

TOWNSVILLE DRY TROPICS Report Card 2019

Reporting on data from
July 2018-June 2019



Partnering to improve the values of our catchments and Reef



2018-19 RESULTS

SCORES

- A** Very good
- B** Good
- C** Moderate
- D** Poor
- E** Very poor
- Not enough information

Black Estuary



Offshore Marine



Halifax Bay Inshore



Cleveland Bay Inshore



CRYSTAL CREEK
ROLLINGSTONE CREEK



Black Freshwater Basin

BLUEWATER CREEK



Ross Freshwater Basin

MAGNETIC ISLAND

BOHLE RIVER
TOWNSVILLE

ROSS RIVER

LAKE ROSS

ALLIGATOR CREEK



Ross Estuary



For more detail on the scores and the associated confidence for each of the grades, read the technical reports on our website:

drytropicalshealthywaters.org



KEY MESSAGES

Between July 2018 and June 2019, water quality in the Townsville region was in a moderate to very good condition. The February 2019 flood eroded riverbanks and washed nutrients, sediment and litter from the urban environment into waterways and the marine environment. Our Partners continue to monitor affected ecosystems and assist with ongoing restoration of affected areas.

Ross Freshwater and Estuary Zones

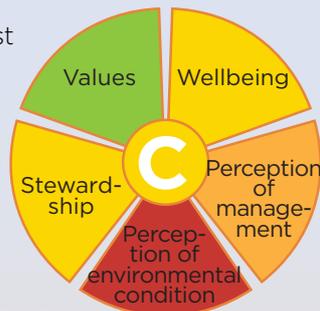
-  Nutrient concentrations were high in the Bohle River, Louisa Creek and Louisa Estuary, but overall water quality was good.
-  135 hectares of riparian, 6 hectares of estuarine and less than 1 hectare of wetland vegetation habitat were lost between 2013-2017. This scored as moderate to good progress toward the management target of no net loss.
-  Litter increased from previous years at Apex Park and Cape Pallarenda, but decreased at Pallarenda Beach, Rowes Bay, Shelley Cove and Aplin's weir.

Black Freshwater and Estuary Zones

-  While nutrient concentrations were high in the Black River, Bluewater Creek, Crystal Creek Estuary and Rollingstone Creek Estuary, the overall water quality across the basin was good.
-  52 hectares of wetland vegetation and less than 1 hectare each of riparian and estuarine habitat were lost between 2013-2017. This scored as good progress toward the management target of no net loss. No rivers or creeks were dammed in the Black freshwater basin, resulting in a good habitat score.

COMMUNITY RESULTS

In 2017, CSIRO surveyed almost 1,200 Townsville residents about their perceptions and values of the Great Barrier Reef. Residents placed very high value on our waterways for wellbeing and economic reasons. However, they perceived the health and management of the Reef as poor. Stewardship across the region was also perceived to be poor. *



*Surveys were conducted after two consecutive years of mass coral bleaching on the Reef in 2016 and 2017, which may have strongly influenced the residents perception of Reef health.

Cleveland Bay Inshore Zone

-  All sites had high nutrient concentrations, with the enclosed coastal waters being highly turbid.
-  High levels of macroalgae and low recruitment of coral larvae led to coral reefs being in a poor to moderate condition. The area of coastal seagrass meadows was similar to that of previous years, however there may have been a 'lag effect' from the February floods, with seagrass biomass at coastal meadows not returning to 'typical' peak season levels.
-  Litter decreased at all sites around Magnetic Island, except for Alma Bay and Geoffrey Bay.

Halifax Bay Inshore Zone

-  Decreased water quality was caused by poor nutrient concentrations at Pelorus Island and Pandora Reef.
-  Scores for macroalgae and hard coral composition varied from very poor to very good across the surveyed reefs. Overall, coral was in a moderate condition.
-  Litter increased in Halifax Bay, with large quantities occurring in Picnic Bay.

Offshore Marine Zone

-  Offshore water quality was very good, with low concentrations of suspended solids within the offshore waters.
-  Coral cover was low, however the abundance of juvenile corals was scored as very good.

LITTER

-  Almost 150,000 pieces of litter were removed from the environment during community clean-ups between 2018-2019.

