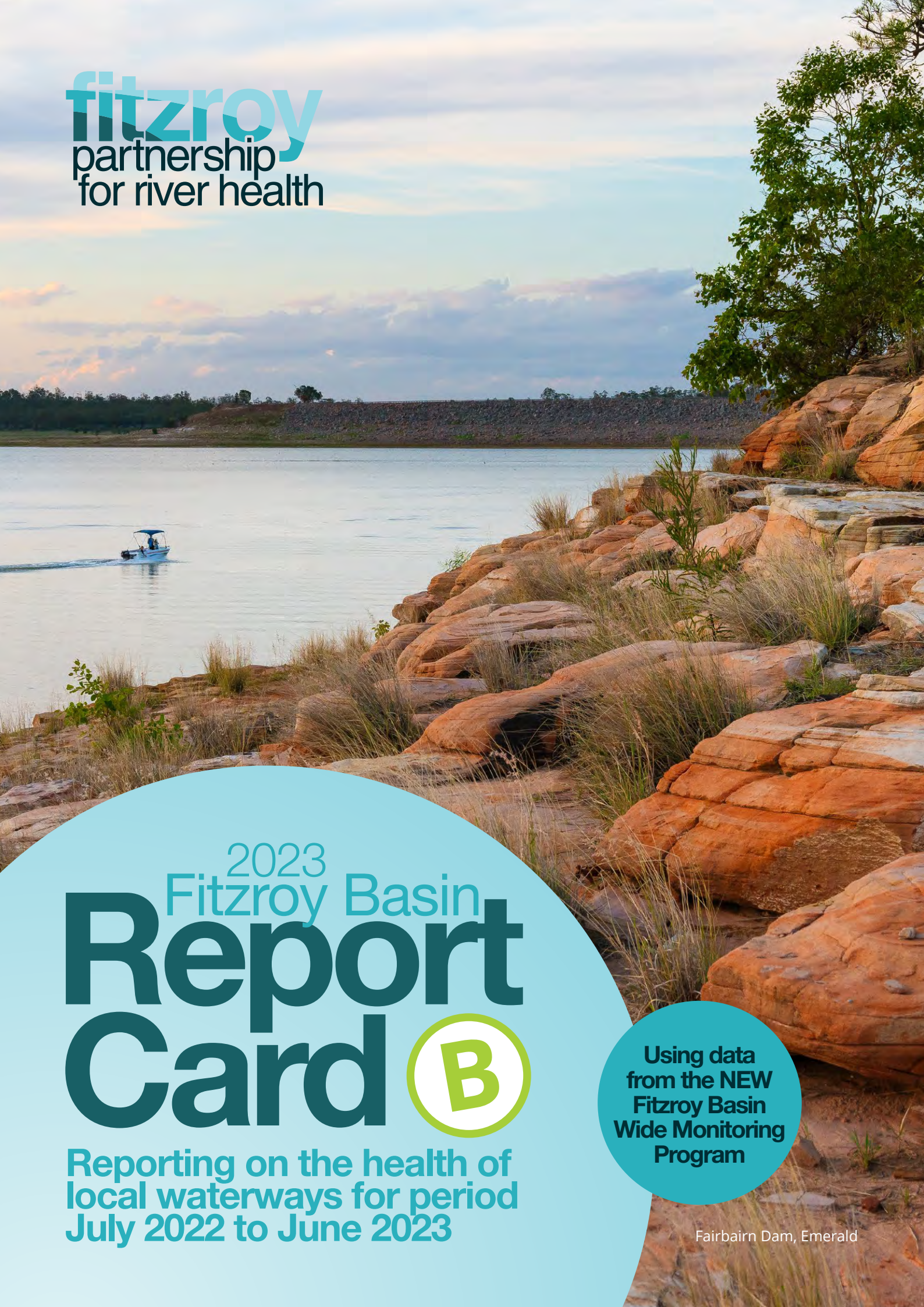
fitzroy partnership for river health



2023 Fitzroy Basin Report Card B

Reporting on the health of local waterways for period July 2022 to June 2023

Using data from the NEW Fitzroy Basin Wide Monitoring Program

Fairbairn Dam, Emerald

Fitzroy Basin 2022-23

B

How do our catchments rate this year?

What do we measure to determine waterway health?

Various measures of water quality and biological health are assessed in the Report Card. These measures are grouped into categories shown by the icons below.

Physical/chemical

Nutrients

Toxicants

Ecology

For each catchment the scores for each icon category are combined and then averaged to give a letter grade (A to E).

- A Excellent
- B Good
- C Fair
- D Poor
- E Fail
- N No data

The scores for each catchment are then averaged to give an overall grade for the Fitzroy Basin.

B

Our sunburnt country

The Fitzroy Basin is unique. As we travel through the seasons each year, there are many drivers, pressures and impacts that affect not only our landscapes, but also our water quality. “Of droughts and flooding rains” is typical of the Fitzroy Basin and our catchments can change from dry and dusty creek beds to flooding creeks and rivers, sometimes in a matter of hours. The pictures below (captured by our samplers at monitoring locations throughout the Basin) highlight how important it is for our program to include regular sampling of waterways, to record different conditions for assessment in our Report Card.

