

## Breaking down barriers to help our favourite fish

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Fishway construction in Mackay-Whitsunday has shown some great outcomes for increasing fish populations in the region, and a next-level fish barrier project being carried out by Reef Catchments and Catchment Solutions will now investigate fish barriers in off stream coastal wetlands and update the stream barriers prioritisation report throughout the region.

The extension project is funded by the Australian Government Department of Agriculture, Water and the Environment Reef Trust and delivered through the National Landcare Program Regional Land Partnerships agreement.

Reef Catchments coasts and biodiversity officer Carlos Bueno said the new project built on the work following the *2015 Mackay Whitsunday Fish Barrier Prioritisation Report*, which led to the development of a Top 40 fish barrier sites for attention. Some of that 40 had been given treatments like the construction of clever fish ladders that benefit a wide range of some of our favourite fish species.

“Catchment Solutions, which also produced the 2015 report for Reef Catchments, has been contracted to update the report with a new investigation of off stream wetlands, which are hugely important habitats for fish species that need to migrate between different habitats to complete their life cycle,” Mr Bueno said.

“This new report will be delivered by the end of this year, and another two fish barriers will also be addressed, as part of this project, ending in June 2023.”

Catchment Solutions Fisheries Ecologist Trent Power said they would be using the latest high resolution photographic imagery in identifying new sites, particularly along smaller streams that were critical nursery habitats.

“Many barriers to fish passage within the region occur on coastal wetlands which often have small-ordered streams flowing into them or are located off stream along the margins of estuarine systems,” Mr Power said.

“Barriers on these critical nursery habitats were often ranked low, as the current prioritisation was biased towards large stream orders. Barriers on wetlands which contained no defined stream network were missed completely.”

The project benefits the environment, but there are also economic and community benefits.



The Mackay-Whitsunday-Isaac region is full of keen fishers, including a growing tourism base as a destination for travelling anglers. However, many much-loved local species like barramundi, sea mullet, mangrove jack and tarpon can face challenges making their necessary journey between waterways and ocean to breed and grow.

Simply: Aussie fish aren't great jumpers when it comes to instream obstacles. Unlike the waterfall-leaping salmon of North America, which migrate upstream as adults to breed, our fish spawn in the sea and it's the juveniles which must make the upstream migrations. These small fish have not yet developed strong swimming muscles and have little energy reserves. Removing barriers to fish migration is critical for these fish to make it into the coastal stream and wetland nurseries.

The fishes' challenges come in the form of physical barriers, like choking aquatic weeds, weirs, culverts or road causeways across streams and wetlands. In fact, the *2015 Mackay Whitsunday Fish Barrier Prioritisation Report* identified a staggering 3974 potential barriers to diadromous fish species migration across Mackay-Whitsunday. Our region has 48 freshwater fish species, and half of those are diadromous: migrating between freshwater and marine habitats.

The impact of the barriers on fish population doesn't just affect catchment ecologies but also the regional economy. Sea mullet and barramundi are a popular target for recreational fishers (including angler tourists) and comprise the highest value catches of Queensland's inshore net fishery. Both these species rely on good access to coastal freshwater nursery habitats to maintain sustainable populations.

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