

# Innovative Habitat Reef Modules Showing Promising Progress

## August 2025 – For Immediate Release

One year after thirty purpose-designed Habitat Reef Modules were installed off Mackay, new underwater footage is revealing encouraging signs of success.

Monitoring has recorded at least 22 fish species now using the modules – a remarkable increase from just three species recorded before deployment.

These include key recreational, commercial and indigenous fishery species such as red emperor, large-mouth nannygai, gold-spot cod and grassy sweetlip, along with small-bodied reef fish like wrasse, blennies, chromis and coralfish.

Matt Moore, Fisheries Ecologist at Catchment Solutions said the footage also showed the modules covered in soft coral growth.

He said hard corals were expected to establish over a longer timeframe.

“This early colonisation is a positive sign that the structures are functioning as intended, supporting marine life and enhancing reef habitat,” Mr Moore said.

“We’ve designed these modules to mimic the ecological function of natural reef bommies,” he said.

“From surface texture to internal shelter spaces for juvenile fish, every part of the design has a role in enhancing habitat quality and increasing the resilience of reef communities.

“These are ‘set-and-forget’ structures – they provide favourable attachment conditions away from sediment, encouraging natural colonisation by reef-building organisms.”

Co-chair of council’s Sustainability Advisory Committee Cr Alison Jones said it was incredibly rewarding to see such strong results in just 12 months.

“This project shows how local partnerships can deliver practical solutions that support both our environment and our community,” Cr Jones said.

Cr Jones said the installation of Habitat Reef Modules in shallow waters off Mackay Harbour was delivering benefits well beyond ecological restoration – it was opening up new opportunities for recreational fishing close to shore.

“Being that the modules are in just 12 metres of water, they are easily accessible to families, children, tourists and local fishers,” she said.

“Their proximity to shore creates a rare opportunity to catch popular, great-tasting reef species such as red emperor and nannygai, all from a world-class, sustainably managed fishery.”

Kellie Best, Project Officer at Reef Catchments NRM said the structures offered critical nursery habitats for juvenile fish.

“Each module includes ‘hidey holes’ leading to a central internal chamber designed to provide shelter from predators,” Ms Best said.

“By offering safe spaces during early life stages, the modules support fish survival, allowing more juveniles to reach maturity and contribute to reef fish populations,” she said.

“Juvenile fish are most vulnerable when they’re small, so by providing dedicated refuge, these modules give them a better chance of surviving, growing and eventually reproducing.”

### **Project Background**

In June 2024, thirty purpose-designed Habitat Reef Modules were deployed across two inshore sites off Mackay in the Great Barrier Reef, marking a significant step forward for reef restoration and marine biodiversity in coastal waters.

Designed by Catchment Solutions and funded by the Australian Government Fisheries Habitat Restoration Program and delivered by Reef Catchments NRM with support from Mackay Regional Council and North Queensland Bulk Ports, this pilot project aims to restore degraded reef habitat while supporting sustainable fisheries and scientific research.

The modules were designed with enhanced settlement surfaces to support the recruitment and growth of sessile marine organisms, such as corals, sponges and beneficial algae. The trial aims to assess how these surfaces contribute to the colonisation of reef-building species, offering research insights for future reef restoration and marine infrastructure design.

To further support marine life, the modules include vertical relief that promotes nutrient upwelling and helps reduce sediment deposition.

The Habitat Reef Module trial represents a collaborative approach to restoration, combining local knowledge, innovative engineering and science-based monitoring to help secure a more resilient future for the Great Barrier Reef.

This project is a collaboration between Catchment Solutions, Reef Catchments NRM, Mackay Regional Council, and North Queensland Bulk Ports with support from recreational fishers and the local community.

Monitoring and evaluation will continue to assess ecological outcomes and inform future marine restoration projects.

For additional details about the Habitat Reef Modules, visit [www.reefcatchments.com.au/projects/turning-rubble-to-reef-in-the-mackay-whitsundays/](http://www.reefcatchments.com.au/projects/turning-rubble-to-reef-in-the-mackay-whitsundays/)

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### About Reef Catchments

Reef Catchments are the Natural Resource Management (NRM) group for the Mackay Whitsunday Isaac region. We are a non-government, not-for-profit organisation.

We facilitate change and work for long-term solutions to sustain, protect, and improve our region's natural resources and environment, now and into the future.

Our team are skilled and outcome-focused people, all dedicated to looking after the environment in the Mackay Whitsunday Isaac region.

For more information: [www.reefcatchments.com.au](http://www.reefcatchments.com.au)

### About Catchment Solutions

Catchment Solutions is a Mackay-based environmental service provider and social enterprise specialising in waterway habitat restoration, fish passage design and monitoring. Working throughout QLD, we bring technical expertise and innovation to business and government across diverse industries to deliver strategic environmental outcomes.

For more information: <https://www.catchmentsolutions.com.au/>

Images and footage:

