

# CATCHMENT SUMMARIES

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Reporting on data from  
July 2022 to June 2023

## 2023 REPORT CARD



Delivering an  
**environment for future  
generations to thrive**

Photo by: Selina Barton - Nudgee Beach

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## Acknowledgements

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## Traditional Owner acknowledgement

We acknowledge that the place we now live in has been nurtured by Australia's First Peoples for tens of thousands of years. We believe the spiritual, cultural, and physical consciousness gained through this custodianship is vital to maintaining the future of our region.

For further information about Healthy Land & Water, please email [info@hlw.org.au](mailto:info@hlw.org.au) or telephone (07) 3177 9100.





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## Table of Contents

1	About the Ecosystem Health Monitoring Program.....	7
2	Results – What do they mean? .....	8
	2.1 Environmental condition score:.....	8
	2.2 Socio-economic rating:.....	8
	2.3 Cultural Resource Management Index.....	8
3	2023 Key messages .....	9
	3.1 Environmental condition .....	9
	3.2 Socio-economic benefits of waterways .....	11
	3.3 What's new in 2023?.....	12
	3.4 Cultural resource management .....	13
	3.5 Regional priorities.....	13
4	Overall Moreton Bay .....	15
	4.1 Environmental condition (Very good).....	15
	4.2 Socio-Economic Benefit Rating (N/A) .....	16
	4.3 Ways to improve waterway health and benefits.....	16
5	Central Bay .....	17
	5.1 Environmental condition (Excellent).....	17
	5.2 Socio-Economic Benefit Rating (N/A) .....	17
	5.3 Cultural resource management .....	17
	5.4 Ways to improve waterway health and benefits.....	18
6	Western Bay .....	19
	6.1 Environmental condition (Excellent).....	19
	6.2 Socio-Economic Benefit Rating (N/A) .....	19
	6.3 Cultural resource management .....	19
	6.4 Ways to improve waterway health .....	20
7	Eastern Bay.....	21
	7.1 Environmental condition (Excellent).....	21
	7.2 Socio-Economic Benefit Rating (N/A) .....	21
	7.3 Cultural resource management .....	22
	7.4 Ways to improve waterway health .....	22
8	Southern Bay .....	23
	8.1 Environmental condition (Very good).....	23
	8.2 Socio-economic rating (N/A) .....	23
	8.3 Cultural resource management .....	24
	8.4 Ways to improve waterway health .....	24
9	Broadwater .....	25
	9.1 Environmental condition (Very good).....	25
	9.2 Socio-Economic Benefit Rating (N/A) .....	25
	9.3 Cultural resource management .....	26
	9.4 Ways to improve waterway health .....	26
10	Yarun (Bribie Island).....	27

10.1	Environmental condition (N/A) .....	27
10.2	Socio-Economic Benefit Rating (N/A) .....	27
10.3	Cultural Resource Management .....	27
10.4	Ways to improve cultural resource management .....	27
11	Minjerribah (North Stradbroke Island) .....	27
11.1	Environmental condition (N/A) .....	27
11.2	Socio-Economic Benefit Rating (N/A) .....	28
11.3	Cultural resource management .....	28
11.4	Ways to improve cultural resource management .....	28
12	Mulgumpin (Moreton Island) .....	28
12.1	Environmental condition (N/A) .....	28
12.2	Socio-economic rating (N/A) .....	28
12.3	Cultural resource management .....	29
12.4	Ways to improve cultural resource management .....	29
13	Small Moreton Bay Islands .....	29
13.1	Environmental condition (N/A) .....	29
13.2	Socio-economic rating (N/A) .....	29
13.3	Cultural resource management .....	30
13.4	Ways to improve cultural resource management .....	30
14	South Stradbroke Island .....	30
14.1	Environmental condition (N/A) .....	30
14.2	Socio-Economic Benefit Rating (N/A) .....	30
14.3	Cultural resource management .....	31
14.4	Ways to improve cultural resource management .....	31
15	Noosa catchment .....	32
15.1	Environmental condition (Very good) .....	32
15.2	Socio-Economic Benefit Rating  .....	33
15.3	Cultural Resource Management .....	33
15.4	Ways to improve waterway health and benefits .....	33
16	Maroochy catchment .....	35
16.1	Environmental condition (Fair) .....	35
16.2	Socio-Economic Benefit Rating  .....	36
16.3	Cultural resource management .....	36
16.4	Ways to improve waterway health and benefits .....	36
17	Mooloolah catchment .....	38
17.1	Environmental condition (Fair) .....	38
17.2	Socio-Economic Benefit Rating  .....	39
17.3	Cultural Resource Management .....	39
17.4	Ways to improve waterway health and benefits .....	39
18	Pumicestone catchment .....	41
18.1	Environmental condition (Very good) .....	41
18.2	Socio-Economic Benefit Rating  .....	42
18.3	Cultural resource management .....	42

18.4	Ways to improve waterway health and benefits.....	42
19	Caboolture catchment .....	44
19.1	Environmental condition (Fair) .....	44
19.2	Socio-Economic Benefit Rating  .....	45
19.3	Cultural resource management .....	45
19.4	Ways to improve waterway health and benefits.....	45
20	Pine catchment.....	47
20.1	Environmental condition (Very good).....	47
20.2	Socio-Economic Benefit Rating  .....	48
20.3	Cultural Resource Management .....	48
20.4	Ways to improve waterway health and benefits.....	48
21	Lower Brisbane catchment .....	50
21.1	Environmental condition (Poor).....	50
21.2	Socio-Economic Benefit Rating  .....	51
21.3	Cultural resource management .....	51
21.4	Ways to improve waterway health and benefits.....	51
22	Redland catchment .....	53
22.1	Environmental condition (Fair) .....	53
22.2	Socio-Economic Benefit Rating  .....	54
22.3	Cultural Resource Management .....	54
22.4	Ways to improve waterway health and benefits.....	54
23	Mid Brisbane catchment .....	56
23.1	Environmental condition (Very good).....	56
23.2	Socio-Economic Benefit Rating  .....	56
23.3	Cultural resource management .....	57
23.4	Ways to improve waterway health and benefits.....	57
24	Upper Brisbane catchment .....	59
24.1	Environmental condition (Poor).....	59
24.2	Socio-Economic Benefit Rating  .....	59
24.3	Cultural resource management .....	60
24.4	Ways to improve waterway health and benefits.....	60
25	Stanley catchment.....	62
25.1	Environmental condition (Fair).....	62
25.2	Socio-Economic Benefit Rating  .....	62
25.3	Cultural resource management .....	63
25.4	Ways to improve waterway health and benefits.....	63
26	Lockyer catchment.....	65
26.1	Environmental condition (Poor).....	65
26.2	Socio-Economic Benefit Rating  .....	65
26.3	Cultural resource management .....	66
26.4	Ways to improve waterway health and benefits.....	66

27	Bremer catchment .....	68
	27.1 Environmental condition (Poor) .....	68
	27.2 Socio-Economic Benefit Rating  .....	68
	27.3 Cultural resource management .....	69
	27.4 Ways to improve waterway health and benefits .....	69
28	Logan catchment .....	71
	28.1 Environmental condition (Fair) .....	71
	28.2 Socio-Economic Benefit Rating  .....	72
	28.3 Cultural resource management .....	72
	28.4 Ways to improve waterway health and benefits .....	72
29	Albert catchment .....	74
	29.1 Environmental condition (Very good) .....	74
	29.2 Socio-economic rating  .....	75
	29.3 Cultural resource management .....	75
	29.4 Ways to improve waterway health and benefits .....	75
30	Pimpama-Coomera catchment .....	77
	30.1 Environmental condition (Very good) .....	77
	30.2 Socio-Economic Benefit Rating  .....	78
	30.3 Cultural resource management .....	78
	30.4 Ways to improve waterway health and benefits .....	78
31	Nerang catchment .....	80
	31.1 Environmental condition (Fair) .....	80
	31.2 Socio-Economic Benefit Rating  .....	81
	31.3 Cultural resource management .....	81
	31.4 Ways to improve waterway health and benefits .....	81
32	Tallebudgera-Currumbin catchment .....	83
	32.1 Environmental condition (Fair) .....	83
	32.2 Socio-Economic Benefit Rating  .....	84
	32.3 Cultural resource management .....	84
	32.4 Ways to improve waterway health and benefits .....	84
33	Appendix 1: Summary of Environmental Condition Grades and Waterway Benefit Rating scores from 2015 to 2023 .....	86

## 1 About the Ecosystem Health Monitoring Program

The Ecosystem Health Monitoring Program (EHMP) is one of the most comprehensive waterway monitoring programs in Australia. It delivers an annual regional assessment of the environmental condition and benefits of waterways for South East Queensland catchments.

The EHMP commenced in the late 1990s, with this year marking the Report Card's 23<sup>rd</sup> year.

An assessment is undertaken for each of South East Queensland's 18 major catchments, five zones in Moreton Bay, Broadwater, and Islands. It includes monitoring at 312 freshwater, estuarine, marine, and event monitoring sites throughout the region.

The results are compiled, analysed and summarised in an annual Report Card, which can be accessed here: [reportcard.hlw.org.au](https://reportcard.hlw.org.au). It includes:

- **Environmental condition scores** (0 to 1) previously this was reported in grades (A-F) 2000 - 2022.
- **Social and economic benefits** that waterways provide to local communities (1- 5 star rating), broadening the program's focus to encompass additional pressures and understand the links between water quality and waterway benefits provided to the community [added in 2015, making 2023 the ninth year these extra measures were introduced].
- **Cultural resource management indicators** that provide key measurable statistics on where and how First Nations are being empowered to protect and determine their rights and interests.

A summary of the Environmental Condition Scores and Waterway Benefit Ratings can be found in Appendix 1.

Healthy Land & Water coordinates the program in partnership with member organisations, including local and state government (Department of Environment and Science), and water utilities (Urban Utilities, Unity Water, Seqwater). Healthy Land & Water and its members are committed to understanding the pressures facing the region's waterways so we can better protect them for future generations. It is delivered with support from scientific expert representatives from government, universities, and industry.

## 2 Results – What do they mean?

The 2023 Report Card is based on the analysis of data compiled from July 2022 to June 2023.

### 2.1 Environmental condition score:

The Environmental Condition Score is comprised of multiple indicators, assessing key freshwater and estuarine aspects of the waterways. Indicators are assessed against established guidelines and benchmarks, resulting in a single score for each catchment or bay zone. Condition is evaluated using monitoring and modelled data.

- Excellent:** Conditions meet all guidelines. All key processes are functional and critical habitats are in near pristine condition.
- Very good:** Conditions meet guidelines for most of the reporting area. Most key processes are slightly impacted, and most critical habitats are intact.
- Fair:** Conditions are close to meeting guidelines in most of the reporting area. Key processes are impacted, but still functional and critical habitats are impacted.
- Poor:** Conditions meet few of the guidelines in most of the reporting area. Many key processes are not functional and most critical habitats are impacted.
- Very poor:** Conditions do not meet the set guidelines. Most key processes are not functional, and most critical habitats are severely impacted.

