Australian Government

Queensland Government

Scoring system

Reef Water Quality Report Card 2021 and 2022

Reef 2050 Water Quality Improvement Plan

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Citation

Australian and Queensland governments, 2024, *Scoring system, Reef Water Quality Report Card 2021 and 2022,* State of Queensland, Brisbane.

Contents

Scoring system

The scoring system is used to assess and communicate progress towards the Reef 2050 Water Quality Improvement Plan targets and objectives. The Reef Water Quality Report Card uses a five-point scoring system for each key indicator (A - Very good, B - Good, C - Moderate, D - Poor, E - Very poor) to assess progress towards the land and catchment management targets, water quality targets as well as current inshore marine condition. Progress that is equal to or exceeds the target is considered A - Very good (dark green). Please see below for full details.

The use of A, B, C, D, E grades is consistent with the regional report cards in Queensland.

Agricultural management practice system adoption

Progress towards the land management practice adoption target is not reported in this report card as this target is being reviewed. New targets are proposed to be set for each industry and at a finer scale that more directly align to what is needed to meet the targets for each catchment.

Ground cover

Provides annual mapping and reporting of ground cover levels in grazing lands.

Target by 2025: *90% of grazing lands will have greater than 70 per cent ground cover in the late dry season.*

Annual assessment against the target as per the below criteria:

Status/progress	**Criteria**	**Colour**
Very poor ground cover – Well below the target	Less than 60% of grazing lands meet the adequate ground cover level	E - Red
Poor ground cover - Below the target	Between 60-69% of grazing lands meet the adequate ground cover level	D - Orange
Moderate ground cover – Just below the target	Between 70-79% of grazing lands meet the adequate ground cover level	C - Yellow
Good ground cover – Above the target	Between 80-89% of grazing lands meet the adequate ground cover level	B - Light green
Very good ground cover – Well above the target	More than 90% of grazing lands meet the adequate ground cover level	A - Dark green

Adequate cover is defined as >70% late season ground cover.

Reporting scale: Great Barrier Reef-wide, regional, 35 catchments and 47 sub-catchments.

Wetland condition

Monitors and reports on the condition of, and pressures on, natural freshwater wetlands (palustrine and lacustrine) with data updated every two years.

Reef 2050 WQIP objective: *Improved wetland condition.*

Assessed every two years against the below criteria (scoring scale is 1-13):

Status/progress	Criteria	Grade/Colour
Very high *pressure* on wetland values Very poor *state* of wetland values	Scores ≥4.50	**E - Red**
High *pressure* on wetland values Poor *state* of wetland values	Scores ≥3.50 to <4.50	**D - Orange**
Moderate *pressure* on wetland values Moderate *state* of wetland values	Scores ≥2.50 to <3.50	**C - Yellow**
Low *pressure* on wetland values Good *state* of wetland values	Scores ≥ 1.50 to <2.50	**B - Light green**
Negligible *pressure* on wetland values Very good *state* of wetland values	Scores <1.50	**A- Dark green**

Reporting scale: Great Barrier Reef-wide, and Natural Resource Management regions (Wet Tropics, Burdekin, Fitzroy and Burnett Mary).

To report on wetland condition at the NRM region scale, the sample size in selected regions was increased. This has occurred in the Wet Tropics, Burdekin, Fitzroy and Burnett Mary NRM regions, but not yet in Mackay Whitsunday or Cape York NRM regions. The number of wetlands in the Mackay Whitsunday NRM region is small, which has constrained the ability to increase its sample size. Cape York is logistically challenging to sample, which constrains the ability to increase its sample size. Therefore, Mackay Whitsunday and Cape York do not have NRM region-scale reporting, although data from wetlands in the Mackay Whitsunday and Cape York NRM regions do contribute to reporting at the GBR catchment-wide scale, along with data from wetlands in the other four NRM regions.

Wetland extent

Wetland extent and characteristics were historically mapped every four years. More recently, the frequency of wetland extent and characteristics mapping has been increased to every two years. This report presents results on change in wetland extent for the latest reporting period 2017 to 2019. Pre-clearing wetland extent refers to the maximum areal extent of the wetland prior to clearing (Nelder et al. 2020) and is used as a baseline.

Target by 2025: *No loss of the extent of natural wetlands.*

Assessment against the target as per the below criteria:

Status/progress	Criteria	Grade/Colour
Very poor progress towards target	≥ 1.5 % loss of wetlands	**E - Red**
Poor progress towards target	≥ 0.25 and < 1.5 % loss of wetlands	**D - Orange**
Moderate progress towards target	≥ 0.05 and < 0.25 % loss of wetlands	**C - Yellow**
Good progress towards target	< 0.05 % loss of wetlands	**B - Light green**
Target met	No (0 %) loss of wetlands	**A - Dark green**

Reporting scale: Great Barrier Reef-wide, regional and 35 catchments.

Riparian extent

Maps and reports on riparian woody vegetation extent and late dry season ground cover every four years. Current reporting period is 3 years (2018-2021), with a new baseline from 2018. Due to the shorter reporting period, the grade cut-offs have been decreased to a 3-year equivalent of the usual 4-year period. Results from previous reporting periods cannot be directly compared, due to changes in method.

Target by 2025: *The extent of riparian vegetation is increased.*

Assessment against the target as per the below criteria:

Status/progress	Criteria	Grade/Colour
Very poor progress towards target	> 0.75% loss of riparian vegetation	**E - Red**
Poor progress towards target	> 0.37% and ≤ 0.75% loss of riparian vegetation	**D - Orange**
Moderate progress towards target	> 0.07% and ≤0.37% loss of riparian vegetation	**C - Yellow**
Good progress towards target	> 0 and ≤0.07% loss of riparian vegetation	**B - Light green**
Target met	Increase of riparian vegetation	**A - Dark green**

Reporting scale: Great Barrier Reef-wide, regional, 35 catchments and 47 sub-catchments.

