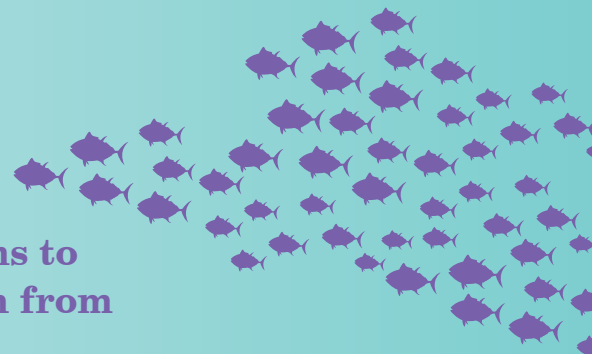


MULGRAVE RUSSELL WATER QUALITY PROGRAM



The Mulgrave Russell Water Quality Program aims to prevent 72 tonnes of dissolved inorganic nitrogen from entering the Reef each year

The Mulgrave Russell catchment makes up more than nine percent of the Wet Tropics region and discharges more than 4,000 gigalitres of fresh water into the Great Barrier Reef each year. The region is home to a proud and progressive sugarcane farming community who is leading the way in improving profitability, productivity and sustainability in their business operations. These farmers continue to seek the latest in sustainable agricultural practices and innovative farming methods to benefit farmers and the environment.

The three-year, \$6.2 million program is managed by the Reef and Rainforest Research Centre and coordinated by Canegrowers Cairns. The program focuses on improving nitrogen management practices to reduce losses and improve the quality of the water leaving sugarcane farms in the Mulgrave Russell region.



PROJECTS

Precision to Decision Nutrient Management



Farmacist is providing growers with increased access to data that is crucial for precision agriculture, including yield variability maps, and managing a large extension program across the Mulgrave Russell catchment. Farmers involved in this project will be given the tools needed to develop sophisticated precision nutrient management plans that can reduce costs, increase productivity and improve the quality of water running off their farm.

Water Quality Monitoring and Controlled Drainage



James Cook University's TropWATER will build a robust, multi-scale (paddock to sub-catchment) water quality monitoring system to support local extension initiatives in the catchment. Additionally, by identifying and targeting DIN hot spots, drainage systems will be remediated to retain, divert or treat high nitrate first flushes early in the wet season.

WORKING WITH FARMERS

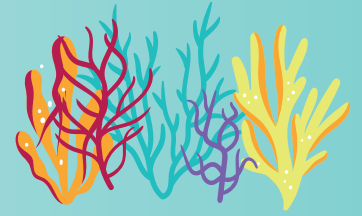
The Mulgrave Russell Water Quality Program is building on previous nitrogen research projects to support growers in maximising sustainability, productivity and profitability while reducing nutrients lost through runoff. Local partners in the Mulgrave Russell catchment are working closely with sugarcane farmers to provide extension services and access to precision agriculture data.

A dynamic, interactive water quality monitoring and extension program is being implemented at the paddock and catchment-scale, to improve rapport, research credibility and mutual understanding between scientists, extension practitioners, land managers and farmers, leading to water quality improvements.



The Mulgrave Russell Water Quality Program is funded by the partnership between the Australian Government's Reef Trust and the Great Barrier Reef Foundation.

MULGRAVE RUSSELL WATER QUALITY PROGRAM



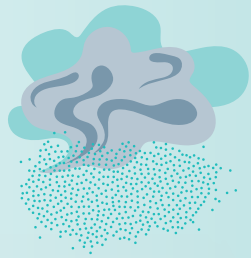
Pollutants reduce the Great Barrier Reef's ability to recover from catastrophic events such as tropical cyclones and mass coral bleaching



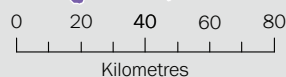
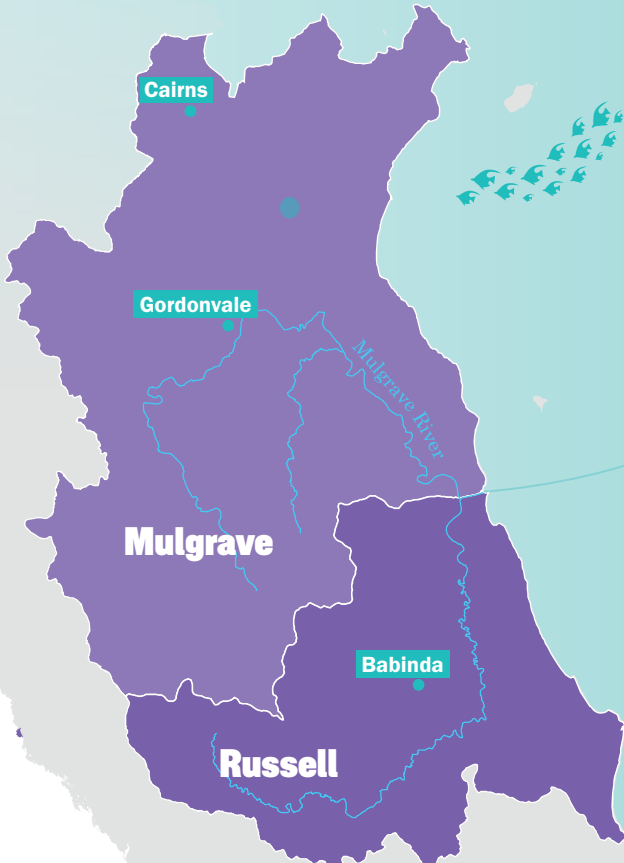
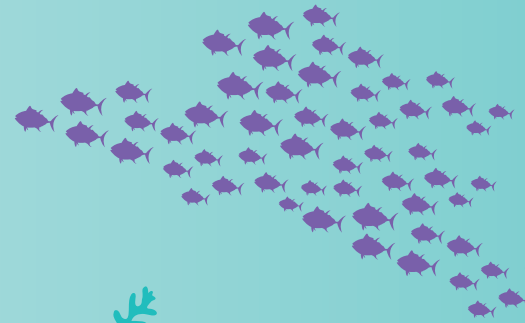
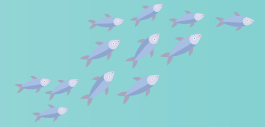
Floodplain wetlands such as the Eubenangee Swamp act like a sponge for nutrients, but more than 35% of wetlands have been lost in the Mulgrave Russell catchment



Improved nitrogen management practices can reduce DIN runoff while maintaining productivity



Dissolved inorganic nitrogen (DIN) is a nutrient that is immediately available for uptake by plants and can cause algal blooms



Algal blooms can compete for space, affect coral metabolism, reduce coral settlement and increase susceptibility to coral disease



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