Wet Tropics Waterways

REPORT CARD 2023

Reporting on data from July 2021 to June 2022

Photo credit: Uriel Hancock

wettropicswaterways.org.au

Overview

This Report Card is an important tool to track changes to waterway health over time. In the 2021-22 reporting period, overall waterway condition grades were unchanged, except for the north inshore zone which improved from moderate to good, and the central inshore zone and Barron and Moresby estuaries which all declined from good to moderate. The underlying waterway health indicators show more changes than the overall grades.

To view all results in detail, visit our website:

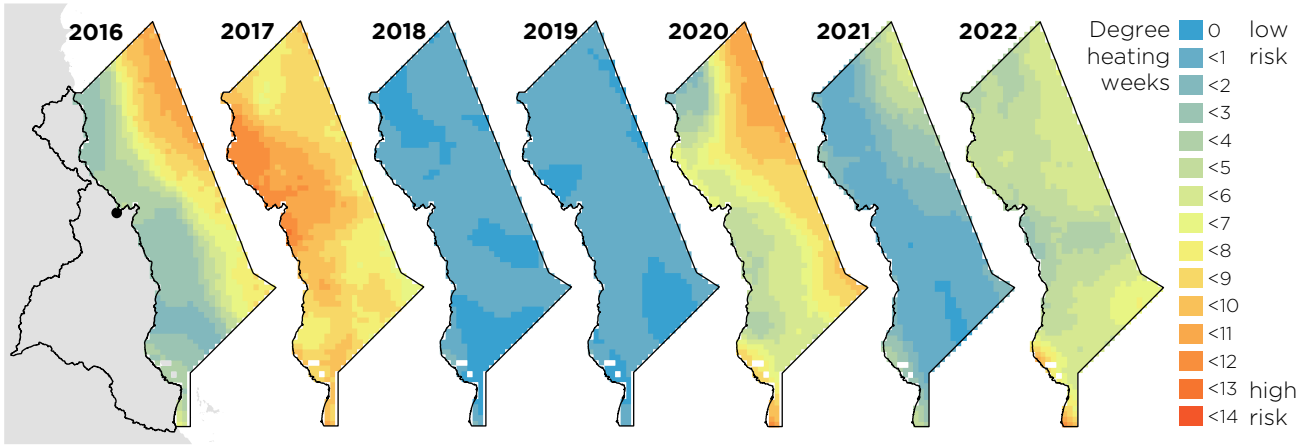
wettropicswaterways.org.au

RAINFALL

Annual rainfall was average in all basins. However, rainfall was below average in the wet season months and above average in the dry season. Annual discharges of the major rivers were similar to the long-term average.

SEA SURFACE TEMPERATURES

Sea surface temperatures during the summer months were above long-term averages, which increased the risk of coral bleaching in all areas but particularly in the southern areas of the region where bleaching of soft corals was reported.



Annual degree heating week estimates for the Wet Tropics inshore and offshore marine environments. This indicates the likelihood of coral bleaching. Data are the annual maximum degree heating week estimates for each ~25 km^2 pixel. Data sourced from: https://coralreefwatch.noaa.gov/.

CORAL

On surveyed offshore reefs, hard coral cover increased to its highest level in the last five years. All reefs have shown a general improvement in coral cover since coral bleaching in 2016-18. In 2021-22 there were no active outbreaks of coral-eating Crown-of-thorns Starfish (COTS) recorded.

SEAGRASS

The condition of seagrass in the Wet Tropics was severely impacted by Cyclone Yasi in 2011 and other flooding events. Inshore seagrass condition has shown slow and steady improvement over the last six years, but seagrass in estuaries has not recovered as well. In the Moresby estuary, seagrass is in very poor condition and scientists are attempting restoration work.

PESTICIDES

The Report Card Pesticide Risk metric tests for 22 pesticide chemicals. The amount of Imidacloprid detected in the Mulgrave, Russell, North Johnstone, Tully, Murray and Herbert rivers in 2021-22 was at its lowest risk level since the first Report Card in 2015-16 due to positive steps taken by the agricultural industry. As an insecticide, this chemical is lethal for bugs and crustaceans in waterways.

Dragonfly larvae

FISH CONNECTIVITY

The estuary fish barrier assessments have been updated for the Daintree, Dickson Inlet and Barron. Additional barriers were identified in all three estuaries which lowered the scores for the Barron and Dickson Inlet. Current projects are remediating priority fish barriers in the lower Herbert and Murray catchments.