Catchment pollutant delivery

Catchment modelling estimates average annual loads of sediment, particulate nutrients (particulate nitrogen and particulate phosphorus) and dissolved inorganic nitrogen for each of the 35 catchments that flow to the Great Barrier Reef. It reports on reductions from anthropogenic baseline load each year based on adoption of improved land management practices.

Catchment load reduction targets to 2025 are set for the whole of the Great Barrier Reef, the six regions and 35 catchments. Progress towards the targets is reported as the reduction since last report card as well as the overall cumulative reduction to date.

Targets by 2025: Great Barrier Reef-wide

Dissolved inorganic nitrogen: *60% reduction in anthropogenic end-of-catchment dissolved inorganic nitrogen loads.*

Sediment: *25% reduction in anthropogenic end-of-catchment fine sediment loads.*

Particulate nitrogen: *20% reduction in anthropogenic end-of-catchment particulate nitrogen loads.*

Particulate phosphorus: *20% reduction in anthropogenic end-of-catchment particulate phosphorus loads.*

Targets by 2025: for six regions and 35 catchments are shown in tables below.

Scores are based on the minimum annual reductions required to achieve the 2025 target (the required reduction divided by the number of years remaining). The scoring assesses if the annual reductions are on track to achieve the targets.

$$Annual\ progress\ required = \frac{2025\ target - 2016\ cumulative\ reductions}{time\ from\ 2016\ to\ achieve\ target\ (9\ years)}$$

Annual progress required is divided evenly to create the five scoring categories (A-E).

Targets less than 10% over nine years are not scored annually as the resulting scoring cut-offs would be too small to report confidently.

Where targets have been met, an "A" grade is given independently of annual changes.

For multi-year report cards the annual average load reduction for the reporting period is scored against the annual progress required.

Some catchments have a target of maintain current load (MCL) for some or all pollutants. This means the catchment has a minimal anthropogenic load for the relevant pollutant/s. The aim in these catchments is to maintain current water quality so there is no increase in pollutant loads.

Targets have not been determined (ND) for the Black catchment, and some targets were not determined for the Ross catchment, due to a lack of information. Targets could be set in the future if new information becomes available.

Annual progress towards the 2025 targets as per the below criteria:

Status/progress	Grade/Colour
Very poor progress towards target	E - Red
Poor progress towards target	D - Orange
Moderate progress towards target	C - Yellow
Good progress towards target	B - Light green
Annual target met - Very good progress towards the 2025 target	A - Dark green

MCL = Maintain current loads
ND = Target not determined
<10% = Target is less than 10% and therefore not scored

Reporting scale: Great Barrier Reef-wide, six regions, 35 catchments.

Annual scoring thresholds for the Great Barrier Reef-wide targets:

GREAT BARRIER REEF-WIDE					
Indicator		**Dissolved inorganic nitrogen**	**Fine sediment**	**Particulate phosphorus**	**Particulate nitrogen**
2025 water quality target		**60%**	**25%**	**20%**	**20%**
Annual progress required		**4.3%**	**1.2%**	**0.5%**	**0.8%**
Grade/Colour	Criteria	Scoring cut off values (rounded to 1 decimal point)			
E - Red	≥ cut off value to < D	0.0%	0.0%	0.0%	0.0%
D - Orange	≥ cut off value to < C	1.1%	0.3%	0.1%	0.2%
C - Yellow	≥ cut off value to < B	2.2%	0.6%	0.2%	0.4%
B - Light green	≥ cut off value to < A	3.3%	0.9%	0.4%	0.6%
A - Dark green	≥ cut off value	4.3%	1.2%	0.5%	0.8%

Annual scoring thresholds for the six regions and 35 catchment targets:

CAPE YORK REGION					
Indicator		**Dissolved inorganic nitrogen**	**Fine sediment**	**Particulate phosphorus**	**Particulate nitrogen**
2025 water quality target		**MCL**	**5%**	**5%**	**5%**
Annual progress required		**MCL**	**Target met**	**Target met**	**Target met**
Grade/Colour	Criteria	Scoring cut off values (rounded to 1 decimal point)			
E - Red	≥ cut off value to < D	MCL	Target met	Target met	Target met
D - Orange	≥ cut off value to < C	MCL	Target met	Target met	Target met
C - Yellow	≥ cut off value to < B	MCL	Target met	Target met	Target met
B - Light green	≥ cut off value to < A	MCL	Target met	Target met	Target met
A - Dark green	≥ cut off value	MCL	Target met	Target met	Target met

Jacky Jacky and Olive-Pascoe catchments (same targets)					
Indicator		**Dissolved inorganic nitrogen**	**Fine sediment**	**Particulate phosphorus**	**Particulate nitrogen**
2025 water quality target		**MCL**	**MCL**	**MCL**	**MCL**
Annual progress required		**MCL**	**MCL**	**MCL**	**MCL**
Grade/Colour	Criteria	Scoring cut off values (rounded to 1 decimal point)			
E - Red	≥ cut off value to < D	MCL	MCL	MCL	MCL
D - Orange	≥ cut off value to < C	MCL	MCL	MCL	MCL
C - Yellow	≥ cut off value to < B	MCL	MCL	MCL	MCL
B - Light green	≥ cut off value to < A	MCL	MCL	MCL	MCL
A - Dark green	≥ cut off value	MCL	MCL	MCL	MCL

