Frequently asked questions: 2018-19

About the partnership

What is the Fitzroy Partnership for River Health?

Fitzroy Partnership for River Health (FPRH) is a collective of government, agriculture, industry, research organisations and community who all have an interest in the health of waterways across the Fitzroy Basin in central Queensland.

Partners have a common goal of providing a more complete picture of river health and support this goal by providing funding, resources and contributing water quality and ecosystem health monitoring data through data-sharing arrangements used to complete annual report cards on the health of Fitzroy Basin waterways.

Who are the partners?

When was the partnership established?

The Fitzroy Partnership was formally established in February 2012. Since then, nine report cards on the health of Fitzroy Basin waterways have been released. The Partnership acknowledges the ongoing support of our partners who provide funding and data year-on-year, with many being involved from the start. Their continued commitment in supporting the production of ecosystem health reports should be commended.

What are the benefits for the community?

The community can access accurate and timely information on a range of ecosystem reports. These include water quality, ecosystem health, water suitability for agricultural use and drinking water and others, all presented in a way that is easy to understand. The community can be confident that the data and reporting at FPRH is independently assessed and scrutinised by an Independent Science Panel using the best available science and be reassured by the fact that ongoing monitoring of our ecosystem is occurring. The report cards provide information on the health of local waterways, which will inform actions to achieve more resilient waterways.

Do other regions report on ecosystem health?

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 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).

Regional Partnerships such as this one, produce region specific report cards that provide an annual snapshot of ecosystem health and the water quality condition of local waterways. For more details see the Report Card Explainer in the Reef Report Cards section of our website or view the report cards for the other Reef regions from the same section.

About reporting

What reporting products does the Partnership produce?

The original purpose of the Partnership's reporting was to provide a more complete picture of aquatic ecosystem health for all rivers, natural waterways across the Fitzroy Basin and the estuary flowing into the southern Great Barrier Reef. We often refer to aquatic ecosystem health in our communications as 'river health'.

In its ninth year, FPRH now offers a range of waterway reporting products. Some of these are:

- Ecosystem Health Report Cards (River Health report cards)
- Drinking Water Report Cards for Rockhampton and Central Highlands Regional Councils
- Agricultural Use Report Cards
- Community monitoring and citizen science programs
- Long-term Fitzroy Estuary reporting
- Long-term ecosystem health trends

What are River Health reports based on?

The Independent Science Panel has established an Ecosystem Health Index (EHI) by selecting priority aquatic indicators that are suitable for use for river health. Each indicator has a set of benchmarks representing a scale from excellent to poor (A-E grades). These benchmarks are compared to data using formulas and then weighted and averaged to provide a whole of catchment score and grade.

The Independent Science Panel has worked to ensure that the EHI is based on best available science, is locally relevant and reflects the indicators that are most appropriate for picking up changes to freshwater and estuary condition. In doing so, the Independent Science Panel have reflected on what existing waterway health monitoring programs are trying to achieve.

Freshwater and Estuary reporting areas, the Ecosystem Health Monitoring Program for freshwaters was used as a starting point for EHI development and then modified with tailored indicators, thresholds and weightings to better suit local conditions. For more information please refer to the program design on our website, as it outlines the Freshwater and Estuary EHI in much greater detail.

What period do report cards cover?

Annual reporting covers from 1 July of one year to 30 June of the next. This timeline for annual reporting has been selected because it incorporates the dry and wet season cycle, ensuring that each wet season is included in one reporting period.

Natural factors such as flooding, groundcover and groundwater are mentioned in the report's commentary. Where can I find out more?

There is an abundance of other waterway health information available across the Fitzroy Basin that is not covered in the ecosystem health report card. This information includes rainfall, flooding, ground cover, groundwater and land use. This information can be found under the reports section on our website. Visit riverhealth.org.au for more information.

About results – River Health

Why should the results be trusted?

