

Narwhals: Mysterious Unicorns of the Sea

By [Rachel Ross - Live Science Contributor](#) September 05, 2019

Reference Article: Facts about narwhals.



Narwhals are best known for their "unicorn horn" — a large, pointed tusk that's just a weird elongated tooth.

(Image: © Glenn Williams)

Narwhals are medium-size marine mammals known for their characteristic tusk that resembles a unicorn's horn. Their reclusive nature and remote Arctic habitat only adds to the mystery of these creatures.

The name "narwhal" comes from the Norse words "nar" (corpse) and "hval" (whale). The name refers to how the whale's dappled gray skin resembles that of a drowned sailor, according to the [National Oceanic and Atmospheric Administration](#) (NOAA). The scientific name for narwhal is *Monodon monoceros*, which means "one tooth, one horn" in Latin.

The narwhal's closest living relative is the beluga whale (*Delphinapterus leucas*). Both narwhals and belugas belong to the Odontoceti group, or toothed whales (as opposed to Mysticeti, or baleen whales), and are the only two living species within the Monodontidae family. Both whale species spend their entire lives in the Arctic Ocean, are similar in size and behavior, and on rare occasions have been known to [interbreed](#).

The Narwhal tusk

Narwhals' impressive tusk is their signature feature. However, typically only the males have these so-called unicorn horns.

Adult male narwhals grow to be about 15 feet (4.6 meters) long and weigh about 3,500 lbs. (1,590 kilograms). The tusk — which is a long, straight tooth — grows up to 9 feet long (3 m) out of the male's mouth, according to the [Polar Science Center at the University of Washington](#).

Although narwhals are considered toothed whales, their mouths don't contain any functioning teeth. In males, the right canine tooth remains in the skull and never grows out, while the left canine is the one that shoots out through the gums in a counterclockwise, spiral pattern to form the tusk. Rarely, both teeth protrude, giving the narwhal two tusks.

Females are much smaller than males, growing to be about 13 feet (4 m) long and weighing about 2,000 lbs. (910 kg). Scientists consider the tusk a male sex characteristic, but about 15% of female narwhals also grow a tusk.

Experts have long speculated about why narwhals have this bizarre, elongated tooth. Some theories suggest that the tusk is a tool for survival, as the whales could possibly use it to break up ice at the surface, spear fish for dinner or dig for meals in the seafloor. But the vast majority of female narwhals don't have tusks, and females tend to live longer than males. Therefore, experts think the tusk is probably

not an advantage for survival but rather a primarily male sex characteristic that serves as a formidable weapon for competing with other males for mates.

But the tusk may also have another purpose. A 2014 study published in the journal [The Anatomical Record](#) found that the narwhal's mysterious tusk is full of sensitive nerve endings that allow the whale to detect changes in the environment, such as fluctuations in temperature and salinity. These findings suggest that the tusk might also be a sensory organ.

As for the rest of the narwhal body, their heads are relatively small and round compared with those of other cetaceans. Narwhals' fins are also short and round, and they have a short ridge along their back in place of a dorsal fin. Their tail fluke is also convex, rather than concave as with other cetaceans. The narwhal tusk is a predominantly male characteristic, but about 15% of females also have a tusk. (Image credit: Glenn Williams/NIST)

Where do narwhals live?

Narwhals live in the Arctic Ocean and around the coastlines of Canada, Greenland, Norway and Russia, according to the [World Wildlife Fund](#) (WWF). They can be found in the coastal areas during the summer and farther out at sea during the winter.

Narwhals are the deepest divers in their family and can swim to depths of at least 4,500 feet (1,500 m), where no light can reach and water pressure exceeds 2,200 psi (150 atmospheres), according to [NOAA](#). These skilled divers stay under the water for about 25 minutes per dive, on average. Their large lungs, flexible rib cage and high concentrations of myoglobin (a molecule in the muscle that binds with oxygen) in their blood allows them to survive under the intense conditions at depth. Narwhals conserve oxygen during long, deep dives by directing their oxygen stores to vital organs and muscles only.

Narwhals prey mainly on Greenland halibut, polar and arctic cod, and shrimp, and they occasionally supplement their diet with wolffish, capelin and skate eggs. These unusual whales eat more during the winter than in the summer, which allows them to avoid competition with most of the other Arctic whale species that eat more during the summer than in the winter.

Narwhal life

Narwhals live in groups, usually pods of three to eight members but sometimes up to about 20 members, according to the [MarineBio Conservation Society](#). The smaller pods tend to come together and form large herds during the migratory season.

Biologists estimate that narwhals live to between 30 and 40 years old, according to [NOAA](#). Female narwhals reach sexual maturity at around 4 to 7 years old, compared with 8 or 9 years for males, according to the [American Cetacean Society](#). Their mating season typically falls in April, with males often competing for females. But scientists know very little about the details of the narwhal's mating habits because it's so difficult to observe the reclusive creatures in action some 200 miles (320 km) offshore, below enormous fields of ice.

After a 15-month gestation period, pregnant females move to deep bays or inlets to give birth to their single calves, which are around 5 feet (1.5 m) long and 180 lbs. (82 kg) when born. Research suggests that narwhals usually give birth to one calf every three years, and each calf stays with its mother for about 20 months.

Narwhals spend most of their time in small pods then join other pods during their migration season. (Image credit: Kristin Laidre/NOAA)

Conservation status

The [International Union for Conservation of Nature \(IUCN\)](#) considers the narwhal a species of least concern, meaning their population is not under significant threat. The IUCN estimates that there are about 123,000 mature individuals divided into 12 subpopulations within the Arctic.

But similar to all other Arctic wildlife, narwhals are likely to struggle in the face of climate change. [Record warm temperatures in the Arctic](#) have caused sea ice to disappear at an alarming rate, and this means there's more room for ships and human activity and fewer places for wildlife to hide.

In fact, research suggests that [narwhals are the most vulnerable](#) marine mammals to increased human activity in the Arctic because these isolated creatures are highly sensitive to vessel activity. A 2017 study published in the journal [Science](#) found that narwhals respond to stress with one of the most extreme fright responses ever recorded. The narwhal's drastic physiological response and time spent out of [homeostasis](#) may have negative effects on their health.

In addition, an increase in ship traffic will likely result in [more deadly collisions](#). Narwhals, similar to other whales, rely on hearing to understand their environment. Human-made sources of noise can interfere with the narwhals' ability to hear and communicate and could inhibit their ability to locate their pod members, find food or mates, navigate and avoid predators.

Narwhals are important members of Arctic life. They are among the first of the species that could be affected by climate change and their response could provide more details about larger changes in the planet and ecosystem, according to [NOAA](#). Narwhals are also a significant cultural and nutritional resource for the Inuit who have harvested the tusked whales for hundreds of years. In recent years, Inuit hunters have worked in cooperation with scientists to track and study the mysterious unicorns of the sea.

Additional resources:

- Follow the tracks of tagged narwhals with the WWF's [narwhal tracker](#).
- Learn more about [narwhal tusk research in this video](#) from the WWF Arctic Program.
- Read more about the [collaboration between Inuit and scientists](#) from the Smithsonian.
<https://www.livescience.com/narwhal-facts.html>