Lockhart catchment					
Indicator		**Dissolved inorganic nitrogen**	**Fine sediment**	**Particulate phosphorus**	**Particulate nitrogen**
2025 water quality target		**MCL**	**2%**	**2%**	**2%**
Annual progress required		**MCL**	**<10% target**	**<10% target**	**<10% target**
Grade/Colour	Criteria	Scoring cut off values (rounded to 1 decimal point)			
E - Red	≥ cut off value to < D	MCL	<10% target	<10% target	<10% target
D - Orange	≥ cut off value to < C	MCL	<10% target	<10% target	<10% target
C - Yellow	≥ cut off value to < B	MCL	<10% target	<10% target	<10% target
B - Light green	≥ cut off value to < A	MCL	<10% target	<10% target	<10% target
A - Dark green	≥ cut off value	MCL	<10% target	<10% target	<10% target

Stewart and Jeannie catchments (same targets)					
Indicator		**Dissolved inorganic nitrogen**	**Fine sediment**	**Particulate phosphorus**	**Particulate nitrogen**
2025 water quality target		**MCL**	**6%**	**6%**	**6%**
Annual progress required		**MCL**	**<10% target**	**<10% target**	**<10% target**
Grade/Colour	Criteria	Scoring cut off values (rounded to 1 decimal point)			
E - Red	≥ cut off value to < D	MCL	<10% target	<10% target	<10% target
D - Orange	≥ cut off value to < C	MCL	<10% target	<10% target	<10% target
C - Yellow	≥ cut off value to < B	MCL	<10% target	<10% target	<10% target
B - Light green	≥ cut off value to < A	MCL	<10% target	<10% target	<10% target
A - Dark green	≥ cut off value	MCL	<10% target	<10% target	<10% target

Normanby catchment					
Indicator		**Dissolved inorganic nitrogen**	**Fine sediment**	**Particulate phosphorus**	**Particulate nitrogen**
2025 water quality target		**MCL**	**10%**	**10%**	**10%**
Annual progress required		**MCL**	**Target met**	**Target met**	**Target met**
Grade/Colour	Criteria	Scoring cut off values (rounded to 1 decimal point)			
E - Red	≥ cut off value to < D	MCL	Target met	Target met	Target met
D - Orange	≥ cut off value to < C	MCL	Target met	Target met	Target met
C - Yellow	≥ cut off value to < B	MCL	Target met	Target met	Target met
B - Light green	≥ cut off value to < A	MCL	Target met	Target met	Target met
A - Dark green	≥ cut off value	MCL	Target met	Target met	Target met

Endeavour catchment					
Indicator		**Dissolved inorganic nitrogen**	**Fine sediment**	**Particulate phosphorus**	**Particulate nitrogen**
2025 water quality target		**MCL**	**10%**	**10%**	**10%**
Annual progress required		**MCL**	**1.1%**	**1.1%**	**1.1%**
Grade/Colour	Criteria	Scoring cut off values (rounded to 1 decimal point)			
E - Red	≥ cut off value to < D	MCL	0.0%	0.0%	0.0%
D - Orange	≥ cut off value to < C	MCL	0.3%	0.3%	0.3%
C - Yellow	≥ cut off value to < B	MCL	0.5%	0.5%	0.5%
B - Light green	≥ cut off value to < A	MCL	0.8%	0.8%	0.8%
A - Dark green	≥ cut off value	MCL	1.1%	1.1%	1.1%

WET TROPICS REGION					
Indicator		**Dissolved inorganic nitrogen**	**Fine sediment**	**Particulate phosphorus**	**Particulate nitrogen**
2025 water quality target		**60%**	**25%**	**30%**	**25%**
Annual progress required		**4.7%**	**1.3%**	**1.0%**	**1.5%**
Grade/Colour	Criteria	Scoring cut off values (rounded to 1 decimal point)			
E - Red	≥ cut off value to < D	0.0%	0.0%	0.0%	0.0%
D - Orange	≥ cut off value to < C	1.2%	0.3%	0.3%	0.4%
C - Yellow	≥ cut off value to < B	2.4%	0.6%	0.5%	0.7%
B - Light green	≥ cut off value to < A	3.5%	0.9%	0.8%	1.1%
A - Dark green	≥ cut off value	4.7%	1.3%	1.0%	1.5%

Daintree catchment					
Indicator		**Dissolved inorganic nitrogen**	**Fine sediment**	**Particulate phosphorus**	**Particulate nitrogen**
2025 water quality target		**MCL**	**MCL**	**MCL**	**MCL**
Annual progress required		**MCL**	**MCL**	**MCL**	**MCL**
Grade/Colour	Criteria	Scoring cut off values (rounded to 1 decimal point)			
E - Red	≥ cut off value to < D	MCL	MCL	MCL	MCL
D - Orange	≥ cut off value to < C	MCL	MCL	MCL	MCL
C - Yellow	≥ cut off value to < B	MCL	MCL	MCL	MCL
B - Light green	≥ cut off value to < A	MCL	MCL	MCL	MCL
A - Dark green	≥ cut off value	MCL	MCL	MCL	MCL

Mossman catchment					
Indicator		**Dissolved inorganic nitrogen**	**Fine sediment**	**Particulate phosphorus**	**Particulate nitrogen**
2025 water quality target		**50%**	**MCL**	**MCL**	**MCL**
Annual progress required		**4.2%**	**MCL**	**MCL**	**MCL**
Grade/Colour	Criteria	Scoring cut off values (rounded to 1 decimal point)			
E - Red	≥ cut off value to < D	0.0%	MCL	MCL	MCL
D - Orange	≥ cut off value to < C	1.0%	MCL	MCL	MCL
C - Yellow	≥ cut off value to < B	2.1%	MCL	MCL	MCL
B - Light green	≥ cut off value to < A	3.1%	MCL	MCL	MCL
A - Dark green	≥ cut off value	4.2%	MCL	MCL	MCL

