

Protecting coral reef connectivity found to be crucial for conservation efforts

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A team of researchers affiliated with several entities across Australia has found that in order to save the world's coral reefs, conservationists must also protect the corridors that connect them. In their paper published in

the journal *Science*, the group describes their study of coral and fish larval sources and sinks and the dispersal corridors promote health and diversity in coral reefs.

Over the past several decades it has become clear that [global warming](#) and increased amounts of [carbon dioxide](#) in the air are harming the world's coral reefs. The warmer atmosphere is increasing [water temperatures](#) and carbon dioxide is making [ocean water](#) more acidic. In this new effort, the researchers have found that there is another threat to coral reefs and the creatures that call them home—changes to the corridors that connect them.

Prior research has shown that despite there being great distances between coral reefs, there are still connections between them—corridors of moving water that carry coral and fish larvae from one reef to another. Prior research has also shown that not all reefs are connected equally. To better understand the connection between coral reef conservation and ocean corridors, the researchers broke the known corridors down into different categories based on larvae sinks and sources. In looking at real-world examples, the researchers found that highly connected larval sinks (where they wind up after traveling) had approximately twice as much biomass as the sources (where they came from). They also found that when protected, such sinks were more able to withstand human intrusions. The researchers also built models to simulate dispersal of larvae by corridors and found that approximately 70% of the coral corridors they studied, that were deemed critical, were not under any sort of protection.

The researchers suggest that their findings indicate that efforts to preserve [coral reefs](#) must include protection of corridors (particularly those that lead to critical sinks) if the reefs are to survive. They further suggest that studies need to be done to better understand the impact of global warming (and heightened CO₂ levels) on coral [reef](#) connectivity as

a way to find out if the reefs can be saved as the planet continues to warm.

More information: Luisa Fontoura et al, Protecting connectivity promotes successful biodiversity and fisheries conservation, *Science* (2022). [DOI: 10.1126/science.abg4351](https://doi.org/10.1126/science.abg4351)

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