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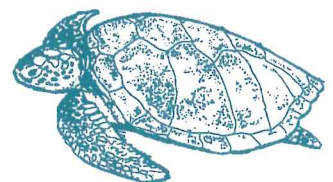
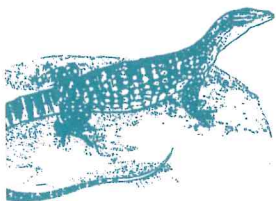
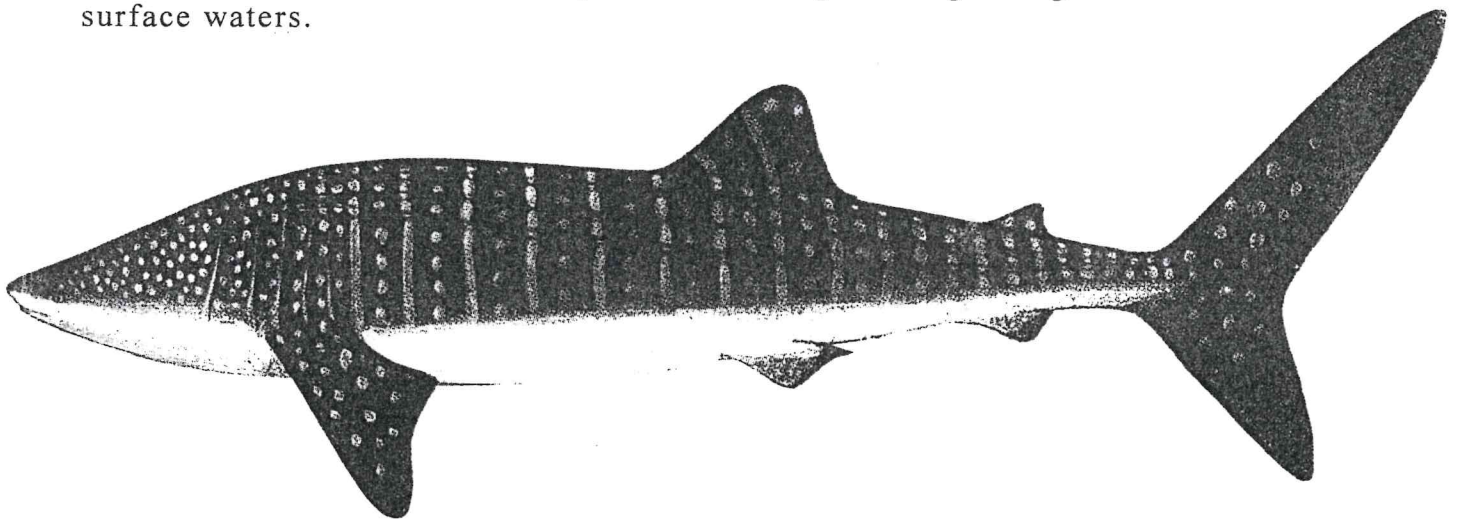
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WHALE SHARKS AT NINGALOO

Like dolphins at Monkey Mia, the annual aggregation of the Whale Shark at Ningaloo Reef has become an internationally known tourist attraction. This is one of the few opportunities worldwide for people to snorkel with this magnificent animal. Occurrences of whale sharks are patchy and unpredictable. Ningaloo Marine Park is one of only a few places where they appear regularly in number, in near shore waters where they are easily observed. With the recent growth of recreational diving and nature based tourism there has been a steady increase in the number of reported encounters around the world.

The Whale shark (*Rhincodon typus*) is the world's largest living fish. A huge and distinctively marked shark, it is a filter feeder that is harmless to humans. Knowledge of biology, ecology and behaviour of whale sharks is very limited. The scientific literature consists mainly of sightings records, anecdotal reports, speculative reviews of distribution and movement patterns, and some observations of feeding behaviour. Limited observations are available on few whale sharks that have been kept in captivity. In the past the Whale Shark has been of little interest to man, as it neither poses a threat nor is it widely exploited for its flesh or other products.

Whale sharks occur in all tropical and warm temperate seas from the Mediterranean. It is found in a band around the equator between 30° north and 35° south latitudes, in both coastal and oceanic waters. In Australia whale sharks occur mainly off northern Western Australia, the Northern Territory and Queensland, with isolated reports from New South Wales and Victoria. It appears that their range encompasses areas with surface water temperatures between 21° and 25°, where cool, nutrient rich up-wellings mingle with the warm surface waters.



Virtually nothing is known about growth rates, size at sexual maturity or how long whale sharks live. To date, information about their reproduction, development and life history is very limited. However, it is now known that whale shark egg cases hatch internally with the female giving birth to live young. Most whale sharks encountered at Ningaloo are accurately measured, the largest animal found was 12.1 m in length, but a 14.5 m specimen was caught in India in 1975. Whale sharks may possibly reach as much as 18 m in length. The whale shark feeds on a wide variety of small planktonic preys, including zooplankton small schooling fishes such as sardines, anchovies and mackerel. There are reports of whale sharks occasionally taking larger prey such as small tuna, albacore and squid.

Whale sharks are generally encountered singly but aggregations of over a hundred animals have been seen. They are usually observed on or near the surface and at times have been seen apparently basking. Their movements are probably related to increases in local productivity such as plankton blooms and mass coral spawning events, with associated increases in zooplankton and bait fish shoals. Migratory behaviour may also be influenced by changes in water temperature, currents, winds and other environmental variables. It is possible that whale sharks undertake long-term and large-scale movements that are controlled by feeding and possibly breeding behaviour.

As the flesh is very soft and bland whale sharks have been the target of limited fisheries in the past. Small harpoon fisheries may still exist in India, Pakistan and Indonesia and they may also be taken in China. There was a small traditional fishery for their liver oil in the Maldives that has all but died out in recent years. Two Taiwanese fisheries were reported to be bringing in 60-100 whale sharks annually. Whale sharks are taken accidentally in gill and purse seine net fisheries off the coast of India. These specimens are usually discarded, as either the meat or the other products are in high demand. Occasionally some of the meat is either eaten fresh or salted and dried, and the liver oil is utilised for waterproofing wooden fishing boats and other appliances. The cancer-healing properties of whale shark liver oil have been investigated and some processing of the fins has been reported.

With increasing numbers of people seeking the in-water thrill of interacting with a whale shark, reports of encounters are becoming more frequent and widespread. In a few locations, such as Ningaloo Reef, Western Australia and the Galapagos Islands off the coast of Ecuador where there are predictable appearances, they have become the focus of dedicated commercial operations, established to enable tourists to snorkel and dive with them. There have been a few reported cases of whale sharks inadvertently ramming boats, but generally, the sharks are more at risk from being accidentally struck by vessels whilst basking on the surface.

For more information, please contact CALM Exmouth Office.