

# Mackay growers supporting water quality outcomes

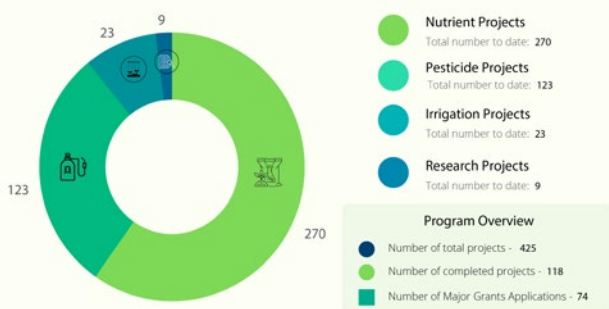


Mackay growers are implementing practice change to benefit on-farm productivity and profitability, while directly contributing to important improvements in water quality flowing through the regional catchment area.

Since 2020, growers have been working together with the support and agronomic advice of industry delivery providers under the Mackay Whitsunday Water Quality Program (MWWQP), to target the prevention of 26 tonnes of Dissolved Inorganic Nitrogen (DIN) and 215 kilograms of pesticides from being lost annually to local waterways.

Over 420 individual grower projects have each contributed to overall program targets to minimise losses of nutrients and pesticides ensuring these inputs stay where they are needed to grow the best crop possible.

## Mackay Whitsunday Water Quality Program (MWWQP) Project Statistics Quarterly Data June 2023



With one year remaining in the MWWQP, many of these projects are being completed or are working with delivery providers to develop their last chemical or nutrient management plans.

### Tracking water quality improvements

To enable tracking of individual project water quality improvements, industry delivery providers use a tool called 'Projector'. This works to quantify the water quality improvement of an individual farm involved in the project, based on the type of practice change the grower has implemented.

Developed under the Paddock to Reef program, the Projector tool estimates the water quality improvements of farm-scale agricultural practice change projects. It utilises practice change questions and combines these with Agricultural Production Systems sIMulator (APSIM) modelling over the area where the practice change is occurring.



Paddock to Reef Projector tool.



Andre Camilleri and his high rise spray cab tractor with rate controller.

When a delivery provider works with a grower on a project like the MWWQP, they record the area where the practice change will occur. They then ask management practice questions outlining what has been done previously and how this practice will most often be done moving forward. For example, if a grower applied mill mud at 150 tonnes per hectare broadcast on roughly 20% of their farm and would like to make a change by applying it at 75 tonnes and banded on top of the stool over the same area. The difference in the quality of water being lost during rainfall events between these two practices has been validated using field trials as a part of the Paddock to Reef program.

The Projector tool allows agronomic advisors and growers to understand what the likely water quality improvement is relating to the change in practice, which is then aggregated for all projects to demonstrate progress towards the overall program target. The grower's details and the information collected by the delivery provider are protected under a confidentiality agreement and cannot be shared. This information is deidentified and only used to evaluate the effectiveness of the program.

### The Big Picture: How growers are making a difference

Data captured during the process flows through to the Paddock to Reef Integrated Monitoring, Modelling and Reporting Program. The Paddock to Reef program provides a framework for evaluating and reporting progress towards the Reef 2050 Water Quality Improvement Plan targets.

Each participating grower has played an important role in fine-tuning growing practices, creating improved water quality outcomes and contributing to critical collection and management of data used to evaluate progress toward Reef water quality targets.



The Mackay Whitsunday regional water quality improvement program is funded by the partnership between the Australian Government's Reef Trust and the Great Barrier Reef Foundation.

