm (7.9 ft) and weigh 273 kg (600 lbs). Females and juveniles stay within the Gulf of the Farallones year round, while males migrate northward and offshore during the nonbreeding season, beginning at the end of August and ending in May. Steller sea lions feed primarily on rockfish, sardines, smelt, squid, octopus, and salmonid fish.

Northern elephant seals (fig. 10) are one of the deepest diving marine mammals. Adult female elephant seals can dive to depths of 1,200 m (4,000 ft) and males to 1,750 m (5,700 ft). While at sea, they are submerged 80 to 90 percent of the time. Swimming, hunting, feeding, and

sleeping all take place underwater. They come on land only to breed and molt. Their breeding season begins during December and ends in mid-March. Females and immatures (yearlings juveniles and subadults) return to the haulout sites to molt during the spring, and males molt during the summer. Deep-water fish and invertebrates are their primary food source—squid, octopus, hagfish, ratfish, hake, and rockfish.

Harbor seals (fig. 11) are cosmopolitan and can be found throughout the Northern Hemisphere. The Gulf of the Farallones provides feeding grounds, haulout space, and pupping areas for one-fifth of California's harbor-seal population. Harbor seals reside in the gulf year round, but some individuals may disperse northward and southward of the gulf during the nonbreeding season, June through February. Harbor seals are shy while on land, fleeing into the water when perceived danger approaches. However, they can commonly be seen on nearshore rocks and in the surf zone, curiously following beachcombers. They feed in shallow waters on whatever is locally abundant, such as anchovy, herring, hake, smelt, rockfish, mackerel, or squid. They are rarely found in water deeper than 180 m (590 ft).

The following marine mammal species have been documented, through live or dead specimens, in the Gulf of the Farallones.

#### Cetaceans

##### Mysticetes

- Blue whale (*Balaenoptera musculus*)<sup>1</sup>
- Fin whale (*Balaenoptera physalus*)<sup>1</sup>
- Sei whale (*Balaenoptera borealis*)<sup>1</sup>
- Minke whale (*Balaenoptera acutorostrata*)
- Humpback whale (*Megaptera novaeangliae*)<sup>1</sup>
- Gray whale (*Eschrichtius robustus*)
- Right whale (*Eubalaena glacialis*)<sup>1</sup>

##### Odontocetes

- Harbor porpoise (*Phocoena phocoena*)
- Dall's porpoise (*Phocoenoides dalli*)
- Pacific white-sided dolphin (*Lagenorhynchus obliquidens*)
- Northern right-whale dolphin (*Lissodelphis borealis*)
- Short-beaked common dolphin (*Delphinus delphis*)
- Long-beaked common dolphin (*Delphinus capensis*)
- Bottlenose dolphin (*Tursiops truncatus*)
- Striped dolphin (*Stenella coeruleoalba*)
- Spotted dolphin (*Stenella attenuata*)
- Risso's dolphin (*Grampus griseus*)
- Killer whale (*Orcinus orca*)
- Short-finned pilot whale (*Globicephala macrorhynchus*)
- Sperm whale (*Physeter macrocephalus*)<sup>1</sup>
- Pygmy sperm whale (*Kogia breviceps*)
- Dwarf sperm whale (*Kogia simus*)
- Cuvier's beaked whale (*Ziphius cavirostris*)
- Baird's beaked whale (*Berardius bairdii*)
- Hubb's beaked whale (*Mesoplodon carlhubbsi*)
- Blainville's beaked whale (*Mesoplodon densirostris*)

## Pinnipeds

### Otariids

California sea lion (*Zalophus californianus*)

Northern fur seal (*Callorhinus ursinus*)

Steller sea lion (*Eumetopias jubatus*)<sup>2</sup>

Guadalupe fur seal (*Arctocephalus townsendi*)<sup>2</sup>

### Phocids

Harbor seal (*Phoca vitulina*)

Northern elephant seal (*Mirounga angustirostris*)

## Fissipeds

### Mustelids

Southern sea otter (*Enhydra lutris*)<sup>2</sup>

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<sup>1</sup>Federally listed as an endangered species.

