

WET TROPICS REGION

Johnstone catchment water quality targets

Catchment profile

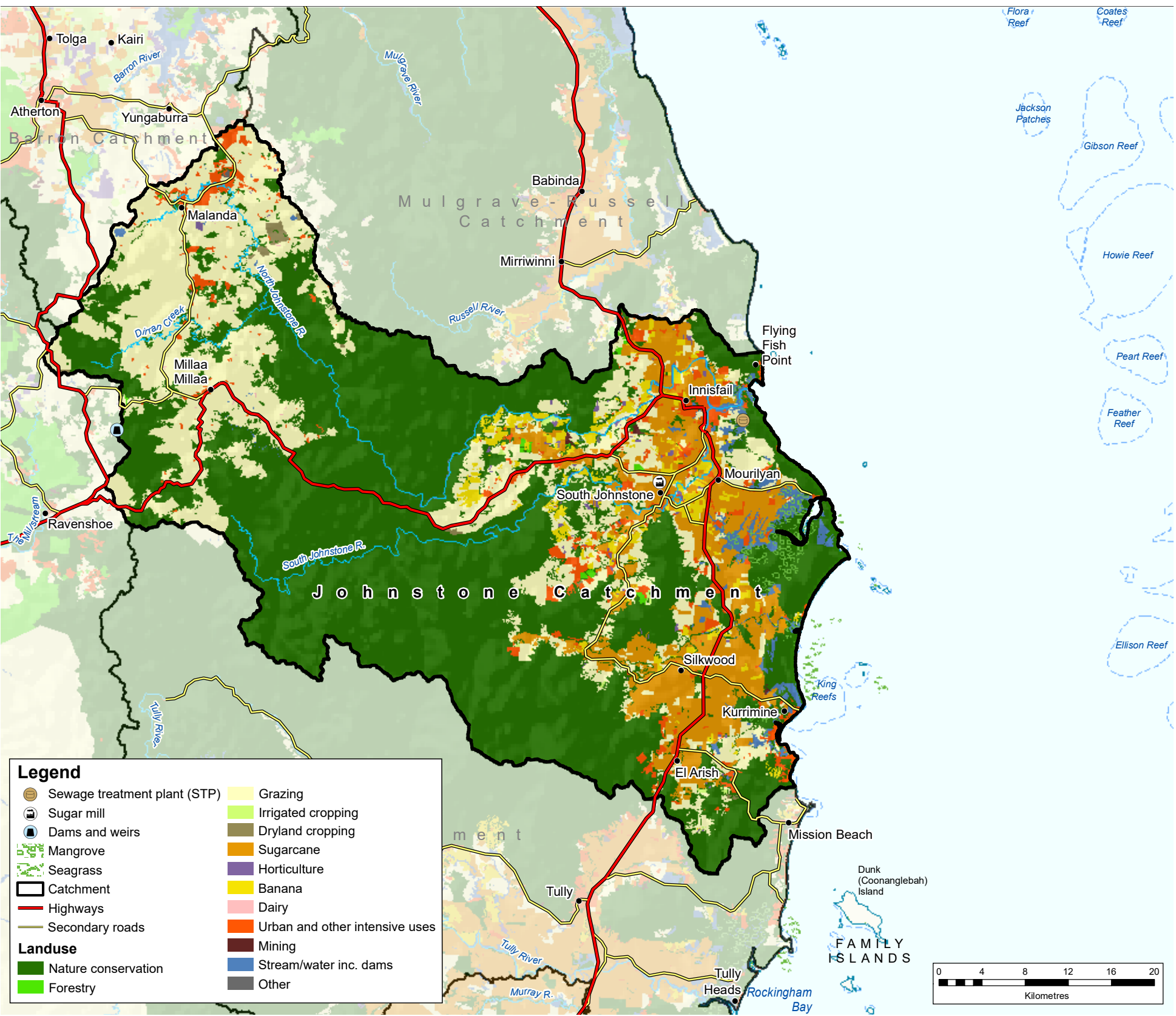
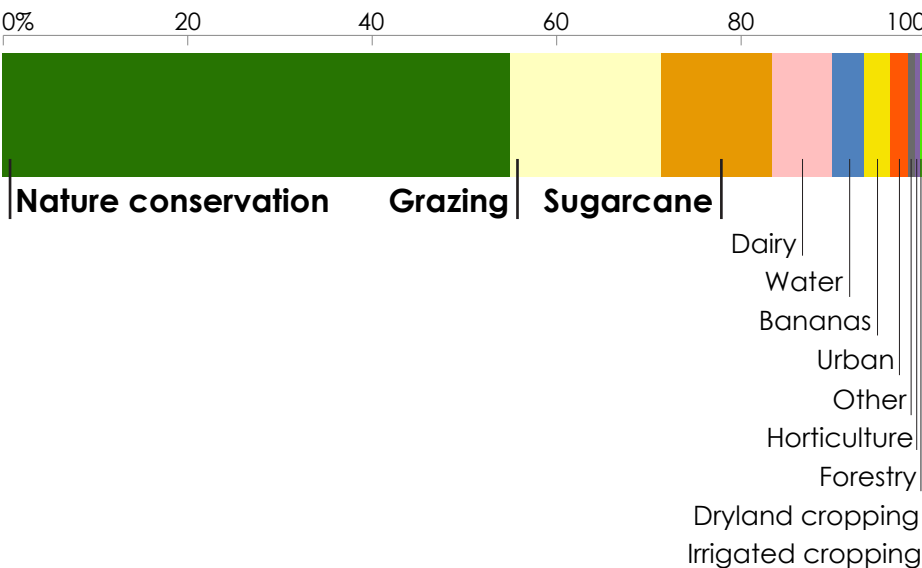
Under the Reef 2050 Water Quality Improvement Plan, water quality targets have been set for each catchment that drains to the Great Barrier Reef. These targets (given over the page) consider land use and pollutant loads from each catchment.

