

# Scoring system



## Great Barrier Reef Report Card 2016

Reef Water Quality Protection Plan



Australian Government



Queensland Government

## Scoring system

The scoring system is used to assess and communicate progress towards the Reef Water Quality Protection Plan goal and targets. The Great Barrier Reef Report Card 2016 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 management practice and catchment targets as well as current marine condition.

The A, B, C, D, E grades are consistent with the regional report cards in Queensland and make it easier to track progress towards the targets. The targets are considered ambitious. Therefore, progress that is equal to or exceeds the target is considered A - Very good (dark green). Please see below for full details.

### Management practice system adoption – sugarcane, horticulture, grains cropping and grazing

Target by 2018: *90 per cent of sugarcane, horticulture, cropping and grazing lands are managed using best management practice systems (soil, nutrient and pesticides) in priority areas.*

Adoption progress categories, grade and colour code	
0-22 %	<b>E - Red</b>
23-45 %	<b>D - Orange</b>
46-67 %	<b>C - Yellow</b>
68-89 %	<b>B – Light green</b>
90-100 %	<b>A – Dark green</b>

### Ground cover

Target by 2018: *Minimum 70 per cent late dry season ground cover on grazing lands.*

Status/progress	Criteria for June 2016	Grade/Colour
Very poor ground cover – Well below the target	Less than 30% ground cover	<b>E - Red</b>
Poor ground cover - Below the target	Between 30-39% average ground cover	<b>D - Orange</b>
Moderate ground cover – Just below the target	Between 40-49% average ground cover	<b>C - Yellow</b>
Good ground cover – Above the target	Between 50-69% average ground cover	<b>B - Light green</b>
Very good ground cover – Well above the target	Greater than 70% average ground cover	<b>A- Dark green</b>

### Wetland condition

Target by 2018: *There is no net loss in extent, and an improvement in the ecological processes and environmental values, of natural wetlands.*

Status/progress	Criteria for June 2016	Grade/Colour
Very high <i>pressure</i> on wetland values Very poor <i>state</i> of wetland values	Scores 12 or 13 on the WFAT–M scale	<b>E - Red</b>
High <i>pressure</i> on wetland values Poor <i>state</i> of wetland values	Scores 9, 10 or 11 on the WFAT–M scale	<b>D - Orange</b>
Moderate <i>pressure</i> on wetland values moderate <i>state</i> of wetland values	Scores 6, 7 or 8 on the WFAT–M scale	<b>C - Yellow</b>
Low <i>pressure</i> on wetland values Good <i>state</i> of wetland values	Scores 3, 4 or 5 on the WFAT–M scale	<b>B - Light green</b>
Negligible <i>pressure</i> on wetland values Very good <i>state</i> of wetland values	Scores 1 or 2 on the WFAT–M scale	<b>A- Dark green</b>

### Catchment pollutant loads – sediment, particulate nitrogen, particulate phosphorus

Target by 2018: *At least a 20 per cent reduction in anthropogenic end-of-catchments loads of sediment and particulate nutrients in priority areas.*

Status/progress	Criteria for June 2016	Grade/Colour
Very poor progress towards target – Increase in the catchment load	Less than 11% reduction in load	<b>E - Red</b>
Poor progress towards target – No or small increase in the catchment load	11 to <13% reduction in load	<b>D - Orange</b>
Moderate progress towards target – A small reduction in catchment load	13 to <15% reduction in load	<b>C - Yellow</b>
Good progress towards target – A significant reduction in catchment load	15 to <16% reduction in load	<b>B - Light green</b>
Very good progress towards target – A high reduction in catchment load	16% or greater reduction in load	<b>A - Dark green</b>

### Catchment pollutant loads – dissolved inorganic nitrogen

Target by 2018: *At least a 50 per cent reduction in anthropogenic end-of-catchment dissolved inorganic nitrogen loads in priority areas.*

Status/progress	Criteria for June 2016	Grade/Colour
Very poor progress towards target – Increase in the catchment load	Less than 25% reduction in load	<b>E - Red</b>
Poor progress towards target – No or small increase in the catchment load	25 to <30% reduction in load	<b>D - Orange</b>
Moderate progress towards target – A small reduction in catchment load	30 to <35% reduction in load	<b>C - Yellow</b>
Good progress towards target – A significant reduction in catchment load	35 to <40% reduction in load	<b>B - Light green</b>
Very good progress towards target – A high reduction in catchment load	40% or greater reduction in load	<b>A - Dark green</b>

### Catchment pollutant loads – pesticides (toxic equivalents)

Target by 2018: *At least a 60 per cent reduction in end-of-catchment pesticide loads in priority areas.*

Status/progress	Criteria for June 2016	Grade/Colour
Very poor progress towards target – Increase in the catchment load	Less than 30% reduction in load	<b>E - Red</b>
Poor progress towards target – No or small increase in the catchment load	30 to <36% reduction in load	<b>D - Orange</b>
Moderate progress towards target – A small reduction in catchment load	36 to <42% reduction in load	<b>C - Yellow</b>
Good progress towards target – A significant reduction in catchment load	42 to <48% reduction in load	<b>B - Light green</b>
Very good progress towards target – A high reduction in catchment load	48% or greater reduction in load	<b>A - Dark green</b>

**Marine**

Standardised scale (1-100)

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

## Qualitative confidence rankings for key indicators used in Report Card 2016

A multi-criteria analysis approach was used to qualitatively score the confidence for each key indicator used in the report card. The approach combines the use of expert opinion and direct measures of error for program components where available.

The determination of confidence for each key indicator used in the report card was assessed using five standard criteria:

1. Maturity of methodology (the score is weighted half for this criteria so not to outweigh the importance of the other criteria)
2. Validation
3. Representativeness
4. Directness
5. Measured error

### Scoring

Each criterion was scored using as 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 bar qualitative confidence ranking as follows:

### Overall scoring:

2016 Confidence Score Categories	Ranking
$\leq 6$ = one bar ranking	One bar
6.5 to 8 = two bars ranking	Two bars
8.5 to 9.5 = three bars ranking	Three bars
10 to 11.5 = four bars ranking	Four bars
$\geq 12$ = five bars ranking	Five bars

Presented as:

Confidence



Low -> high

**Scoring matrix for each criteria:**

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