



An adult coral from the 2016 Coral IVF trial prepares to spawn | Photo source Christina Langley – Southern Cross University

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RESEARCHERS USE 'CORAL IVF' TO REPOPULATE DAMAGED REEFS

 SUSTAINABILITY

A pilot project is successfully raising coral larvae and replanting them onto reefs that are in danger of disappearing

Spotted: According to the UN Environment Programme, around 14 per cent of the world's coral has been lost since 2009. This is a huge problem for people as well as marine life – coral reefs support at least 25 per cent of marine species, and underpin coastal protection, as well as the food and economic security of hundreds of millions of people around the world. Now, researchers have reported promising results from a new technique – 'coral IVF'.

Researchers at Australia's Southern Cross University developed the technique in an attempt to repair the dying coral of Australia's Great Barrier Reef. Coral eggs and sperm are collected during spawning events, which occur at different times in different regions. Millions of larvae are then raised on 'settlement tiles' made from crushed ancient reefs placed in specially-designed floating pools and tanks.

Once grown, the coral larvae are delivered to damaged reefs where they settle and grow. This year, coral larvae that was transplanted in 2016 has spawned for the first time – proving that the process can produce viable adult corals. Corals grown using the IVF process also appear to be more resilient to bleaching. This is because they are raised in the nurseries alongside an algae called zooxanthellae that has been engineered to have a higher than usual tolerance for heat. This algae pairs with the coral babies and results in more robust corals.

The research was funded by the Great Barrier Reef Foundation. The Foundation's Managing Director, Anna Marsden, described the results, [saying](#), "We couldn't be more excited to see that these coral babies have grown from microscopic larvae to the size of dinner plates, having not only survived a

bleaching event but are now reproducing themselves – helping to produce larvae that can restore a degraded reef.”

The growing realisation of how global warming is affecting the world’s oceans is spurring new attempts to mitigate the damage. Recent innovations in this space have included projects to build [engineered coral reefs](#) and the use of bacteria to protect coral reefs from [heat stress](#).

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Takeaway:

According to the Great Barrier Reef Foundation, the coral restoration process shows great promise in aiding reef recovery. The next step is to expand the programme. Lead Researcher and Southern Cross University Professor Peter Harrison has calculated that in order to restore the world’s coral reefs, “we would need to start developing tens or hundreds of millions of these juvenile corals to start getting to very large scale,” [adding](#), “All of that is doable.” Harrison adds that scaling up the project will require more funding, to develop more larval pools in multiple locations. While the project is currently receiving funding from the Great Barrier Reef Foundation and the Australian federal government, the ultimate aim is to attract private sponsorship in order to expand.