According to the Australian Marine Debris Initiative database, the top five items found in Townsville clean-ups are:

Hard plastic pieces

Broken glass

Plastic bag and film remnants

Cigarette butts and filters

Plastic food packaging



2019 MONSOON UPDATE

In early 2019, Townsville experienced an unprecedented monsoon.

1 metre of rain in **8** days

3,300 properties were damaged.



On 3rd February 2019, Ross River Dam reached

245% of its capacity.

Over 1,900 m³ of water per second was released into Ross River.

Approximately

1.13
MILLION METRIC TONNES

of water was discharged from Ross River into Cleveland Bay.



Riverbanks eroded and nutrients, sediment and litter from the urban environment were washed into the waterways and marine environment.

Despite the social and economic impacts, research suggests minimal impacts so far to most environments.

Flood plumes reached the outer reef within five days, but dissipated five days later.

Research suggests offshore coral reefs were minimally impacted.



Although seagrass meadows showed a decline in biomass following the floods, the overall area of meadows remained above the long term average.



WORKING TOGETHER

for healthier waterways

USING CITIZEN SCIENCE TO MONITOR WATERWAYS

Creekwatch

- Long-running citizen science program funded by Townsville City Council.
- Monitors water quality and macroinvertebrates in the Townsville region.

Reef Check Australia

- Trains volunteers to collect data on reef condition, fish and invertebrate species, and visual threats to the reef.
- Surveys inshore reefs around Magnetic Island and offshore reefs in the Dry Tropics region.



REVEGETATING RIVERBANKS

Conservation Volunteers Australia (CVA) and Coastal Dry Tropics Landcare Inc. have revegetated and removed invasive weeds from riverbanks.

Revegetation improves our waterways by:

- Providing habitat for animals
- Reducing erosion of our riverbanks
- Slowing water flow before it enters the waterway
- Filtering sediment and nutrients from stormwater before it enters the waterway
- Removing invasive weeds from riverbanks

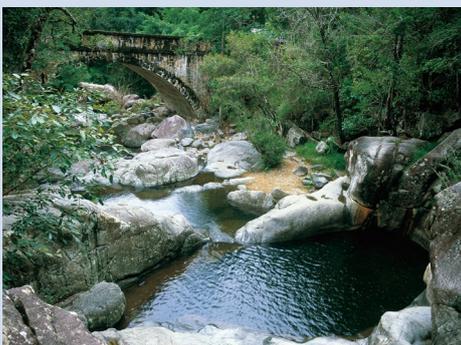


NEW TO THIS REPORT!

The Dry Tropics Partnership aims to identify gaps in knowledge and monitoring data. This year, the report card includes three new datasets, which are described below.

More monitoring for the Black Basin

The Department of Environment and Science has added nine freshwater and five estuary sites to monitor water quality. This data is included in this report card.



New Litter Indicator

For the first time, litter has been scored in the regional report card. Scores indicate increases and decreases in litter abundance compared to data from previous years.



Citizen Science Data

Data on hard coral cover from Reef Check Australia was used with long-term monitoring programs to calculate the scores for coral cover.





dry tropics partnership
for healthy waters

Join us!

Are you interested in waterway health?
Sign up for our newsletter at

drytropicshealthywaters.org

Is your organisation interested in joining our Partnership? There are many great benefits to membership including community recognition and promotion, access to reliable and scientifically supported information and collaborative opportunities to make a difference in waterway health.

ABOUT THE PARTNERSHIP

The Dry Tropics Partnership for Healthy Waters was launched in January 2019, and its first pilot report card was released in June 2019.

The Partnership is a collaboration between community, industry, science organisations and government. The Partnership reports on waterway health, with the goal of stimulating management actions.