CHLOROPHYLL-A

The Barron estuary has scored poorly once again for Chlorophyll-a, which is an indicator of the amount of algae in the water. While the Barron occasionally meets water quality objectives, it tends to have higher concentrations of algae than recommended by the guidelines.

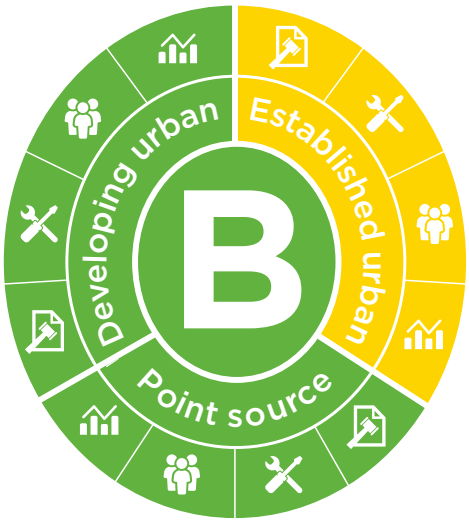
DISSOLVED OXYGEN

Trinity Inlet is consistently the poorest estuary for dissolved oxygen, which is essential for fish and other aquatic animals. The low score is partly due to the location of monitoring sites which are next to urban and industrial areas of Cairns. Polluted stormwater runoff can decrease dissolved oxygen in waterways whereas less developed areas typically have higher levels of dissolved oxygen.

URBAN STEWARDSHIP

Seven out of eight local councils took part in a second round of assessment under the Urban Water Stewardship Framework. It assesses and rates the councils' management of sediment and nutrient runoff across 66 activities.

Overall, the Wet Tropics region improved from a grade C to B, which means best practice management is generally in place, representing a low to moderate risk to water quality.



MANGROVES

The mangrove condition indicator has been expanded to include two more estuaries - Moresby and Hinchinbrook Channel. In 2021-22, seven estuaries were surveyed. The results showed that mangrove habitat condition tends to correlate with urban development with lower scores recorded in Dickson Inlet and Trinity Inlet. In contrast, Daintree, Moresby and Hinchinbrook Channel all scored very good.

Waterway grades 2021-22

This Report Card is part of a framework that is tracking progress towards the Reef 2050 Water Quality Improvement Plan targets. Go to www.wettropicswaterways.org.au/report-cards for more information.

Great Barrier Reef Outlook Report
Reef wide. Released every **5 years**.

Reef Water Quality Report Card
Reef wide (inshore). Released **annually**.

Regional Report Cards. Released **annually**.

Wet Tropics
Wet Tropics Waterways

Townsville Dry Tropics
dry tropics partnership for healthy waters

Mackay Whitsunday
HEALTHY RIVERS TO REEF PARTNERSHIP

Fitzroy
fitzroy partnership for river health

Gladstone
Gladstone Healthy Harbour Partnership

MARINE
Palm Islands Inshore
Overall - C
Water quality - B
Coral - C
Seagrass - Insufficient data
Fish - Insufficient data

ESTUARY
Hinchinbrook
Overall - B
Water quality - B
Habitat and hydrology - B
Fish - Insufficient data

MARINE
South Inshore
Overall - C
Water quality - C
Coral - C
Seagrass - D
Fish - Insufficient data

These grades are based on multiple indicators. For more information go to: www.wettropicswaterways.org.au/report-card

Regional drivers

Key pressures on waterways in the Wet Tropics are driven by human activities such as urban and agricultural land use, and weather extremes.

FRESHWATER
Johnstone

Overall - B
Water quality - B
Habitat and hydrology - C
Fish - B

FRESHWATER
Russell

Overall - B
Water quality - B
Habitat and hydrology - B
Fish - A

FRESHWATER
Mulgrave

Overall - B
Water quality - B
Habitat and hydrology - B
Fish - A

FRESH
Barr

Overall - C
Water qualit
Habitat and
Fish - C

TUARY
**ussell-
ulgrave**
- B
uality - B
and hydrology - B
sufficient data

ESTUARY
Trinity Inlet

Overall - B
Water quality - B
Habitat and hydrology - C
Fish - Insufficient data

ESTUARY
Barron

Overall - C
Water quality - C
Habitat and hydrology - C
Fish - Insufficient data

MARINE
North Insh

Overall - B
Water quality - A
Coral - C
Seagrass - C
Fish - Insufficient data

Legend

A very good | B good | C moderate | D poor | E very poor | insufficent data

Freshwater | Estuary | Inshore Marine | Offshore Marine

This report card, although released in 2023, presents data from July 2021-June 2022. The time delay is due to the time required for quality control, scientific analysis and expert peer review.

