

Safeguarding Australia's Great Barrier Reef takes a cultural shift

June 24 2019



Trials of a novel low cost device, to help the rapid replanting of coral, are taking place on the Great Barrier Reef. Credit: David Suggett

It is sometimes the relatively simple ideas that work best. A novel low-

cost device, that can rapidly secure coral fragments to the reef, has been so successful at helping propagate coral on high value sections of Australia's Great Barrier Reef that the Australian and Queensland Governments have committed more funding to take the project further.

For Associate Professor Suggett, who leads the Future Reefs research program within the UTS Climate Change Cluster (C3), colleague Dr. Emma Camp and key partner Wavelength Reef Cruises it's an exciting and highly anticipated moment. Tour operator Wavelength Reef Cruises led the development of the device over an intense 12 month period in 2018 during the first phase of their [project](#). The team will now be joined by collaborators from JCU TropWater, Reef Ecologic and several other reef tour operators for phase two aimed at proving the concept via scalability across more GBR sites.

The team believes this next step represents more than the development of a low-tech device that can rapidly boost coral abundance. Fundamentally, the success of the project, and the protection of the reef demonstrates a "cultural shift" in the way "science is working with stakeholders—notably [local businesses](#) and traditional owners".

"It really is a complete transformation," Associate Professor Suggett says, explaining that

"Although as much as 90% of the 'reef value' comes from tourism less than five percent of the reef sites are used for tourism.

"It's important to protect this small percentage, and one way of doing that is to help tourist operators secure the future of their sites by giving them tools for reef custodianship so that they can build capacity," Suggett says.

Wavelength Reef Cruises operator Mr John Edmondson says that the

project builds both economic and ecological resilience by enabling tour operators to "develop a new practitioner network".

"This network, under a new initiative called the [Coral Nurture Program](#), provides means not only to maintain existing good quality reef sites but also aid those impacted by coral bleaching, storms and Crown of Thorns starfish," he says.

Until recently tour operators could remove invasive Crown of Thorns Starfish from their reef sites but weren't allowed to replant coral. The development of protocols to use the new device, in collaboration with the Great Barrier Marine Parks Authority, means operators can rapidly populate reef substrates with targeted coral out-planting.

Coral propagation and "reef gardening" have become global practices to aid local reef management but until now have been costly and un-scalable.

"This new device completely changes the viability for this approach because it makes the time to replant the coral fragments at least 10-20 times faster than previously possible," says team member Dr. Emma Camp, a marine biogeochemist.

The project has already resulted in over 5000 coral out-plants at Opal Reef, with the next project phase aiming for tens of 1000s of corals at five different Cairns/Port Douglas tourism sites in the next 12 months. The project is building a network of practitioners who can assess tailored propagation and out-planting practices according to the ecology and topography of different [reef](#) sites.

Of the original six Queensland Government grants made in 2018 Associate Professor Suggett and his team also collaborated on a coral larval survival project led by Southern Cross University. This project has

also been successful in securing further funding for proof of concept and scalability trials.

More information: www.uts.edu.au/corals

Provided by University of Technology, Sydney

Citation: Safeguarding Australia's Great Barrier Reef takes a cultural shift (2019, June 24)
retrieved 7 May 2024 from

<https://phys.org/news/2019-06-safeguarding-australia-great-barrier-reef.html>

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