



HEALTHY RIVERS TO
REEF PARTNERSHIP
MACKAY-WHITSUNDAY-ISAAC

THE MACKAY - WHITSUNDAY - ISAAC 2019 REPORT CARD

Reporting on waterway health data collected
between July 2018 and June 2019



WATERWAY GRADES FOR 2019

Waterway condition is graded from A to E. Final grades are determined by a combination of water quality (sediment, nutrients and pesticides), habitat and fish community indicators. This report card assesses the condition of freshwater, estuarine and marine waters in the region based on data collected between 1 July 2018 and 30 June 2019.

KEY MESSAGES

- Water quality has remained relatively consistent in freshwater basins throughout reporting years in the Mackay-Whitsunday-Isaac report cards.
- Physical fish barrier assessments were updated with on-ground surveys in the Don basin showing large areas of connected stream habitat, resulting in an improvement in grade compared to the last assessment.
- Wetland extent is updated every 4 years. Whilst no natural or modified freshwater wetlands have been lost since the previous assessment, these scores reflect the significant historical loss estimated in regional wetlands.
- Pesticides continue to be the poorest scoring water quality indicator in both freshwater and estuarine systems. Imidacloprid, atrazine and diuron were the key contributors which are used to suppress pest insects and weeds.
- A Partnership funded estuary pesticide monitoring program designed to supplement existing water quality monitoring has been included for the first time, and represents the most reliable estuary pesticide scores to date.
- Both coral and pesticides were reported on in the Southern inshore zone for the first time and present a baseline understanding of condition in this area. This highlights the Partnership's continued commitment to fill identified knowledge gaps in the region.
- The full impact of Tropical Cyclone Debbie has been assessed on Whitsunday inshore reefs. Changes in coral cover (area and rate of change) and lack of juvenile coral demonstrate poor recovery potential for these reefs.
- Seagrass condition ranged from moderate to poor, however has shown improvements following declines after Tropical Cyclone Debbie in March 2017.
- Water quality in the offshore zone remained in a very good condition for the sixth consecutive year. Water quality in the inshore marine environment ranged from moderate to very poor, largely driven by land use activities and natural events such as rainfall.
- Offshore coral remained in a moderate condition for the sixth consecutive year. Juvenile coral density was very good, indicating a greater potential for coral recovery.

REGIONAL DRIVERS

Economic growth

Climate

Population growth

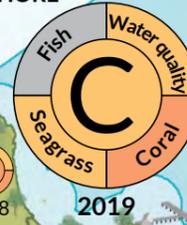
Above average rainfall was received in the North of our reporting zone (Don, Proserpine and O'Connell basins), whilst lower than average rainfall was received in the South. Rainfall and climate can impact water quality within our waterways and marine environments. No cyclones crossed the region's coast in the 2018/19 reporting period.

