

Wet Tropics Regional Water Quality Strategy 2025 to 2035

A 10-year roadmap for healthy waterways, resilient landscapes and empowered communities

About the Strategy

The Wet Tropics Reef Regional Water Quality Strategy 2025 to 2035 is a 10-year plan to help guide investment and action to improve the health of our waterways and the Great Barrier Reef. It sets out priorities for each of the Region's eight basins to reduce the nutrients, sediment and pesticides reaching the Great Barrier Reef, while supporting healthy landscapes, productive industries and thriving communities.

Why a Water Quality Strategy is needed

The choices we make on the land affect what ends up in our creeks, rivers, wetlands and, eventually, the Great Barrier Reef. The Wet Tropics Regional Water Quality Strategy sets out how we can work together over the next decade to improve water quality and ecosystem health across the Region.

Our vision

The Wet Tropics region's water quality is in a condition that sustains the health and supports recovery of the Region's aquatic ecosystem values. Integrated and sustainable approaches, driven by regional communities, stakeholders and Traditional Owners improve water quality within timeframes that strengthen the resilience of the Region's values against the impacts of climate change.

— Wet Tropics Regional Water Quality Strategy, 2025

Our Goals

Improved Water Quality



Achieve good water quality now and into the future by reducing the impact of nutrients, sediment and pesticides on our waterways and the Great Barrier Reef.

Resilient Landscapes



Repair and look after our catchments so they can support healthy ecosystems, promote better water quality, and deliver additional benefits like increased productivity, biodiversity and climate resilience.

Empowered Communities



Build local skills, knowledge and capacity so that communities, landholders and Traditional Owners can lead and deliver lasting water quality improvements.

Caring for Country, Caring for Water

A core guiding principle of Traditional Owners' beliefs is the interconnectedness of land and sea, freshwater and saltwater, rainforest and reef. Terrestrial and marine estates are not divided as contemporary management regimes currently dictate, but are treated as a whole to be nurtured, cared for and protected as a single, living, culturally animated entity.

— Connected Land & Sea, 2025




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TERRAIN
NATURAL RESOURCE MANAGEMENT

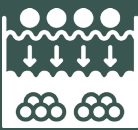

THE UNIVERSITY
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Australian Government

Water Quality in the Wet Tropics region

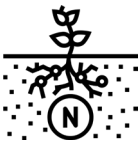
Climate change is the greatest long-term threat to the Great Barrier Reef. Improving water quality is the most effective action the Region can take to strengthen Reef resilience and support the recovery of ecosystems between major disturbances.

There are three types of pollutants that are the primary concern for water quality and the Great Barrier Reef: nutrients, fine sediment, and pesticides. Each has distinct sources, pathways into waterways, and impacts on aquatic ecosystems.



Fine Sediment

The Wet Tropics region contributes around 16% of the total fine sediment that reaches the Great Barrier Reef, driven primarily by hillslope and streambank erosion.



Nutrients (primarily Dissolved Inorganic Nitrogen)

The Wet Tropics region exports more dissolved inorganic nitrogen (DIN) than any other region across the Great Barrier Reef catchment area. Sugarcane areas are the largest anthropogenic source (46% of total export), followed by bananas (15%).



Pesticides

Pesticide risk varies across the Region, from High to Moderate in the southern basins to Low and Minimal in the north, mostly driven by sugarcane and banana land uses. Diuron (a herbicide) and imidacloprid (an insecticide) are the dominant contributors to the risk.

How the Strategy Works

The Strategy connects the Why, What and How of water quality management to show how on-ground actions in each basin can add up to better outcomes for the whole Region, and ultimately the Great Barrier Reef.

It highlights regional priorities for water quality improvement, identifies what needs to be done, the scale and intensity of effort required, and how to make sure the right support reaches the people doing the work. Each of the eight basins has a tailored set of priorities, from nutrient management in sugarcane and banana farming to streambank repair and wetland restoration, scaled to match the level of pollutant risk in that basin.



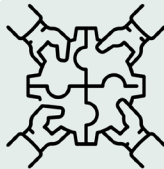
Sustainable Land Use & Management

Prioritising areas and actions that reduce pollutants at the source



Natural Systems Repair

Prioritising landscapes for rehabilitation



Scaled Delivery

Making sure that program managers, delivery partners, landholders, Traditional Owners and communities have the support, incentives and information they need to put these actions into practice.



Healthy Water, Healthy Reef

Understanding the Strategy's Approach

The Strategy uses four management response levels to show the intensity and scale of management required for each pollutant in each basin.