HWATER
ron
y - B
ydrology - C

B
FRESHWATER
Mossman
Overall - B
Water quality - B
Habitat and hydrology - B
Fish - B

A
FRESHWATER
Daintree
Overall - A
Water quality - A
Habitat and hydrology - B
Fish - Insufficient data

B
ESTUARY
Dickson Inlet
Overall - B
Water quality - B
Habitat and hydrology - B
Fish - Insufficient data

B
ESTUARY
Daintree
Overall - B
Water quality - B
Habitat and hydrology - C
Fish - Insufficient data

ore

MARINE
Offshore
Overall - Insufficient data
Water quality - Insufficient data
Coral - B
Fish - Insufficient data

Wet Tropics Waterways

Wet Tropics Waterways is an initiative of the **Reef 2050 Long-Term Sustainability Plan**. Our aim is to improve the condition of our freshwater and estuarine waterways that flow into the Great Barrier Reef. Find out more about joining our Partnership by emailing us at info@wettropicswaterways.org.au or go to our website.

Partnering for healthy tropical waterways and vibrant communities

READ: wettropicswaterways.org.au

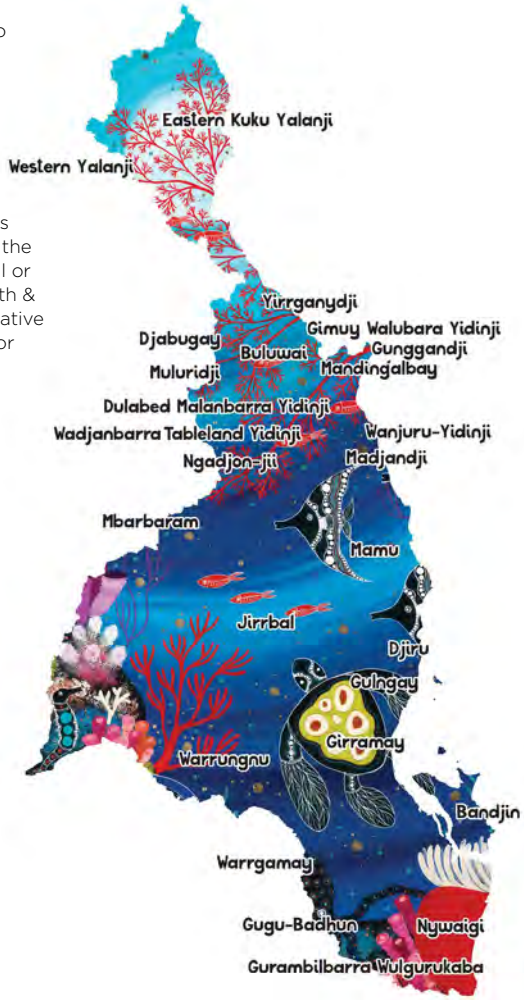
FOLLOW: Wet Tropics Waterways

LISTEN: wettropicswaterways.org.au/podcast

Acknowledgement of Country

Wet Tropics Waterways respectfully acknowledges the Traditional Custodians and First Nations People of the land and water on which we work and live.

This map is designed to present the diversity of Traditional Owner groups within the Wet Tropics and does not represent an accurate map of Indigenous tribal boundaries. For matters of Native Title, contact the North Qld Land Council or view the Commonwealth & Queensland National Native Title Tribunal website for further information.



Thanks to our partners

Acknowledgements

Wet Tropics Waterways would like to acknowledge the following organisations for their contribution to the Wet Tropics Report Card: Regional Report Card Technical Working Group, Reef Independent Science Panel; Australian Institute of Marine Science; Queensland Government Department of Environment and Science; James Cook University; CSIRO; Queensland Department of Regional Development, Manufacturing and Water. We would also like to thank the many other organisations that support and contribute to the release of the Report Card.

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Uriel Hancock. Other images: Terrain NRM, JCU Tropwater, Cairns Regional Council, CAFNEC

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To find out how you can join the Wet Tropics Healthy Waterways Partnership contact:

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