An independent Science Panel, chaired by Dr Eva Abal guided report card development and scrutinised results to ensure that methods used for assessment were locally relevant, scientifically robust, and based on the best available science.

The role of the Independent Science Panel is to provide independent, comprehensive, and unbiased scientific advice to the Fitzroy Partnership for River Health. This ensures that the Partnership's monitoring and reporting activities are scientifically robust, effective and meet contemporary scientific standards.

Do these results represent a benchmark to measure future results against?

With nine years of data, we can now see trends emerging for the condition of the Fitzroy Basin beyond a single snapshot of the health of aquatic ecosystems first presented in 2010-11. Interesting trends can be visualised by visiting the www.riverhealth.org.au website.

Do the results indicate that a change in management is required?

The long-term goal of our reporting is to determine if aquatic ecosystems are in good shape, given the underlying land uses and management across the Basin. While pockets of the Fitzroy Basin are largely

unmodified including national parks and forests, most of the Basin has been moderately disturbed, mainly for agriculture, with small, but significant mining, urban and expanding coal seam gas footprints.
The findings that the aquatic ecosystems in the Fitzroy Basin are in 'fair' to 'good' condition is expected, given the current extent of development across the basin and it would be unrealistic to expect that an 'A' grade would ever be attained for some catchments as to achieve that grade they would need to be pristine.

It is heartening given the development and the major weather events that have occurred in previous years, that ecosystem health has been maintained largely across the Basin over the past nine years. It is anticipated that future management would focus on maintaining the current condition of healthier ecosystems while addressing any hotspots.

Will the Fitzroy Basin ever get an 'A'?

It would be very difficult for the Fitzroy Basin to get an A overall. Whilst it may occur at the indicator level of assessment (for example, a catchment might get an A for ecology), the overall score is unlikely to be an A. An 'A' represents data being at or better than the benchmark value. These benchmarks are the best available guideline and water quality objective values for the indicators that make up the Fitzroy Basin EHI. Where possible benchmarks specific to a slightly-moderately disturbed ('working") basin are being used. And where available sub-basin (rather than regional, state or national) level values are being used.

How can the Callide catchment continue to receive a 'C' grade overall, given that the Dee River is part of this catchment?

The Dee River is known to be highly impacted from the historic gold mine in the town of Mount Morgan, and many in the community may expect the Callide to receive a lower grade than C. The Callide catchment includes the Don and Callide systems, both of which are in relatively good condition compared with the Dee. Water from these catchments provides dilution to the Dee River as it joins the Don. The Dee has influenced overall results for Callide for some indicators in this report, as in previous years. There is a strong emphasis on managing the Mount Morgan Mine site, although rehabilitating the site is complex given overtopping from flood events in previous years, as well as leaching from the soil into downstream waterways.

About results – Agricultural Use

What are Agricultural Use Reports based on?

Crop water and stock water suitability reports have been prepared by applying the appropriate Australian and New Zealand Guidelines for Fresh and Marine Water Quality to data provided by partners. Only chemical characteristics that may affect crop production or animal health have been used.

Irrigation of crops and supplying stock with drinking water are major agricultural uses of water and good water quality is essential for sustainable long-term production. Plant health and production can be affected by the physical and chemical properties of irrigation water, however the impact on production can be very situation specific. Factors which need to be considered include: the sensitivity of the crop being cultivated, the characteristics of the soil under irrigation, soil management and water management practices, climate and rainfall.

There are fewer variables associated with stock drinking water, but requirements do vary with age and between species. There is significant use of groundwater for stock and for irrigation in some catchments within the Fitzroy Basin for example, Callide Creek, however, this report deals only with surface water quality from natural waters within creeks, rivers or on-stream storages.

The Partnership uses data provided by companies and government agencies to score surface waters against 20 indicators for stock water and 22 for crop water. Indicators were selected using the same criteria as for the EHI and those chosen for inclusion are routinely monitored and have an available guideline for stock or crop water quality suitability.