DON BASIN

FRESHWATER
Don

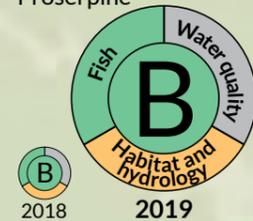


NORTHERN INSHORE

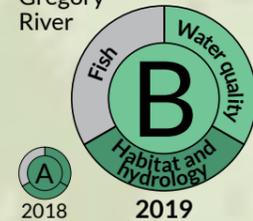


PROSERPINE BASIN

FRESHWATER
Proserpine



ESTUARINE
Gregory River

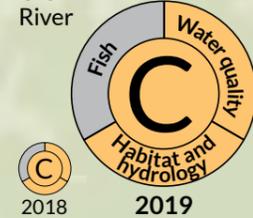


O'CONNELL BASIN

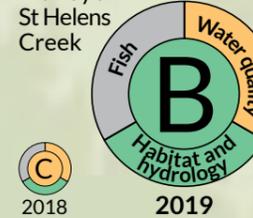
FRESHWATER
O'Connell



ESTUARINE
O'Connell River

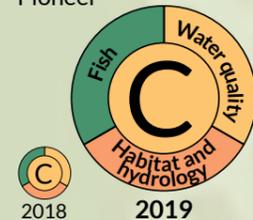


ESTUARINE
Murray and St Helens Creek

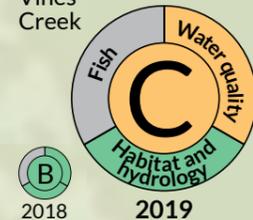


PIONEER BASIN

FRESHWATER
Pioneer

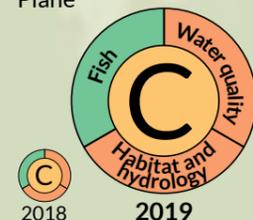


ESTUARINE
Vines Creek

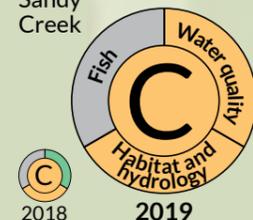


PLANE BASIN

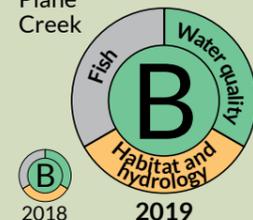
FRESHWATER
Plane



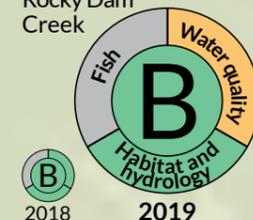
ESTUARINE
Sandy Creek



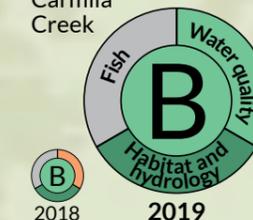
ESTUARINE
Plane Creek



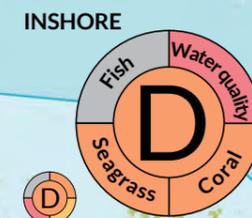
ESTUARINE
Rocky Dam Creek



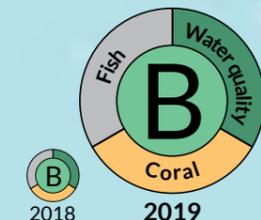
ESTUARINE
Carmila Creek



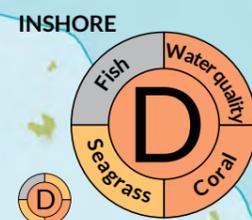
WHITSUNDAYS INSHORE



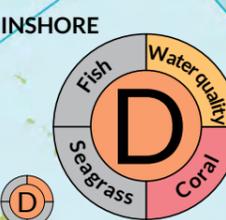
OFFSHORE



CENTRAL INSHORE



SOUTHERN INSHORE



Need more detail on these grades?
healthyriverstoreef.org.au/report-card-results

SCORES A VERY GOOD B GOOD C MODERATE D POOR E VERY POOR NO DATA/ INSUFFICIENT DATA

DATA CONFIDENCE

Data confidence is scored from low to high for each grade. Visit our interactive website for more detail.



SPOTLIGHT ON THE WHITSUNDAYS



Diver collecting a coral core to analyse historical water quality conditions.

CATCHMENT INFLUENCE ON WATER QUALITY

Work completed in 2018 by CSIRO and AIMS revealed that catchment derived fine sediments from the Fitzroy influence the water quality in the Whitsundays (especially in wetter years). This work also revealed the O'Connell and Pioneer Rivers tend to influence the water quality inshore of Whitsunday Island. It is these influences, coupled with a 'long residence time' in the Whitsundays that are likely causing poor water clarity. Reducing fine sediments from rivers impacting the Whitsundays will help improve water clarity over time.



For more information head to our website. healthyriverstoreef.org.au



JCU scientist shows a tourism operator how to take a water quality sample.

TOURISM OPERATORS TURNED CITIZEN SCIENTISTS

In 2019, the Whitsunday Water Quality Monitoring Blueprint for Tourism Operators project began, establishing tourism operators as data collectors in the ongoing effort to monitor the health of the Reef. Two water quality loggers were deployed at high-value areas also subject to declines in water quality (witnessed by the operators themselves). It is expected the information collected will significantly contribute to the understanding and management of water quality in the Whitsundays. Future report cards will communicate the results of this project. This project is funded by the partnership between the Australian Government's Reef Trust and the Great Barrier Reef Foundation, and North Queensland Bulk Ports, with support from Reef Catchments, Whitsunday Charter Boat Industry Association, James Cook University, and a number of Whitsunday tourism operators.



A tiger shark is tagged with a satellite tag in the Whitsundays.