Visit our Facts Sheets and Reports page to dive into the detail of our new monitoring program, water quality and the impacts of factors such as rainfall and sediment in the Fitzroy Basin.

Nogoa
C

Theresa
B

Mackenzie
C

Upper Isaac
B

Connors
B

Clermont
Moranbah
Upper Isaac River
Nogoa River
Theresa Creek
Dysart
Connors River
Springsure
Emerald
Middlemount
Comet River
Mackenzie River
Rolleston
Blackwater
Lower Isaac River
Injune
Zamia Creek
Mimosa Creek
Woorabinda
Duaringa
Fitzroy River
Lower Dawson River
Roundstone Creek
Upper Dawson River
Taroom
Theodore
Callide Creek
Biloela
Rockhampton
Emu Park
Yeppoon
North Keppel Island
Great Keppel Island
Curtis Island
Gladstone

Comet
B

Lower Isaac
B

Fitzroy
C

Upper Dawson
B

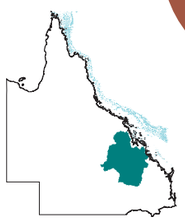
Lower Dawson
B

Callide
B

Estuary
B

W N S E

Rivers and creeks
Catchment boundaries
Roads



Dive into the detail

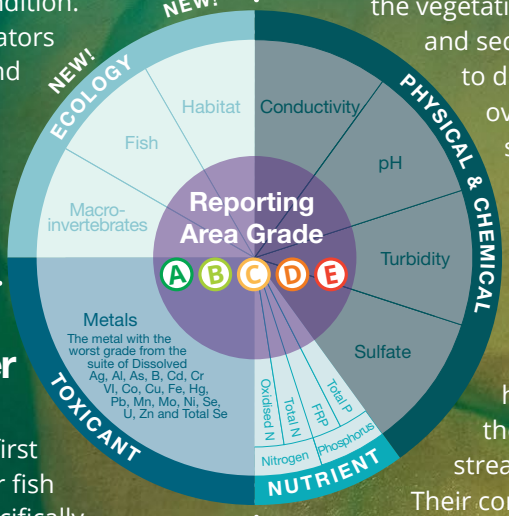
Overall result

The overall Ecosystem Health Index for the Fitzroy Basin waterways changed from a C (Fair) in 2021-22 to a B (Good) for 2022-23. This can be attributed to more comprehensive data from the new Fitzroy Basin Monitoring Program and the introduction of new ecological indicators for freshwater fish and habitat. Across the Basin's 11 freshwater catchments, this new data resulted in an improvement in the ecology category overall from the 2021-22 Report Card.

The Fitzroy catchment had the largest change this year from an overall score of 42 to a score of 63. As the Fitzroy catchment represents the most downstream catchment, water quality can be impacted by a wide range of factors. This improvement is a valuable indication that better ecology data significantly expands our representation of waterway health.

More comprehensive ecological indicators

With the expansion of our monitoring program the Partnership and Independent Science Panel are pleased to include two new indicators to support more comprehensive reporting – freshwater fish and habitat condition. Both new indicators had good (B) and fair (C) grades across all catchments in 2022-23.



Freshwater Fish

2022-23 is the first year freshwater fish monitoring specifically developed for the Fitzroy Basin, has been used for the Report Card assessment. Our Report Card indicator measures freshwater fish populations and diversity, with 27 native fish species identified in the Basin including the eastern rainbowfish, Fitzroy golden perch, mouth almighty and the southern saratoga. A number of pest species such as mosquito fish, goldfish, guppy and tilapia have also been documented.

Habitat Condition

The Report Card assessment included a new indicator on Habitat Condition in 2022-23. Based on the AUSRIVAS river bioassessment program, the indicator assesses habitat variables such as water flow, channel alteration, bank stability, the vegetation cover and sediment type to determine an overall habitat score for each site. This is important because it's the first time the Partnership has measured the state of stream habitats. Their condition and potential degradation can impact water quality and biological communities.

Did you know?

This year the Mackenzie River had a flow rate as high as the famous Nile River in Africa, recognised as the world's longest river! During high rainfall, the gauging station at Coolmaringa in the Mackenzie catchment measured the highest flow rate of over 2000 m^3/s (compared to its average of 83m^3/s). This is similar to the average flow rate of the Nile River of around 2000 m^3/s as it flows through Eygpt's capital, Cairo. And while the Mackenzie River flows generally west to east towards the Fitzroy River at Rockhampton and out to the Great Barrier Reef lagoon, the Nile River is also famous for its flow direction, flowing south to north draining into the Mediterranean Sea.

Rainfall

Rainfall is the largest hydrological driver of change. The 2021-22 year had high rainfall, and 2022-23 continued that trend. While not as high as 2021-22, rainfall is higher than the last four years, which relates to the global ENSO climate system being in a La Niña phase, resulting in cooler temperatures and more rain across eastern Australia.

The Theresa catchment had the highest total rainfall of 823mm which was a significant increase compared to last year. The Upper Dawson had the lowest at 539mm a significant decrease from 2021-22, highlighting the variability of the Fitzroy Basin catchment.

