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NORTHWEST WILDLIFE PRESERVATION SOCIETY

Humpback Whale

Megaptera novaeangliae



Photo courtesy of WordPress

from <http://rtim.wordpress.com/2010/08/15/jonah-and-the-whale-watch/>

By Veronica Pagowski

The humpback whale is a captivating creature. It is one of the most photographed and well-known species of whales and it boasts some of the most unique characteristics among its relatives. Although this species gets a lot of attention from scientists and observers alike, there are still many mysteries that enshroud the lifestyle and behavior of the humpback whale. We are still uncertain of the purpose of the long “songs” that emanate from this whale. These songs are unique to each population of humpbacks but evolve and change over time within populations. Each male humpback will sing the same song, often in harmony with its community members. These songs last around 20 minutes and can be repeated for hours. The complexity of the moaning songs of humpbacks has puzzled scientists for years, though we suspect that they play a role in finding or attracting mates and in communication that reinforces social structure and hierarchy. Another characteristic of the humpback whale that continues to puzzle as well as inspire us is its unique habit of propelling itself out of the water (breaching) that is so often captured in photographs (like the one above). These whales, once hunted to near extinction, are making a comeback. Their populations have been growing in British Columbia and around the world over the past few decades, offering us an exciting opportunity to learn more about this amazing species, and perhaps to begin to uncover some of the mysteries that surround its behavior and habits.

Characteristics

The humpback whale is fairly recognizable. These whales are covered with wart-like projections (called tubercles) around the mouth and head. A hair, which may serve a sensory purpose such as detecting movement in the water, protrudes out of each tubercle. The long flippers (about one third the length of the entire body) of the humpback are scalloped on the edge and (like the tail and much of the rest of the whale’s body) can be covered with whale lice and multiple different species of barnacles. The humpback whale has a very small dorsal fin and gets its name from its habit of arching its back while swimming. A large lump usually protrudes from the lower lip of the humpback whale. However, the purpose of this strange feature is still unknown. A few decades ago, scientists began identifying humpback whales by the white blotching underneath the tail, which is unique to each whale. This discovery revolutionized the way

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we track whales because it allowed for the identification of specific individuals. This white blotching continues from the tail to the stomach of the whale, which is black on its dorsal side. Humpback whales are about the size of a city bus, weighing around 40 tons and measuring up to 19 meters in length. Though humpbacks can be confused with other baleen whales at a distance, they are fairly recognizable by their small dorsal fin, two blowholes, and long scalloped fins at a closer distance.

Life Cycle

Humpback whales are one of only two species of whales that have predictable and unchanging migration routes (the other species is the grey whale) and have one of the longest migrations of any mammal on Earth. These whales feed and live in cold northern waters during the summer months and come to breed in warmer waters after they have stocked up on food and accumulated enough fat reserves to survive winter months almost entirely without eating. British Columbia is home to two separate humpback whale populations during summer months. The northern population migrates to Central America and Mexico during the winter, while the southern BC population situates itself near the Hawaiian Islands during the winter.

Humpback whales live at least 50 years and are not fully grown until they are about 10 years old; however, they usually begin mating at around six to nine years of age. Females often swim touching their young and nurture their calves for about a year, but males typically do not help in caring for the young. Although humpbacks can create long-lasting friendships with their conspecifics, they are usually solitary creatures or travel in small groups of three or four unless they are hunting for food. Humpbacks reproduce every two to three years, usually in shallow waters, and typically have a gestation period of 11-12 months. Once born, the mother's high fat (around 35%) milk nourishes the calf and helps it grow quickly.

Habitat

Humpback whales can be found in every ocean, however, scientists usually recognize four major stocks of the species. Two populations migrate within the Pacific Ocean and a third stock is concentrated near Asia. A fourth particularly interesting population lives only in the Arabian Sea and never migrates. It is estimated that this stock has remained stationary for over 60,000 years (when the Arabian Peninsula was joined to Asia) and may constitute new race because of such a long-term isolation from other populations.

Behaviour

Like other baleen whales, the humpback whale acquires its food by filter-feeding. Large plates of baleen, made mostly of the keratin (the same material as our fingernails) are used to filter water from the food that the whale swallows. Water is ejected as the whale's massive tongue pushes it toward the frilled cavity of the baleen that traps food inside the whale's enormous mouth. In this way, humpback whales can consume anywhere from 1 to 1.5 tons of food every day while preying only on small fish, krill, and plankton. Humpbacks also have a particularly interesting way of hunting for prey which involves designated roles and lots of teamwork. Their ingenious strategy for gathering massive amounts of fish is called bubble netting. Each whale in a group of about four or five has a specific role to play. First a group of fish is gathered by the whales by circling around the school from the bottom and sides. The leader of the group surrounds the fish with a wall of bubbles and drives them upwards. Finally the fish are immobilized as the humpbacks use the fins to slap at the conglomeration near the surface of the water. A feast follows in which each whale can eat up to half of its daily food consumption (The BBC and widescreen archive websites have great video demonstrations at the following websites: http://www.bbc.co.uk/nature/life/Humpback_whale#p00jtfwv and <http://www.arkive.org/humpback-whale/megaptera-novaeangliae/video-08b.html>). However, this slapping behavior is not only used for hunting. Humpback whales may breach or slap the water with their flippers or tails to communicate and

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demonstrate dominance over others. Humpbacks can also create magnificent bubble displays in order to display dominance and compete with others in their community.

