WET TROPICS REGION

Murray catchment water quality targets

Catchment profile

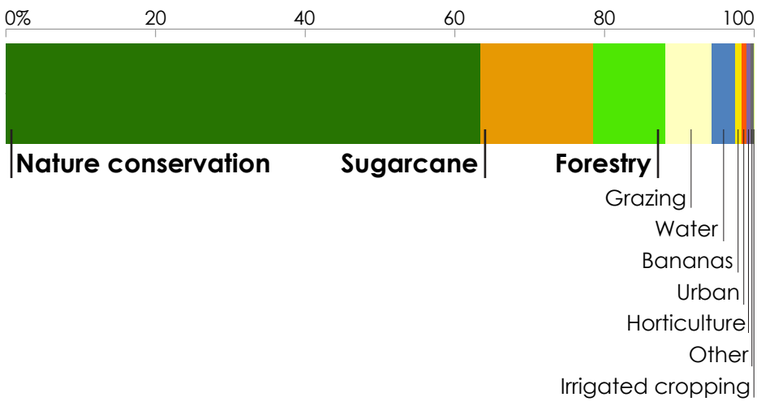
Under the Reef 2050 Water Quality Improvement Plan, water quality targets have been set for each catchment that drains to the Great Barrier Reef. These targets (given over the page) consider land use and pollutant loads from each catchment.

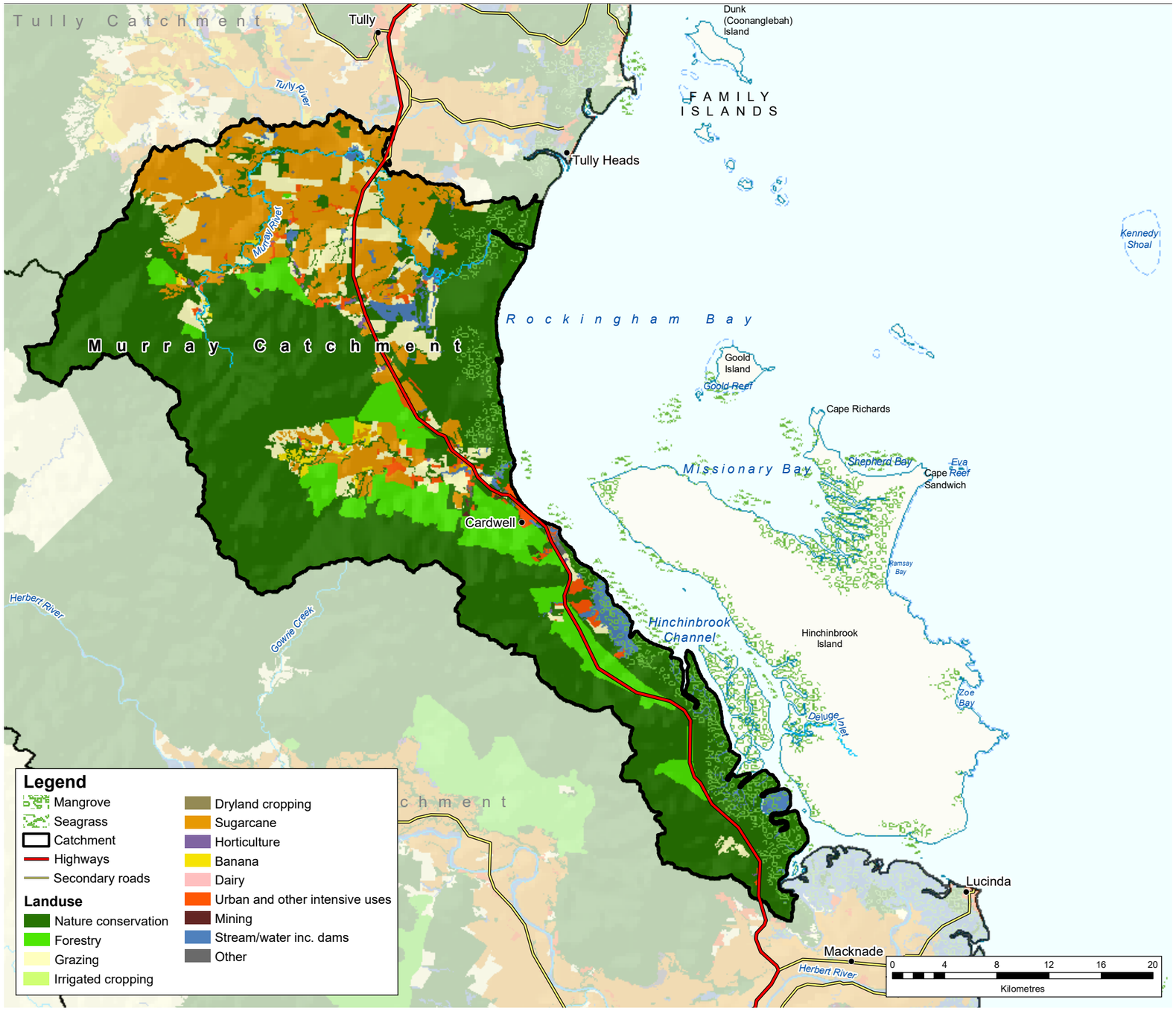
The Murray catchment covers 1107 km^2 (5% of the Wet Tropics region). Rainfall averages 2164 mm a year, which results in river discharges to the coast of about 1544 GL each year.