Barramundi

Barramundi recruitment measures juvenile barramundi population, which indicates how successful spawning has been for the year and rates of baby barramundi survival. The recruitment of barramundi has declined in this reporting period with 28 fish recorded above 35cm in length from January to May. Lower recruitment can be found for several reasons, including river flow rates, temperature and water quality. Barramundi also require high salinity for spawning, and this year's salinity results were lower than usual.

A new improved monitoring program

The Partnership came together in recent years to develop a new Fitzroy Basin Wide Monitoring Program. The new program improves the spread of data and is more representative of each catchment, also solving the problem of ecological data gaps. It also allows the Partnership to produce the closest to real-time reporting of waterway health for the community. Data from the new monitoring program is being managed by partner Fitzroy Basin Association.

What is down our drains?

Capturing litter to reduce its impact on our waterways

The Queensland Government's *Keeping Queensland Clean Plan* identified stormwater systems as high risk for litter. Stormwater infrastructure such as paved streets with gutters, parking lots and roofs with guttering and pipes, drain excess ground and rainwater away from commercial and residential properties. But sometimes, water is not all they are taking into our precious creeks and rivers!

Fitzroy Partnership for River Health committed to the Drain Buddies initiative in 24 locations across Rockhampton, Yeppoon and Emu Park in 2022, following the completion of a project by partner Fitzroy Basin Association. The Drain Buddies project collects data to inform local stormwater management and identify those areas contributing to litter in our waterways.

Find out how you can be a Fitzroy Basin Water Warrior to stop litter reaching our waterways!

From July 2022 to June 2023, the Drain Buddies were serviced

5 times

in July, September, December, March and May.

14,666 items + 3,509 litres

of material were found during the 5 service rounds.

cigarette butts + **film remnants**

were in the **top three** throughout all 5 service rounds. Film Remnants include plastic bag remnants, scraps of plastic film and wrap and garbage bag remnants.

24 active traps

located in Rockhampton, Yeppoon and Emu Park.

Collected data is categorized into

186 categories

based on the Australian Marine Debris Initiative.

146 litres

of material was found per drain buddy on average (including organic material).

Overall,

7,587 cigarette butts + 3,665 film remnants

were found during 5 cycle times.

First Nations in the Fitzroy

We acknowledge the Barada Barna People, Widi People, Jangga People, Barada Kabalbara Yetimarala People, Gaangalu Nation People, Darumbal People, Koinjmal People, Woppaburra People, First Nations Bailai, Gurang , Gooreng Gooreng, Taribelang Bunda People, Wulli Wulli Nation People, Wadja People, Iman/Jiman People, Western Kangoulu People, Kanolu People, Bidjara People, Karingbal People and Wangan and Jagalingou (Clermont-Belyando) People.

We recognise the Elders of the region's First Nations groups are responsible for decision-making about their country. Fitzroy Partnership for River Health is committed to acknowledging, engaging and communicating with First Nations Elders and peoples in this region with the support of our partners.

This map and the names of First Nations were derived from National Native Title Tribunal (NNTT) datasets accessed in June 2022. Source: www.nntt.gov.au. Information herein is provided in good faith and while every effort has been made to verify the accuracy of the information contained, Fitzroy Partnership for River Health recommends that readers exercise caution with respect to its use.

Community waterway education fills the knowledge bucket for local students

In 2022-23 an increased emphasis on community education has seen Fitzroy Partnership hit the road to spend time with local school students teaching them about the importance of water quality and caring for our waterways. As the song goes, "We've been everywhere man!" from Injune to Woorabinda, to Rockhampton, St Lawrence and Yeppoon. Where will our team go next?

Help us teach the next generation about the indicators of water quality and add to our MyWater citizen science program.

We recognise our valued partners

BHP

BMA
BHP Mitsubishi Alliance

Queensland Government

Australian Government

AngloAmerican

GLENCORE

Peabody

stanmore

fba

Santos

Australia Pacific LNG
Operated by origin

sunwater

Jellinbah

KESTREL COAL RESOURCES

Ensham RESOURCES

HERITAGE MINERALS

Coronado STEEL STARTS HERE

fitzroy

CQG Consulting

Rockhampton Regional Council

Central Highlands Regional Council

QUEENSLAND resources COUNCIL

COTTON AUSTRALIA

CQUniversity AUSTRALIA

For more information: Fitzroy Partnership for River Health

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admin@riverhealth.org.au

FitzroyPartnership4RiverHealth

fitzroypartnership4riverhealth

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A number of report cards are produced in relation to the environmental condition of waterways entering the Great Barrier Reef, including this one, with different purposes and coverage. The Reef Water Quality Report Card, jointly produced by the Queensland and Australian governments, focuses on tracking towards Reef 2050 Water Quality Improvement Plan targets (www.reefplan.qld.gov.au).

Regional Partnerships such as this one, produce region-specific report cards that provide an annual snapshot of the ecosystem health and the water quality condition of local waterways. For more details visit the *About - Regional Report Cards* section of our website – www.riverhealth.org.au.