### 2.2 Socio-economic rating:

The **Socio-economic rating** provides an assessment of the social and economic benefits of our waterways to the community. This includes recreation, tourism, fishing, and providing clean drinking water.

**Social:** Measures the personal benefits of using waterways, community connection with waterways, community satisfaction with waterways, and the community's ability to access and use waterways.

**Economic:** Measures the financial benefits generated through the recreational use of waterways and recreational fishing, as well as the contribution the catchment makes to providing clean drinking water.

This information was collected through a range of methods, including social surveys and economic assessments.



**Maximum** social and economic benefits.



**Very high** social and economic benefits.



**High** social and economic benefits.



**Moderate** social and economic benefits.



**Minimum** social and economic benefits.

### 2.3 Cultural Resource Management Index

The Cultural Resource Management Index uses the best available public data to show how the South East Queensland region is recognising and advancing the leadership and role of First Nations and the protection of Aboriginal Cultural Heritage. The index comprises of four indicators.

Indicator 1: <b>Recognition of Rights &amp; Interests</b> (% of catchment)	This indicator highlights where First Nation rights and interests are recognised to enable their ability to lead the stewardship of Country and culture through Native Title.
Indicator 2: <b>Cultural Referral</b> (% of catchment)	This indicator highlights where First Nation parties are identified and recognised to lead the decisions relating to Aboriginal Cultural Heritage.
Indicator 3: <b>Cultural Surveys</b> (% of catchment)	This indicator highlights where comprehensive archaeological studies that formally document and maximise the protection of Aboriginal Cultural Heritage have been completed and recognised within a catchment.
Indicator 4: <b>Cultural Protection and Management</b> (% of catchment)	This indicator highlights where Aboriginal Cultural Heritage Management Plans that enhance the protection of culture have been adopted over the formally recorded Aboriginal Cultural Heritage sites in South East Queensland.



## 3 2023 Key messages

### ***Building environmental resilience is the key to healthy, prosperous, liveable regions***

The value of the regional long-term monitoring program has never been stronger, with 23 years of data and insights supporting decision makers with the knowledge they need to drive resilient healthy regions. Climate change is intensifying, with more frequent and intense floods, droughts, heat waves, and heightened bushfire risk. Even though South East Queensland is known for its natural assets and biodiversity, many catchments of the region are in poor condition as a result of legacy and ongoing land-use changes.

While investment in science has helped drive more sustainable approaches to land-use and urban planning in recent years, the impacts of the recent floods are a stark reminder that more action is needed. As the frequency of extreme events increases, improving catchment health will help mitigate the adverse impacts associated with future floods, droughts, and bushfires.

Thanks to the long running ecosystem health monitoring program and insights from ongoing waterway conservation and restoration programs, we know what to do and where to do it. With just nine years until the 'green' Olympics and Paralympics, more targeted on-ground action is needed now to build our region's resilience, and protect the biodiversity and lifestyle values that our unique environments are known for.

To respond to the increasing pressures of climate change and population growth, a new level of strategic planning is required to ensure the values of waterways of the region are protected. The revision of ShapingSEQ signals renewed commitment to regional planning, and insights from regional monitoring and bioregional assessments in shaping the regions' future development has never been more important.

A regional collaborative approach is needed to support community, First Nations, industry (including water utilities and service providers) and all levels of government. We must all work together to coordinate knowledge sharing, planning, compliance, financial incentives, and investment needed to ensure the long-term protection of the values and benefits waterways and landscapes of the region provide.

### **3.1 Environmental condition**

#### ***Population growth and climate extremes are placing significant pressure on the health of our waterways***

The climate of South East Queensland is among the most variable in the world, regularly experiencing extreme flooding and drought. This is illustrated most recently by the sharp transition, from record breaking rainfall and flooding in 2022 to well below average rainfall in the 2022-2023 summer. An El Niño event has now been declared. It's been eight years since the last El Niño event (2015-2016), which tends towards bringing drier conditions, leading to droughts that affect river flows, and surface and groundwater availability. This can place freshwater ecosystems under pressure as when river flow reduces, available habitat is reduced.

In recent years, the frequency and intensity of El Niño and La Nina events have been increasing. This trend has significant implications for both ecosystem health and water security of the region. The increase in available fuel from high grass growth across the La Niña years and the relatively rapid switch to El Niño has resulted in higher bushfire risk, at the landscape scale. The possibility of major catchment disturbances in the near term, in the form of intense bushfires, presents added pressure, that may further undermine the resilience of landscapes and waterways.

The region is also experiencing rapid land-use change, as one of the fastest growing regions in terms of population in Australia. This is expected to intensify, with a forecasted 2.2 million people expected to migrate to the region over the next 25 years. In the existing and rapidly developing urban

landscape, we need to naturalise urban water flows through water sensitive urban design and increase natural areas. There is also an urgent need for increased erosion and sediment controls, and compliance for new development, construction sites, and private lands. Investing in managing point source discharges to limit impacts on receiving waters is also critical as the region continues to grow. This needs to be undertaken in combination with the conservation of natural areas within the broader catchment, targeted restoration, and implementation of best management practices across industry and agriculture.

The frequency and intensity of climate induced disturbances, such as floods and droughts, combined with ongoing land-use change are threatening the health of waterways of the region. For the region to better prepare for, as well as adequately respond to these threats, coordinated efforts are needed to drive, adaptive planning, policy and regulation, community planning co-design processes, innovative funding mechanisms for conservation and restoration.

### ***The ongoing influence of the 2022 floods on catchments and Moreton Bay***

Flooding is an important natural process for freshwater and coastal ecosystems, however flooding within urban and agricultural landscapes can often result in negative outcomes for waterway health. The results of this year's Report Card show both positive and negative legacy effects of the 2022 floods on the regions waterways. Catchment pollutant loads decreased substantially in 2023 due to low rainfall and reduced river flows. As a result, estuarine water quality has improved overall across South East Queensland compared to 2022, however some estuaries remain impacted and have been slow to recover, including the Brisbane River estuary.

Freshwater ecosystems of the region are adapted to the highly variable climate of South East Queensland. However, land-use change, and climate extremes are placing these ecosystems under increasing pressure. Last year's flood events restored flow connectivity, resulting in better flow connectivity and improved fish habitat conditions within freshwater ecosystems. This year, freshwater fish communities continue to benefit from this improved connectivity. However, the population increases and range expansion of non-native invasive freshwater fish such as pearl cichlid presents a potential threat to native fish populations.

The delivery of sediment to Moreton Bay during the 2022 floods resulted in an expansion in the area of mud within the Bay. This mud and the associated nutrients continue to fuel algal growth across Moreton Bay, which can result in negative outcomes for key habitats including seagrass meadows and coral communities. Subtidal seagrass has been lost and mass mortality of coral has also been observed within the Bay as a result of the 2022 floods. This has likely affected marine species reliant on these meadows for feeding, shelter, and breeding, such as turtles and dugongs.

Over the long-term substantial recovery of seagrass has been observed in Deception Bay and Bramble Bay. Targeted improvement in waste water treatment has contributed to this recovery showing that management effort to minimise key pressures on Bay habitats can result in positive outcomes. A similar scale of investment in catchment conservation and restoration will support the resilience of key habitats to major disturbance events like the 2022 floods.

### ***Protecting and restoring our catchments now – for nature, climate and our wellbeing***

Protecting and investing in catchment health is much more than just environmental protection it's about protecting the multiple benefits that nature and waterways give our community and economy. Long-term ecosystem health monitoring helps us understand what actions can be taken to conserve these ecosystems. While freshwater ecosystems respond to rainfall and flow, streams with a high proportion of forested areas have better health and are more resilient to climate disturbances. Conserving and resorting forested areas within catchments is critical to maintaining and enhancing freshwater ecosystem health. Riparian ecosystems also reduce sediment and nutrient loads of catchments - protecting waterway health.

Thanks to the long term monitoring we know how much riparian vegetation we need to conserve and restore within each catchment to achieve significant pollutant load reduction. The Warrill Catchment is identified as a priority headwater catchment for riparian restoration under the Healthy Country Program. In the Warrill Creek catchment 37% of the riparian Area is forested, with an annual sediment load of 40,143 t/yr. Increasing the riparian forest cover from 37% to 65% is predicted to decrease the annual load by ~50% (to 22,500 t/yr); increasing to 100% cover would drop this to 11,300 t/yr. Despite this available data, clearing of remnant native riparian vegetation continues across the region, highlighting the importance of protective mechanisms and incentives for vegetation conservation.

### ***Investing in making better decisions***

The need to increase access to knowledge, resources and decision support tools to support landholders and other land and water managers has never been greater! We know coordinated regional waterway management is required to drive meaningful change, and local land and water managers benefit from regional investment in waterway monitoring and research. Long-term ecosystem health monitoring will continue to play a significant role in informing catchment management and evaluating the success of conservation and restoration strategies. Of equal importance are the insights monitoring can provide on the state and trend of key ecosystems and local natural assets valued by community members, whether it is their local waterhole or creek, fishing spot, or blue and green spaces.

## **3.2 Socio-economic benefits of waterways**

### **Waterways underpin the lifestyle, culture and wellbeing of residents of South East Queensland**

Fundamental to the South East Queensland lifestyle are the recreational, health, cultural, and economic benefits provided by the region's extensive, diverse, and scenic waterways (creeks, rivers, lakes, beaches). A healthy catchment also protects our drinking water supply, maintains biodiversity, and supports productive fisheries and agricultural productivity. Among the highly valued waterways is Moreton Bay, a place of remarkable natural beauty and social and cultural value. The Bay and associated estuaries provide substantial economic benefit to the residents of the region, and support some of Queensland's most productive fisheries, which includes indigenous, commercial, and recreational sectors.

It's not surprising that the majority of South East Queensland residents have a deep connection with nature and waterways, reporting that it is an important part of their lives. High numbers of residents are satisfied (68%) with their local waterways. This is likely tied to their satisfaction with their ability to access and use local waterways (70% for all of South East Queensland). Personal benefits residents that waterways provide to residents include rest and relaxation, social interaction and emotional benefits. On average residents of the region spend ~60 days walking and running along waterways and ~26 days enjoying nature. ~20 of residents recreate in or along waterways daily.

The long running (2015-2023) social monitoring program is also providing detailed insights into the diversity of ways residents value and use waterways, and how this is changing through time. There is an emerging trend of increasing recreational use of waterways across South East Queensland, with more people reporting their participation in a variety of recreational activities such as swimming, surfing, cycling and walking. Managing recreational waterway use risks and the ecological impacts of increasing levels of recreation in waterways will be critical as the population of the region continues to increase.

### **Healthy catchments protect drinking water sources**

Many catchments of the regions supply portable water for the population of South East Queensland. The quality and quantity of water within these catchments is influenced by land use and the extent of natural areas within catchments. In recent years as the quality of water entering treatment plants has deteriorated, and the quantity of sludge removed from water treatment plants has increased. This was due to the 2022 floods which increased the load of sediments and other pollutants entering

waterways. Improving water quality receiving by treatment plants can reduce treatment costs, and reduce public health risks. Protecting remnant vegetation and enhancing natural buffers along waterways can help protect water quality, thereby improving water security. This illustrates the multiple-benefits of maintaining and improving the health of catchments of South-East Queensland.