Humpbacks are famous for their “songs” in which a series of melodies can be repeated for as long as 24 hours. The purpose behind these moaning sounds is still somewhat of a mystery to scientists and an awe-inspiring event for divers and researchers lucky enough to witness it first-hand (to listen to some of these songs you can visit National Geographic’s website on humpback whales and listen to the audio at <http://animals.nationalgeographic.com/animals/mammals/humpback-whale/>). These songs can be heard from many kilometers away and individuals from great distances have been known to harmonize with each other.

Threats

The humpback whales only natural predator is the orca. Yet, even orcas rarely attack this enormous species and never do so individually. Far and away the greatest threat comes from humans. Whaling has been a major threat to humpback whales historically and caused a drastic decline in the species of over 98%. Before its introduction, it is estimated that humpback whale populations around the globe reached about 100,000. In 1966, at the end of the whaling era, only about 1400 Humpbacks remained in the north Pacific (home to a vast majority of the world population). Today these mystical creatures are making a comeback. It is estimated that there are about 25,000 Humpback whales around the globe in the world today. Though humpback populations have been increasing over the past few decades, their populations are still at risk. Whaling is no longer legal and doesn’t constitute as much of a risk as it once did, but other human impacts may prove harmful to humpback populations in the future. Noise pollution, water pollution, and overfishing are some of the ways we may negatively affect humpback populations if we are not weary of the way we interact with our oceans and the animals that inhabit them. Pollution and overfishing, however, will affect the health of many other species besides the humpback whale, as well as the health of our oceans in general.

What We Can Do To Help

- The increased presence of large boats has been shown to inversely affect the populations of humpbacks and other whales. Collisions with boats can injure or even kill whales. Be weary of boat laws and take precautions to avoid causing such collisions with boats.
- Never throw antibiotics or strong acids or chemicals down the drain, these may end up in the ocean! Many cities provide special facilities for disposing of these materials.
- Reuse and recycle! This may not affect humpback whales directly, but it helps in maintaining a healthy environment on land and in the ocean because we are using fewer resources from our land and throwing less out. In turn, less trash ends up dumped in the ocean or in a landfill.
- Volunteer or donate to help organizations like the Northwest Wildlife Preservation Society or any other organization that supports wildlife or ocean conservation.
- Participate in shoreline cleanups to help ensure harmful debris doesn’t enter our marine and freshwater ecosystems.
- Learn more about the ocean and animals that live in it. A more educated community is usually a more environmentally conscious community.

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- Buy sustainably harvested fish. Visit <http://www.seafoodwatch.org/> to find out what's sustainable and look for the certified sustainable seafood sticker. This can help prevent our fish populations from being depleted and provide food for larger animals such as whales.

Due to better management of fisheries and whaling, many animals such as the humpback have been able to recover from dwindling populations. By taking an interest in the ocean and taking steps to care for it we can help create more success stories like this one and be able to discover and explore the ocean in its full beauty and diversity.

Other Interesting Facts

- The humpback whale's scientific name *Megaptera novaeangliae* is latin and roughly translates to the 'big-winged New Englander', referring to their large flippers and where they were observed.
- Humpback whales breathe voluntarily (unlike humans, they have to think to breathe). Scientists believe that they shut off half of their brain while keeping the other side active when they sleep in order to continue to breathe.
- Humpback whale baleen is black with coarse fringes and grows continuously throughout their lives.

Where & When to view the animal.

British Columbia happens to be a great place to view the animal! May-October is usually the best time to see humpbacks in British Columbia waters. You may see them breaching near the shore or just a few kilometres out into the ocean. Some companies offer whale watching tours by boat, but do your research first to find out if the company does sustainable tours. If you live near the coast near clean water and a healthy ecosystem, you may get to see humpback whales breaching from the shore.

Bibliography

Book Resources:

Dando, Marc and Michael Burchett, edited by Geoffrey Walker and illustrated by Marc Dando and Richard Hill. 1996 Sea Life: A Complete Guide to the Marine Environment ISBN: 1560986336

This book is a great resource on marine life in general. It provides specific descriptions of many marine species and discusses, in depth, many biological families and basic marine biology concepts.

Web Resources:

American Cetacean Society Website Humpback whale profile: provides accurate general information about the Humpback whale.

<http://acsonline.org/fact-sheets/humpback-whale/>

NOAA is a great website for learning about marine species. The article about the humpback whale is interactive and has lots of links to formal files that document population figures etc.

<http://www.nmfs.noaa.gov/pr/species/mammals/cetaceans/humpbackwhale.htm>

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National Geographic's website and article on Humpback whales has informative graphics, video, and audio.

<http://animals.nationalgeographic.com/animals/mammals/humpback-whale/>

The BBC website offers lots of interesting videos about Humpback whales for those interested in seeing some of the behaviors discussed in this article. Some of the video links don't seem to work anymore, but many of them do. Click around to explore.

http://www.bbc.co.uk/nature/life/Humpback_whale#p00jtfwv

This website is dedicated only to whales. Here you can find lots of information on distributions and good places to view Humpback whales in BC.

<http://wildwhales.org/humpback-whale/>

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