

FEEDING

North Pacific humpback whales feed on small schooling fish (e.g., herring, smelt and sand lance) during the summer months when fish stocks are most productive. South Pacific humpbacks feed primarily on Krill near Antarctica. Humpbacks can consume nearly a ton of food in a single day. During their summer feeding cycle, they store enough energy to last the rest of the year. Generally, they do not feed on the winter breeding grounds, although limited evidence suggest they may feed opportunistically en route and near their breeding grounds.

Avoid excessive zooming if using video or movie cameras to film whales – this will only accentuate the motion of the vessel or aircraft. You may severely damage a video camera (and your eyes) by filming directly into bright, glaring sunlight.



WHALEWATCHING TIPS

Humpbacks are easily observed from land, sea, or air because their tendency to congregate close to shore. The likelihood of seeing a whale decreases with increases in sea state, wind speed, sun glare, or other conditions that may hamper visibility. Weather conditions influence sight ability of whales more than time of day.

While good photographs of whales can be taken with any type of camera, a 35 single lens reflex (SLR) is recommended for ease of operation and flexibility. This will allow you to use a variety of lenses that are readily available and easily changed. An 80–200mm zoom is probably the best general propose lens to purchase.

Binoculars can help provide more details observations for behaviors when viewing whales from land, 10x50 wide-angle binoculars are best. From boats or airplanes, use 8x40 or 7x50 binoculars instead.

HOW TO TAKE GREAT WHALE PHOTOS

Set your shutter speed for 1/500th of a second or faster to freeze the movement of the whale, and minimize motion effects of the vessel, ocean, or your body.

- Ensure the horizon is level in the viewfinder
- Hold the camera steady
- Depress the shutter release slowly
- Do not follow the whale though its movements with the camera as this will blur the image
- Use print or slide film with ASA of 100 or greater

Always take precautions to protect your skin from the sun. use a waterproof sun block that a sun protection Factor of 30 (SPF 30). A visor or hat and UV blocking sunglasses will make viewing more present.



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WHALE WATCHING INFORMATION

WHAT ARE WHALES?

Cetaceans (whales, dolphins and porpoises) include the world’s largest living animals. They are not fish but air-breathing, warm-blooded mammals that nurse their young. These 78 species of cetaceans range in size from the 100 foot long blue whale to the relatively small five foot long harbor porpoise.

There are two types of whales: odontocetes, (Toothed) and mysticetes (baleen). Toothed whales, including sperm, killer and beaked whales, and all porpoises and dolphins, feed primarily on fish and squid; killer whales also feed on small marine mammals and other marine whales. While adult baleen whales are toothless, they have rigid strips of material similar to human fingernails, called baleen, hanging down their upper jaws. The whales feed by straining water through the baleen, catching thousands of small fish and planktonic organisms. Blue, Grey, Right and humpback whales are baleen whales.

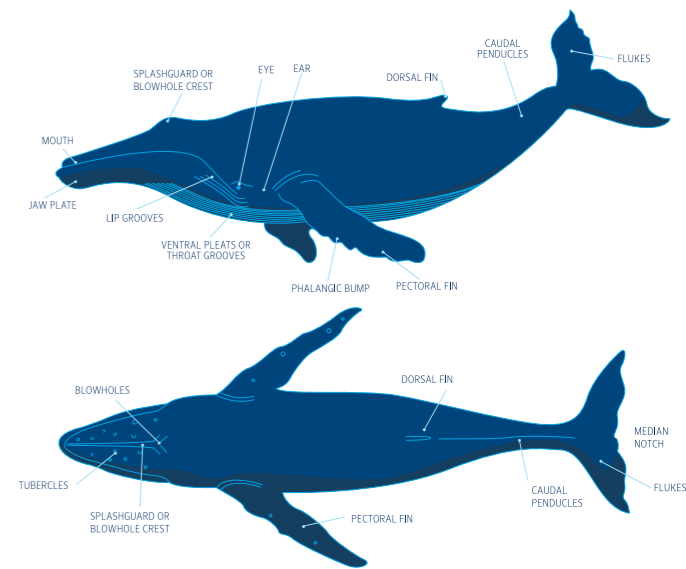
HUMPBACK WHALES

The Humpback whale is the fifth largest of the great whales. Distinct populations are found in each in the world’s oceans.