Why produce an Agricultural Use Report?

The Partnership's reporting has been expanded to include agricultural use reports to provide a more complete picture of river health. Stock and crop watering are the major agricultural uses of surface water in the Fitzroy Basin. Over 80 per cent of the land is used for grazing and one per cent for irrigated cropping. Providing information on whether surface waters meet guidelines for safe use for animal or crop production gives landholders an indication if specific water or soil testing may be warranted at a property level.

What is the agricultural industry doing to address its water quality impacts?

Agricultural industries in the Fitzroy Basin are demonstrating a commitment to sustainable production through the promotion of environmental management programs. For example, the cotton industry's Best Management Practices program has improved farm efficiency and productivity along with protecting the environment and its natural resources. Michael Murray, General Manager Cotton Australia said growers are using a range of techniques to address water quality impacts including improved water use efficiency, as well as better pesticide and fertiliser management.

Where can landholders get water samples tested?

Landholders wishing to do water quality testing can use the services of a specialist agronomist or directly access a laboratory, preferably accredited by the National Association of Testing Authorities (NATA). NATA accreditation recognises and promotes facilities competent in specific types of testing, measurement, inspection and calibration. To search for an accredited laboratory, visit the NATA website http://www.nata.com.au/nata/.

Why do different uses have different water quality thresholds?

Water quality refers to the characteristics of a water supply that will influence its suitability for a specific use. Quality is defined by certain physical, chemical and biological characteristics and specific uses have different quality needs. For example, a lower threshold for salinity is applied to drinking water for human consumption based on health and aesthetic reasons than is applied to water used by stock. Similarly, the thresholds set for the suitability of water of a given salinity for irrigation varies depending on the sensitivity of the species of crop and the type of soil used for cropping.

About results – Drinking water

What are Drinking Water Reports based on?

Water quality data provided by Councils has been scored by applying the Australian Drinking Water Guidelines to this data. From this information a Drinking Water Index (DWI) has been developed and endorsed by the Independent Science Panel. The details of how this scoring has been done are provided on the website under the 'grading explained' section.

Is the water safe to drink?

Raw water comes from creeks, rivers dams and underground bores. This water has not been treated for use as drinkable water or other uses. Councils and other suppliers of water to townships process this raw water to make it more drinkable, potable or useful by purifying, clarifying, softening or deodorising it.

Determining whether potable drinking water is safe to drink is the responsibility of the local councils of the Central Queensland area and they work to ensure water they provide to residents meets the Australian Drinking Water Guidelines. The Partnership releases independent Drinking Water Reports for the Central Highlands and Rockhampton Regional Council areas to complement the annual aquatic ecosystem health reports. All townships tested across both Council areas received A grades for treated drinking water again this year. In-depth results can be viewed in the Reports section of the www.riverhealth.org.au website.

If anyone has concerns about possible contamination of waterways they should contact the Department of Environment and Heritage Protection on 1300 130 372, or the first port of call for issues relating to drinking water should be directed to relevant Council authorities, who release notices if there are issues relating to drinking water supply if there are any immediate issues.

We know there are community concerns about water quality at times so how can townships receive an A?

The Australian Drinking Water Guidelines include two different types of guideline values:

1. **Health**

A health-related guideline value, which is the concentration or measure of a water quality characteristic that, based on present knowledge, does not result in any significant risk to the health of the consumer over a lifetime of consumption.

2. **Aesthetic**

An aesthetic guideline value, which is the concentration or measure of a water quality characteristic that is associated with acceptability of water to the consumer; for example, appearance, taste and odour. Water that does not meet aesthetic guidelines can still be safe to drink.

Water quality information relevant to specific townships can be viewed at:

Rockhampton Region - https://www.rockhamptonregion.qld.gov.au/CouncilServices/Fitzroy-River-Water/Water-notifications-and-figures/Drinking-water-quality

Central Highlands Region –
http://www.centralhighlands.qld.gov.au