### **Empowering communities to achieve positive environmental and socio-economic benefits**

Residents of the region are motivated to protect the local waterways or feel it is their personal responsibility. In the 2023 social monitoring survey we found that 26.5% of participants undertake actions to protect local waterways with 22% doing so weekly. Over 80% of people in SEQ also understand that planting native trees in the riparian zone is beneficial to waterways, demonstrating a relatively high level of water literacy. The majority of land in the region is also privately owned. Empowering landowners with the knowledge and resources to conserve and restore catchments is critical to achieve meaningful impact at scale.

### **3.3 What's new in 2023?**

This year two new indicators have been introduced to the program to track the condition of riparian ecosystems and estuarine fish communities.

#### ***Monitoring the condition of the regions riparian ecosystems***

Riparian ecosystems support a range of ecological functions and provide many services and benefits to people. Well vegetated waterways can protect water security by reducing the release of sediments into the water waterways and act as buffers to reduce pollutants entering waterways. As sometimes the only remnant vegetation left in a landscape these ecosystems often provide critical habitat for plants and animals and provide corridors for species to move. In South East Queensland, natural riparian ecosystem vegetation can include forests, heath and grasslands. In agricultural areas riparian areas are typically degraded, while in urban areas, in some instances, these systems have been piped or turned into concrete drains.

Based on results from this years riparian condition assessment the extent and condition of riparian vegetation in SEQ is in decline due to multiple threats, including land clearing, weeds, and altered hydrology. Overall, the percentage of woody riparian vegetation has been decreasing over the last 5 years (2018-2023) with the clearing of remnant riparian vegetation continuing. However, where investments are being made in riparian ecosystem protection and conservation we are seeing benefits. For example, within the North Pine catchment the area of woody riparian vegetation is increasing, partly driven by investment in catchment restoration. This information will inform management actions and help to track the success of catchment conservation and restoration initiatives at the local scale.

#### ***Taking the pulse of estuarine fish communities***

Since 2020, estuarine fish communities and habitat condition has been assessed across 13 estuaries in SEQ. This monitoring is now providing a wealth of knowledge on fish community health and actions we can take to protect and restore habitat to support these diverse communities. The estuaries of South East Queensland have remarkable estuarine fish diversity, which include recreationally and commercially important species, such as Mangrove Jack, Mullet and Flat Head.

The 2022 floods had a significant and long-lasting effect on the estuaries of the region and their fish assemblages. However, estuaries which had a greater extent of natural vegetation features (especially mangroves) and sites within estuaries which were closer to the estuary mouth were more resilient to these impacts and rebounded more quickly. Monitoring for 2023 has been completed and will provide further insight into the influence of climate and estuarine habitat condition on estuarine fish communities.

### 3.4 Cultural resource management

#### ***Supporting First Nation leadership in the protection of natural and cultural values***

First Nations people of the region have a leading role in the stewardship of waterways, actively managing the land and waters of the region for millennia. First Nations rights, interests, and aspirations for land and water management are being increasingly recognised in law and policy. Over 500,000 hectares of land and sea in South East Queensland have been formally recognised with Native Title rights and interests, making First Nations the largest non-government landholders in the region.

In many landscapes, First Nations groups are empowered to effect large-scale change for waterways conservation and restoration outcomes and residents of the region continue to benefit from their long-term custodianship of waterways. Being actively and effectively included in decision-making about the environment, and directly involved in the management of Country, are important for both First Nations' self-determination and environmental outcomes.

As noted in the 2021 State of Environment Report, Australia holds evidence of the world's oldest society. The *Aboriginal Cultural Heritage Act 2003* has been in place for almost 20 years, yet the destruction of Cultural heritage is occurring at an unacceptable rate. It is all our roles, from individuals to organisations, to protect cultural heritage and empower and support First Nations people through coordinated, collaborative, and strategic approaches.

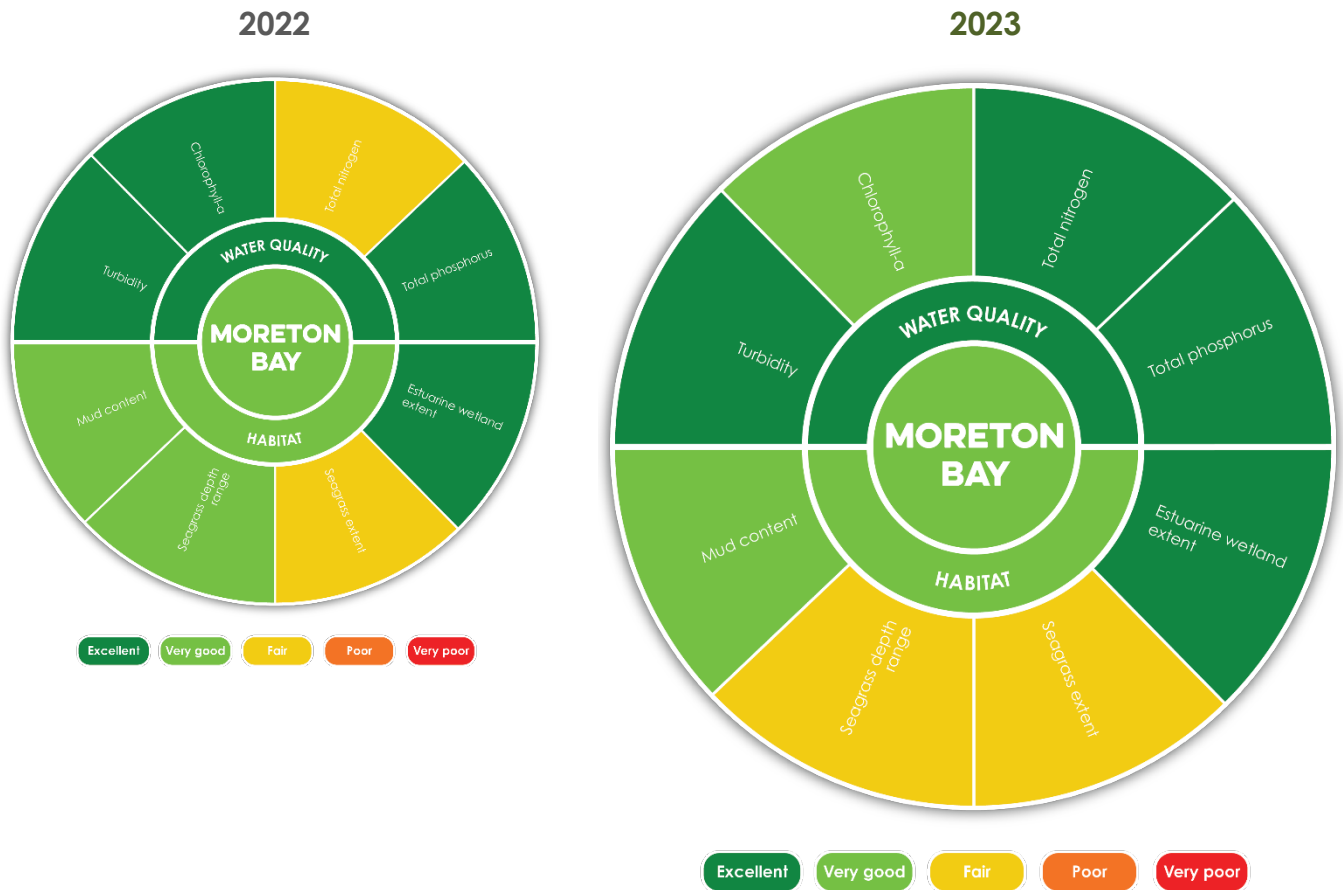
### 3.5 Regional priorities

- Protect and manage existing values from the pressures of population growth is a priority, with the population of South East Queensland projected to increase significantly over the next 25 years.
- Recognise and support First Nations and their aspirations to lead the stewardship of Country and culture.
- Support and create processes for the community, First Nations, industry, and various levels of government to work together to coordinate planning, compliance and investment for the long-term protection and enhancement of natural assets.
- Support and create processes for the community, First Nations, industry, and various levels of government to work together to develop new and enhance current regional and local land use planning mechanisms to enhance community and environmental resilience to extreme events, including floods and droughts.
- Support integrated catchment management approaches, such as multi-sector governance models for catchments with a core objective of improved river and waterway management.
- Implement integrated and forward planning for urban development and associated infrastructure to avoid all adverse effects on people and natural areas.
- Protect and restore native vegetation through policy, land-use planning, and compliance.
- Ensure there is a strategic approach to minimising the contribution of nutrients from wastewater treatment plants and other point sources in response to projected population increases.
- Continue to minimise sediment and nutrient inputs from the urban landscape through water sensitive urban design and maintenance and enhancement of stormwater quality treatment infrastructure
- Increase the use of erosion and sediment controls and compliance for new development, construction sites, and private lands.
- Ensure current and future development is contained within the Urban Footprint (as designated in Map 2 of *ShapingSEQ 2017*) and incorporates green infrastructure and water sensitive urban design principles (as described in *ShapingSEQ 2017*).
- Enhance public awareness of the cultural significance of water and cultural flows, which encompass environmental flows required to maintain downstream waterway health and productivity.

- Enhance the community's emotional connection with waterways to foster a feeling of responsibility and willingness to engage in or support waterway protection activities.
- Support consistent investment in local community groups to deliver actions to improve catchment and waterway health.
- Develop and support citizen science initiatives to foster stewardship.
- Support sustainable and regenerative agricultural practices to maintain and enhance productivity, soil health, biodiversity, and waterway health.
- Enhance Cultural Heritage compliance by improving development assessment processes and increasing education around compliance with the *Aboriginal Cultural Heritage Act 2003* and Best Practice Standards ([Heritage Chairs of Australia and New Zealand 2020, Dhawura Ngilan: A vision for Aboriginal and Torres Strait Islander heritage in Australia](#)).

## 4 Overall Moreton Bay

### 4.1 Environmental condition (Very good)



Moreton Bay has remained in very good environmental condition.

#### Why?

- The overall environmental condition has shown slight improvement and remains in very good condition. The pressures of high sediment and nutrient loads during 2022 are reflected in the condition assessment for 2023. Water quality remains impacted by the 2022 floods and seagrass meadows have retreated to shallow areas in some Bay regions.
- Water quality across the Bay improved slightly and remains in excellent condition. Total nitrogen improved significantly from fair to excellent, although chlorophyll a declined from excellent to very good condition. High nutrients and relatively clear water is likely driving increased phytoplankton growth in surface waters.
- In 2022 the area of mud increased, though has not been assessed in 2023. Over the long-term (1998 to present), the area of mud in the Bay continues to expand, especially within Eastern and Southern Bay regions.
- Estuarine wetland habitat extent remains excellent.
- Large areas of seagrass have persisted despite the 2022 floods, though sensitive seagrass species such as Halophila have been lost in some subtidal areas. Seagrass depth range scores for the Bay have decreased from very good to fair. The extent of seagrass within Moreton Bay remains fair.