The Johnstone catchment covers 2325 km² (11% of the Wet Tropics region). Rainfall averages 3152 mm a year, which results in river discharges to the coast of about 4821 GL each year.

The two biggest sub-catchments are the North Johnstone and South Johnstone rivers. The North Johnstone can be divided into three sections. The upper is used for dairying, beef grazing, sugarcane and potatoes and supports the towns of Millaa Millaa and Malanda. Most of the middle section, which is steep forest, is in the Wet Tropics World Heritage Area. The lower reaches are mostly low sloping hills and coastal floodplains supporting most of the agriculture in the catchment, and the larger towns of Innisfail and South Johnstone.

Land uses in the Johnstone catchment

The main land uses are nature conservation (55%), grazing (16%), and sugarcane (12%).



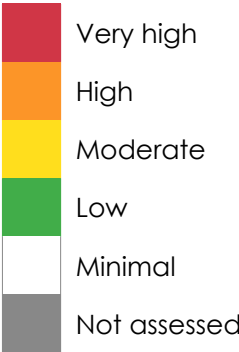
2025 water quality targets and priorities

End-of-catchment anthropogenic load reductions required from 2013 baseline				Pesticides
Dissolved inorganic nitrogen (DIN)	Fine sediment	Particulate phosphorus (PP)	Particulate nitrogen (PN)	
70% 350 tonnes	40% 100 kilotonnes	40% 250 tonnes	40% 490 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

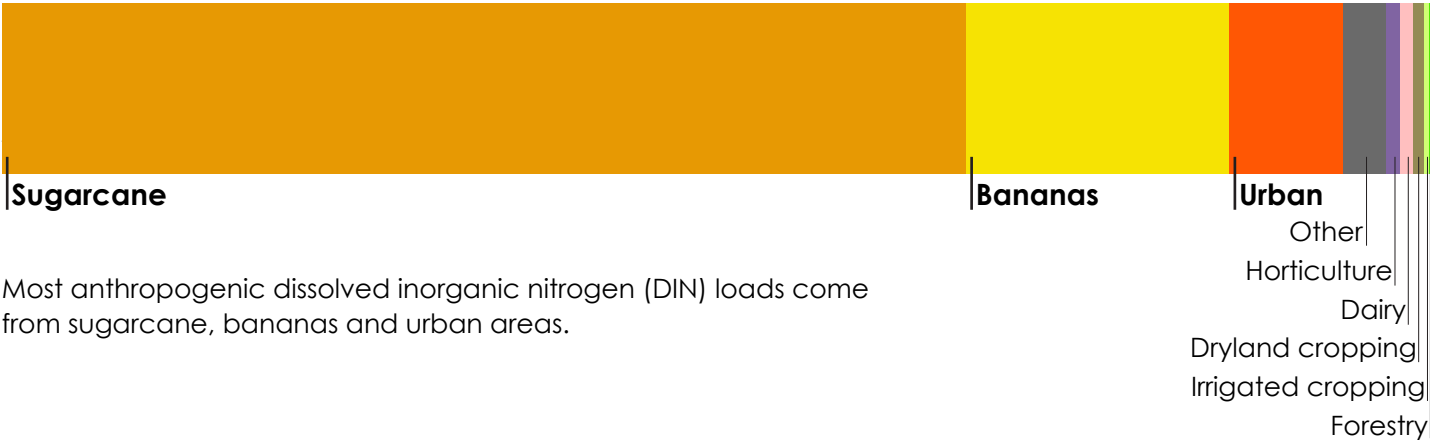


Modelled water quality pollutant loads

Of the Wet Tropics catchments, the Johnstone contributes the second largest loads of dissolved inorganic nitrogen and fine sediment, mostly from sugarcane. The Johnstone is also one of the top five highest contributors of dissolved inorganic nitrogen of all catchments draining to the Great Barrier Reef.

Sugarcane in the Johnstone generates 2.5 times the average annual loss of fine sediment per hectare of all the Wet Tropics catchments.

Dissolved inorganic nitrogen



Most anthropogenic dissolved inorganic nitrogen (DIN) loads come from sugarcane, bananas and urban areas.

Fine sediment



Most anthropogenic fine sediment loads come from sugarcane, streambank erosion, grazing, dairy, bananas and urban areas.

Types of sediment erosion



Most sediment erosion comes from hillslopes and streambanks in the Johnstone catchment.