

BREEDING & CALVING

Gray whale courtship and mating behavior is complex, and frequently involve 3 or more mixed sexes. Primarily, the mating and calving both occur in the lagoons of Baja California, although both have been observed during the southern migration in December and January.

Gray whales reach sexual maturity at 5 to 11 years of age, or when they reach 36-39 ft (11-12m) in length (*American Cetacean Society*).

The gestation period is about 12-13 months. Calving begins about mid December, and peaks in early February. Females give birth every 2-3 years after they become sexually mature at the age of 7-8. The calf is born tail first. Calves nurse 7-8 months on milk that is 50% fat. Their growth is rapid, and sustained by the thick, lumpy milk which sticks to the calve's baleen. In the Baja lagoons, there is almost constant physical contact between mothers and calves. The lagoon water temperature can help to conserve the newborn whale's body heat.



Baleen have twin blow holes

FEEDING

The gray whale is one of several "baleen" whales belonging to the suborder *mysticetes*. They gather their food by tilting their head to one side and skim the murky ocean floor. Sometimes making a hole in the seabed as big as a desk top and a foot deep. They use their tongue to push the water, mud and sand out against the baleen trapping the amphipods (shrimp-like animals) in its fibers and use their tongue to scrap the food from the baleen.

In the summer feeding grounds of the *Bering* and *Chukchi Seas* off Alaska, they feed primarily on benthic amphipods (bottom-dwelling, shrimp-like animals). During migration they feed little or not at all. Some individuals remain in Pacific Northwest waters off-shore of Washington and Oregon, and feed on mysids and other planktonic animals.

Baleen consists of up to several hundred individual plates that hang down from the upper jaw. It is keratin, a fibrous material, and is similar to the fingernails of humans. It is stiff and solid at its outer edge, and fringed inside the mouth. It may be several inches wide where it is attached to the roof of the mouth, and tapers to nearly a point at its bottom. The thick elastic baleen is white to yellow and spaced about 1/3 inch apart. They may have 138 to 180 baleen plates on each side of the mouth. The gray whale has the coarsest baleen of all the baleen whales.



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4-27-06

Gray Whale

(*Eschrichtius robustus*)



Gray whale spy hopping
Photo by NOAA

The gray whale is the most common large whale seen from shore along the west coast of North America.

At *Face Rock Wayside*, Beach Loop Rd., Bandon Oregon, the altitude is about 70 feet above sea level. At this height, visibility on a clear day is around eleven miles to the horizon. Twice a year on their migration southbound and the return north, the gray whale can be seen passing close along the Oregon coast. The early morning hours on a cloudy day are the most favorable for spotting the gray whale. Weather that favors a calm ocean is best before the wind creates whitecaps, and when there is little glare from the sun. The whale's blow is seen framed against the darker ocean background.

The migration is 10,000 miles 'round trip, the longest known for any mammal. In November, gray whales start to leave their summer feeding grounds in the Arctic sea. Pregnant females lead the way, followed by mature adults of both sexes, then juveniles. By later December they are often seen hourly heading south.

After 57 years of protection from commercial hunting, the gray whale population has recovered sufficiently to be removed from the endangered species list in 1994. At that time, the population was estimated at 23,000 which is now thought to exceed the pre-whaling population.

Gray whales are protected under the Marine Mammal Protection Act of 1972 by National Marine Fisheries Service guidelines that require boaters not to approach within 100 yards (95 m) of the whales. Inappropriate tourism can be a harassment that affects the animal's use of important habitats. Industrial development in some of the breeding, calving, and migration areas may be the greatest threat to the gray whales' future.

The only natural predator of gray whales is the Orca (killer whale). The Orca tends to show up along the Oregon coast during late April and May and may target females and calves migrating north.

Whales travel at about five miles per hour when going South, and about half that speed when going North. By early February they have reached their breeding and calving grounds in three major lagoons along the west coast of Baja California.

The immature animals, adult males, and females without calves are the first to head North passing Oregon in March and April. Females with calves move somewhat slower, passing the Oregon Coast as late as May.

PREDATOR -
The Orca

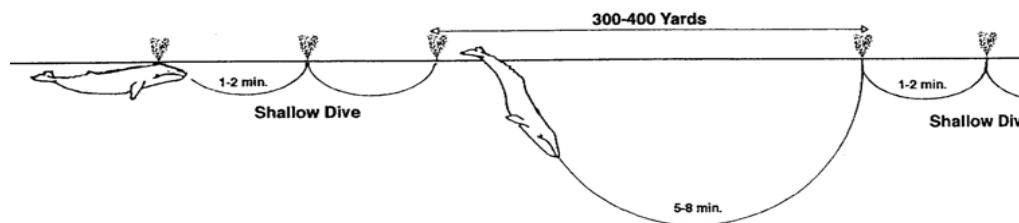
WHAT TO LOOK FOR

Baleen whales have two blow holes. When the gray whale comes to the surface to breath, there is a blow or spout of moisture. The blow is not a fountain of water, but a vapor like mist that condenses from the warm moist air as it is exhaled under high pressure from the lungs. Gray whales have a rhythmic breathing pattern of three to five short, shallow dives of less than a minute each, and then a long, deep dive of about 5 - 6 minutes. A general rule is one short dive and blow for every minute spent in the deep dive. When the fluke (tail) comes out of the water, it usually signals a deep dive (sounding). See diagram below.

BEHAVIOR

Breaching - this may be the whale's most spectacular behavior. One-half to three-fourths of its body length comes out of the water, then pivots and falls on its side or back, creating a tremendous splash! Biologists believe that they may take this action to knock off the parasitic barnacles and whale lice, or it is a form of communication, or they do it for fun! If one whale is seen breaching, there are often others that will follow.

DIVING PATTERN



Blowing and Sounding - These are the most commonly seen behaviors. Because they are air-breathing mammals, they must frequently come to the surface. When they do, they exhale with great force through the twin blowholes on the head. The warm, condensed air pushes sea water upwards and forms a 'plume of moisture in the air. This is called the "blow." A deep dive is referred to as "sounding."

Spy Hopping - The whale brings its head vertically up out of the water for several seconds. Some biologists speculate that this is for visual orientation, but the eyes are often under water. It has been suggested that these mammals are not good navigators, which is why they swim so close to the shore. It may be that when spy hopping they are listening to the sounds of the surf.

GRAY WHALE QUICK FACTS

- * **Adult Male length:** 45 - 46 ft (13 - 14 m)
- * **Adult Female length:** slightly more
- * **Weight for both** 30 - 40 tons (31.5 metric tons).
- * **Female gives birth** about every 2 - 3 years
- * **Gestation Period** is 12-13 months
- * **Calf birth Weight** - about 1 ton (0.9 metric ton)
- * **Calf length at birth** 12 - 15 ft (4.5 m)
- * **Full Migration** from the Bering Sea to Mexico lagoons and back is approximately 10,000 miles (16,000 Km)
- * **Time of one-way trip:** 5 to 8 weeks
- * **Primary Diet:** bottom feeders; benthic (bottom-dwelling) amphipods (shrimp-like animals)

Resources: American Cetacean Society, NMML, NOAA, Oregon Institute of Marine Biology.
Photos: Pubic Domain