## 4.2 Socio-Economic Benefit Rating (N/A)

The **Socio-Economic Benefit Rating** is not measured in this area.

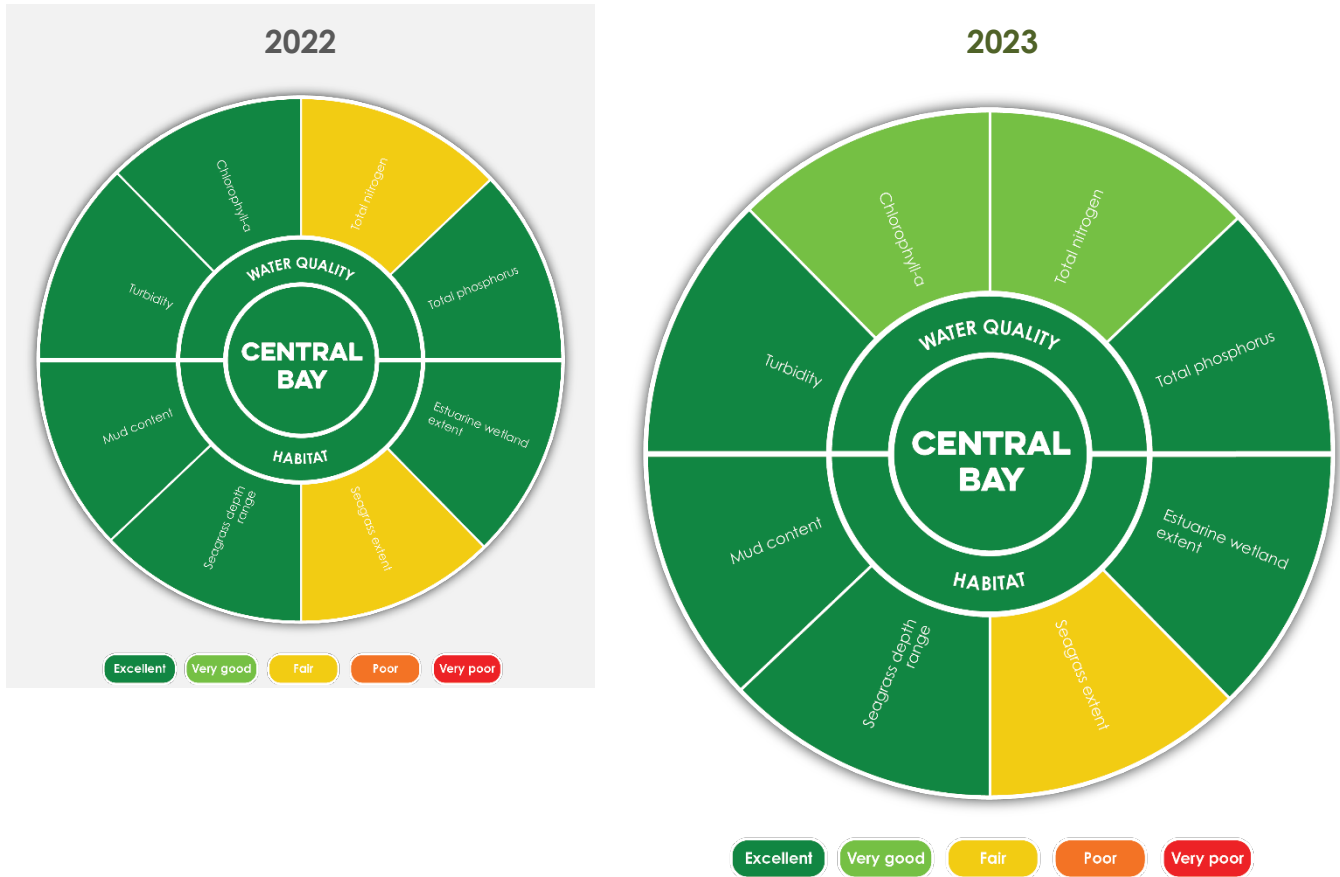
## 4.3 Ways to improve waterway health and benefits

- Protect and enhance wetlands, floodplain ecosystems and habitat that support biodiversity and provide important ecosystem services including sediment and nutrient retention and carbon sequestration.
- Protect and enhance coastal and marine habitats (seagrass, coral reefs, intertidal flats) by managing pollution, development, use, and access.
- Reduce catchment sediment pollution by targeting known areas of high stream bank erosion and gully erosion risk (e.g. in Lockyer, Bremer, Logan, and Albert catchments).
- Slow water down in the upper catchment to manage floodwater, reduce erosion, and rehydrate the landscape, by protecting and increasing vegetation (especially along riparian zones) and engaging floodplains through policy, land-use planning, incentives, and compliance.
- Support integrated catchment management approaches, such as a multi-sector governance model for catchments with a core objective of improved estuary and Bay health as a high priority.
- Ensure current and future development is contained within the Urban Footprint (as designated in Map 2 of *ShapingSEQ 2017*) and incorporates green infrastructure and water-sensitive urban design principles (as described in *ShapingSEQ 2017*).
- Increase erosion and sediment controls and compliance for new development, construction sites and private lands to reduce runoff when it rains.
- Ensure there is a strategic approach to minimising the contribution of nutrients from wastewater treatment plants and other point sources in response to projected population increases.
- Recognise and support First Nations and their aspirations to lead the stewardship of Country and culture.
- Respect and recognise First Nations in daily work activities by getting to know and engaging with the appropriate First Nation groups who have a registered interest in your catchment. For assistance on engagement, please see the [Guidance for proponents on best practice Indigenous engagement for environmental assessments under the Environment Protection and Biodiversity Conservation Act 1999](#) and the [AIATSIS Principles for engagement in projects concerning Aboriginal and Torres Strait Islander peoples](#).
- Undertake comprehensive surveys of Moreton Bay to record, document and safeguard Cultural Heritage and protect sites through Cultural Heritage Management Plans.



## 5 Central Bay

### 5.1 Environmental condition (Excellent)



Central Bay improved slightly remaining in excellent environmental condition.

#### Why?

- Water quality this year remains in excellent condition. Total nitrogen improved from fair to very good. Total phosphorus and turbidity improved slightly remaining in excellent condition, while algae (phytoplankton) declined from excellent to very good.
- The extent of intertidal wetland habitat remains excellent, with an increase in mangrove and saltmarsh extent since pre-clearing.
- The depth range where seagrass is found remains excellent at Victoria Point.
- Mud content in Central Moreton Bay increased in 2022, though has not been assessed in 2023. Mud content is in excellent condition.

### 5.2 Socio-Economic Benefit Rating (N/A)

The **Socio-Economic Benefit Rating** is not measured in this area.

### 5.3 Cultural resource management

- First Nation rights and interests to lead the stewardship of Country and culture have been fully recognised through Native Title over 1.6% of the landscapes of the Central Bay where Native Title persists.

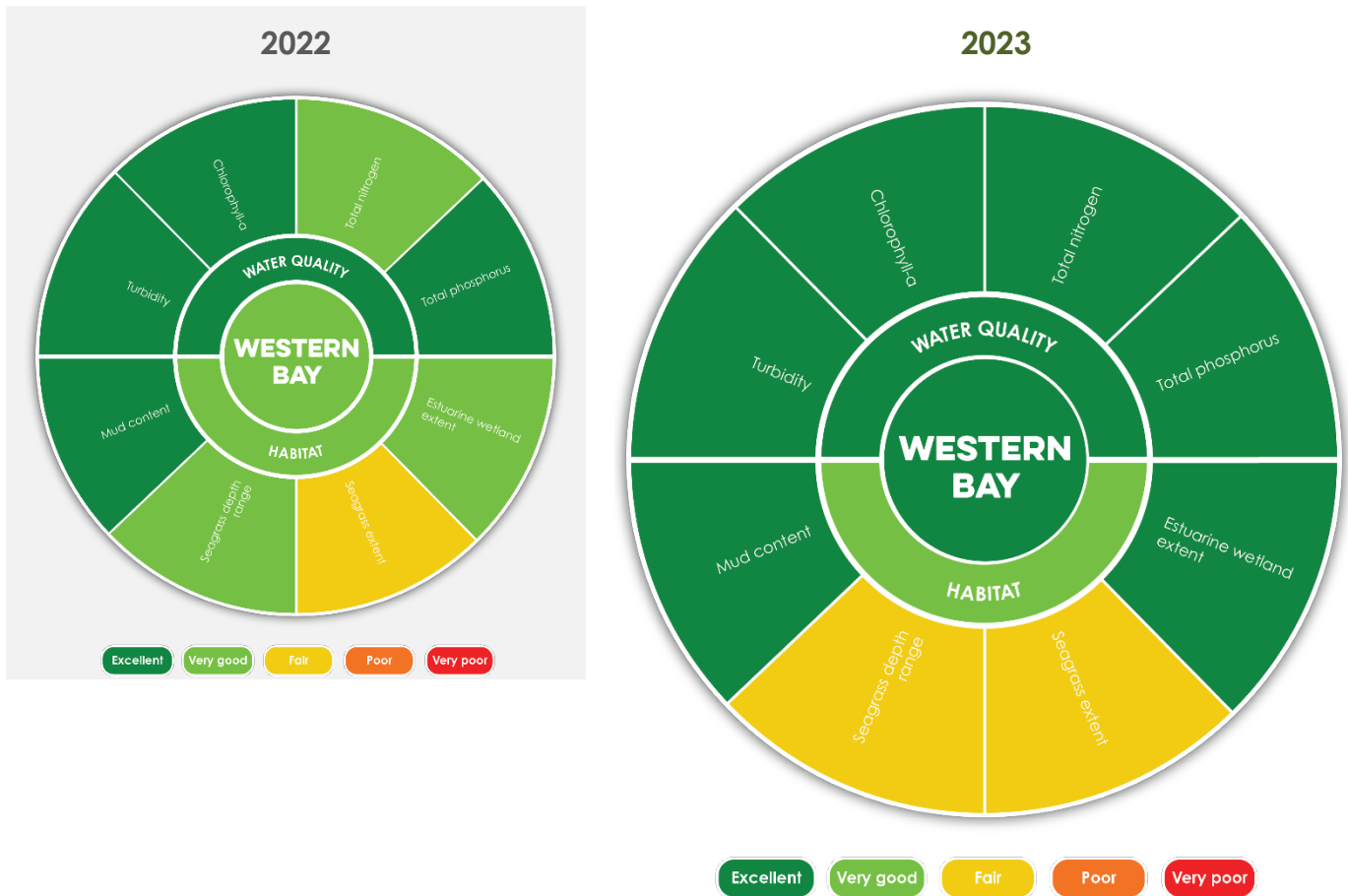
- First Nation parties are identified and recognised to lead the decisions relating to Aboriginal Cultural Heritage over 41% of the Central Bay.
- Comprehensive archaeological surveys that formally document and maximise the protection of Aboriginal Cultural Heritage have been completed and recognised over 7.72 ha (0.2%) of the Central Bay.
- Aboriginal Cultural Heritage Management Plans that enhance the protection of culture have been adopted over 0% of the formally recorded Aboriginal Cultural Heritage sites in the Central Bay.
- Note: the area monitored for the Cultural Resource Management Indicators for the Central Bay currently does not include the Moreton Bay islands. Please also refer to the results for "Smaller Moreton Bay Islands".

