

Marine mammals

Order ¹	Suborder or Family	Common name	Limbs and Locomotion	Lifestyle / location	Maximum ⁷ breath-hold (minutes)	
Cetacea (relatives of hippopotami)	suborder Odontoceti	so. Mysticeti	Baleen whales	Forelimbs as flippers; hindlimbs vestigial only; tail drives locomotion	Completely aquatic, including blue-water ocean; some migrate from tropics to polar oceans	80
		Various families	Toothed whales			138
Sirenia (relatives of elephants and hyrax)		Delphinidae	Dolphins ²	Paddle-like forelimbs; hindlimbs residual only; tail drives locomotion	Completely aquatic (estuarine to coastal); consume macroscopic plants and thus the only vegetarians here	12
		Phocoenidae	Porpoises			B'nose dolphin
		Trichechidae	Manatees	Paddle-like forelimbs; hindlimbs residual only; tail drives locomotion	Completely aquatic (estuarine to coastal); consume macroscopic plants and thus the only vegetarians here	16
		Dugongidae	Dugongs			West Indian manatee
Carnivora (cat-like (feliform) and dog-like (caniform) mammals – all at right are caniform)	superfamily Pinnipedia	Phocidae	True seals or earless seals ^{3,4} (nineteen modern species)	Swim by side-to-side sinuosity with hindflippers, which are fused to pelvis so that walking is impossible	Spend most of their time at sea and migrate considerable distances; wriggle onto ice or land to give birth and nurse.	120
			female elephant seal			
		Odobenidae	Walruses (one species)	Swim by sinuosity, but can turn hind flippers to move on all fours	Long tusks; no external ears. ⁴ Lives in Arctic, with long migrations; can move on ice	82
			Weddell seal			
		Otariidae	Fur seals } ^{3,4,5} Sea lions } Eared seals	Hindlimbs can be turned forward to allow movement on all fours	Small external ears; spend more time out of water than true seals	15
			California sea lion			
	superfamily Pinnipedia	Mustelidae (weasels, martens, badgers, otters)	Sea otters Marine otters	Legs and paws; swimming mostly driven by back feet. Sea otter is only marine mammal to catch fish with forepaws rather than mouth	Live along shorelines; ⁶ sometime break open molluscs with rocks and thus use tools	4
			Sea otter			
		Ursidae (bears)	Polar bears	Limbs are legs for walking, but with disproportionately large feet; can run at 25 mph and can dog-paddle swim ≥ 100 km	Terrestrial and on ice in Arctic; largely eat true seals	< 2

Completely aquatic orders

Largely terrestrial order

Completely aquatic families

Largely terrestrial families

Mammals with no external ear structure and that swim by flexing body and/or tail

Mammals with external ear structures and that swim using limbs

Notes:

¹ In addition to these extant marine mammals are the extinct Oligocene-Miocene order Desmostylia and Miocene-Pliocene genus *Thalassocnus* (of the order Pilosa, the sloths and anteaters), both of which were nearshore plant-eaters.

² The Delphinidae include Orcas (killer whales) but not river dolphins.

³ "Seals" include members of two different families.

⁴ External ears increase hydrodynamic drag and so are lost in more adapted marine mammals; many such

mammals have other typically-protruding structures recessed in their bodies.

⁵ DNA studies have shown that the distinction between fur seals and sea lions has no phylogenetic significance.

⁶ Sea otters are the only marine Carnivorans that can give birth in the water.

⁷ The breath-hold data shown are not necessarily maxima for the entire family but only for the species shown.

Caveat emptor: This table was prepared by a geology professor for his elementary oceanography class.

Sources:

various Wikipedia pages; J.L. Sumich & J.F. Morrissey (2004) *Introduction to the Biology of Marine Life* (8th edn.); J.F. Schreer & K.M. Kovacs (1997) Allometry of diving capacity in air-breathing vertebrates: Canadian Journal of Zoology, v. 75, p. 339-358, and the IUCN/SSC Polar Bear Specialist Group webpage at pbsg.npolar.no/en/faq.html.