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Bad news and good news for sharks and rays this month. Researchers have found that a quarter of them are threatened with extinction, even so, Western Australia is waging war on large sharks and killing as many as possible. More enlightened is neighbouring Indonesia, which has given full protection to Manta Rays in all its waters, and Mexico, which has banned the fishing and capture of Great White Sharks.

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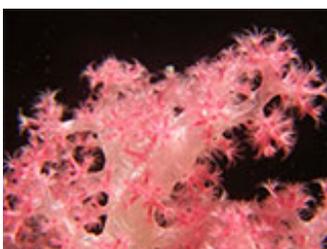
What's New at SCUBA Travel?



[Diving Indonesia](#)

Indonesia is in the coral triangle, so called for the many different species of hard coral found. Here nutrient-rich currents from the Pacific and Indian oceans collide, providing planktonic food for corals, fish larvae and giant filter feeders like manta rays. More Indonesian dive centres are now listed, reviewed and rated at

<http://www.scubatravel.co.uk/indonesia/diving-indonesia.html>



[101 Best Dive Sites](#)

Thanks for voting for your top dive sites - see the new long list, and vote, at

<http://www.scubatravel.co.uk/topdiveslong.html>



[Diving Croatia](#)

Croatia has 66 inhabited islands and some good diving. Sea temperatures can be around 24 °C in summer, but freshwater springs upwelling into the sea in some areas means the water



can be pretty cold even in the summer months - take gloves and hood. Read new dive reviews at <http://www.scubatravel.co.uk/europe/diving-croatia.html>

Don't forget to keep sending us your reviews. E-mail news@scubatravel.co.uk, [fill in the form at the website](#) or post at the [SCUBA Travel Diving Reviews Community](#).

Letters

Dominican Republic

Looking for some feedback on Marianas caribbean water sports out of Punta Cana. Any comments would be helpful.

Ed Lapointe, via [Google+](#),

Can anyone help Ed? Post at [Google+](#) or e-mail us and we'll pass your message on.

Creature of the Month: Great White Shark

Great white sharks have been much in the news recently. Most significantly in relation to the Australian shark cull which is supposed to protect people from being attacked by the sharks on the beaches. More shocking still, though, is the realisation that shark nets are made not to be a barrier but a trap. They are designed to kill sharks longer than 2 metres. According to the Shark Angels group, in South Africa alone over 45000 sharks, turtles, dolphins and rays have been killed by nets and drumlines in the last 30 years.



Whilst (some) Australians are killing Great white sharks (*Carcharodon carcharias*), new research has found that they live 50 years longer than previously thought - to **over 70** years of age!

Sharks are typically aged rather like counting tree rings, by counting growth band pairs deposited in their vertebrae. However, sharks grow more slowly as they get older and the band pairs become too thin to read. Using this method under-estimates the age of older sharks.

A new study used bomb radiocarbon dating on eight sharks caught between 1967 and 2010 in the Northwest Atlantic Ocean. This technique uses the discrete radiocarbon pulse in the environment caused by the detonation of nuclear bombs in the 1950s and 1960s as a "time stamp". Radiocarbon levels incorporated into the band pairs are measured and related to a

reference chronology to determine the absolute age of a fish.

White sharks are considered vulnerable under the International Union for Conservation of Nature (IUCN) Red List of Threatened Species. Although the Great White Shark is such a famous species of fish, very little is known about its biology. Its maximum size remains a matter of debate. Some estimate around 6 m and others 6.4 m or more. Lengths and ages at maturity for both sexes remain undetermined. A mature female of 500 cm was estimated to have reached around 14 to 16 years, but that was when the oldest individual reported was a female assumed to be not much more than 23. The real age at maturity may be much older.

White sharks **travel thousands of miles** across open oceans. There is a great site from Oearch which lets you see the track individual sharks have taken. Go to <http://www.oearch.org/> and choose a great white shark to track.



Map of White Shark "Lydia's" path from the Bahamas, along the east coast of America to Canada and the North Atlantic.

With lifespan estimates of 70 years and more, white sharks may be among the longest-lived fishes. Sharks that mature late, have long life spans and produce small litters have the lowest population growth rates and the longest generation times. Increased age at maturity would make white sharks more sensitive to fishing pressure than previously thought, given the longer time needed to rebuild white shark populations.

Further Reading

[Great White Sharks Live More than Seventy Years](#)

Hamady LL, Natanson LJ, Skomal GB, Thorrold SR (2014) [Vertebral Bomb Radiocarbon Suggests Extreme Longevity in White Sharks](#). PLoS ONE 9(1): e84006.

doi:10.1371/journal.pone.0084006

Fergusson, I., Compagno, L.J.V. & Marks, M. 2009. *Carcharodon carcharias*. In: IUCN 2013. [IUCN Red List of Threatened Species](#). Version 2013.2. . Downloaded on 10 January 2014.

[Great white sharks migrate thousands of miles across the sea, new study finds](#), Stanford Report

[Shark Nets: A tangled web of destruction](#)

Photo credit: Terry Goss, CC BY-SA 3.0

Diving News From Around the World

For breaking news see our [Twitter page](#) or [RSS feed](#)



[Whale Watching from Space](#)

But not by astronauts or space tourists. Scientists from the British Antarctic Survey are using satellite images to assess



populations of southern right whales.

Killers on the loose: how Australia ignores science to cull vulnerable sharks

Queensland has killed hundreds of sharks with baited hooks and nets since 1962, while New South Wales nets snare even more. More nets or drums with baited hooks are being set at other great white sharks strongholds near the Reunion Island in the Indian Ocean, and in South Africa. The outcome is inevitable: the great white, now down to an estimated 3,500 individuals, will move from being "vulnerable to extinction" to "endangered with extinction", to extinct. Barnett's way is for jellyfish to rule. The hope lies in that public revolt.

Indonesia Protects Manta Rays

Indonesia has protected both species of Manta Rays. "As the world's largest archipelagic nation, it is important for Indonesia to maximize economic returns from our marine resources," said Sharif Sutardjo, Indonesia's Minister of Marine Affairs and Fisheries. "This action will fully protect both species of manta rays in Indonesian waters and ensure improved management of their populations."

Mexico bans Great White Shark capture

Mexico has decided to set a permanent ban on the capture of great white shark.



Bottom trawling: how to empty the seas in just 150 years

The UK Government has refused to act against bottom trawling, which has turned Britain's seabed ecosystem into a wasteland.

Warmer seas 'are making fish smaller'

A decline in the size of some species of fish in the North Sea could be due to a rise in water temperatures, according to research.

Deep-sea mining projects land in hot water

The first attempt to mine the sea floor has run aground, as the mining company announces it is suing its partners in the Papua New Guinea government.

Sea lion snouts help identify endangered species

Australian scientists are asking the public to contribute photos of sea lion snouts to help develop a new method of identifying the animals.

Oil Causes Heart Problems for Fish

Crude oil interferes with fish heart cells. The toxic consequence is a slowed heart rate, reduced cardiac contractility and irregular heartbeats that can lead to cardiac arrest and sudden cardiac death.



Novel seagrass restoration could reverse marine biodiversity decline

A British university is growing mats of seagrass to replace previously damaged habitat.

Giant Jellyfish is new Species

Scientists in Australia are working to classify a new species of giant jellyfish that washed up on a beach in Tasmania. The species is part of the Lion's Mane group.

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