Foundational	Pollutant exposure is Minimal. Maintain current good condition and protect against future risks.
Proactive	Pollutant exposure is Low. Prevent emerging risks from worsening. Small scale, localised programs and action.
Accelerated	Pollutant exposure is Moderate. Actively reduce pollutant exposure. Small to medium scale targeted action.
Intensive	Pollutant exposure is High. Urgent, comprehensive, large-scale action required.

Wet Tropics Basin Snapshots

Daintree

Main land uses

Conservation | Grazing |
Water | Sugarcane

Pollutants & Management Response

63 tonnes

44 kilotonnes

Very Low

Ecosystem Condition



Barron

Main land uses

Conservation | Grazing |
Forestry | Urban

Pollutants & Management Response

83 tonnes

57 kilotonnes

Very Low

Ecosystem Condition



Johnstone

Main land uses

Conservation | Grazing |
Sugarcane | Urban

Pollutants & Management Response

719 tonnes

225 kilotonnes

Low

Ecosystem Condition



Murray

Main land uses

Conservation | Sugarcane |
Forestry | Grazing

Pollutants & Management Response

227 tonnes

15 kilotonnes

High

Ecosystem Condition



Mossman

Main land uses

Conservation | Grazing |
Grazing | Urban

Pollutants & Management Response

45 tonnes

6 kilotonnes

Low to Mod

Ecosystem Condition



Mulgrave-Russell

Main land uses

Conservation | Sugarcane |
Grazing | Water

Pollutants & Management Response

401 tonnes

50 kilotonnes

Low to Mod

Ecosystem Condition



Tully

Main land uses

Conservation | Sugarcane |
Grazing | Water

Pollutants & Management Response

472 tonnes

51 kilotonnes

Low to Mod

Ecosystem Condition



Herbert

Main land uses

Grazing | Conservation |
Sugarcane | Forestry

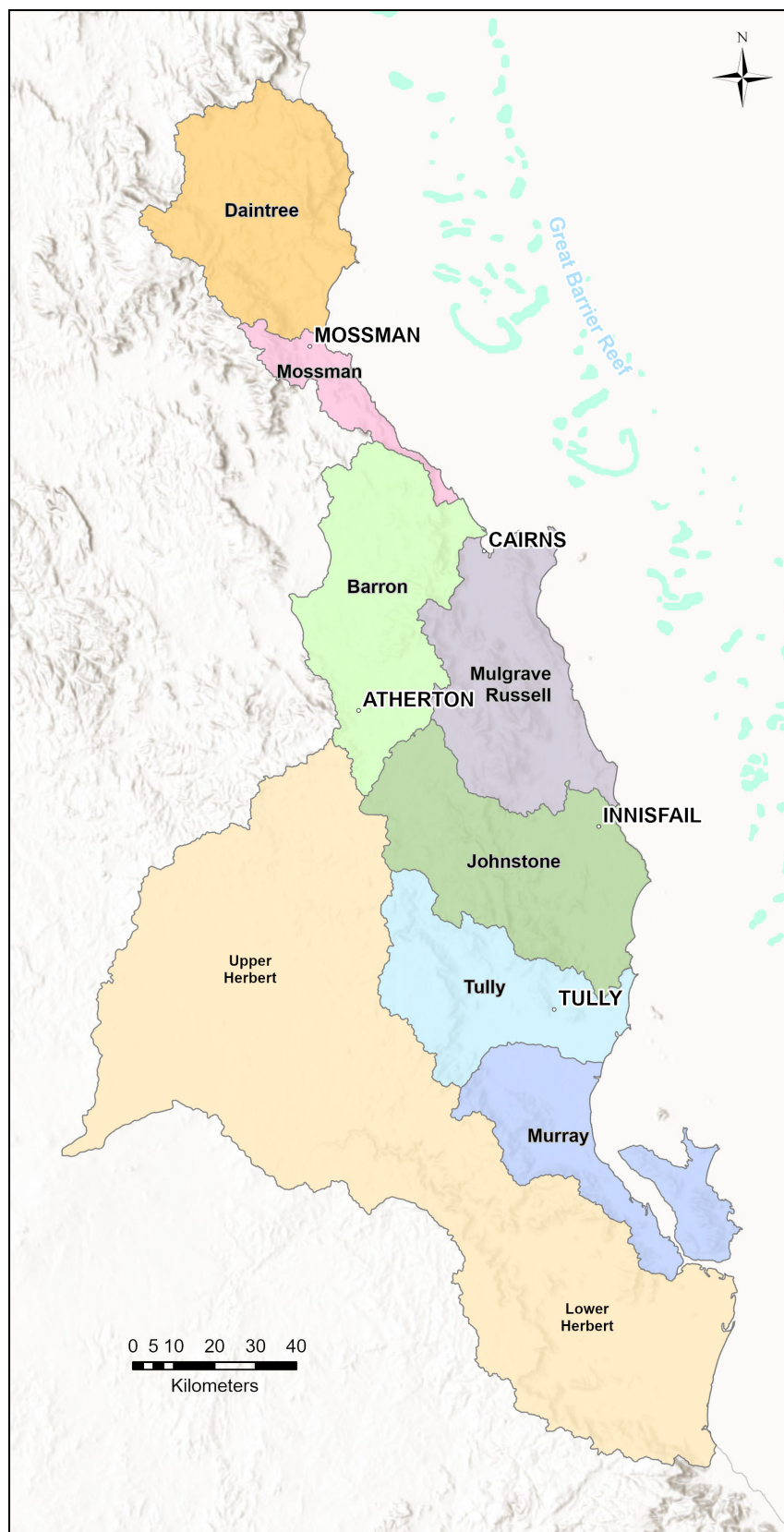
Pollutants & Management Response

941 tonnes

179 kilotonnes

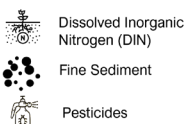
Low to Mod

Ecosystem Condition

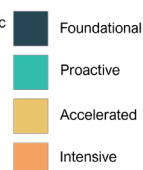


Legend

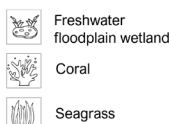
Pollutant



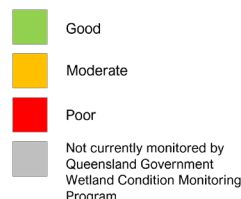
Management Response



Ecosystem



Condition



Practical Solutions

Everyone has a role to play in improving water quality in the Region including landholders, Traditional Owners, Councils, researchers, industry and the broader community. Here are some examples of actions known to make a positive difference.



Sugarcane Growers

- Fine-tune nitrogen use. Apply the right rate, at the right time and in the right place.