SHARK RESEARCH

Research projects began in 2018 after a cluster of shark bites. This included behavioural studies investigating shark movements using satellite and acoustic tracking technology. Satellite tags have been attached to 20 sharks and acoustic tags inserted into 43 sharks. The data has shown that bull sharks in particular travel huge distances. Acoustic receivers were also placed in 20 locations around the Whitsundays which help detect shark presence. Further and more diverse research is currently occurring which will provide a better understanding of shark movements around the Whitsundays in an effort to reduce further bites.

More information on our Partner's efforts to maintain or improve waterway health will be included in our 2019 Stewardship report which should be read in conjunction with this report card.



A number of report cards are produced in relation to the environmental condition of the Great Barrier Reef, including this one, with different purposes and coverage. The Great Barrier Reef Water Quality Report Card, jointly produced by the Queensland and Australian Government, focuses on tracking towards Reef 2050 Water Quality Improvement Plan targets (www.reefplan.qld.gov.au). The Regional Partnerships produce regionally focussed report cards, providing an annual snapshot of ecosystem health and water quality condition of local waterways. For more details see the Report Card Explainer in the report card section of our website and the report cards for Townsville Dry Tropics, Fitzroy and Gladstone Harbour to find out how waterways in other regions have fared.

QLD

OUR STORY SO FAR...



In 2019, the Partnership was a joint recipient of the Outstanding Collaboration for National Benefit category at the Business/Higher Education Round Table Awards (BHERT), alongside North Queensland Bulk Ports and James Cook University. The award recognises outstanding collaboration between the research and industry sectors. Data collected as part of this program is reported in the inshore marine zone.

2014 21 Partners on board

Partnership proactively launched in Oct 2014. 21 Partners sign a Memorandum of Understanding demonstrating their support for waterway health in the region.

2015

Executive Officer employed. Governance, Technical and Communications systems established. Pilot 2014 report card released.



2016

First Indigenous Cultural Heritage assessment undertaken. Interactive online report card tool developed. 2015 report card released.



2017

Second Technical Officer employed. Cyclone Debbie feature released. 2016 report card released. Southern Inshore monitoring project commenced.



Cyclone Debbie March 2017

2018

International Year of the Reef celebrations. Cyclone Debbie update released. Second Indigenous Cultural Heritage assessment undertaken. 2017 report card released online.



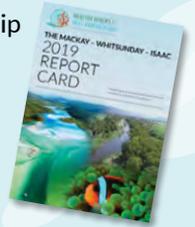
2019

First stewardship report released, highlighting Partners response to the report card results, as well as the 2018 report card.



