

INFORMATION ABOUT BIOLOGY, ECOLOGY AND CONSERVATION OF CETACEANS

Cetaceans are marine mammals, animals with warm blood (homeothermic), which breathe by lungs through blowholes (located on the top of the head), their offspring grows in placentas and they are fed by mammary glands. This group of animals is completely dependent on the marine habitat to complete their life cycle. Hippopotamus are their evolutionarily closest terrestrial group.

Adaptations: the transition from the terrestrial environment to the marine environment required several adaptations, over millions of years, such as: fusiform and rounded shape of the body that confers hydrodynamics (less resistance in moving in the water), soft skin (hair loss), grayish coloration, posterior limbs were atrophying giving rise to a tail fin that allows an easier movement in the aquatic environment. The anterior limbs have stabilizing functions, acting as rudders; some species evolved a dorsal fin which works also as a stabilizing element and that has a role in the regulation of the body temperature.

Feeding: there are 2 distinct groups of cetaceans, the Misticeti (baleen whales), which are filter feeders, giving their lack of teeth, straining the water to collect microscopic food (planktonic organisms-krill); and the Odontoceti (toothed whales and dolphins), which hunt fish and molluscs.

Sense organs: cetaceans live in an environment where it is difficult to use the sight as main sense; as a result the sound is the most efficient way of communication. The Odontoceti (toothed whales and dolphins), use echolocation (production of a sound impulse which is returned and perceived after reaching a target), to actively explore their habitat.

Cetaceans that can be observed in this area: the groups of cetaceans that can be observed in this area are the Common dolphin (*Delphinus delphis*), the Bottlenose dolphin (*Tursiops truncatus*), the Striped dolphin (*Stenella coeruleoalba*), the Harbour porpoise (*Phocoena phocoena*), the Risso's dolphin (*Grampus griseus*), the Minke whale (*Balaenoptera acuturostrata*) and the Killer whale (*Orcinus orca*). Exceptionally it is possible to find another species.

Social Structure: cetaceans have a complex degree of socialization. Their social structure is variable, from solitary life, like the blue-whale, to small family groups, like the Common-whale, to huge groups of dolphins of the genus *Delphinus* and *Stenella*. These differences on their social structure can be related with feeding habits, defence against predators, fishing cooperation, etc.

Threats and conservation: cetaceans are migratory animals, which are distributed worldwide in all oceans and seas. This characteristic makes it especially difficult their preservation, as well as of their habitat. These animals are subject to several threats, particularly those resulting from human action, such as: illegal hunting, illegal fishing and accidental catches, biological and chemical pollution of the water, noise, loss and degradation of their habitat or of their prey. Therefore, and as a response to this situation there are several national conservation laws (e.g. Red Book of Vertebrates of Portugal) and international laws and regulations (e.g. Bern Convention, Bonn Convention, CITES, IUCN). In addition, specific and smaller local projects also apply in different areas, nevertheless it is still difficult their implementation.