

Student

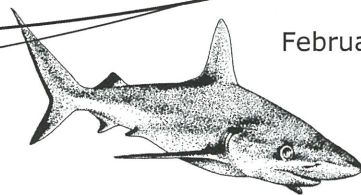
Fact Files



Australian Government

Great Barrier Reef
Marine Park Authority

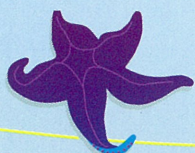
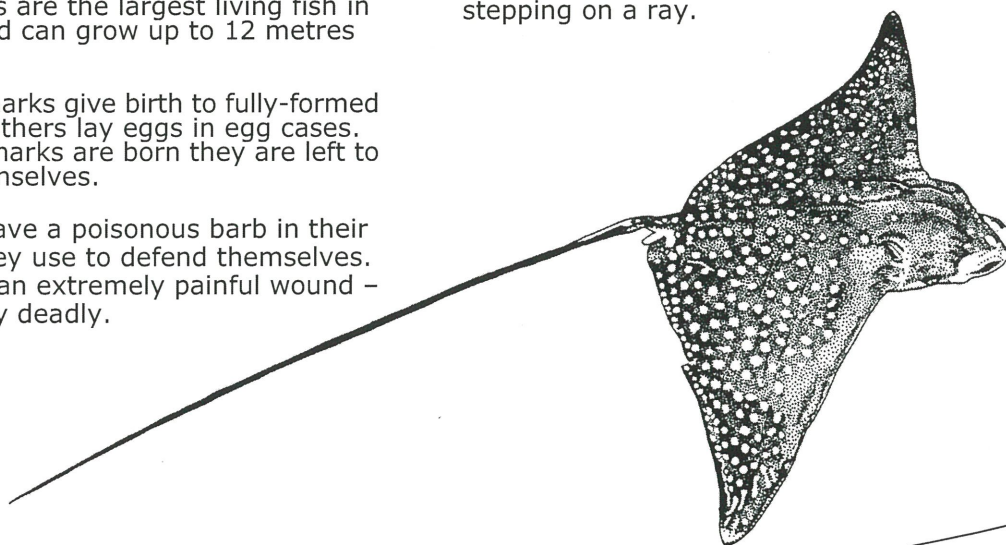
#10



February 2007

Sharks and Rays

- Most fish have skeletons of bone, but sharks and rays have skeletons made of cartilage. Cartilage is lighter and more flexible than bone.
- Sharks breathe through five to seven gill openings along each side of their head.
- Whale sharks are the largest living fish in the world and can grow up to 12 metres long.
- Some reef sharks give birth to fully-formed live young, others lay eggs in egg cases. As soon as sharks are born they are left to fend for themselves.
- Many rays have a poisonous barb in their tail which they use to defend themselves. It can inflict an extremely painful wound – though rarely deadly.
- Many rays live on the seafloor or buried in the seabed and are often hard to see. Other rays, like the manta ray, live their lives in the open water feeding on plankton.
- Helpful hint: Always shuffle your feet when walking in a lagoon to avoid stepping on a ray.



our great barrier reef
let's keep it great





Sharks and rays

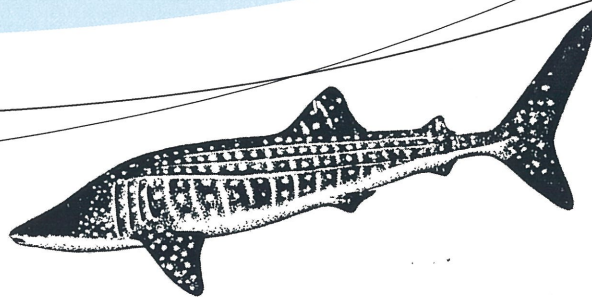
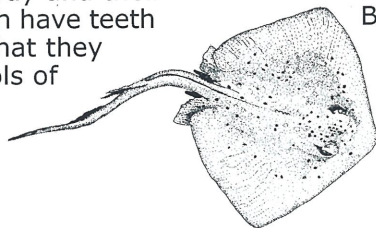
There are about 134 species of sharks and rays found in the Great Barrier Reef Marine Park. They come in all shapes and sizes and range from small bottom-feeding sharks, like cat sharks and wobbegongs, to the larger more active species like tiger sharks and hammerheads. The grey nurse shark, great white shark, whale shark and spartooth shark are protected species in the Great Barrier Reef Marine Park. Several other species of sharks and rays are under pressure from human impacts.

Like sharks, rays have skeletons made of cartilage and smooth or raspy skin instead of scales but their exposed gill openings are on their belly. Rays have a spiracle (a small respiratory opening) located behind each eye to move water over their gills.

Rays are typically shaped like large flattened discs and have a long tail. Most rays swim by waving the edges of their pectoral fins. This creates an S-shaped wave which moves vertically from head to tail.

Shark and rays teeth

All sharks and rays are predators and have jaws and teeth adapted to their lifestyle. Fish-eating sharks like reef sharks have many rows of razor-sharp teeth. The first rows are used for feeding while the others are new teeth that will replace the old ones when they become worn or drop out. Sharks with saw-edged teeth like the tiger shark can cut through tough skin and even turtle shells. Sharks and rays that eat crabs and molluscs have hard crushing plates to grind up tough shells. Most rays glide along the sea bottom looking for, and sometimes digging for, molluscs and crustaceans in the sand. Their mouth lies on the underside of their body and their teeth are very small. Sawfish have teeth placed along a long snout that they use to slash and stun schools of fish like mullet.



Reproduction

Sharks and rays reproduce either by laying eggs in tough little cases (known to beachcombers as mermaid purses), or by giving birth to fully formed young. When eggs are laid the cases are left to develop among weeds or coral and the young hatch after several months. Some sharks, such as nurse sharks and whale sharks, produce eggs in thin cases which are kept within the body of the mother where they hatch and complete development into baby sharks before being born. Other sharks, like grey reef sharks, give birth to litters of one to six shark pups after a pregnancy of about 12 months.

Sharks, rays and humans

Sharks and rays are far more threatened by humans than humans are by sharks and rays. Around the world, sharks and rays are killed for profit and many are now considered as being threatened with extinction. Their flesh is eaten and shark fins are used to make shark-fin soup. Their tough skins are used for leather goods, their livers for oils, and tourists buy shark teeth and jaws as souvenirs. In the Great Barrier Reef Marine Park, the main pressure on sharks and rays is fishing, and this pressure is increasing. Sharks and rays are also killed by people mistakenly believing they are dangerous or a nuisance. Many sharks and rays are killed accidentally. They are caught in nets or get tangled in ropes, plastic straps and other rubbish that is thrown into the sea.

Globally, about 100 million sharks are killed by humans every year. In contrast, attacks by sharks and rays on swimmers and divers in the Great Barrier Reef Marine Park are rare and only a few species of sharks and rays have been identified as having attacked people. There is a greater chance of being in a car accident or being struck by lightning than being bitten by a shark or harmed by a ray.