#### 5.4 Ways to improve waterway health and benefits

- Protect and enhance wetlands, floodplain ecosystems and habitats that support biodiversity and provide important ecosystem services, including sediment and nutrient retention and carbon sequestration.
- Protect and enhance coastal and marine habitats (seagrass, coral reefs, intertidal flats) by managing pollution, development, use, and access.
- Reduce catchment sediment pollution by targeting known areas of high stream bank erosion and gully erosion risk.
- Slow water down in the upper catchment to manage floodwater, reduce erosion, and rehydrate the landscape, by protecting and increasing vegetation (especially along riparian zones) and engaging floodplains through policy, land-use planning, incentives, and compliance.
- Support integrated catchment management approaches, such as a multi-sector governance model for catchments with a core objective of improved estuary and Bay health as a high priority.
- Increase erosion and sediment controls and compliance for new development, construction sites and private lands, to reduce sediment laden runoff when it rains.
- Ensure there is a strategic approach to minimising the contribution of nutrients from wastewater treatment plants and other point sources in response to projected population increases.
- Recognise and support First Nations and their aspirations to lead the stewardship of Country and culture.
- Respect and recognise First Nations in daily work activities by getting to know and engaging with the appropriate First Nation group who have a registered interest in your catchment. For assistance on engagement, please see the [Guidance for proponents on best practice Indigenous engagement for environmental assessments under the Environment Protection and Biodiversity Conservation Act 1999](#) and the [AIATSIS Principles for engagement in projects concerning Aboriginal and Torres Strait Islander peoples](#).
- Undertake comprehensive surveys of Moreton Bay to record, document and safeguard Cultural Heritage and protect sites through Cultural Heritage Management Plans.

## 6 Western Bay

### 6.1 Environmental condition (Excellent)



Western Bay, which includes Bramble, Deception, and Waterloo Bays, has improved from very good to excellent in terms of environmental condition.

#### Why?

- Water quality in Western Bay improved slightly, remaining in excellent condition. All water quality indicators improved slightly with a significant improvement in total nitrogen across Deception Bay, Bramble Bay and Waterloo Bay.
- The extent of intertidal habitat remains excellent, with 96% of mangroves and saltmarshes remaining compared to pre-clearing.
- Seagrass depth range declined from very good in 2022 to fair in 2023.
- Mud content in Western Moreton Bay increased in 2022, though has not been assessed in 2023. Mud content is in excellent condition.

### 6.2 Socio-Economic Benefit Rating (N/A)

The **Socio-Economic Benefit Rating** is not measured in this area.

### 6.3 Cultural resource management

- First Nation rights and interests to lead the stewardship of Country and culture have been fully recognised through Native Title over 0% of the landscapes of the Western Bay where Native Title persists.

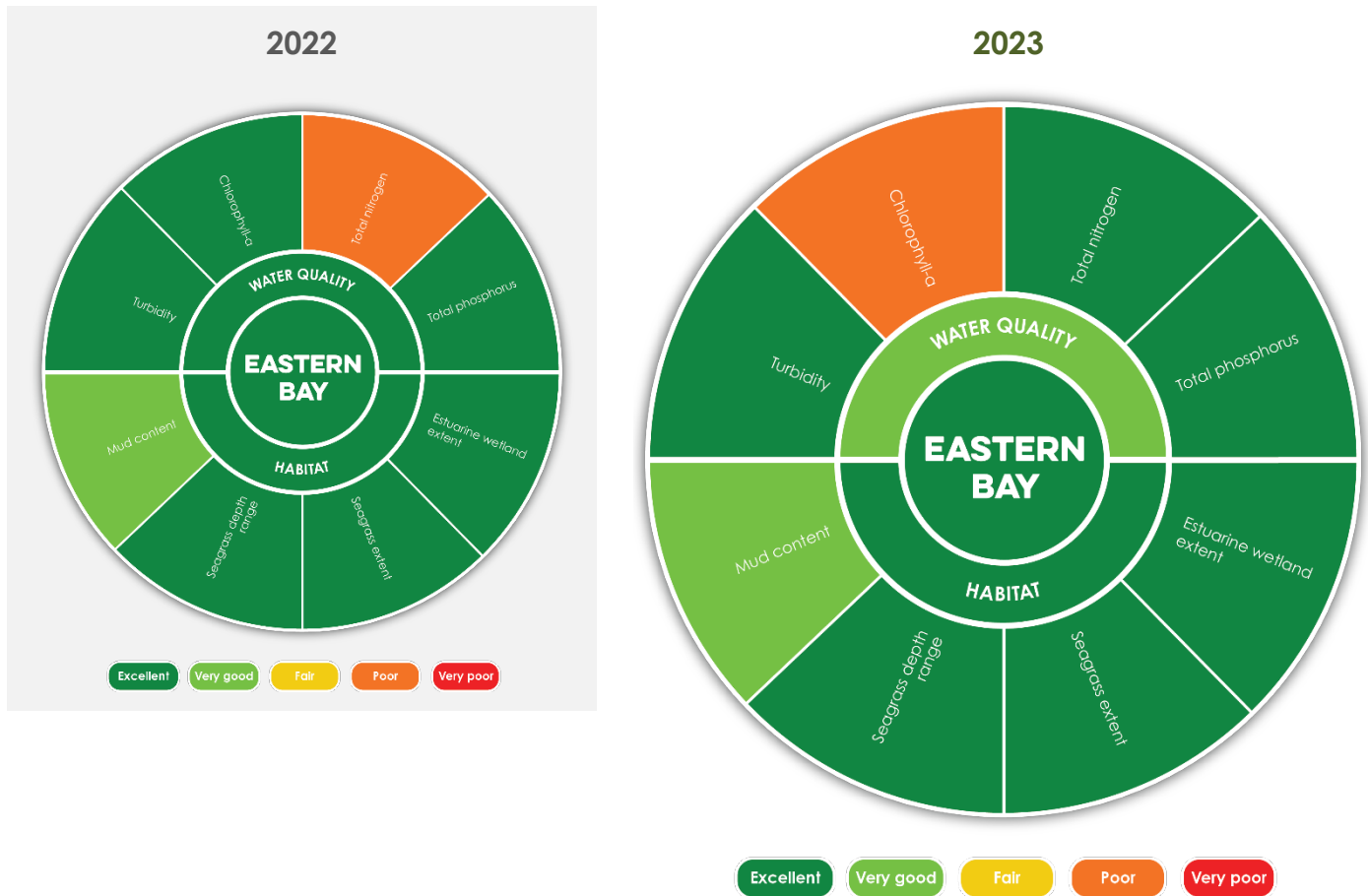
- First Nation parties are identified and recognised to lead the decisions relating to Aboriginal Cultural Heritage over 40% of the Western Bay.
- Comprehensive archaeological surveys that formally document and maximise the protection of Aboriginal Cultural Heritage have been completed and recognised over 0% of the Western Bay.
- Aboriginal Cultural Heritage Management Plans that enhance the protection of culture have been adopted over 15% of the formally recorded Aboriginal Cultural Heritage sites in the Western Bay.
- Note: the area monitored for the Cultural Resource Management Indicators for the Western Bay currently does not include the Moreton Bay islands. Please also refer to results for “Smaller Moreton Bay Islands”.

#### 6.4 Ways to improve waterway health

- Protect and enhance wetlands, floodplain ecosystems, and habitats that support biodiversity and provide important ecosystem services, including sediment and nutrient retention and carbon sequestration.
- Protect and enhance coastal and marine habitats (seagrass, coral reefs, intertidal flats) by managing pollution, development, use, and access.
- Reduce catchment sediment pollution by targeting known areas of high stream bank erosion and gully erosion risk.
- Slow water down in the upper catchment to manage floodwater, reduce erosion, and rehydrate the landscape, by protecting and increasing vegetation (especially along riparian zones) and engaging floodplains through policy, land-use planning, incentives, and compliance.
- Support integrated catchment management approaches, such as a multi-sector governance model for catchments with a core objective of improved estuary and Bay health as a high priority.
- Increase erosion and sediment controls and compliance for new development, construction sites and private lands, to reduce runoff when it rains.
- Ensure there is a strategic approach to minimising the contribution of nutrients from wastewater treatment plants and other point sources in response to projected population increases.
- Recognise and support First Nations and their aspirations to lead the stewardship of Country and culture.
- Respect and recognise First Nations in daily work activities by getting to know and engaging with the appropriate First Nation group who have a registered interest in your catchment. For assistance on engagement, please see the [Guidance for proponents on best practice Indigenous engagement for environmental assessments under the Environment Protection and Biodiversity Conservation Act 1999](#) and the [AIATSIS Principles for engagement in projects concerning Aboriginal and Torres Strait Islander peoples](#).
- Undertake comprehensive surveys of Western Bay to record, document and safeguard Cultural Heritage and protect sites through Cultural Heritage Management Plans.

## 7 Eastern Bay

### 7.1 Environmental condition (Excellent)



Eastern Bay declined slightly remaining in excellent environmental condition.

#### Why?

- Water quality declined slightly from excellent to very good condition. Turbidity and total phosphorus remained in excellent condition. Total nitrogen improved significantly from poor to excellent. Although, algae (phytoplankton) declined significantly from excellent in 2022 to poor condition this year.
- The Eastern Bay intertidal wetland extent remains excellent with an increase in mangroves and saltmarsh extent in the bay zone compared to the pre-clearing extent (103%).
- The depth range of seagrass declined slightly but remains in excellent condition.
- Mud content remains in very good condition, though has not been assessed in 2023. The 2022 floods increased the area of muddy sediments across Moreton Bay and smothering previously sandy habitats. Muddy sediments are beginning to encroach on the typically sandy habitats of Eastern Moreton Bay, with a trend of increase in mud content at many sites since 1998.

### 7.2 Socio-Economic Benefit Rating (N/A)

The **Socio-Economic Benefit Rating** is not measured in this area.

