

Frequently asked questions

Reef Water Quality Report Card 2023–2025

Reef 2050 Water Quality Improvement Plan



What is the Reef Water Quality Report Card and how are results used?

The Reef Water Quality Report Card (the Report Card) outlines the results of the Paddock to Reef program and provides a transparent assessment of progress towards the Reef 2050 Water Quality Improvement Plan outcome, objectives and targets.

Report Card results are used to help determine the success of management actions and to identify whether further measures need to be taken to improve water quality in the Great Barrier Reef. The results are also used to help inform World Heritage reporting.

What information does the Report Card include?

Information in the Report Card spans management practice adoption and effectiveness, catchment condition, pollutant runoff and inshore marine condition. The Report Card also highlights the range of initiatives being undertaken by communities, landholders, research and government agencies to improve water quality across the Reef catchment.

Progress towards a range of water quality, catchment management, freshwater wetland and marine condition indicators is reported at various scales, from individual catchment scale to Great Barrier Reef-wide. In each case, results summarise whether the relevant water quality target or condition objective has been met or whether progress towards the target is improving, declining, or unchanged.

Explore the [interactive Reef Water Quality Report Card](#).

What is the Paddock to Reef program?

The Paddock to Reef Integrated Monitoring, Modelling and Reporting Program (Paddock to Reef program) provides the framework for evaluating and reporting progress towards the Reef 2050 Water Quality Improvement Plan targets and objectives. Through the Paddock to Reef program, monitoring and modelling of water quality occurs across a range of attributes, from paddock-scale through to sub-catchment, catchment, regional and Great Barrier Reef-wide.

Find out more at [Paddock to Reef](#).

What are the Reef 2050 Water Quality Improvement Plan targets?

The Reef 2050 Water Quality Improvement Plan 2017–2022 (Reef 2050 WQIP) seeks to improve the quality of water flowing from the catchments to the Great Barrier Reef. The Reef 2050 WQIP set out water quality targets that defined required reductions in sediment and nutrient loads by 2025 for catchments discharging to the Reef. It also included targets and objectives relating to pesticides, catchment management and freshwater wetland and inshore marine habitat condition.

Read more in the [Reef 2050 Water Quality Improvement Plan 2017–2022](#).

What period does the Report Card cover?

The Reef Water Quality Report Card 2023–2025 assesses the results of Reef 2050 WQIP actions up to June 2025. Reef Water Quality Report Cards have been released periodically since 2011. The first Report Card in the series provided a baseline assessment of water quality conditions prior to 2009. The 2023–2025 Report Card provides the final report on progress towards the 2025 targets under the Reef 2050 WQIP.

Why has the format changed in this Report Card?

This transitional Report Card is presented in an interactive online format, which has been redesigned in response to stakeholder feedback. The Report Card moves away from the previous ABCDE grading system to highlight the direction of progress (improving/ declining/ no change) towards water quality targets and objectives. It also showcases Australian and Queensland government investments and landholder and community efforts to improve water quality.

How will Report Cards change in future?

Future Report Cards will report on progress towards the new water quality targets that are included in the recently released Reef 2050 Catchment Water Quality Strategy. This strategy supersedes the Reef 2050 WQIP.

The water quality targets in the new strategy have been informed by the latest available evidence and include specific targets for each of the 35 catchments flowing into the Reef. They use a 2023 baseline, which reflects current land-use practices and acknowledges the significant, on-ground progress already made across the catchments over the past decade.

Read more on the [Reef 2050 Catchment Water Quality Strategy](#) and the new [targets and indicators](#).

What data are used to inform Report Card results?

The Report Card results are underpinned by a wide range of monitoring, modelling and remote sensing data collected through the Paddock to Reef program.

Progress towards water quality targets, for example, is assessed using modelled estimates of average end of catchment pollutant loads, validated using in situ water quality monitoring data. Remote sensing, topographic mapping and regional ecosystem data are used to report on catchment targets relating to ground cover, riparian vegetation extent and natural wetland extent, while long term monitoring data are used to assess trends in the condition of freshwater wetlands, inshore coral reefs and seagrass meadows. Social monitoring data, collected during management practice change projects, are used to provide insights into community and land manager engagement in water quality initiatives. For each indicator in the Report Card, data confidence is assessed using a multi-criteria approach.

For further detail on how each indicator is measured please see the [methods section](#).

Why is it important to use modelling data as well as monitoring data?

Both modelling and monitoring data are important to help assess progress towards water quality targets and condition objectives.

