



# Reef Water Quality Report Card 2019 - Summary

## Background

Reef water quality report cards measure progress towards the Reef 2050 Water Quality Improvement Plan (Reef 2050 WQIP) targets through the Paddock to Reef Integrated Monitoring, Modelling and Reporting Program (Paddock to Reef program).

They assess management practice adoption, catchment condition (riparian, wetlands and ground cover), pollutant (sediment, nutrient and pesticide) run-off and marine condition (water quality, corals and seagrass).

The report card draws upon the best available science, monitoring and modelling programs to capture progress with new and updated information helping to drive continuous improvement.

Reporting is at a range of scales including paddock, sub-catchment, catchment, regional and Great Barrier Reef-wide.

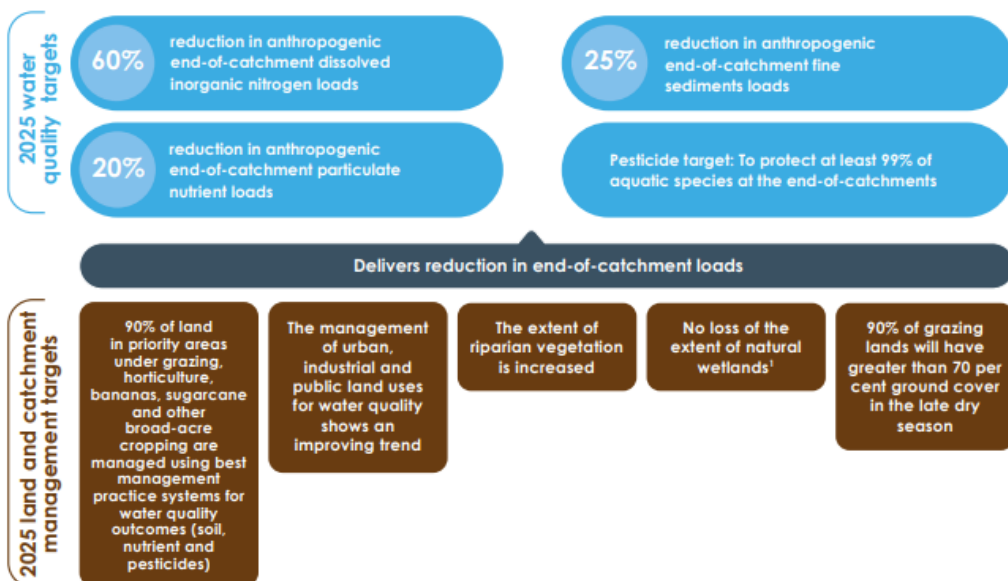
The Reef Water Quality Report Card 2019 details progress up to June 2019 and was released in February 2021.

## What are the targets?

The targets for sediment, particulate nutrients and dissolved inorganic nitrogen are based on the quality of water that corals and seagrasses need to be healthy. They are calculated as reductions in anthropogenic loads – the pollutant load from human activities.

The pesticide target requires aquatic species to be protected because they can be badly impacted by high exposure to pesticides.

Water quality targets were set for each catchment based on land use and pollutant loads. These targets were rolled up to provide regional and Great Barrier Reef wide targets.



## Why is improving water quality important?

While climate change remains the greatest threat to Reefs globally and efforts to reduce greenhouse gas emissions are underway, one of the most manageable impacts on the Reef is improving the quality of water flowing from the land to the sea.

The Australian and Queensland governments have invested \$667 million (from 2017 to 2022) in actions to drive progress towards the water quality targets.

This helps build the resilience of the Reef and protects important inshore ecosystem habitats including coastal wetlands, estuaries, mangroves, seagrass meadows and coral reefs. These habitats support freshwater species and are important to many marine species during part of their life cycle.

