

## Sperm whale, *Physeter macrocephalus*

Scientists identified different cultures in sperm whales. This entails special requirements for the protection of these deep-sea divers, which must be laid down in an action plan for the tropical East Pacific.

**Size/weight:** 8 m to almost 20 m / 13.5 t to max. 55.8 t. One male sperm whale is as heavy as 10 African elephants. Females are smaller and less heavy. In no other marine mammal is the difference in size between the sexes greater than in the sperm whale.

**Lifespan:** 60-80 years

**Feeding:** Deep-sea squid of all sizes, fish and crustaceans.

**Distribution/population size:** Sperm whales are found in all seas where there are deep-sea areas and they can find their favourite food – deep-sea squid. The global sperm whale population has declined by an estimated 85% over the past 150 years.

**Body features:** The sperm whale, with its almost rectangular head, which is up to a third of its total body length, is the largest toothed whale on Earth and was the model for the novel "Moby Dick". The sperm whale brain is the heaviest of all mammals, weighing up to 9.5 kg.

**Biology:** Sperm whales are highly social animals and are as complex as elephants. They live in groups of 3 to 50 females and young animals, while older males live solitarily. Sperm whales form "nurseries", i.e. while some of the females dive for food, the others look after the young. Equally fascinating is their defence strategy: when predators (e.g. orcas) close in on their young, sperm whales form a "marguerite" – a circle around young and weak group members.

Life expectancy of sperm whales is about 70 years. The females reach their maturity at about 10 years (males a few years later) and they have a very low birth rate: one calf every 4 to 6 years. All the more tragic is every loss.

Together with beaked whales, sperm whales are considered the longest and deepest diving whales. Dives can reach a depth of 1000 meters and more and last 45 minutes or more.

Sperm whales have a rich acoustic repertoire of "clicks", which form so-called codas in rhythmic sequence. These seem to be region-specific. Decades of research have revealed a complex social structure within the Sperm Whales of the eastern tropical Pacific (between Panama und Chile). Clans can be

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identified by their unique acoustic click patterns (codas), but also differ in their movement patterns and other attributes. However, these clans show little or no differences in their nuclear DNA and the primary differences between them are socially learned and, therefore, cultural.

Clan structures through social learning present unique conservation challenges. For example, there is compelling evidence for differential responses between clans to environmental variability (either natural or anthropogenic), which may have important management implications for Sperm Whale cultural units in this region.

**Threats:** Collisions with ships, plastic (is mistaken for food and clogs the stomach), fishing nets, underwater noise

**SaveMoby-Project:** [Learn more](#) about the OceanCare project in Greece and how we want to protect the marine giants from collisions with ships.