- Improve irrigation efficiency to reduce water, nutrient and pesticide losses.
- Use lower risk pesticides, manage timing of application, and use precision application where possible.



Bananas & Horticulture

- Use soil and plant tissue testing to optimise fertiliser use and reduce nutrient losses.
- Maintain groundcover and vegetated buffers to reduce runoff and sediment leaving the farm.
- Choose lower risk pesticides, apply carefully and keep records to track improvement.



Graziers

- Keep groundcover above 70%, especially through the dry season, to reduce hillslope and streambank erosion.
- Fence stock out of creeks and rivers and match stocking rates to feed availability.
- Manage riparian areas and consider streambank stabilisation works where erosion is occurring.



Councils & Urban Land Managers

- Upgrade sewage treatment plants and reduce nutrient discharge to waterways — a particular priority in the Barron and Mulgrave-Russells basins (Cairns).
- Use Water Sensitive Urban Design in new and redeveloping areas.
- Manage stormwater, erosion and sediment in growing urban areas and construction zones.



Natural Systems Repair

- Support streambank stabilisation, riparian revegetation and wetland rehabilitation projects.
- Get involved in restoration work in and around freshwater floodplain wetlands — especially in the Johnstone, Tully, Murray and Herbert basins where wetland condition is Poor.
- Report and help manage pest plants and animals affecting waterways, wetlands and riparian zones.



Everyone

- Join local landcare and extension groups. Peer learning is one of the most effective ways to make change.
- Look into environmental market programs that reward landholders for water quality improvements.
- Support Traditional Owner-led projects and natural systems repair in your area.

Get Involved

To find out more, or to connect with delivery programs in your area, contact Terrain NRM.

Phone: 07 4043 8000 | **Email:** info@terrain.org.au | **Website:** terrain.org.au

The Wet Tropics Water Quality Strategy 2025 to 2035 was developed by C₂O Consulting (coasts|climate|oceans) and the University of Queensland in collaboration with Terrain NRM and the broader regional community, with funding from the Australian Government's Reef Trust Landscape Repair Program. The accompanying Synthesis Report provides the full evidence base underpinning this Strategy.

Scan the QR code to read the full Strategy



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