

Why big fish thrive in protected oceans

July 28 2021



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Big fish are harder to find in areas sprawling with human activity, unless you're looking in no-take marine reserves, according to a new study led by marine scientists at The University of Western Australia.

The study, published in *Conservation Biology*, is one of the largest of its

kind and assessed the body size of fish from around Australia, using more than 22,000 baited remote underwater video (BRUV) devices and one million measurements along 10,000km of coastline.

PhD student Nestor Bosch, from UWA's School of Biological Sciences, said BRUVs gave researchers the ability to see into areas where they couldn't normally and enable the analysis of fish that would ordinarily be scared away by the presence of a diver.

"Our underwater analysis revealed larger fish were consistently more abundant in areas further away from [human activity](#), across most of the country's northern tropical reefs and coolest kelp forests," Mr Bosch said.

"Despite this, big fish can be found within marine reserve areas, some of which are located on the doorstep of our largest cities."

Marine reserves and sanctuaries are areas of the ocean that people are encouraged to visit, but prohibit activities such as fishing or mining.

Dr Tim Langlois from UWA's Oceans Institute and School of Biological Sciences said bigger fish played an important role in [marine ecosystems](#) because they produced eggs that ensured the survival of fish populations.

"We're pleased to see researchers in Australia and across the world are using our Global Ocean Observing System Best Practice and GlobalArchive data portal," Dr Langlois said.

"These tools were designed at UWA and combine [fish](#) and shark video data to provide us with a better picture of what is happening beneath the waves."

"These sanctuaries provide a window into the past and vision for our

future, bringing us closer to nature so we can better understand how to protect it."

More information: Tim Langlois et al, A field and video annotation guide for baited remote underwater stereo-video surveys of demersal fish assemblages, *Methods in Ecology and Evolution* (2020). [DOI: 10.1111/2041-210X.13470](https://doi.org/10.1111/2041-210X.13470)

Provided by University of Western Australia

Citation: Why big fish thrive in protected oceans (2021, July 28) retrieved 10 April 2024 from <https://phys.org/news/2021-07-big-fish-oceans.html>

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