

## Fish can 'learn' to stay in no-fishing areas: UBC study

Evolution can help fish populations stay within marine reserves, where they won't get fished



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Marine reserves can protect bluefin tuna in the long run because the fish will eventually evolve to stay within the protected area, according to a UBC study.

**By:** [Wanyee Li](#) Metro, Published on Tue Mar 21 2017

Are fish smart enough to stay in an area where they won't get fished? The answer is no, but evolution could help species eventually evolve so that they stay in marine reserves and it could happen as quickly as 10 years, according to a UBC study.

Establishing large marine reserves that function as "no-take" zones for fishermen protects fish in the long term, according to a study initiated by UBC's Sea Around Us project.

The theory is fish that don't swim long distances will survive and pass on their genes while bold fish will die after getting fished outside of the no take zones.

Over time, that creates a population of fish that prefer to stay within the marine reserve, says lead author Jonathan Mee.

"If they're adventurous, they die," he said.

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Mee, a Mount Royal University researcher, and co-author Daniel Pauly based their study on the idea that fish behaviour is passed on to offspring via genetics.

“Any trait that you observe in nature, like behaviour, fish size, the length of a bird’s beak – everything has some genetic basis, said Mee.

“The possibility of evolution has been under appreciated and it can happen very quickly – in the order of decades or faster.”

Researchers could see behaviour differences among smaller fish, such as yellowfin tuna, within 10 years while larger migrating fish like bluefin tuna and great white sharks would likely not “learn” to stay in marine reserves right away, said Mee.

There are currently a number of small marine reserves in B.C. waters but governments will need to establish larger ‘no take’ zones in order to protect animals at the top of the food chain, like sharks he said.

Canada’s Department of Fisheries established a marine protected zone on the east side of Haida Gwaii to protect the area’s glass coral reefs in February 2017.

Link: <http://www.metronews.ca/news/vancouver/2017/03/21/fish-can-evolve--to-stay-in-marine-reserves-says-ubc-study-.html>