Barron catchment					
Indicator		**Dissolved inorganic nitrogen**	**Fine sediment**	**Particulate phosphorus**	**Particulate nitrogen**
2025 water quality target		**60%**	**MCL**	**MCL**	**MCL**
Annual progress required		**4.4%**	**MCL**	**MCL**	**MCL**
Grade/Colour	Criteria	Scoring cut off values (rounded to 1 decimal point)			
E - Red	≥ cut off value to < D	0.0%	MCL	MCL	MCL
D - Orange	≥ cut off value to < C	1.1%	MCL	MCL	MCL
C - Yellow	≥ cut off value to < B	2.2%	MCL	MCL	MCL
B - Light green	≥ cut off value to < A	3.3%	MCL	MCL	MCL
A - Dark green	≥ cut off value	4.4%	MCL	MCL	MCL

Mulgrave-Russell catchment					
Indicator		**Dissolved inorganic nitrogen**	**Fine sediment**	**Particulate phosphorus**	**Particulate nitrogen**
2025 water quality target		**70%**	**10%**	**10%**	**10%**
Annual progress required		**5.6%**	**Target met**	**Target met**	**Target met**
Grade/Colour	Criteria	Scoring cut off values (rounded to 1 decimal point)			
E - Red	≥ cut off value to < D	0.0%	Target met	Target met	Target met
D - Orange	≥ cut off value to < C	1.4%	Target met	Target met	Target met
C - Yellow	≥ cut off value to < B	2.8%	Target met	Target met	Target met
B - Light green	≥ cut off value to < A	4.2%	Target met	Target met	Target met
A - Dark green	≥ cut off value	5.6%	Target met	Target met	Target met

Johnstone catchment					
Indicator		**Dissolved inorganic nitrogen**	**Fine sediment**	**Particulate phosphorus**	**Particulate nitrogen**
2025 water quality target		**70%**	**40%**	**40%**	**40%**
Annual progress required		**6.2%**	**2.5%**	**1.2%**	**2.7%**
Grade/Colour	Criteria	Scoring cut off values (rounded to 1 decimal point)			
E - Red	≥ cut off value to < D	0.0%	0.0%	0.0%	0.0%
D - Orange	≥ cut off value to < C	1.6%	0.6%	0.3%	0.7%
C - Yellow	≥ cut off value to < B	3.1%	1.3%	0.6%	1.4%
B - Light green	≥ cut off value to < A	4.7%	1.9%	0.9%	2.0%
A - Dark green	≥ cut off value	6.2%	2.5%	1.2%	2.7%

Tully catchment					
Indicator		**Dissolved inorganic nitrogen**	**Fine sediment**	**Particulate phosphorus**	**Particulate nitrogen**
2025 water quality target		**50%**	**20%**	**20%**	**20%**
Annual progress required		**4.8%**	**1.1%**	**Target met**	**1.0%**
Grade/Colour	Criteria	Scoring cut off values (rounded to 1 decimal point)			
E - Red	≥ cut off value to < D	0.0%	0.0%	Target met	0.0%
D - Orange	≥ cut off value to < C	1.2%	0.3%	Target met	0.3%
C - Yellow	≥ cut off value to < B	2.4%	0.6%	Target met	0.5%
B - Light green	≥ cut off value to < A	3.6%	0.8%	Target met	0.8%
A - Dark green	≥ cut off value	4.8%	1.1%	Target met	1.0%

Murray catchment					
Indicator		**Dissolved inorganic nitrogen**	**Fine sediment**	**Particulate phosphorus**	**Particulate nitrogen**
2025 water quality target		**50%**	**20%**	**20%**	**20%**
Annual progress required		**3.6%**	**0.6%**	**Target met**	**0.3%**
Grade/Colour	Criteria	Scoring cut off values (rounded to 1 decimal point)			
E - Red	≥ cut off value to < D	0.0%	Target met	Target met	Target met
D - Orange	≥ cut off value to < C	0.9%	Target met	Target met	Target met
C - Yellow	≥ cut off value to < B	1.8%	Target met	Target met	Target met
B - Light green	≥ cut off value to < A	2.7%	Target met	Target met	Target met
A - Dark green	≥ cut off value	3.6%	Target met	Target met	Target met

Herbert catchment					
Indicator		**Dissolved inorganic nitrogen**	**Fine sediment**	**Particulate phosphorus**	**Particulate nitrogen**
2025 water quality target		**70%**	**30%**	**30%**	**30%**
Annual progress required		**2.9%**	**2.4%**	**2.3%**	**2.5%**
Grade/Colour	Criteria	Scoring cut off values (rounded to 1 decimal point)			
E - Red	≥ cut off value to < D	0.0%	0.0%	0.0%	0.0%
D - Orange	≥ cut off value to < C	0.7%	0.6%	0.6%	0.6%
C - Yellow	≥ cut off value to < B	1.4%	1.2%	1.2%	1.3%
B - Light green	≥ cut off value to < A	2.2%	1.8%	1.7%	1.9%
A - Dark green	≥ cut off value	2.9%	2.4%	2.3%	2.5%

BURDEKIN REGION					
Indicator		**Dissolved inorganic nitrogen**	**Fine sediment**	**Particulate phosphorus**	**Particulate nitrogen**
2025 water quality target		**60%**	**30%**	**25%**	**25%**
Annual progress required		**3.8%**	**1.4%**	**1.0%**	**1.0%**
Grade/Colour	Criteria	Scoring cut off values (rounded to 1 decimal point)			
E - Red	≥ cut off value to < D	0.0%	0.0%	0.0%	0.0%
D - Orange	≥ cut off value to < C	1.0%	0.3%	0.2%	0.3%
C - Yellow	≥ cut off value to < B	1.9%	0.7%	0.5%	0.5%
B - Light green	≥ cut off value to < A	2.9%	1.0%	0.7%	0.8%
A - Dark green	≥ cut off value	3.8%	1.4%	1.0%	1.0%

