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A snappy solution to restoring oyster reefs

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Credit: University of Adelaide

Researchers from the University of Adelaide are using underwater music to speed up the restoration of native oyster reefs.

By using underwater speaker technology, researchers are broadcasting snapping shrimp snaps in the ocean to create "highways of sound" that attract baby oysters to oyster reefs targeted for restoration.

"In the ocean, sounds orchestrated by the snaps of snapping shrimp provide navigational cues used by baby oysters to find healthy habitats to settle and grow in," Brittany Williams, a Ph.D. candidate at the University of Adelaide.

"Marine soundscapes are silenced following large-scale habitat loss. In the lab and field, we discovered that we can re-create these lost soundscapes and entice oyster babies to swim to and settle on our new reefs," she says.

"This is a timely and affordable solution to plug the gaps in current restoration work."

Coastal communities around the world are scrambling to rebuild lost reefs which have been proven to play a vital role in maintaining water quality and healthy ecosystems but in many cases they have struggled to recruit sufficient babies.

Australia once had vast coastlines of native oyster reefs filled with this orchestration of snaps. But these have now been trawled and dredged to functional extinction.

This has left bare sand of muted soundscapes for more than 150 years, with no natural capacity to recover.

"Our research highlights the importance of the marine soundscape for animals, and how we can use technology to replace it in cases where it has been lost. This work has urgent practical applications," Brittany says.

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