

Study Reveals Underwater Music Boosts Coral Larvae Settlement in St. John Reefs

The experiment, which used recordings from a healthier reef, demonstrated that acoustic environments could play a critical role in rebuilding degraded coral reefs in the U.S. Virgin Islands

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Janeke Simon **August 21, 2024**

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Scientists from the Woods Hole Oceanographic Institution in Massachusetts, following an exploratory trip to St. John, believe they may have a tool to fight coral die-off.

In June and July of 2022, the team conducted an experiment in the coastal waters of St. John, where they collected coral larvae and distributed them at three reefs along the island's southern coast: Tektite, Cocoloba, and Salt Pond. While Tektite is relatively healthy, the latter two are considered degraded. At Salt Pond, the researchers set up an underwater speaker system that played sounds from a healthy reef.

In the resulting [research paper](#) that was published earlier this year, the team's findings were remarkable. The coral larvae deposited at Salt Pond had settled at much higher rates than at the other two sites devoid of music. "This gives us a new tool in the toolbox for potentially building a reef," said lead researcher Aran Mooney.

?With increasing sea temperatures and other environmental factors creating hostile conditions for coral, reef die-off and degradation is a major concern for environmentalists. Coral reefs play a key role in ocean health, and the loss of coral can have devastating results on the landmasses they protect from strong waves and storms. Human societies rely on the health of coral reefs, as they support more than a quarter of all marine animals, providing food and tourism opportunities for millions around the world.?

The finding that sound can enhance the rate at which coral larvae settle and thus rebuild reef environments is a welcome one. "Replicating an acoustic environment is actually quite easy compared to replicating the reef chemical and microbial cues which also play a role in where corals choose to settle," said Amy Apprill, one of the paper's co-authors.?

"Adding sound back to a reef, that's not going to fix every problem on that reef," said Nadège Aoki, lead author on the paper. "But in order to give corals a fighting chance, we need to have a lot of those tools at our disposal and we think that this is just one of them."

The recordings being played at Salt Pond were taken from the Tektite reef in 2013, before hurricanes and coral disease began degrading the habitat.