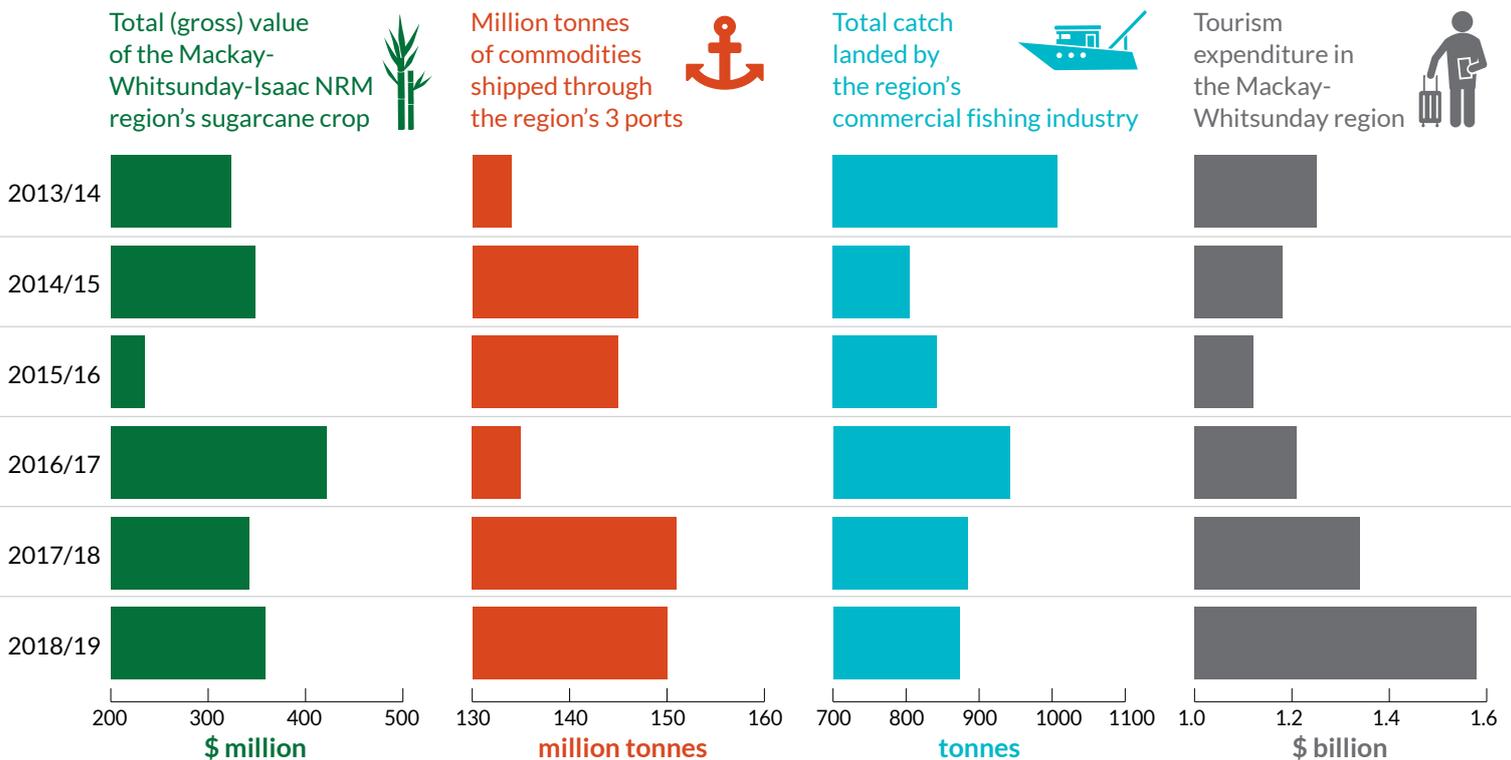
2020 31 Partners on board

Second stewardship report in development, 2019 report card released.



ECONOMIC SNAPSHOT

Our diverse industries are valuable to the region's economy. In this report card, we are looking at how our regional economics has changed since 2013/14 (the release of the pilot 2014 report card). Future report cards will likely capture the impact of global economic drivers felt in 2020, such as the COVID-19 pandemic.



ABOUT THE PARTNERSHIP

Launched in October 2014, the Mackay-Whitsunday-Isaac Healthy Rivers to Reef Partnership has come together with a shared vision for *healthy rivers and Reef contributing to a prosperous and iconic region where people visit, live, work and play*. The Partnership is a collaboration between community, Traditional Owners, farmers and fishers, industry, science, tourism and government who recognise that more can be achieved by working together than as individuals.

JOIN US

Interested in becoming a Partner? Contact us to find out how your organisation can join a leading group of organisations helping to build and shape our community's understanding of waterway health and how we respond.

OUR PARTNERS



ACKNOWLEDGMENT OF COUNTRY

The Partnership acknowledges the continuing land and sea country management of the Traditional Owner tribal groups within the Mackay-Whitsunday-Isaac region and Great Barrier Reef whose rich cultures, heritage values, enduring connections and shared efforts protect the land and Reef for future generations.



ACKNOWLEDGEMENTS

The Partnership acknowledges the work of the Regional Report Card Technical Working Group and the Reef 2050 Plan Independent Science Panel along with the following organisations for their extensive in-kind input into the science behind the report card: Australian Institute of Marine Science, Catchment Solutions, CSIRO, Great Barrier Reef Marine Park Authority, James Cook University, Queensland Alliance for Environmental Health Sciences, Queensland Department of Natural Resources, Mines and Energy, Queensland Department of Environment and Science and the University of Queensland.

This report card is printed on recycled paper.

Published July 2020.

Design and layout: Kate Hodge (Hodge Environmental)

Contact information

info@healthyriverstoreef.org

www.healthyriverstoreef.org.au

Want to hear more about waterway health?

Sign up for our newsletter at:

www.healthyriverstoreef.org.au/contact

MWHR2RP

mwhealthyriverstoreef

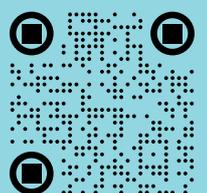


Photo credits: Jonathan Reichard (RCL), Johnny Gaskell (Daydream Island), Neal Cantin (AIMS), Biopixel Oceans Foundation, Alysha Lee (HR2RP).