Newborn calves, weighing on average 1.5 tons, range from ten to sixteen feet in length. Males may reach 43 feet in length, while females are slightly larger, averaging 45 feet. A mature humpback weighs up to a ton per foot, or 80,000 pounds. Humpbacks live for approximately thirty to four years.

The illustration above shows the basic external parts of a humpback whale. Greyish-black in color, they have white markings which are distinct to each individual. A whale swims by moving its tail or flukes up and down; fish move their tails from side to side. The flippers or pectoral fins, located on each side of the whale, are used to turn and steer. These fins are actually modified forelimbs, with a bone structure similar to that of the human hand and arms. Humpback’s head has tubercles (fleshy knobs) along their upper and low jaws. Each tubercle has a single and is believed to enhance sensory ability. Expandable ventral throat pleats increase the capacity of the mouth during feeding.

The Humpback’s scientific name, megaptera novaeaniae (great wings of New England) refers to its huge fifteen-foot pectoral fins. The name “hump-backed” whale, first coined by early whalers, probably resulted from the appearance of the arching of the caudal peduncle while diving, coupled with the prominent dorsal fin.



MIGRATION AND DISTRIBUTION

North Pacific Humpbacks spend the summer in the temperate waters from the Aleutian Island of Alaska to the Farallon Islands off the coast of Central California. During the colder winter months, November to May, the majority of the North Pacific stock is found in the warm waters of Hawaii and México, where they breed, calve, and nurse their young. The remaining animals are found throughout the islands south of Japan. In the South Pacific, Humpback feed near Antarctica in the austral summer. November to May, and spent the austral winter, June to October, breeding off Australia and South Pacific Island. Consequently, northern and southern hemisphere stocks do not intermingle.

Humpbacks are not fast swimmers, while they can attain speeds of 20 mph four brief periods, they average three to six mph during migration. How long it takes to travel the more than 3,500 miles between the feeding and breeding areas is not know. At least one animal traveled the distance in less than 40 days. Timing of the migratory cycle ensures that pregnant females and mothers with newborn calves spend the majority of their time in relatively warm water. Research indicates that humpbacks may use acoustical cues, currents and temperature changes, and even the earth's magnetic fields to "home in" on their breeding and feeding grounds.

Some movement of individual humpback whales between breeding areas has been documented. Whales photographed in Mexico one year have been observed in both Mexico and Hawaii the same winter!



■ Winter Breeding Areas ■ Summer Feeding Areas
→ Migration Routes

REPRODUCTION

Humpback calves are both conceived and born near Banderas Bay; the gestation periods is 10-12 months. Although sightings of calves are common during the winter, no well-documented evidence of an actual birth exists.

After a calf is born, its mother will remain close to the shore, resting and nursing her newborn. Calves survive in their mother's fat-rich milk for six to eight during their first year.

Often mothers and calves are accompanied by a third whale called an escort. The escort whale, assumed to be a sexually active male, remains with the mother and calf for less than a day, with most associations lasting a few hours. Males and females do not form long-term pair bonds. Although it has never been documented, mating may occur in association with large surface-active groups of whales that include a single receptive female who is pursued of males. While males do not fight to the death, they do engage in a variety of intensely aggressive behavior.



COMMUNICATION AND SONG

Both male and female humpback whales produce a wide array of sounds, including the highest and lowest frequencies human can hear. How Humpback create these sounds is unknown, since they do not have functional vocal cords. Some evidences suggest that these sounds are produced by various valves and muscles in a series of blind sacs which branch off within the respiratory tract.

Male humpbacks produce long, complex patterns of sound that they repeat for extended periods. Discrete notes or units occur in patterned sequences that make up a phrase. Usually uniform in duration, phrases may contain repeated sounds. A consecutive group of phrases constitute a theme. Although a given theme may vary in the number of phrases it contains, its sequences is always the same. Similarly, the sequences in which themes occur

is always the same, although some themes may be left out. A predictable series of themes forms a song. The song may serve attract females, or to maintain the distance between singers.

