

Song of the ocean can breathe new life into reefs

Will Humphries
Southwest Correspondent

Dying coral reefs could be revived by luring young fish into the ecosystem using the sounds of healthy reefs on underwater loudspeakers, researchers say.

Experts believe that the "acoustic enrichment" could help to restore damaged coral reefs being harmed by the effects of climate change.

The international research team was made up of scientists from the University of Exeter and University of Bristol, James Cook University in Queensland and the Australian Institute of Marine Science.

Working on devastated sections of the Great Barrier Reef, the team placed loudspeakers underwater and played healthy reef recordings in patches of dead coral.

They found that twice as many fish arrived — and stayed — compared with equivalent patches where no sound was played. It also increased the number of species present by 50 per cent.

Tim Gordon, a PhD student at Exeter University who led the study, said: "Fish are crucial for coral reefs to function as healthy ecosystems. Boosting fish populations in this way could help to kickstart natural recovery processes, counteracting the damage we're seeing on many coral reefs around the world." The technique



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works by regenerating the sounds that are lost when reefs are quietened by degradation, according to the findings published in the journal *Nature Communications*. Professor Steve Simpson, also of Exeter University, said: "Healthy coral reefs are remarkably noisy places — the crackle of snapping shrimp and the whoops and grunts of fish combine to form a dazzling biological soundscape. Juvenile fish home in on these sounds when they're looking for a place to settle."

"Reefs become ghostly quiet when they are degraded, as the shrimps and fish disappear, but by using loudspeakers to re-

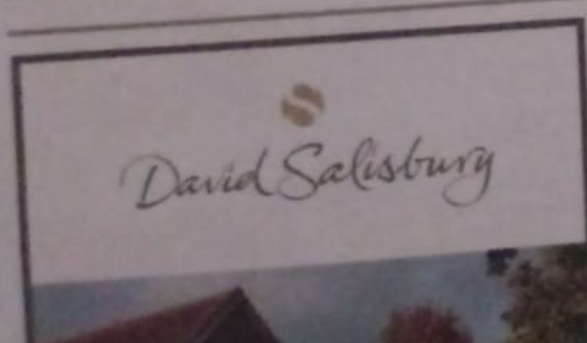


The loudspeakers help to increase fish populations around coral reefs, which it is hoped will kick-start their recovery

store this lost soundscape we can attract young fish back again."

Mark Meekan, of the Australian Institute of Marine Science, said that attracting fish to a dead reef would not bring it back to life automatically but that their recovery was "underpinned by fish that clean the reef and create space for corals to regrow."

Professor Andy Radford, of Bristol University, who was co-author of the study, said that acoustic enrichment could be combined with habitat restoration and other measures to accelerate ecosystem recovery. "However, we still need to tackle other threats including climate change, overfishing and water pollution to protect these fragile ecosystems," he warned.



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