### 7.3 Cultural resource management

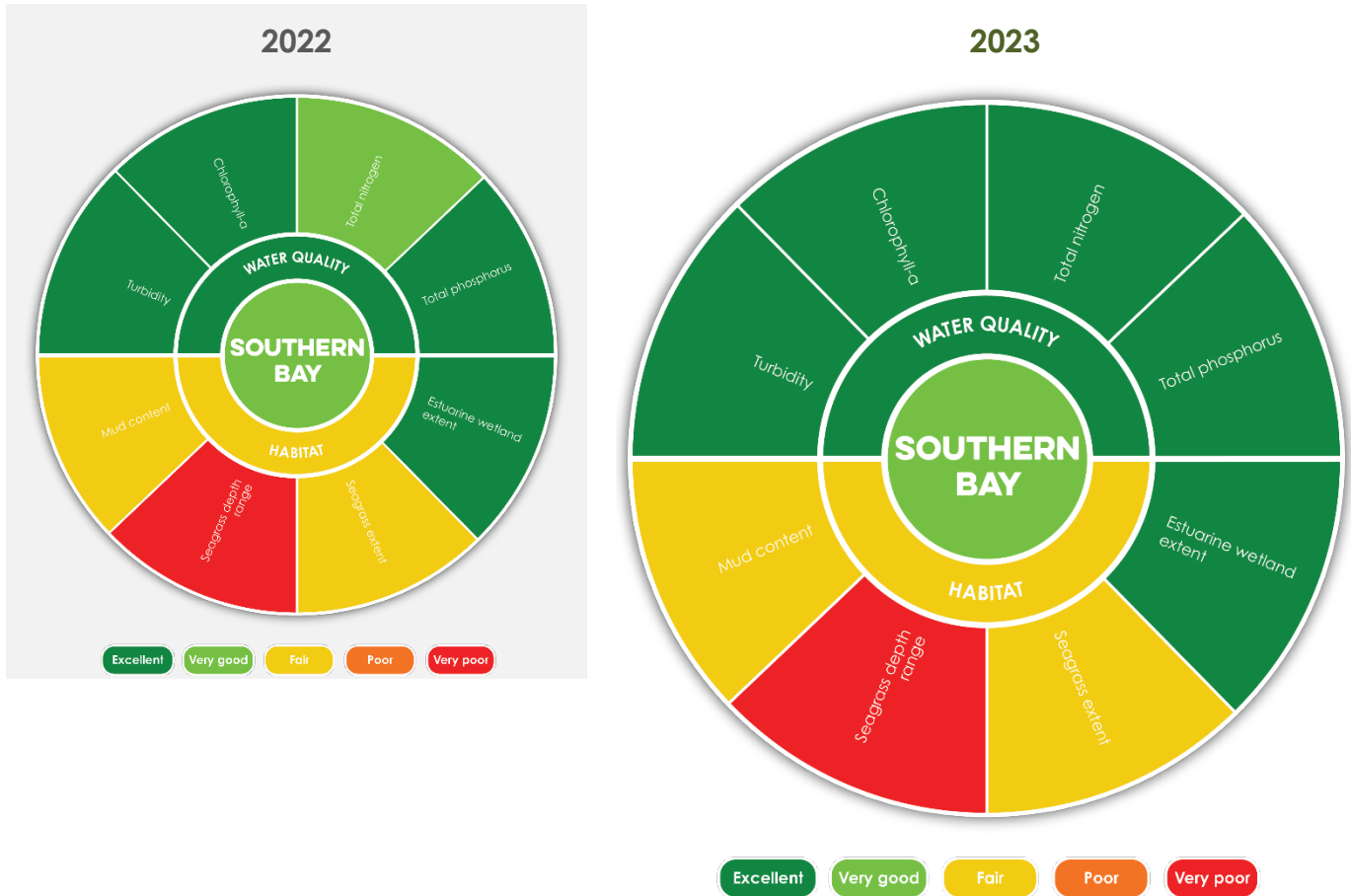
- First Nation rights and interests to lead the stewardship of Country and culture have been fully recognised through Native Title in over 42.3% of the landscapes of the Eastern Bay where Native Title persists.
- First Nation parties are identified and recognised to lead the decisions relating to Aboriginal Cultural Heritage in over 51% of the Eastern Bay.
- Comprehensive archaeological surveys that formally document and maximise the protection of Aboriginal Cultural Heritage have been completed and recognised in over 27.28 ha (0.04%) of the Eastern Bay.
- Aboriginal Cultural Heritage Management Plans that enhance the protection of culture have been adopted in over 12% of the formally recorded Aboriginal Cultural Heritage sites in the Eastern Bay.
- Note: the area monitored for the Cultural Resource Management Indicators for the Eastern Bay currently does not include the Moreton Bay islands. Please also refer to results for “Smaller Moreton Bay Islands”.

### 7.4 Ways to improve waterway health

- Protect and enhance wetlands, floodplain ecosystems, and habitat that support biodiversity and provide important ecosystem services, including sediment and nutrient retention and carbon sequestration.
- Protect and enhance coastal and marine habitats (seagrass, coral reefs, intertidal flats) by managing pollution, development, use, and access.
- Reduce catchment sediment pollution by targeting known areas of high stream bank erosion and gully erosion risk.
- Slow water down in the upper catchment to manage floodwater, reduce erosion, and rehydrate the landscape, by protecting and increasing vegetation (especially along riparian zones) and engaging floodplains through policy, land-use planning, incentives, and compliance.
- Support integrated catchment management approaches, such as a multi-sector governance model for catchments with a core objective of improved estuary and bay health as a high priority.
- Increase erosion and sediment controls and compliance for new development, construction sites and private lands, to reduce runoff when it rains.
- Ensure there is a strategic approach to minimising the contribution of nutrients from wastewater treatment plants and other point sources in response to projected population increases.
- Recognise and support First Nations and their aspirations to lead the stewardship of Country and culture.
- Respect and recognise First Nations in daily work activities by getting to know and engaging with the appropriate First Nation group who have a registered interest in your catchment. For assistance on engagement please see the [Guidance for proponents on best practice Indigenous engagement for environmental assessments under the Environment Protection and Biodiversity Conservation Act 1999](#) and the [AIATSIS Principles for engagement in projects concerning Aboriginal and Torres Strait Islander peoples](#).
- Undertake comprehensive surveys of Eastern Bay to record, document and safeguard Cultural Heritage and protect sites through Cultural Heritage Management Plans.

## 8 Southern Bay

### 8.1 Environmental condition (Very good)



Southern Bay slightly improved, remaining in very good environmental condition.

#### Why?

- Water quality in Southern Bay improved slightly and remains excellent. Turbidity, algae (phytoplankton), and total phosphorus improved slightly. Total nitrogen improved from very good to excellent.
- The extent of intertidal habitat remains excellent, with 99% of mangroves and saltmarshes remaining compared to pre-clearing extent.
- The depth range where seagrass is found remains in a very poor condition as a result of slow recovery following the 2022 floods.
- Mud content remains in fair condition, though has not been assessed in 2023. The 2022 floods increased the area of muddy sediments across Moreton Bay, smothering previously sandy habitats.

### 8.2 Socio-economic rating (N/A)

The **Socio-Economic Benefit Rating** is not measured in this area.

### 8.3 Cultural resource management

- First Nation rights and interests to lead the stewardship of Country and culture have been fully recognised through Native Title over 2.3% of the landscapes of the Southern Bay where Native Title persists.
- First Nation parties are identified and recognised to lead the decisions relating to Aboriginal Cultural Heritage over 60% of the Southern Bay.
- Comprehensive archaeological surveys that formally document and maximise the protection of Aboriginal Cultural Heritage have been completed and recognised over 10.40 ha (0.11%) of the Southern Bay.
- Aboriginal Cultural Heritage Management Plans that enhance the protection of culture have been adopted over 38% of the formally recorded Aboriginal Cultural Heritage sites in the Southern Bay.
- Note: the area monitored for the Cultural Resource Management Indicators for the Southern Bay currently does not include the Moreton Bay islands. Please also refer to results for “Smaller Moreton Bay Islands”.

