

Dangerous Sharks

Fact Sheet



Model of White Pointer, *Carcharodon carcharias*.
Image: David Milne, QM.

Some sharks are dangerous to humans, but considering how many sharks live in oceans and how many people swim, skindive and fish, shark attacks are rare events. A drive to the beach poses a greater danger to life than a shark attack, and more swimmers drown than are attacked by sharks. Nevertheless, the possibility of being badly mauled by a shark is a fear shared by swimmers, diving enthusiasts and fishermen.

There are about 500 shark species known today. Their sizes at maturity range from about 20 cm to 12 m. About 30 species are known to be dangerous to humans and around 20 of these occur in Australian waters, yet most attacks can be attributed to 4 species: Tiger Sharks; White Sharks; Bull Sharks; and Dusky Sharks. The dangerous sharks in Australia are as follows:

Whaler Sharks *Carcharhinus spp.*

This is a group of rather similar species, all characterised by an absence of spiracles (the respiratory opening behind the eye of sharks and rays), the presence of a lower eyelid, blade-like teeth with single cusps (those of the upper jaw serrated), precaudal pits, but no keel on the base of the tail. In Australian waters 21 species are known, but only about 12 are considered potentially dangerous.



The Bronze Whaler (*C. brachyurus*) is well known in the southern half of Australia, but is also occasionally found in waters of southern Queensland. It has a moderately long, rounded snout, curved, narrowly-triangular teeth in the upper jaw, and a fairly uniform grey-bronze colouration. It grows to 2.9 m. Several attacks off surf beaches have been attributed to this species

The Bull Shark or River Whaler (*C. leucas*) is usually found in bays and estuaries, but sometimes enters freshwater and may penetrate far up-river where it feeds largely on mullet. It is a heavy-bodied species with a short, bluntly-rounded snout, no interdorsal ridge, no distinctive fin markings, and large, triangular, serrated teeth. Highly dangerous, this species grows to 3.4 m and has been responsible for attacks in the Brisbane River and Gold Coast canals as well as other parts of Australia.

The Dusky Shark (*C. obscurus*) is a large widespread species that often occurs off ocean beaches. It has a low interdorsal ridge, no distinctive fin markings, and heavy-set, serrated, triangular teeth in the upper jaw. It reaches 3.6 m. Few attacks have been directly attributed to this species, partly due to difficulties in distinguishing it from other whaler shark species.

Larger whaler sharks, such as the Oceanic Whitetip Shark (*C. longimanus*), the Common Blacktip Shark (*C. limbatus*), the Grey Reef Shark (*C. amblyrhynchos*), the Pigeye Shark (*C. amboinensis*), the Sandbar Shark (*C. plumbeus*), the Silvertip Shark (*C. albimarginatus*), the Silky Shark (*C. falciformis*), the Bignose Shark (*C. altimus*) and the Galapagos Shark (*C. galapagensis*) are also potentially dangerous.

Tiger Shark *Galeocerdo cuvieri*

This is a large shark identified by its broad, blunt head, hard low keel on the side before the tail, and dark transverse blotches or stripes on the body that persist after death in all but large specimens. The teeth are curved, notched on one side and coarsely serrated.



This species is a confirmed man-eater that grows to at least 5.5 m with a weight of 1510 kg. It is a scavenger that preys on a wide range of food items including whale carcasses, dolphins, turtles and seabirds. The Tiger Shark usually frequents bays and estuaries, but is sometimes recorded far from land.

White Shark or White Pointer *Carcharodon carcharias*

The White Pointer, also known as the Great White Shark, is a large species that grows to at least 7 m and may weigh over 3220 kilograms. It is recognised by its pointed snout, large black eye and upswept tail with well-developed keel and lobes of almost equal length. The teeth are coarsely serrated and triangular. The shark has no lower eyelid.



The White Shark is a large species that grows to at least 7 m and may weigh over 3220 kilograms. It is recognised by its pointed snout, large black eye and powerful tail with well-developed keel and lobes of almost equal length. The teeth are coarsely serrated and triangular. It has no lower eyelid.