Black catchment					
Indicator		**Dissolved inorganic nitrogen**	**Fine sediment**	**Particulate phosphorus**	**Particulate nitrogen**
2025 water quality target		**ND**	**ND**	**ND**	**ND**
Annual progress required		**ND**	**ND**	**ND**	**ND**
Grade/Colour	Criteria	Scoring cut off values (rounded to 1 decimal place)			
E - Red	≥ cut off value to < D	ND	ND	ND	ND
D - Orange	≥ cut off value to < C	ND	ND	ND	ND
C - Yellow	≥ cut off value to < B	ND	ND	ND	ND
B - Light green	≥ cut off value to < A	ND	ND	ND	ND
A - Dark green	≥ cut off value	ND	ND	ND	ND

Ross catchment					
Indicator		**Dissolved inorganic nitrogen**	**Fine sediment**	**Particulate phosphorus**	**Particulate nitrogen**
2025 water quality target		**60%**	**ND**	**ND**	**ND**
Annual progress required		**6.7%**	**ND**	**ND**	**ND**
Grade/Colour	Criteria	Scoring cut off values (rounded to 1 decimal point)			
E - Red	≥ cut off value to < D	0.0%	ND	ND	ND
D - Orange	≥ cut off value to < C	1.7%	ND	ND	ND
C - Yellow	≥ cut off value to < B	3.3%	ND	ND	ND
B - Light green	≥ cut off value to < A	5.0%	ND	ND	ND
A - Dark green	≥ cut off value	6.7%	ND	ND	ND

Haughton catchment					
Indicator		**Dissolved inorganic nitrogen**	**Fine sediment**	**Particulate phosphorus**	**Particulate nitrogen**
2025 water quality target		**70%**	**MCL**	**MCL**	**MCL**
Annual progress required		**3.3%**	**MCL**	**MCL**	**MCL**
Grade/Colour	Criteria	Scoring cut off values (rounded to 1 decimal point)			
E - Red	≥ cut off value to < D	0.0%	MCL	MCL	MCL
D - Orange	≥ cut off value to < C	0.8%	MCL	MCL	MCL
C - Yellow	≥ cut off value to < B	1.6%	MCL	MCL	MCL
B - Light green	≥ cut off value to < A	2.4%	MCL	MCL	MCL
A - Dark green	≥ cut off value	3.3%	MCL	MCL	MCL

Burdekin catchment					
Indicator		**Dissolved inorganic nitrogen**	**Fine sediment**	**Particulate phosphorus**	**Particulate nitrogen**
2025 water quality target		**60%**	**30%**	**30%**	**30%**
Annual progress required		**5.0%**	**1.2%**	**1.4%**	**1.5%**
Grade/Colour	Criteria	Scoring cut off values (rounded to 1 decimal point)			
E - Red	≥ cut off value to < D	0.0%	0.0%	0.0%	0.0%
D - Orange	≥ cut off value to < C	1.2%	0.3%	0.4%	0.4%
C - Yellow	≥ cut off value to < B	2.5%	0.6%	0.7%	0.8%
B - Light green	≥ cut off value to < A	3.7%	0.9%	1.1%	1.1%
A - Dark green	≥ cut off value	5.0%	1.2%	1.4%	1.5%

Don catchment					
Indicator		**Dissolved inorganic nitrogen**	**Fine sediment**	**Particulate phosphorus**	**Particulate nitrogen**
2025 water quality target		**MCL**	**30%**	**30%**	**30%**
Annual progress required		**MCL**	**1.5%**	**1.0%**	**0.9%**
Grade/Colour	Criteria	Scoring cut off values (rounded to 1 decimal point)			
E - Red	≥ cut off value to < D	MCL	0.0%	0.0%	0.0%
D - Orange	≥ cut off value to < C	MCL	0.4%	0.2%	0.2%
C - Yellow	≥ cut off value to < B	MCL	0.8%	0.5%	0.5%
B - Light green	≥ cut off value to < A	MCL	1.1%	0.7%	0.7%
A - Dark green	≥ cut off value	MCL	1.5%	1.0%	0.9%

MACKAY WHITSUNDAY REGION					
Indicator		**Dissolved inorganic nitrogen**	**Fine sediment**	**Particulate phosphorus**	**Particulate nitrogen**
2025 water quality target		**70%**	**20%**	**20%**	**20%**
Annual progress required		**4.8%**	**0.9%**	**0.6%**	**0.8%**
Grade/Colour	Criteria	Scoring cut off values (rounded to 1 decimal point)			
E - Red	≥ cut off value to < D	0.0%	0.0%	0.0%	0.0%
D - Orange	≥ cut off value to < C	1.2%	0.2%	0.2%	0.2%
C - Yellow	≥ cut off value to < B	2.4%	0.5%	0.3%	0.4%
B - Light green	≥ cut off value to < A	3.6%	0.7%	0.5%	0.6%
A - Dark green	≥ cut off value	4.8%	0.9%	0.6%	0.8%

Proserpine catchment					
Indicator		**Dissolved inorganic nitrogen**	**Fine sediment**	**Particulate phosphorus**	**Particulate nitrogen**
2025 water quality target		**70%**	**MCL**	**MCL**	**MCL**
Annual progress required		**3.6%**	**MCL**	**MCL**	**MCL**
Grade/Colour	Criteria	Scoring cut off values (rounded to 1 decimal point)			
E - Red	≥ cut off value to < D	0.0%	MCL	MCL	MCL
D - Orange	≥ cut off value to < C	0.9%	MCL	MCL	MCL
C - Yellow	≥ cut off value to < B	1.8%	MCL	MCL	MCL
B - Light green	≥ cut off value to < A	2.7%	MCL	MCL	MCL
A - Dark green	≥ cut off value	3.6%	MCL	MCL	MCL

