

MACKAY WHITSUNDAY REGION

O'Connell catchment water quality targets

Catchment profile

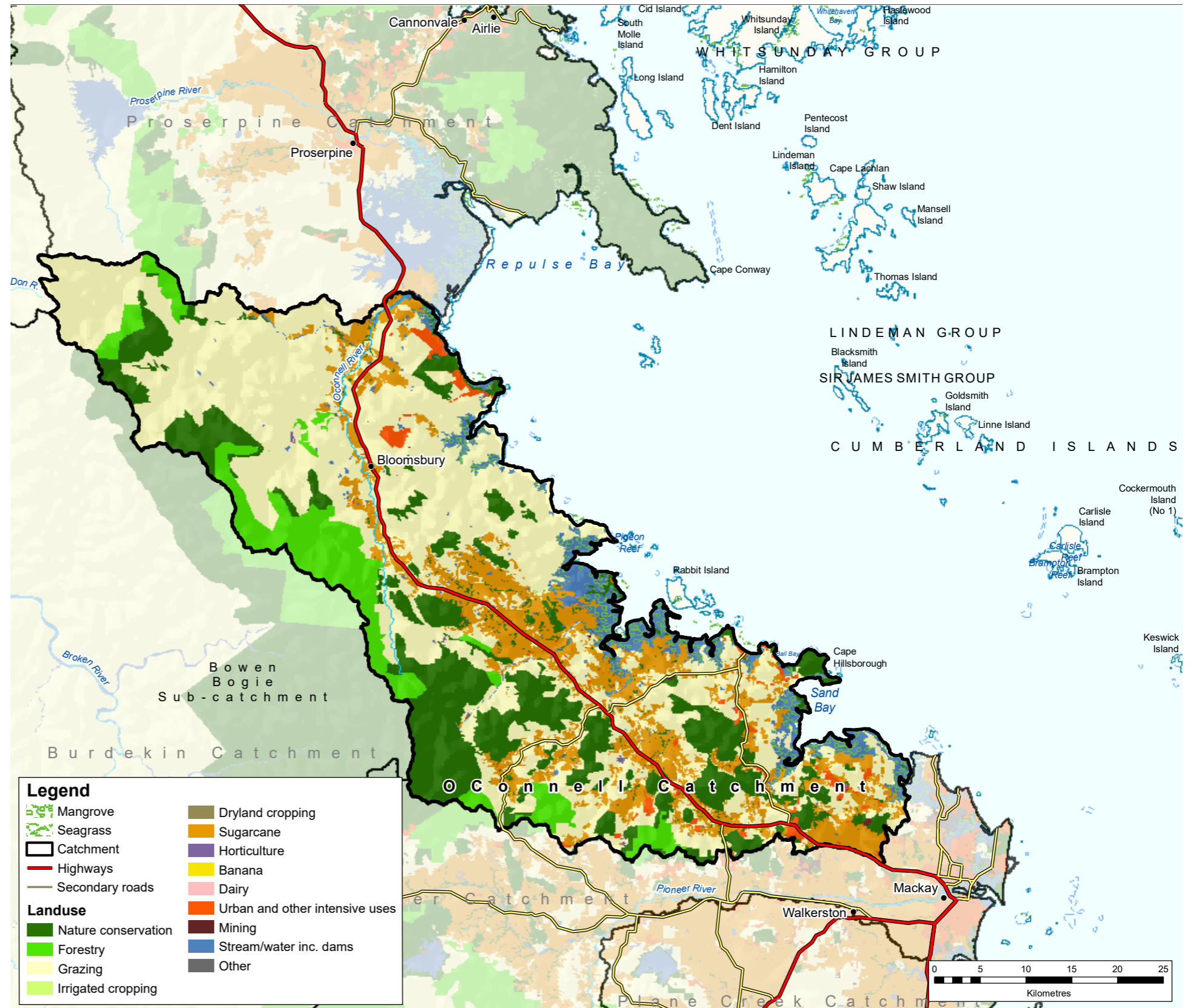
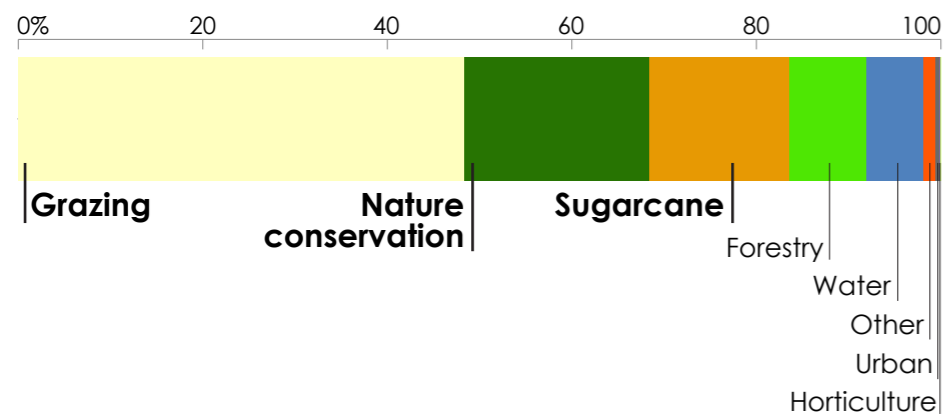
Under the Reef 2050 Water Quality Improvement Plan, water quality targets have been set for each catchment that drains to the Great Barrier Reef. These targets (given over the page) consider land use and pollutant loads from each catchment.