LOOK FOR US ON

 Dry Tropics Partnership for Healthy Waters

 @drytropicshealthywaters

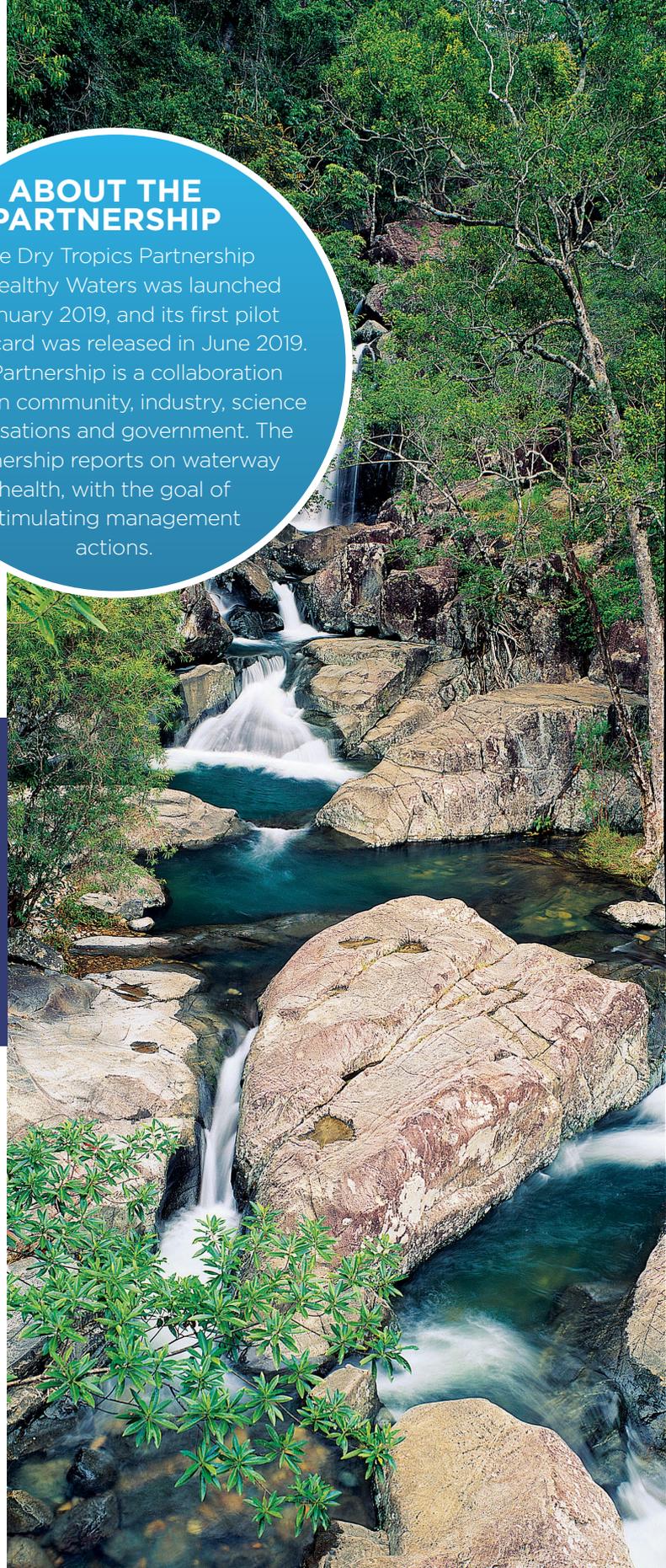
 @dry_tropics_healthy_waters

 Or email us at info@drytropicshealthywaters.org

ACKNOWLEDGEMENTS

The Partnership acknowledges the Bindal and Wulgurukaba people as the traditional custodians of the land reported on in the Townsville Dry Tropics Report Card region. We acknowledge the support and commitment of our Partners, the Regional Report Card Technical Working Group and the Independent Science Panel for their contributions to the science and communication behind this Report Card.

Photo credits: Tourism and Events Queensland, Megan Mackinnon, Coastal Dry Tropics Landcare, Rosyln Budd, TropWater, Travis Robertson OZ Cyclone Chasers, Catherine Collier, Tourism and Events Queensland/Achim Wetz.



[Five regional report cards](#) in the Great Barrier Reef catchment produce an annual snapshot of ecosystem health and water quality condition of local waterways. For more details, see the [Report Card Explainer](#) and the report cards for Wet Tropics, Mackay-Whitsundays-Isaac, Fitzroy and Gladstone Harbour to find out the condition of waterways in other regions.

In addition to the regional report cards, the Great Barrier Reef Water Quality Report is produced annually and focuses on tracking progress towards Reef 2050 Water Quality Improvement Plan targets (www.reefplan.qld.gov.au).