O'Connell catchment					
Indicator		**Dissolved inorganic nitrogen**	**Fine sediment**	**Particulate phosphorus**	**Particulate nitrogen**
2025 water quality target		**70%**	**40%**	**40%**	**40%**
Annual progress required		**5.5%**	**2.7%**	**2.7%**	**2.6%**
Grade/Colour	Criteria	Scoring cut off values (rounded to 1 decimal point)			
E - Red	≥ cut off value to < D	0.0%	0.0%	0.0%	0.0%
D - Orange	≥ cut off value to < C	1.4%	0.7%	0.7%	0.6%
C - Yellow	≥ cut off value to < B	2.8%	1.4%	1.3%	1.3%
B - Light green	≥ cut off value to < A	4.1%	2.0%	2.0%	1.9%
A - Dark green	≥ cut off value	5.5%	2.7%	2.7%	2.6%

Pioneer catchment					
Indicator		**Dissolved inorganic nitrogen**	**Fine sediment**	**Particulate phosphorus**	**Particulate nitrogen**
2025 water quality target		**70%**	**20%**	**20%**	**20%**
Annual progress required		**6.0%**	**1.7%**	**1. 7%**	**1.8%**
Grade/Colour	Criteria	Scoring cut off values (rounded to 1 decimal point)			
E - Red	≥ cut off value to < D	0.0%	0.0%	0.0%	0.0%
D - Orange	≥ cut off value to < C	1.5%	0.4%	0.4%	0.4%
C - Yellow	≥ cut off value to < B	3.0%	0.8%	0.8%	0.9%
B - Light green	≥ cut off value to < A	4.5%	1.2%	1.2%	1.3%
A - Dark green	≥ cut off value	6.0%	1.7%	1.7%	1.8%

Plane catchment					
Indicator		**Dissolved inorganic nitrogen**	**Fine sediment**	**Particulate phosphorus**	**Particulate nitrogen**
2025 water quality target		**70%**	**MCL**	**MCL**	**MCL**
Annual progress required		**4.3%**	**MCL**	**MCL**	**MCL**
Grade/Colour	Criteria	Scoring cut off values (rounded to 1 decimal point)			
E - Red	≥ cut off value to < D	0.0%	MCL	MCL	MCL
D - Orange	≥ cut off value to < C	1.1%	MCL	MCL	MCL
C - Yellow	≥ cut off value to < B	2.1%	MCL	MCL	MCL
B - Light green	≥ cut off value to < A	3.2%	MCL	MCL	MCL
A - Dark green	≥ cut off value	4.3%	MCL	MCL	MCL

FITZROY REGION					
Indicator		**Dissolved inorganic nitrogen**	**Fine sediment**	**Particulate phosphorus**	**Particulate nitrogen**
2025 water quality target		**MCL**	**25%**	**20%**	**15%**
Annual progress required		**MCL**	**1.7%**	**1.3%**	**1.1%**
Grade/Colour	Criteria	Scoring cut off values (rounded to 1 decimal point)			
E - Red	≥ cut off value to < D	MCL	0.0%	0.0%	0.0%
D - Orange	≥ cut off value to < C	MCL	0.4%	0.3%	0.3%
C - Yellow	≥ cut off value to < B	MCL	0.9%	0.6%	0.6%
B - Light green	≥ cut off value to < A	MCL	1.3%	1.0%	0.9%
A - Dark green	≥ cut off value	MCL	1.7%	1.3%	1.1%

Styx, Shoalwater and Waterpark catchments (same target)					
Indicator		**Dissolved inorganic nitrogen**	**Fine sediment**	**Particulate phosphorus**	**Particulate nitrogen**
2025 water quality target					
Annual progress required		**MCL**	**MCL**	**MCL**	**MCL**
Grade/Colour	Criteria	Scoring cut off values (rounded to 1 decimal point)			
E - Red	≥ cut off value to < D	MCL	MCL	MCL	MCL
D - Orange	≥ cut off value to < C	MCL	MCL	MCL	MCL
C - Yellow	≥ cut off value to < B	MCL	MCL	MCL	MCL
B - Light green	≥ cut off value to < A	MCL	MCL	MCL	MCL
A - Dark green	≥ cut off value	MCL	MCL	MCL	MCL

Fitzroy catchment					
Indicator		**Dissolved inorganic nitrogen**	**Fine sediment**	**Particulate phosphorus**	**Particulate nitrogen**
2025 water quality target		**MCL**	**30%**	**30%**	**30%**
Annual progress required		**MCL**	**2.2%**	**2.1%**	**2.5%**
Grade/Colour	Criteria	Scoring cut off values (rounded to 1 decimal point)			
E - Red	≥ cut off value to < D	MCL	0.0%	0.0%	0.0%
D - Orange	≥ cut off value to < C	MCL	0.5%	0.5%	0.6%
C - Yellow	≥ cut off value to < B	MCL	1.1%	1.1%	1.2%
B - Light green	≥ cut off value to < A	MCL	1.6%	1.6%	1.9%
A - Dark green	≥ cut off value	MCL	2.2%	2.1%	2.5%

Calliope catchment					
Indicator		**Dissolved inorganic nitrogen**	**Fine sediment**	**Particulate phosphorus**	**Particulate nitrogen**
2025 water quality target		**MCL**	**30%**	**30%**	**30%**
Annual progress required		**MCL**	**3.2%**	**3.3%**	**3.3%**
Grade/Colour	Criteria	Scoring cut off values (rounded to 1 decimal point)			
E - Red	≥ cut off value to < D	MCL	0.0%	0.0%	0.0%
D - Orange	≥ cut off value to < C	MCL	0.8%	0.8%	0.8%
C - Yellow	≥ cut off value to < B	MCL	1.6%	1.6%	1.6%
B - Light green	≥ cut off value to < A	MCL	2.4%	2.5%	2.5%
A - Dark green	≥ cut off value	MCL	3.2%	3.3%	3.3%