SONG SESSIONS

A song generally last between six and eighteen minutes, depending in the number of phrases it contains. A male may repeat his song many times with a minute of pause. As the season progresses, small changes occur in the song. New may be introduced or old ones may be altered. While little or no singing takes place during the summer, vocalizations associated with group feeding have been recorded. When the whales return the following winter, they sing the version popular at the end of the previous breeding season. An analysis of songs collected from Mexico, Hawaii, and Japan within the same season indicates virtually all North Pacific Humpbacks constitute one population.



IDENTIFICATION

Then dealing with an endangered species, the use of non-intrusive techniques to better understand their life parameters is important. As a Humpback dives, it frequently lifts its tail out of the water revealing a unique pigmentation pattern on its underside. Each animal can be individual identified by a photograph may then be cataloged, complete with information about the sighting (date, time, pod, composition, travel direction, presence/absence of a calf).

Humpback whales may also be identified by their dorsal fin shapes, lateral body markings, and lip grooves. More than two thousand Humpback whales have been identified in the north Pacific. Although a relatively small number of whales have been re-identified on subsequent occasion, these photographs provide important insight into migratory routes, population estimates, social structure, behavior, longevity, and reproductive rate. More importantly, a variety of

benign techniques (such as photo identifications, acoustic monitoring, genetic analysis and satellite tracking) that are currently available, remove the need to kill whales in order to understand them.

BEHAVIOR KEY

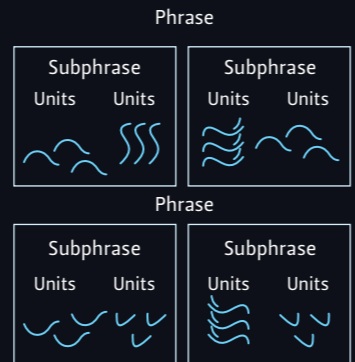
The following behaviors, most visible from boats and shoreline lookouts, are high energy activities that may serve a number of social functions. They must be interpreted in the full context of the seasons and locations in which they occur to understand their significance and purpose.

BLOW

The normal pattern of exhalation and inhalation at the surface. This term refers to both the act of breathing and the cloud of water condensation produce above the animal's head during the process of exhalation.

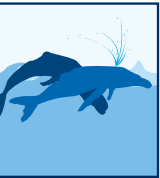


SONG



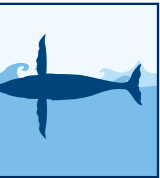
ROUND OUT/ PEDUNCLE ARCH

The whale begins a diving descent by arching its body slightly while rolling ahead at the surface (round out). As the caudal peduncle appears, the whale may arch high above the water, perhaps in an attempt to dive more deeply (produce arch).



FLUKE-UP / FLUKE - DOWN

Following a peduncle arch, the humpback will usually bring its flukes above the surface of the water. In a flukes up dive, the flukes may be brought straight up in the air exposing the entire ventral surface and displaying the unique pattern of markings found on each whale. In fluke down dive, the flukes are brought clear of the water but



PEC SLAP

Humpbacks frequently roll sideways at the surface, slapping their pectoral fins against the water. Humpbacks also lay on their backs waving both fins in the air at the same time before slapping them on top of the water.



HEAD RISE

The whale rises relatively straight up out of the water rather slowly, maintains its head above the surface to just below the eye, often turns 90-180 degrees on its longitudinal axis, and then slips back below the surface.



TAIL SLAP

This forceful slapping of the flukes against the surface of the water can be carried out while the whale is lying either dorsal up or ventral up in the water.



PEDUNCLE SLAP

An aggressive behavior in which the rear portion of the body, including the caudal peduncle and the flukes, is thrown up out of the water and then brought down sideways, either on the surface of the water or on top of another whale.



HEAD SLAP

Lunging head-first out of the water, the whale pounds its massive, sometimes partially engorged mouth on the water's surface. The head can rise 20 feet above the water at the peak of the display.



BREACH

The whale propels itself out of the water generally clearing the surface with two-thirds of its body or more. As the whale rises above the water, it throws one pectoral fin out to the side and turns in the air about its longitudinal axis.