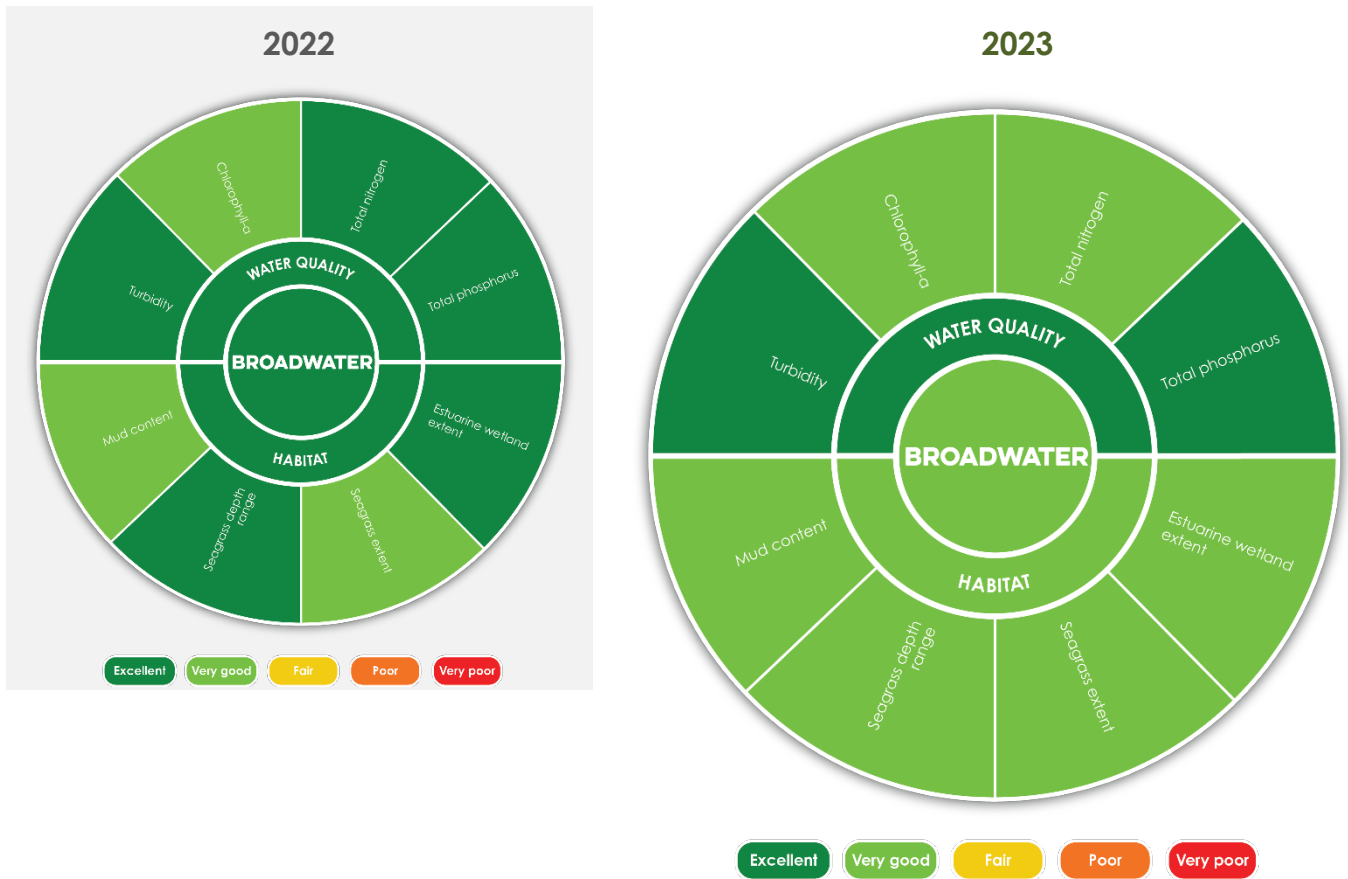
### 8.4 Ways to improve waterway health

- Protect and enhance wetlands, floodplain ecosystems, and habitats that support biodiversity and provide important ecosystem services, including sediment and nutrient retention and carbon sequestration.
- Protect and enhance coastal and marine habitats (seagrass, coral reefs, intertidal flats) by managing pollution, development, use, and access.
- Reduce catchment sediment pollution by targeting known areas of high stream bank erosion and gully erosion risk.
- Slow water down in the upper catchment to manage floodwater, reduce erosion, and rehydrate the landscape, by protecting and increasing vegetation (especially along riparian zones) and engaging floodplains through policy, land-use planning, incentives, and compliance.
- Support integrated catchment management approaches, such as a multi-sector governance model for catchments with a core objective of improved estuary and bay health as a high priority.
- Increase erosion and sediment controls and compliance for new development, construction sites and private lands, to reduce sediment laden runoff when it rains.
- Ensure there is a strategic approach to minimising the contribution of nutrients from wastewater treatment plants and other point sources in response to projected population increases.
- Recognise and support First Nations and their aspirations to lead the stewardship of Country and culture.
- Respect and recognise First Nations in daily work activities by getting to know and engaging with the appropriate First Nation group who have a registered interest in your catchment. For assistance on engagement, please see the [Guidance for proponents on best practice Indigenous engagement for environmental assessments under the Environment Protection and Biodiversity Conservation Act 1999](#) and the [AIATSIS Principles for engagement in projects concerning Aboriginal and Torres Strait Islander peoples](#).
- Undertake comprehensive surveys of Eastern Bay to record, document and safeguard Cultural Heritage and protect sites through Cultural Heritage Management Plans.



## 9 Broadwater

### 9.1 Environmental condition (Very good)



The Broadwater declined from excellent to very good environmental condition.

#### Why?

- Water quality declined slightly but remains excellent. Turbidity and total phosphorus remained in excellent condition. Total nitrogen declined from excellent to very good, whereas algae (phytoplankton) declined slightly but remained in very good condition.
- The extent of intertidal wetland habitat is very good, with 80% of mangroves and saltmarshes remaining in the bay zone.
- The depth range of seagrass at Broadwater sites slightly declined this year from excellent to very good condition.
- Mud content remains in very good condition, though has not been assessed in 2023. Mud content increased from very low to low in 2022 because of the delivery of fine sediments in floodwaters, which smothered sandy habitats within the Broadwater.

### 9.2 Socio-Economic Benefit Rating (N/A)

The **Socio-Economic Benefit Rating** is not measured in this area.

### 9.3 Cultural resource management

- First Nation rights and interests to lead the stewardship of Country and culture have been fully recognised through Native Title over 0% of the landscapes of Broadwater where Native Title persists.
- First Nation parties are identified and recognised to lead the decisions relating to Aboriginal Cultural Heritage over 100% of Broadwater.
- Comprehensive archaeological surveys that formally document and maximise the protection of Aboriginal Cultural Heritage have been completed and recognised over 0% of Broadwater.
- Aboriginal Cultural Heritage Management Plans that enhance the protection of culture have been adopted over 0% of the formally recorded Aboriginal Cultural Heritage sites in Broadwater.

### 9.4 Ways to improve waterway health

- Protect and enhance wetlands, floodplain ecosystems, and habitats that support biodiversity and provide important ecosystem services, including sediment and nutrient retention and carbon sequestration.
- Protect and enhance coastal and marine habitats (seagrass, coral reefs, intertidal flats) by managing pollution, development and use and access.
- Reduce catchment sediment pollution by targeting known areas of high stream bank erosion and gully erosion risk.
- Support all landholders (large and small properties) to improve local riparian management and restoration through education, collaboration, and financial incentives.
- Slow water down in the upper catchment to manage floodwater, reduce erosion, and rehydrate the landscape, by protecting and increasing vegetation (especially along riparian zones) and engaging floodplains through policy, land-use planning, incentives, and compliance.
- Support integrated catchment management approaches, such as a multi-sector governance model for catchments with a core objective of improved estuary and Bay health as a high priority.
- Reduce sediment running off development and construction sites, as well as high-risk erosion sites (e.g. foreshore and channel erosion) during rainfall and flooding events to maintain the condition of the Broadwater. This is critical to retain the extensive environmental and economic values (e.g. recreation fishing and other waterway-based recreation activities) that currently exist.
- Respect and recognise First Nations in daily work activities by getting to know and engaging with the appropriate First Nation group who have a registered interest in your catchment. For assistance on engagement, please see the [Guidance for proponents on best practice Indigenous engagement for environmental assessments under the Environment Protection and Biodiversity Conservation Act 1999](#) and the [AIATSIS Principles for engagement in projects concerning Aboriginal and Torres Strait Islander peoples](#).
- Undertake comprehensive surveys of the Broadwater to record, document and safeguard Cultural Heritage and protect sites through Cultural Heritage Management Plans.

## 10 Yarun (Bribie Island)

### 10.1 Environmental condition (N/A)

Refer to results for Pumicestone Passage catchment.

### 10.2 Socio-Economic Benefit Rating (N/A)

Refer to results for Pumicestone Passage catchment for the **Socio-Economic Benefit Rating**.

### 10.3 Cultural Resource Management

- First Nation rights and interests to lead the stewardship of Country and culture have been fully recognised through Native Title over 0% of the landscapes of Yarun where Native Title persists.
- First Nation parties are identified and recognised to lead the decisions relating to Aboriginal Cultural Heritage over 100% of Yarun.
- Comprehensive archaeological surveys that formally document and maximise the protection of Aboriginal Cultural Heritage have been completed and recognised over 0% of Yarun.
- Aboriginal Cultural Heritage Management Plans that enhance the protection of culture have been adopted over 0% of the formally recorded Aboriginal Cultural Heritage sites on Yarun.

### 10.4 Ways to improve cultural resource management

- Recognise and support First Nations and their aspirations to lead the stewardship of Country and culture.
- As noted in the 2021 State of Environment Report, Australia holds evidence of the world's oldest society. The *Aboriginal Cultural Heritage Act 2003* has been in place for almost 20 years, yet the destruction of Cultural heritage is occurring at an unacceptable rate.
- It is all of our roles, from individuals to organisations, to protect cultural heritage and empower and support First Nations through coordinated, collaborative and strategic approaches.
- Respect and recognise First Nations in daily work activities by getting to know and engaging with the appropriate First Nation group who have a registered interest in your catchment. For assistance on engagement, please see the [Guidance for proponents on best practice Indigenous engagement for environmental assessments under the \*Environment Protection and Biodiversity Conservation Act 1999\*](#) and the [AIATSIS Principles for engagement in projects concerning Aboriginal and Torres Strait Islander peoples](#).
- Undertake comprehensive surveys of Yarun to contemporarily record, document and safeguard Cultural Heritage and protect sites through Cultural Heritage Management Plans. Target strategic areas for cultural surveys and cultural heritage protection, including high energy risk areas/areas affected by erosion and sea level rise along the coast.
- Enhance Cultural Heritage compliance by improving development assessment processes and increasing education around compliance with the *Aboriginal Cultural Heritage Act 2003* and Best Practice Standards ([Heritage Chairs of Australia and New Zealand 2020, Dhawura Ngilan: A vision for Aboriginal and Torres Strait Islander heritage in Australia](#)).
- Get to know local stories and First Nations of where you live, work and recreate by visiting the library and researching online.

## 11 Minjerribah (North Stradbroke Island)

### 11.1 Environmental condition (N/A)

The Environmental Condition is not reported in this area.

## 11.2 Socio-Economic Benefit Rating (N/A)

The **Socio-Economic Benefit Rating** is not measured in this area.

## 11.3 Cultural resource management

- First Nation rights and interests to lead the stewardship of Country and culture have been fully recognised through Native Title over 91.3% of the landscapes of Minjerribah where Native Title persists.
- First Nation parties are identified and recognised to lead the decisions relating to Aboriginal Cultural Heritage over 100% of Minjerribah.
- Comprehensive archaeological surveys that formally document and maximise the protection of Aboriginal Cultural Heritage have been completed and recognised over 14,515.57 ha (53.6%) of Minjerribah.
- Aboriginal Cultural Heritage Management Plans that enhance the protection of culture have been adopted over 49% of the formally recorded Aboriginal Cultural Heritage sites on Minjerribah.

## 11.4 Ways to improve cultural resource management

- Recognise and support First Nations and their aspirations to lead the stewardship of Country and culture.
- As noted in the 2021 State of Environment Report, Australia holds evidence of the world's oldest society. The *Aboriginal Cultural Heritage Act 2003* has been in place for almost 20 years, yet the destruction of Cultural heritage is occurring at an unacceptable rate.
- It is all of our roles, from individuals to organisations, to protect cultural heritage and empower and support First Nations through coordinated, collaborative, and strategic approaches.
- Respect and recognise First Nations in daily work activities by getting to know and engaging with the appropriate First Nation group who have a registered interest in your catchment. For assistance on engagement, please see the [Guidance for proponents on best practice Indigenous engagement for environmental assessments under the \*Environment Protection and Biodiversity Conservation Act 1999\*](#) and the [AIATSIS Principles for engagement in projects concerning Aboriginal and Torres Strait Islander peoples](#).
- Safeguard and document Cultural Heritage through increased comprehensive surveys of Minjerribah that contemporarily record and protect sites through Cultural Heritage Management Plans. Target strategic areas for cultural surveys and cultural heritage protection, including high energy risk areas/areas affected by erosion and sea level rise along the coast.
- Enhance Cultural Heritage compliance by improving development assessment processes and increasing education around compliance with the *Aboriginal Cultural Heritage Act 2003* and Best Practice Standards ([Heritage Chairs of Australia and New Zealand 2020, Dhawura Ngilan: A vision for Aboriginal and Torres Strait Islander heritage in Australia](#)).
- Get to know local stories and First Nations of where you live, work and recreate by visiting the library and researching online.

## 12 Mulgumpin (Moreton Island)

### 12.1 Environmental condition (N/A)

The Environmental Condition is not reported in this area.

### 12.2 Socio-economic rating (N/A)

The **Socio-Economic Benefit Rating** is not measured in this area.

### 12.3 Cultural resource management

- First Nation rights and interests to lead the stewardship of Country and culture have been fully recognised through Native Title over 98% of the landscapes of Mulgumpin where Native Title persists.
- First Nation parties are identified and recognised to lead the decisions relating to Aboriginal Cultural Heritage over 96% of Mulgumpin.
- Comprehensive archaeological surveys that formally document and maximise the protection of Aboriginal Cultural Heritage have been completed and recognised over 0% of Mulgumpin.
- Aboriginal Cultural Heritage Management Plans that enhance the protection of culture have been adopted over 0% of the formally recorded Aboriginal Cultural Heritage sites on Mulgumpin.