Boyne catchment					
Indicator		**Dissolved inorganic nitrogen**	**Fine sediment**	**Particulate phosphorus**	**Particulate nitrogen**
2025 water quality target		**MCL**	**40%**	**40%**	**40%**
Annual progress required		**MCL**	**4.0%**	**4.2%**	**4.2%**
Grade/Colour	Criteria	Scoring cut off values (rounded to 1 decimal point)			
E - Red	≥ cut off value to < D	MCL	0.0%	0.0%	0.0%
D - Orange	≥ cut off value to < C	MCL	1.0%	1.1%	1.1%
C - Yellow	≥ cut off value to < B	MCL	2.0%	2.1%	2.1%
B - Light green	≥ cut off value to < A	MCL	3.0%	3.2%	3.2%
A - Dark green	≥ cut off value	MCL	4.0%	4.2%	4.2%

BURNETT MARY REGION					
Indicator		**Dissolved inorganic nitrogen**	**Fine sediment**	**Particulate phosphorus**	**Particulate nitrogen**
2025 water quality target		**55%**	**20%**	**20%**	**20%**
Annual progress required		**2.5%**	**1.7%**	**0.8%**	**1.4%**
Grade/Colour	Criteria	Scoring cut off values (rounded to 1 decimal point)			
E - Red	≥ cut off value to < D	0.0%	0.0%	0.0%	0.0%
D - Orange	≥ cut off value to < C	0.6%	0.4%	0.2%	0.3%
C - Yellow	≥ cut off value to < B	1.3%	0.8%	0.4%	0.7%
B - Light green	≥ cut off value to < A	1.9%	1.2%	0.6%	1.0%
A - Dark green	≥ cut off value	2.5%	1.7%	0.8%	1.4%

Baffle catchment					
Indicator		**Dissolved inorganic nitrogen**	**Fine sediment**	**Particulate phosphorus**	**Particulate nitrogen**
2025 water quality target		**50%**	**20%**	**20%**	**20%**
Annual progress required		**2.9%**	**1.6%**	**1.7%**	**1.7%**
Grade/Colour	Criteria	Scoring cut off values (rounded to 1 decimal point)			
E - Red	≥ cut off value to < D	0.0%	0.0%	0.0%	0.0%
D - Orange	≥ cut off value to < C	0.7%	0.4%	0.4%	0.4%
C - Yellow	≥ cut off value to < B	1.5%	0.8%	0.9%	0.8%
B - Light green	≥ cut off value to < A	2.2%	1.2%	1.3%	1.3%
A - Dark green	≥ cut off value	2.9%	1.6%	1.7%	1.7%

Kolan catchment					
Indicator		**Dissolved inorganic nitrogen**	**Fine sediment**	**Particulate phosphorus**	**Particulate nitrogen**
2025 water quality target		**50%**	**20%**	**20%**	**20%**
Annual progress required		**Target met**	**0.7%**	**Target met**	**Target met**
Grade/Colour	Criteria	Scoring cut off values (rounded to 1 decimal point)			
E - Red	≥ cut off value to < D	Target met	0.0%	Target met	Target met
D - Orange	≥ cut off value to < C	Target met	0.2%	Target met	Target met
C - Yellow	≥ cut off value to < B	Target met	0.3%	Target met	Target met
B - Light green	≥ cut off value to < A	Target met	0.5%	Target met	Target met
A - Dark green	≥ cut off value	Target met	0.7%	Target met	Target met

Burnett catchment					
Indicator		**Dissolved inorganic nitrogen**	**Fine sediment**	**Particulate phosphorus**	**Particulate nitrogen**
2025 water quality target		**70%**	**20%**	**20%**	**20%**
Annual progress required		**3.1%**	**1.2%**	**Target met**	**Target met**
Grade/Colour	Criteria	Scoring cut off values (round to 1 decimal point)			
E - Red	≥ cut off value to < D	0.0%	0.0%	Target met	Target met
D - Orange	≥ cut off value to < C	0.8%	0.3%	Target met	Target met
C - Yellow	≥ cut off value to < B	1.5%	0.6%	Target met	Target met
B - Light green	≥ cut off value to < A	2.3%	0.9%	Target met	Target met
A - Dark green	≥ cut off value	3.1%	1.2%	Target met	Target met

Burrum catchment					
Indicator		**Dissolved inorganic nitrogen**	**Fine sediment**	**Particulate phosphorus**	**Particulate nitrogen**
2025 water quality target		**50%**	**20%**	**20%**	**20%**
Annual progress required		**1.8%**	**0.4%**	**Target met**	**Target met**
Grade/Colour	Criteria	Scoring cut off values (rounded to 1 decimal point)			
E - Red	≥ cut off value to < D	0.0%	0.0%	Target met	Target met
D - Orange	≥ cut off value to < C	0.5%	0.1%	Target met	Target met
C - Yellow	≥ cut off value to < B	0.9%	0.2%	Target met	Target met
B - Light green	≥ cut off value to < A	1.4%	0.3%	Target met	Target met
A - Dark green	≥ cut off value	1.8%	0.4%	Target met	Target met

Mary catchment					
Indicator		**Dissolved inorganic nitrogen**	**Fine sediment**	**Particulate phosphorus**	**Particulate nitrogen**
2025 water quality target		**50%**	**20%**	**20%**	**20%**
Annual progress required		**2.7%**	**1.8%**	**1.4%**	**1.6%**
Grade/Colour	Criteria	Scoring cut off values (rounded to 1 decimal point)			
E - Red	≥ cut off value to < D	0.0%	0.0%	0.0%	0.0%
D - Orange	≥ cut off value to < C	0.7%	0.4%	0.4%	0.4%
C - Yellow	≥ cut off value to < B	1.4%	0.9%	0.7%	0.8%
B - Light green	≥ cut off value to < A	2.0%	1.3%	1.1%	1.2%
A - Dark green	≥ cut off value	2.7%	1.8%	1.4%	1.6%

Pesticide condition

Pesticide condition reports the percentage of aquatic species protected from pesticides, calculated for up to 22 herbicides and insecticides, using monitoring data collected over the wet season. For areas that met the target with the pesticide risk baseline assessment in 2018, monitoring did not continue. Pesticide risk in these areas will be reassessed with the next baseline assessment or when there are major land use changes that might affect pesticide run-off.