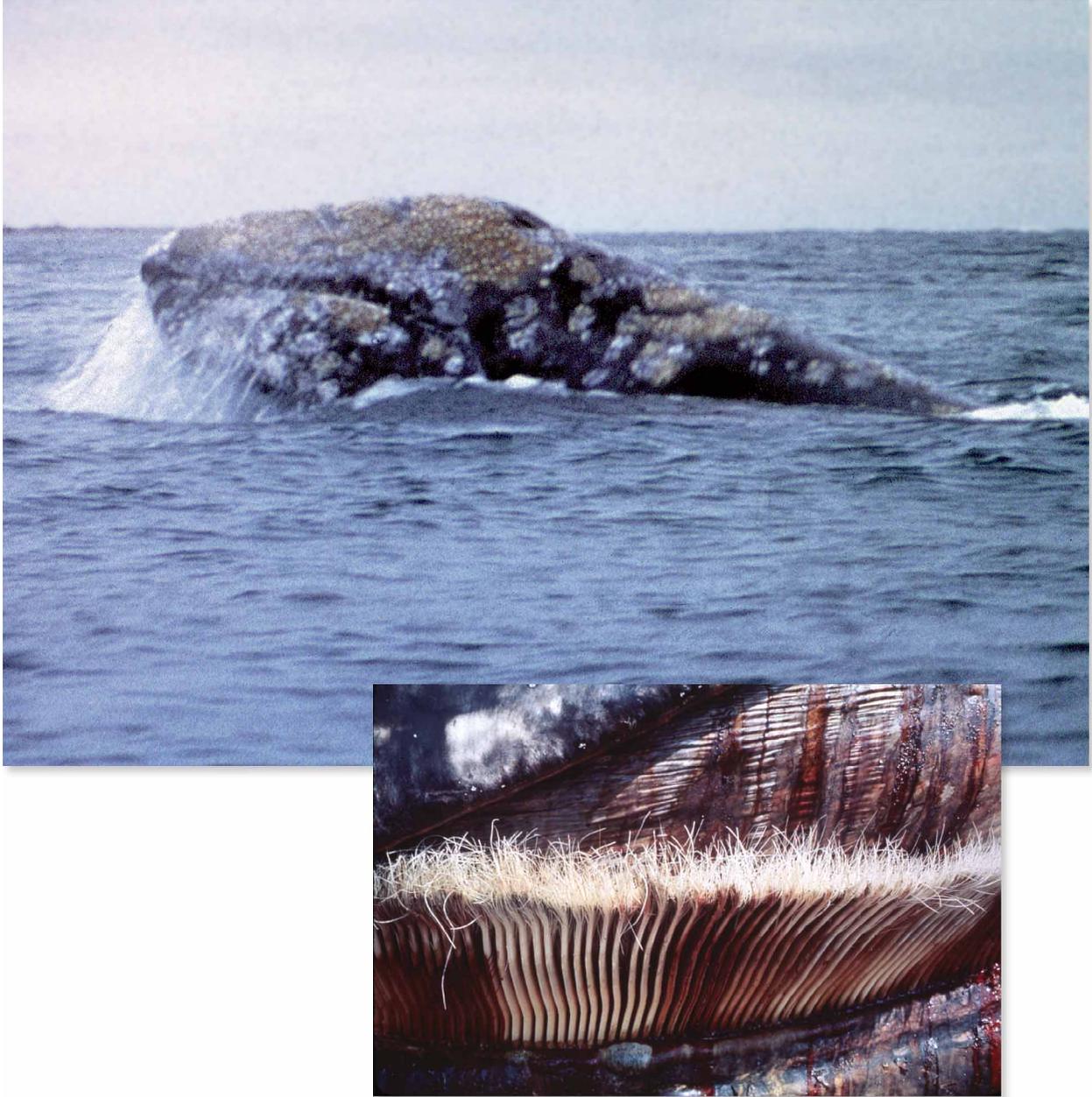
<sup>2</sup>Federally listed as a threatened species.

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**Figure 1.** Gray whale straining water from its mouth (photograph courtesy of Jim Cabbage). Gray whales are “baleen” whales—instead of teeth, they have numerous long overlapping strips of elastic fingernail-like material, called baleen (inset), hanging from their upper jaws that they use to filter out food (inset photograph from Gulf of the Farallones National Marine Sanctuary).



**Figure 2.** Humpback whale swimming underwater. (Photograph from Gulf of the Farallones National Marine Sanctuary.)



**Figure 3.** A blue whale as seen from the air. The Blue whale is perhaps the largest animal ever to live on the Earth. (Photograph courtesy of Jim Cabbage.)



**Figure 4.** Pacific white-sided dolphin (above) and northern right-whale dolphin (below) swimming underwater. (Photograph courtesy of Ken Balcomb.)



**Figure 5.** The distinctive triangular dorsal fin of this marine mammal helps identify it as a Harbor porpoise. (Photograph courtesy of Isadore Szczepaniak.)



**Figure 6.** Dall's porpoise and the distinctive rooster-tail splash it creates as it surfaces at high speed. (Photograph courtesy of John Calambokidis.)



**Figure 7.** Immature California sea lions at play in the surf. (Photograph by Jan Roletto, Gulf of the Farallones National Marine Sanctuary.)



**Figure 8.** Adult male northern fur seal at a breeding colony. (Photograph by Jan Roletto, Gulf of the Farallones National Marine Sanctuary.)



**Figure 9.** Adult male and female Steller sea lions at a breeding colony. This species is Federally listed as threatened under the Endangered Species Act. (Photograph courtesy of Robert Wilson.)



**Figure 10.** Adult females and immature northern elephant seals at Southeast Farallon Island. Inset shows the characteristic nose of an adult male. (Photographs from Gulf of the Farallones National Marine Sanctuary.)



**Figure 11.** Harbor seals resting on shore. (Photograph from Gulf of the Farallones National Marine Sanctuary.)