The Murray catchment is located in the southern section of the Wet Tropics region. The major waterway of the catchment is the Murray River, which captures the northern section of the catchment area. The area further south is drained by Dallachy Creek, Meunga Creek and Kennedy Creek and numerous smaller coastal creeks that drain into Hinchinbrook Channel. The upper reaches of the rivers and creeks are predominantly fed from streams emerging from the rainforest-covered mountain ranges that occupy the western border of the catchment area. The low-relief floodplain lies along the coast, which is mostly developed for agriculture in the centre with further remnant forest near the coast. The main urban area, Cardwell, is located in the south of the catchment, opposite Hinchinbrook Island.

Land uses in the Murray catchment

The main land uses are nature conservation (63%), sugarcane (15%), and forestry (10%).





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)	
50% 120 tonnes	**20%** 8 kilotonnes	**20%** 11 tonnes	**20%** 32 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.

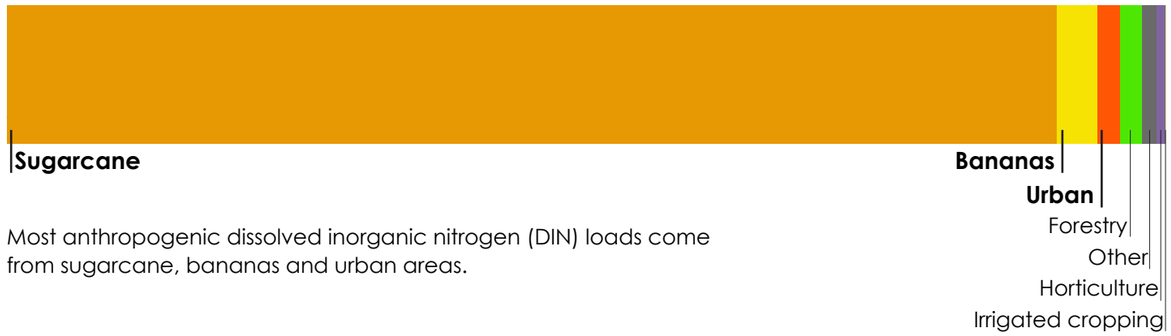
Water quality relative priority

- Very high
- High
- Moderate
- Low
- Minimal
- Not assessed

Modelled water quality pollutant loads

The Murray catchment contributes moderate loads of anthropogenic dissolved inorganic nitrogen, mostly from sugarcane. It also contributes small loads of fine sediment.

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 and forestry areas.

Types of sediment erosion

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

Australian Government

Queensland Government