Target by 2025: *To protect at least 99% of aquatic species at the end-of-catchments.*

Annual assessment according to the below criteria:

Status	**Criteria**	**Colour**
Very poor	<80% species protection	E - Red
Poor	80 to <90% species protection	D - Orange
Moderate	90 to <95% species protection	C - Yellow
Good	95 to <99% species protection	B - Light green
Very good	≥99% species protection	A - Dark green

Reporting scale: Great Barrier Reef-wide, six regions, 35 catchments.

Inshore marine condition (annual snapshot)

Inshore marine condition reporting integrates data from water quality, seagrass and coral to present an annual snapshot of inshore marine condition. Coral and seagrass condition are evaluated through the Reef Authority's Marine Monitoring Program (MMP) and marine water quality is assessed through the eReefs marine modelling program validated using in situ water quality monitoring data from MMP and other programs.

Reef 2050 WQIP objective: *Improved coral condition, Improved seagrass condition.*

Inshore marine condition is assessed using a standardised scale (1-100) and graded according to the criteria below (note Overall score is the average of the three indicator scores):

Status/progress (condition)	**Marine indicators**				**Grade/Colour**
	Corals	Water quality	Seagrass	**Overall score**	
Very poor	1-20	1-20	1-20	1-20	**E - Red**
Poor	21-40	21-40	21-40	21-40	**D - Orange**
Moderate	41-60	41-60	41-60	41-60	**C - Yellow**
Good	61-80	61-80	61-80	61-80	**B - Light green**
Very good	81-100	81-100	81-100	81-100	**A - Dark green**

Semiquantitative confidence rankings for key indicators used in Report Card 2021 and 2022

A multi-criteria assessment is used to score confidence for each key indicator in the report card. The approach is consistent across all Paddock to Reef components and combines expert opinion with measured data to enable comparison between indicators. The assessment criteria evaluate the key elements that contribute to the program outputs and its objectives. Confidence in the annual results is evaluated from five criteria, which are weighted and aggregated into a single score:

i. Maturity of the methodology: shows the confidence that the method/s being used are tested and accepted broadly by the scientific community. Methods must be repeatable and well documented. Maturity of methodology is not a representation of the age of the method but the stage of development. It is expected that all methods would be robust, repeatable and defendable. Weighting = 0.5, as it is confounded by criteria ii to v.
ii. Validation: shows the degree of validation that has been established for the indicator for reporting progress towards the targets. The use of proxies (e.g. remote sensing of turbidity values) is scored lower than direct measures (e.g. in-situ sampling of total suspended sediment). The reason for this criterion is to minimise error propagation. Weighting = 1.
iii. Representativeness: shows the confidence in the representativeness of monitoring/data to adequately report against relevant targets. This criterion considers the natural spatial and temporal variability embedded in the data as well as the sample size. Weighting = 1.
iv. Directness: looks at the relationship between the monitored data and the indicator being used. Weighting = 1.
v. Measured error: incorporates known errors and uses any quantitative data where it exists to make an assessment. Weighting = 1.

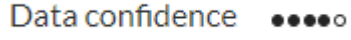
Scoring

Each criterion was scored using a defined set of scoring attributes (outlined in Table 1 below). The attributes are ranked from those that contribute weakly to the criteria (score of one) to those that have a strong influence (score of three).

The total score is calculated and assessed against the one to five dot qualitative confidence ranking as follows:

Confidence score categories	Ranking
≤6	One dot
6.5 to 8	Two dots
8.5 to 9.5	Three dots
10 to 11.5	Four dots
≥12	Five dots

Presented as:



For individual confidence scores, see the Methods reports.

Scoring matrix for each criteria:

Maturity of methodology (weighting 0.5)	**Validation**	**Representativeness**	**Directness**	**Measured error**
Score = 1 **New** or experimental methodology	**Score = 1** **Limited** Remote sensed data with no or limited ground truthing or Modelling with no ground truthing or Survey with no ground truthing	**Score = 1** **Low** 1:1,000,000 or Less than 10% of population survey data	**Score = 1** **Conceptual** Measurement of data that have conceptual relationship to reported indicator	**Score = 1** Greater than 25% error or limited to no measurement of error or error not able to be quantified
Score = 2 **Developed** Peer reviewed method	**Score = 2** **Not comprehensive** Remote sensed data with regular ground truthing (not comprehensive) or Modelling with documented validation (not comprehensive) or Survey with ground truthing (not comprehensive)	**Score = 2** **Moderate** 1:100,000 or 10%-30% of population survey data	**Score = 2** **Indirect** Measurement of data that have a quantifiable relationship to reported indicators	**Score = 2** Less than 25% error or some components do not have error quantified
Score = 3 **Established** methodology in published paper	**Score = 3** **Comprehensive** Remote sensed data with comprehensive validation program supporting (statistical error measured) or Modelling with comprehensive validation and supporting documentation or Survey with extensive on ground validation or directly measured data	**Score = 3** **High** 1:10,000 or 30-50% of population	**Score = 3** **Direct** Direct measurement of reported indicator with error	**Score = 3** 10% error and all components have errors quantified