The O'Connell catchment covers 2387 km² (27% of the Mackay Whitsunday region). Rainfall averages 1705 mm a year, which results in river discharges to the coast of about 1774 GL each year.

The O'Connell catchment encompasses the O'Connell and Andromache rivers in the north, St Helens and Murray creeks in the centre and Constant and Reliance creeks in the south. These sub-catchments discharge into Repulse Bay and the Seaforth Coast receiving waters. The southern boundary of the basin encompasses the city of Mackay's Northern Beaches area. The major land use in the catchment is grazing, which is primarily in the north, followed by conservation and forestry in the upper reaches of the catchment and sugarcane farming in the south.

Land uses in the O'Connell catchment

The main land uses are grazing (48%), nature conservation (20%), and sugarcane (15%).



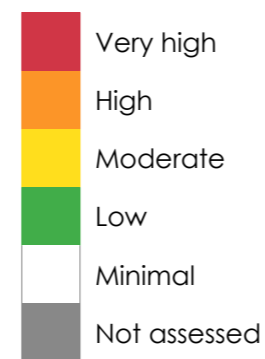
2025 water quality targets and priorities

End-of-catchment anthropogenic load reductions required from 2013 baseline				Pesticides
Dissolved inorganic nitrogen (DIN)	Fine sediment	Particulate phosphorus (PP)	Particulate nitrogen (PN)	
70% 130 tonnes	40% 96 kilotonnes	40% 120 tonnes	40% 250 tonnes	To protect at least 99% of aquatic species at the end of catchment

The 2025 targets aim to reduce the amounts of fine sediments, nutrients (nitrogen and phosphorus) and pesticides flowing to the reef. Each target for sediment and nutrients is expressed as: (a) the percentage load reduction required compared with the 2013 estimated load of each pollutant from the catchment; and (b) the load reductions required in tonnes. Progress made since 2013 will count towards these targets. [Previously reported](#) progress between 2009 and 2013 has already been accounted for when setting the targets. The pesticide target aims to ensure that concentrations of pesticides at the end of each catchment are low enough that 99% of aquatic species are protected. The targets are ecologically relevant for the Great Barrier Reef, and are necessary to ensure that broadscale land uses have no detrimental effect on the reef's health and resilience.

A high percentage reduction target may not necessarily mean it is the highest priority. The priorities (ranked by colour) reflect the relative risk assessment priorities for water quality improvement, based on an independent report, the [2017 Scientific Consensus Statement](#). The priorities reflect scientific assessment of the likely risks of pollutants damaging coastal and marine ecosystems.

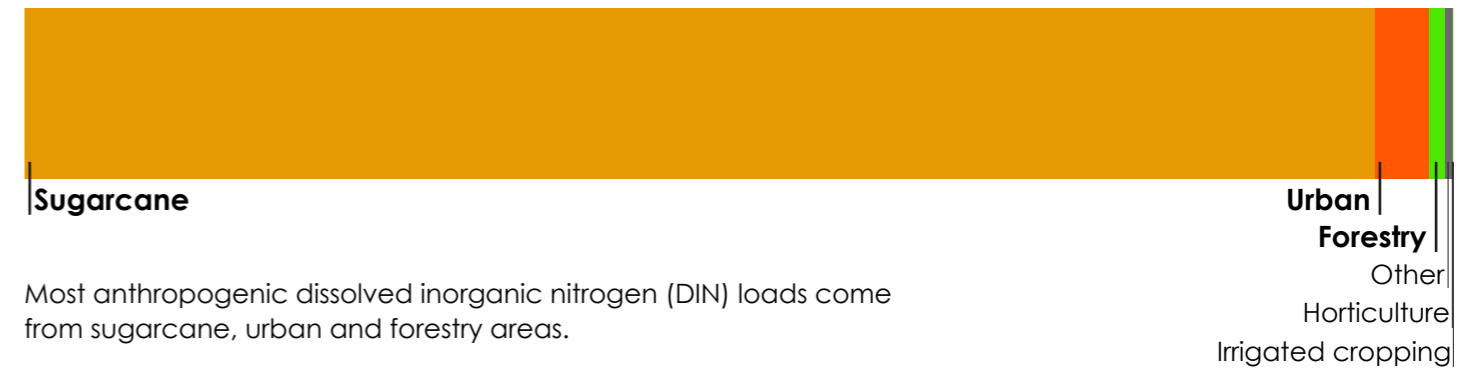
Water quality relative priority



Modelled water quality pollutant loads

Of the Mackay Whitsunday catchments, the O'Connell contributes the third largest loads of anthropogenic dissolved inorganic nitrogen and the largest loads of fine sediment, mostly from sugarcane and streambank erosion.

Dissolved inorganic nitrogen



Fine sediment



Types of sediment erosion



Australian Government



Queensland Government