Catchment models are important for estimating the long-term annual pollutant load reductions that are achieved through the adoption of improved land management practices. Research suggests that time lags to see improvements from land management practice change in monitoring data could range from years (for pesticides) up to decades (for nutrients and sediments), largely due to the annual variability in rainfall, runoff and pollutant loads. Use of modelling data removes the impact of factors such as climate variability and allows us to determine the expected benefits of improved land management now rather than monitoring for decades to see a trend. Catchment models use measured changes in land management and well-documented and accepted methods and assumptions. Long-term water quality monitoring data are used to validate and improve the models, continuously improving confidence in the estimates of water quality over time.

Similarly, modelling data are important in the marine environment, especially given the size of the Great Barrier Reef and the dynamic and changing nature of conditions that the Reef experiences (such as weather, water movement and river flows). Models enable estimates of water quality during times and in locations where *in*

situ monitoring is not feasible. The eReefs marine model integrates multiple lines of evidence including satellite imagery and is validated against marine monitoring data in specific locations. This allows it to account for weather conditions, water movement, freshwater river discharges and pollutant loads to provide daily estimates of water quality across the Great Barrier Reef and through the water column.

Are the Report Card results independently reviewed?

The Report Card results undergo a robust and intensive series of quality assurance and review processes.

Initially, results are drafted and reviewed internally within the Paddock to Reef team, in line with quality assurance processes. The Independent Science Panel provides objective independent science-based review and technical advice on the Report Card results and methods. Further review is completed by the Executive Steering Committee, which comprises representatives from Australian and Queensland governments. The final report card is endorsed and released by the joint environment ministers for the Queensland and Australian governments.

In addition to reviews of Reef Water Quality Report Card results, each component of the Paddock to Reef program undergoes separate peer and external review processes.

Read more on the role of the [Independent Science Panel](#).

How are communities and landholders helping to improve water quality in Reef catchments?

Communities, Traditional Owners, landholders and industries are making changes to help improve water quality across Reef catchments. Partnerships across all sectors continue to be key to making progress towards the water quality targets. This includes governments working together with agriculture, industry, community and natural resource management stakeholders to improve the quality of water flowing from the catchments to the Reef. Visit the [project snapshots](#) for more information.

During the reporting period, estimated reductions in dissolved inorganic nitrogen loads flowing to the Great Barrier Reef were primarily the result of sugarcane and banana growers adopting farm practices that are better for water quality. Between 2023 and 2025, farm management improvements occurred across 188,811 hectares of sugarcane cropping land and 2,653 hectares of banana cropping land.

Estimated reductions in fine sediments flowing to the Reef were driven substantially by landscape repair projects and improved tillage and soil management in agricultural areas. During the reporting period, farm management improvements occurred across 1.71 million hectares of beef cattle grazing land, 12,518 hectares of sugarcane cropping land and 143,503 hectares of grain cropping land. Landscape repair projects remediated gullies at 57 locations, addressing severe erosion from 155 hectares of vulnerable land. Streambank remediation projects completed works at 155 rapidly eroding sites on major streams.

The Urban Water Stewardship Framework supports and tracks urban land management practices that contribute to improved water quality flowing to the Reef. The framework has been applied by 19 Reef councils between 2020 and 2025, with data collected from all 6 Reef regions and all major population centres in the Reef catchment. Capacity building in urban erosion control and stormwater management is complemented by research, innovation and benchmarking of urban land management practices.

Where can I find more Reef and catchment reporting tools?

Beyond the Reef Water Quality Report Card, further data and reporting tools are available and a few examples are provided below.

The Paddock to Reef Data Portal is a web application that facilitates the distribution of catchment modelling data produced by the Paddock to Reef program. Users can download open data, generate custom datasets and request unpublished data. Find out more about the [Paddock to Reef Data Portal](#).

Through the Queensland Government water quality data portal, Tahlil, you can explore and visualise water quality monitoring data from locations across the Great Barrier Reef catchments. Explore [Tahlil](#).

The P2R Projector tool allows registered users to explore estimated pollutant load reductions that can be delivered by farm-scale agricultural practice change projects. Read about the tool at [P2R Projector](#)

Regional Report Cards provide information on local waterway condition at a finer regional level as well as reporting on a range of indicators across the different regions such as social, cultural, economic health and stewardship. Find out more about the different [regional report card partnerships](#).

The Great Barrier Reef Outlook Report provides a summary of the long-term outlook for the Reef based on assessments of condition, use, influencing factors, management effectiveness, resilience and risks. Explore the latest [Outlook Report 2024](#).

The Scientific Consensus Statement dives into the latest evidence to understand how land-based activities can affect water quality on the Great Barrier Reef. Explore the findings of the [2022 Scientific Consensus Statement](#).