The White Shark is a powerful, voracious shark that preys mainly on large fish, seals, dolphins and whale carcasses. It is a proven man-eater and is responsible for most attacks on divers in temperate and subtropical waters. The White Shark is present in southern Australian waters all year and usually appears in Queensland from May to September. It is commonly found in deep water around offshore islands, or off ocean beaches, but may move into very shallow water where attacks on bathers and spear-fishermen have taken place.

Shortfin Mako *Isurus oxyrinchus*

The Shortfin Mako is a fast-swimming oceanic shark reaching 3.9 m in length. The snout is long and sharply pointed and the teeth are smooth, long, narrow and curve inwards. The tail is upswept, with well-developed keels at the base. It may come inshore to feed on tuna and bonito. This shark has attacked swimmers and boats. It will often vigorously leap from the water when hooked.



Grey Nurse *Carcharias arenarius*

The Grey Nurse Shark grows to about 3.2 m. It was a common shark, once greatly feared as a man-eater. Consequently, its numbers were greatly reduced by spear-fishermen using explosive-head spears. It is now protected in all Australian states. The Grey Nurse Shark is not aggressive, but may be dangerous if provoked or cornered. Much of its fearsome reputation probably derived from its impressive awl-like teeth with basal cusps designed for holding rather than cutting prey. It feeds largely on schooling fish.



Hammerheads *Sphyrna spp.*

There are four species of Hammerhead Sharks in Australian seas. The Scalloped Hammerhead (*Sphyrna lewini*) reaches a length of 3.5 m while the Great Hammerhead (*S. mokarran*) attains 6 m, though specimens over 4 m are rare. These sharks derive their name from the shape of the head, the sides of which are greatly expanded to a hammer shape. The hammer acts as a rudder to give stability at slow speeds. It also greatly increases the flow of water through the nostrils, enhancing the sharks' ability to smell.



Other Dangerous Sharks

Other sharks have been implicated in attacks, but the injuries have rarely been fatal. The Wobbegongs (*Orectolobus spp.*) may inflict deep wounds and hang on tenaciously, if molested or held underwater. All sharks should be handled with great care when captured by hook and line, as they will use their best defensive weapons, their teeth, when threatened.



Avoiding Shark Attack

Sharks are very unpredictable creatures and very little is known about their behaviour or why they sometimes attack humans. There is a theory that divers wearing black wetsuits and fins are mistaken for seals or turtles by Tiger and White Pointer Sharks. However, over the thousands of years that humans have ventured into the sea, sharks may have come to regard them as simply another food item.

The months when most shark attacks occur are those when most people swim. In southern Queensland this is from November to February. In tropical waters, shark attacks have occurred in all months of the year. Attacks are most common between 3 pm and 6 pm and the solitary bather is most at risk, although occasionally an individual swimming with a group of people has been attacked. The chance of shark attack in open waters can be greatly reduced by:

- swimming in patrolled areas (where there is aerial or beach surveillance) in company with other swimmers
- avoiding turbid or discoloured water, especially near steeply shelving offshore sandbanks
- leaving the water well before sunset
- removing injured and bleeding fish from the water if spear-fishing
- not swimming near mouths of creeks or estuaries where fish offal is dumped or where fish-processing factory or slaughterhouse effluent is released

Most skindivers have had the experience of a shark, or sharks, materialising close by from the gloom of the water. A shark will probably be aware of a swimmer long before the swimmer is aware of the shark. The best advice that can be given to the swimmer or diver who encounters a shark, is to remain swimming as normally as possible and leave the water without causing a great deal of splashing or disturbance. Some sharks may be deterred if the swimmer adopts an aggressive approach. However, the fact that sharks are aquatic animals, while people are not, places swimmers at a serious disadvantage.

Further Information

Davie, P., 2011. *Wild Guide to Moreton Bay and Adjacent Coasts*, 2nd Edn. Queensland Museum, Brisbane.

Last, P.R. & Stevens, J.D., 2009. *Sharks and Rays of Australia*. CSIRO, Melbourne.

<http://www.qm.qld.gov.au/Find+out+about/Animals+of+Queensland/Fishes/Sharks+and+rays/Bull+Shark>

Author: Jeff Johnson

Queensland Museum
PO Box 3300, SOUTH BRISBANE QLD 4101
Phone: (07) 3840 7555
<http://www.qm.qld.gov.au/>