## What about other pollutants?

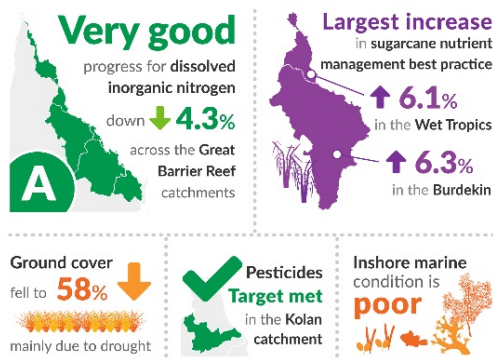
Science shows the five main pollutants that impact the Reef are sediment (especially fine sediment), dissolved inorganic nitrogen, particulate nitrogen, particulate phosphorus and pesticides.

Other pollutants such as heavy metals, pharmaceuticals, plastics and micro plastics also affect the Reef but pose less risk and have more localised impacts.

## What about other sources of pollutants?

Everyone, not just farmers, needs to play their part in improving water quality. While it is important that all industries, urban and public land management minimise run-off to the Reef, the largest contribution to nutrient, sediment and pesticide run-off is broad scale agriculture.

## Overall findings



Encouraging progress is being made towards achieving the targets.

This includes very good progress towards the **dissolved inorganic nitrogen target** with a modelled **4.3% reduction** across the **Great Barrier Reef** catchments thanks to the efforts of sugarcane and banana growers who improved their nutrient and irrigation management practices. The **Herbert** catchment (Wet Tropics region) recording the greatest reduction – **down 9.4%**.

Sugarcane growers in the **Wet Tropics** and **Burdekin** regions were major contributors to this progress, recording the greatest increase in best practice nutrient management – **up 6.1% and 6.3%** respectively.

Another highlight was the **pesticide target** being **met** in the **Kolan** catchment (Burnett Mary region). The **Pioneer** catchment (Mackay Whitsunday region) recorded the greatest progress towards the pesticide target – **up 4.5%**.

**Cape York** has met its 5% **sediment** reduction target since 2016 with further reductions in 2018-2019 contributing to an overall **reduction of 10.1%**.

**Burnett Mary graziers** also contributed significantly to the sediment target with a **1.3% modelled reduction** due to investment in fencing to exclude cattle from waterways.

There was a **1.5% increase** in **Fitzroy grain** farming land managed using best management practices.

**Ground cover** also fell to **58%** mainly due to the impacts of the drought.

Overall **marine condition** remained **poor** in 2018-2019 due to a range of pressures including above- average sea temperatures, rainfall and extreme weather events. **Corals** and **seagrass** were in **poor** condition with **water quality** rated **moderate**.

### **Why are the riparian and wetland results unchanged?**

Changes in riparian vegetation and wetland extent are assessed every four years while wetland condition is reported every two years. These results were last updated in Reef Water Quality Report Card 2017 and 2018.

### **Why are some results modelled?**

Modelling is used to estimate the pollutant load reductions from adopting improved land management practices. Monitoring data cannot be used as it varies significantly from year to year depending on rainfall. Research suggests time lags to monitor improvements from land management practice change could range from years for pesticides up to decades for nutrients and sediments.

### **What do the results mean?**

The land management results show graziers and producers across the Great Barrier Reef catchments have taken action to improve their land management practices which is keeping soil and nutrients on their farm rather than flowing into local waterways. They are also seeing productivity and profitability benefits from the changes.

The marine condition results combine the scores for coral, seagrass and water quality as at June 2019. They reflect multiple influences including temperature, rainfall, river flow, run-off, extreme weather events, and for coral, the impacts of crown-of-thorns starfish predation and coral disease.

### **Why is this information important?**

Results help determine the success of actions to improve the quality of water flowing to the Great Barrier Reef and identify where further measures need to be taken.

### **Will the targets be met?**

With projects in different stages of implementation, not all water quality improvement outcomes have been captured in this report card.

The results show some improvements. In some locations, progress is on track to meeting some of the targets but more action is required across all Reef catchments to continue to drive progress towards all the targets.

### **More information**

- Visit the Reef 2050 Water Quality Improvement Plan website at [www.reefplan.qld.gov.au](http://www.reefplan.qld.gov.au)
- Access the interactive report card at <https://reportcard.reefplan.qld.gov.au/>
- Email [officeofthegbr@des.qld.gov.au](mailto:officeofthegbr@des.qld.gov.au)

