

Sharks / mangō in New Zealand waters

Marine life

Sharks! The very name sends tremors down some spines – unjustly so as these fascinating creatures are for the most part, quite harmless. New Zealand has its own distinctive collection of sharks occupying a number of different habitats ranging from the shores, to the open ocean, to the depths of the continental slope. Some sharks live in shallow coastal waters at least for part of the year. This includes the school shark/tupere/kapeta, rig/ mango and spiny dogfish/pioke/mangō hapū. Others are wide-ranging, open-ocean fish. New Zealand's greatest shark diversity occurs in deep water on the upper continental slope; many dogfish and skates live in depths greater than 200 metres.

Encounters with large sharks in coastal waters usually happen over spring and summer, when many species move inshore to pup and feed. These include the broadnose sevengill/tuatini, common thresher shark/mango ripi, mako and smooth hammerhead shark/mangō pare. During summer the normally oceanic blue shark is occasionally seen close to shore off surf beaches and will even enter large harbours.

Fascinating shark facts

- Sharks and rays belong to the class of fish called *Chondrichthyes* – fish with skeletons of cartilage, not bone.
- About 66 types of sharks are found in New Zealand waters.
- New Zealand sharks are diverse – they range in size from the tiny pygmy shark which grows up to 27 cm long; to the 12-metre long whale shark.
- The two largest species of shark – the basking and the whale shark – feed on the smallest animals – plankton.
- In contrast, great white sharks prey on the largest

animals – large fish and marine mammals and are believed to be able to go as long as three months without eating

- The cookie cutter shark feeds on large fish and marine mammals by taking a single bite of circular, cookie-like chunks from their flesh and blubber.
- Sharks are continuously replacing teeth through their lives; some sharks generate new teeth every eight days.
- The shortfin mako shark has been recorded at speeds of about 100 km/h.

White shark
B. McGregor, Surfkit



Sharks and people

Despite most species being totally harmless to humans, sharks frighten many people. Worldwide, shark attacks kill about 25 people a year. Over the last 170 years, there have been 13 fatal shark attacks documented in New Zealand. Compare this to 13 deaths by drowning in the month of January 2006 alone!

Humans, on the other hand, kill up to 100 million sharks worldwide each year, in recreational and commercial fishing. The major threat to sharks in New Zealand waters is by-catch and directed take in commercial fisheries, managed under the quota management system by the Ministry of Fisheries.

Sharks appear in several Māori myths and legends, with Ruamano being one of the more famous ocean taniwha. Māori caught school shark/tupere and rig/mango in set nets for food, and their liver oil was mixed with red ochre to make paint. Items of jewellery made from the teeth of larger species was prized and traded.

New Zealand's sharks

New Zealanders are working to give greater protection to the following species of shark in the very near future;

White shark / white pointer / mangō taniwha

NZ is recognised as one of the world's hot spots for white sharks, along with the waters off California (US), South Africa, Australia and Japan. They breed around northern New Zealand, and move south into colder waters, where the main seal colonies are located, as they grow.

Basking shark / mangō reremai

Growing up to ten metres, the basking shark is the second largest fish after the whale shark. It is mostly seen in the lower half of the North Island and around the South Island, swimming slowly at the surface with mouth wide open to filter small planktonic animals from the water.

Whale shark

The whale shark is the largest fish in the world. The largest accurately measured was 12 metres long but there have been reliable sightings of whale sharks up to 15 m long in NZ waters! It's usually seen in northern coastal waters during the summer. A plankton-feeder, it's perfectly harmless – except of course to plankton!

Manta ray and devil ray

Mobulid rays with their distinctive triangular fins are commonly found off north-east North Island during summer and early autumn, with the spine-tailed devil ray being the more common. Spine-tailed devil rays grow up to 3 m across, while manta rays as large as 7.9 m across have been seen in New Zealand.

What is being done?

- The Department of Conservation undertakes research on the movements and biology of these species in collaboration with NIWA, the Wildlife Conservation Society (New York) and AUT.
- Targeted commercial fishing of great white sharks, basking sharks and bronze whalers is prohibited under fisheries regulations but they may be landed as by-catch. Recreational bag limits restrict the recreational catch of most large shark species.
- A Shark Specialist Group is undertaking a global assessment of the conservation status of all known shark and ray species.
- White sharks and basking sharks are listed on Appendix 1 and 2 of the Convention on Migratory Species (CMS; www.cms.int/), whale sharks are listed on Appendix 2 of the CMS, and all three species are listed on Appendix 2 of the Convention on International Trade in Endangered Species (CITES; www.cites.org/)

How can you help?

- Do not discard plastics, nylon fishing line and other types of rubbish at sea. Like whales, large filter-feeding sharks and rays can accidentally ingest these, and all species suffer from entanglement in marine debris
- When fishing, carefully release alive any unwanted sharks and rays caught
- Tag game sharks before release if possible, and return tags to the Ministry of Fisheries if you catch a tagged shark
- Avoid using set nets, particularly when you cannot remain with your net
- Report sightings or captures of white sharks, whale sharks, basking sharks and manta rays to the Department of Conservation's Marine Conservation Unit, c/- cduffy@doc.govt.nz

For more information

www.doc.govt.nz
www.sharktrust.org – the Shark Trust
www.flmnh.ufl.edu/ – The American Elasmobranch Society
www.wcs.org/ – Wildlife Conservation Society

Further reading

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Cox, G.; Francis, M. 1997: *Sharks and rays of New Zealand*. Canterbury University Press, Christchurch.

Last, P. R.; Stevens, J. D. 1994: *Sharks and rays of Australia*. CSIRO Australia.