

Coral rehab finding offers hope for Great Barrier Reef

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Even small scale, patchy reef restoration efforts can go a long way to repair coral ecosystems, new research has found. Flickr/gruntzooki

Coral ecosystems cope much better than was first thought when the reef habitat is fragmented, a new study has found, meaning that efforts to restore even small parts of the damaged Great Barrier Reef could reap great rewards.

Like other <u>reef systems</u> around the world, the <u>Great Barrier Reef</u> has suffered from coral bleaching and habitat die-off brought on by <u>warming</u> <u>waters</u>, <u>natural disasters</u>, <u>ocean acidification</u> and pollution by <u>pesticides</u>.

Such disturbances often cause <u>habitat loss</u> and patchiness in the way the coral is distributed but until now it has been hard to know which factor



— habitat loss or fragmentation — was causing the most damage to fish populations.

Now researchers from James Cook University have discovered that while overall habitat loss is indeed a disaster for fish, the fact that the remaining reef is spread patchily over the original area may not be such a problem after all.

"There's a perception problem that habitat patchiness is a bad thing when, in fact, our results suggest it doesn't matter if it's patchy as long as the total amount of habitat is not changed," said Dr Mary Bonin of the ARC Centre of Excellence for Coral Reef Studies and James Cook University.

The researchers think a patchy reef may actually create more nooks and crannies for fish to hide in, whereas a large continuous reef may be guarded by territorial alpha fish that chase competitors away.

"I want to be clear that we are not saying we should (deliberately) fragment reefs but our results are showing habitat loss is the real problem and patchy restoration is still beneficial," said Dr Bonin.

The finding could fuel a policy shift in the way reef restoration is viewed. Large-scale, complex and expensive reef-wide restorations may still be worthwhile, but the research shows that reef rehab experts could also reap great benefits from small scale efforts, such as deployment of <u>reef balls</u>.

"It means we don't necessarily have to restore the entire reef back to 100%. Actually, just going in an providing small patches of habitat would could be beneficial," said Dr Bonin.

"You can't probably get it back to a pristine state (after a major



disturbance). But even to go in and deploy reef balls in a patchy way can still do a lot to help."

The <u>study</u> was published in *Ecology*, the journal of the Ecological Society of America.

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