

## **MARINE MAMMALS: A GENERAL OVERVIEW**

Marine mammals are a particular group of mammals adapted to living all or part of their life in sea water. The level of dependence on the marine environment varies considerably with species. Some animals as dolphins and whales are completely dependent on the marine environment for all stages of their life, whereas seals feed in the ocean but breed on land.

There are approximately 130 species of marine mammals, usually subdivided into five groups. Each group is descended from a different terrestrial ancestor. The morphological similarities between these diverse groups are a result of convergent and parallel evolution. Thus, although the cetaceans and the pinnipeds have some similarities in shape, whales are more closely related to deer than with seals.

Some adaptations to the life in the aquatic environment include:

- Most of them depend on a thick layer of blubber (fatty tissue) to keep warm in the ocean.
- Streamlined bodies to help them swim faster.
- Many species can stay under water for long periods (storing extra oxygen amounts in muscles and blood) but must come to the surface to breathe air.
- They also have more blood volume than terrestrial mammals (in proportion to their body sizes) and can selectively direct it to some vital organs (heart and lungs).
- They can slow their heartbeat reducing oxygen demand during diving.

They are generally classified in five groups (Cetaceans, Pinnipeds, Sea otters, Sirenians and Polar Bear). To be more practical and given the common species in parks and zoos, in the formulary will be divided into three groups of animals:

- CETACEANS including mainly dolphins (Odontocetes or toothed whales) and some whales (Mysticetes or baleen whales).
- PINNIPEDS including three families: Otariids (sea lions and fur seals), Phocids (true seals) and Odobenids (walruses).
- OTHER MARINE MAMMALS including some few animals not included in the two former groups, e.g. Sirenids (manatees and dugongs), sea otters and polar bear.