### 12.4 Ways to improve cultural resource management

- Recognise and support First Nations and their aspirations to lead the stewardship of Country and culture.
- As noted in the 2021 State of Environment Report, Australia holds evidence of the world's oldest society. The *Aboriginal Cultural Heritage Act 2003* has been in place for almost 20 years, yet the destruction of Cultural heritage is occurring at an unacceptable rate.
- It is all of our roles, from individuals to organisations, to protect cultural heritage and empower and support First Nations through coordinated, collaborative, and strategic approaches.
- Respect and recognise First Nations in daily work activities by getting to know and engaging with the appropriate First Nation group who have a registered interest in your catchment. For assistance on engagement, please see the [Guidance for proponents on best practice Indigenous engagement for environmental assessments under the Environment Protection and Biodiversity Conservation Act 1999](#) and the [AIATSIS Principles for engagement in projects concerning Aboriginal and Torres Strait Islander peoples](#).
- Safeguard and document Cultural Heritage through increased comprehensive surveys of Mulgumpin that contemporarily record and protect sites through Cultural Heritage Management Plans. Target strategic areas for cultural surveys and cultural heritage protection, including high energy risk areas/areas affected by erosion and sea level rise along the coast.
- Enhance Cultural Heritage compliance by improving development assessment processes and increasing education around compliance with the *Aboriginal Cultural Heritage Act 2003* and Best Practice Standards ([Heritage Chairs of Australia and New Zealand 2020, Dhawura Ngilan: A vision for Aboriginal and Torres Strait Islander heritage in Australia](#)).
- Get to know local stories and First Nations of where you live, work and recreate by visiting the library and researching online.

## 13 Small Moreton Bay Islands

### 13.1 Environmental condition (N/A)

Refer to results for Western Bay, Central Bay, Eastern Bay and Western Bay.

### 13.2 Socio-economic rating (N/A)

The **Socio-Economic Benefit Rating** is not measured in this area.

### 13.3 Cultural resource management

- First Nation rights and interests to lead the stewardship of Country and culture have been fully recognised through Native Title over 12% of the landscapes of the Small Moreton Bay Islands where Native Title persists.
- First Nation parties are identified and recognised to lead the decisions relating to Aboriginal Cultural Heritage over 69% of the Small Moreton Bay Islands.
- Comprehensive archaeological surveys that formally document and maximise the protection of Aboriginal Cultural Heritage have been completed and recognised over 635.77 ha (6.98%) of the Small Moreton Bay Islands.
- Aboriginal Cultural Heritage Management Plans that enhance the protection of culture have been adopted over 17% of the formally recorded Aboriginal Cultural Heritage sites on the Small Moreton Bay Islands.

### 13.4 Ways to improve cultural resource management

- Recognise and support First Nations and their aspirations to lead the stewardship of Country and culture.
- As noted in the 2021 State of Environment Report, Australia holds evidence of the world's oldest society. The *Aboriginal Cultural Heritage Act 2003* has been in place for almost 20 years, yet the destruction of Cultural heritage is occurring at an unacceptable rate.
- It is all of our roles, from individuals to organisations, to protect cultural heritage and empower and support First Nations through coordinated, collaborative and strategic approaches.
- Respect and recognise First Nations in daily work activities by getting to know and engaging with the appropriate First Nation group who have a registered interest in your catchment. For assistance on engagement, please see the [Guidance for proponents on best practice Indigenous engagement for environmental assessments under the \*Environment Protection and Biodiversity Conservation Act 1999\*](#) and the [AIATSIS Principles for engagement in projects concerning Aboriginal and Torres Strait Islander peoples](#).
- Safeguard and document Cultural Heritage through increased comprehensive surveys of the Small Moreton Bay Islands that contemporarily record and protect sites through Cultural Heritage Management Plans. Target strategic areas for cultural surveys and cultural heritage protection, including high energy risk areas/areas affected by erosion and sea level rise along the coast.
- Enhance Cultural Heritage compliance by improving development assessment processes and increasing education around compliance with the *Aboriginal Cultural Heritage Act 2003* and Best Practice Standards ([Heritage Chairs of Australia and New Zealand 2020, Dhawura Ngilan: A vision for Aboriginal and Torres Strait Islander heritage in Australia](#)).
- Get to know local stories and First Nations of where you live, work and recreate by visiting the library and researching online.

## 14 South Stradbroke Island

### 14.1 Environmental condition (N/A)

The Environmental Condition is not reported in this area.

### 14.2 Socio-Economic Benefit Rating (N/A)

The **Socio-Economic Benefit Rating** is not measured in this area.

### 14.3 Cultural resource management

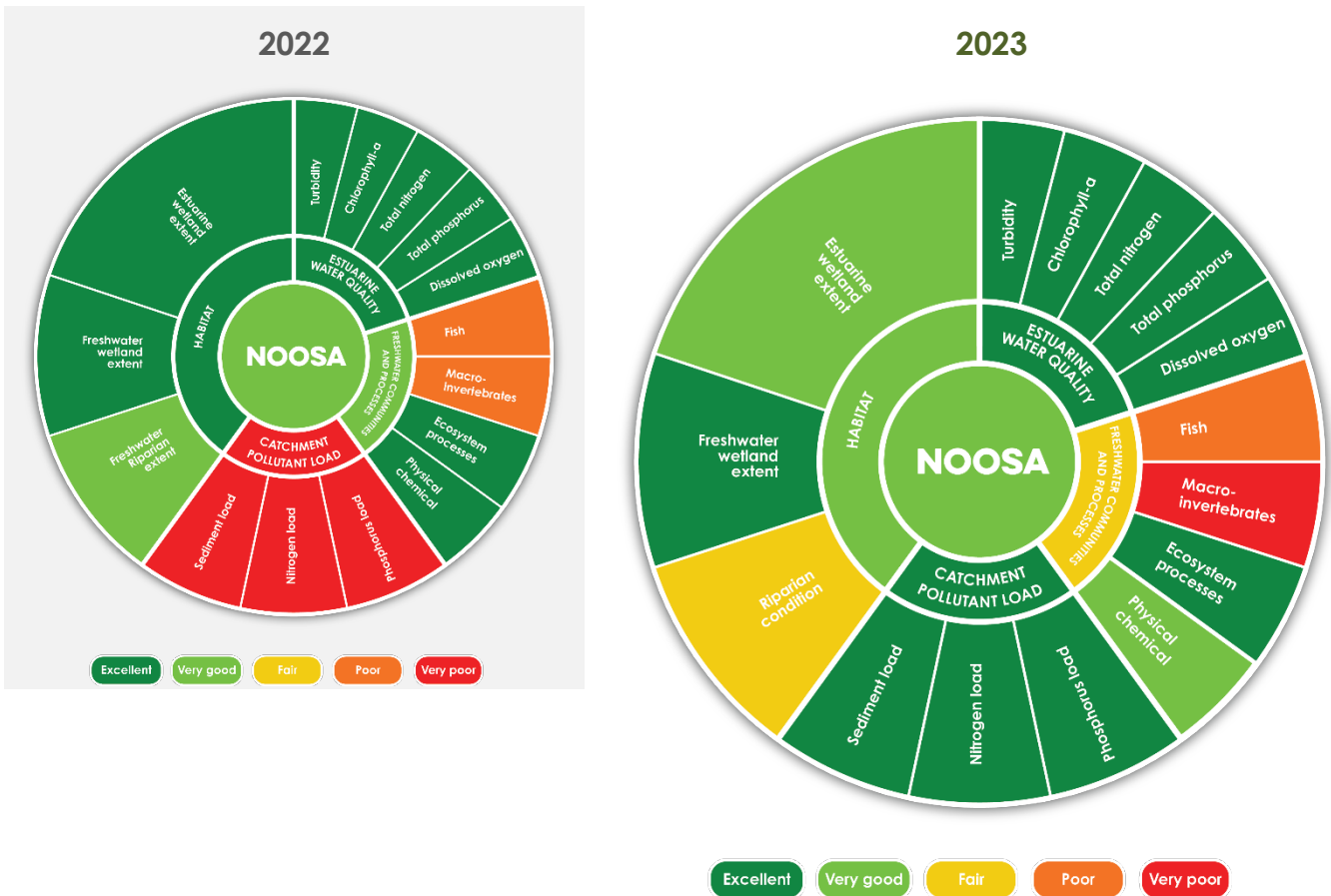
- First Nation rights and interests to lead the stewardship of Country and culture have been fully recognised through Native Title over 0% of the landscapes of South Stradbroke Island where Native Title persists.
- First Nation parties are identified and recognised to lead the decisions relating to Aboriginal Cultural Heritage over 99% of South Stradbroke Island.
- Comprehensive archaeological surveys that formally document and maximise the protection of Aboriginal Cultural Heritage have been completed and recognised over 0% of South Stradbroke Island.
- Aboriginal Cultural Heritage Management Plans that enhance the protection of culture have been adopted over 0% of the formally recorded Aboriginal Cultural Heritage sites on South Stradbroke Island.

### 14.4 Ways to improve cultural resource management

- Recognise and support First Nations and their aspirations to lead the stewardship of Country and culture.
- There is still much to do to recognize and support First Nations and their aspirations to lead the stewardship of Country and culture.
- As noted in the 2021 State of Environment Report, Australia holds evidence of the world's oldest society. The *Aboriginal Cultural Heritage Act 2003* has been in place for almost 20 years, yet the destruction of Cultural heritage is occurring at an unacceptable rate.
- It is all of our roles, from individuals to organisations, to protect cultural heritage and empower and support First Nations through coordinated, collaborative and strategic approaches.
- Respect and recognise First Nations in daily work activities by getting to know and engaging with the appropriate First Nation group who have a registered interest in your catchment. For assistance on engagement, please see the [Guidance for proponents on best practice Indigenous engagement for environmental assessments under the Environment Protection and Biodiversity Conservation Act 1999](#) and the [AIATSIS Principles for engagement in projects concerning Aboriginal and Torres Strait Islander peoples](#).
- Undertake comprehensive surveys of South Stradbroke to contemporarily record, document and safeguard Cultural Heritage and protect sites through Cultural Heritage Management Plans. Target strategic areas for cultural surveys and cultural heritage protection, including high energy risk areas/areas affected by erosion and sea level rise along the coast.
- Enhance Cultural Heritage compliance by improving development assessment processes and increasing education around compliance with the *Aboriginal Cultural Heritage Act 2003* and Best Practice Standards ([Heritage Chairs of Australia and New Zealand 2020, Dhawura Ngilan: A vision for Aboriginal and Torres Strait Islander heritage in Australia](#)).
- Get to know local stories and First Nations of where you live, work and recreate by visiting the library and researching online.

# 15 Noosa catchment

## 15.1 Environmental condition (Very good)



The catchment has improved slightly but remains in very good environmental condition.

### Why?

- Pollutant loads decreased significantly from very high to very low, with sediment (mud) load decreasing from 1,112 kg/ha in 2022 to 9 kg/ha in 2023. Run-off also delivered very low loads of nitrogen (0.78 kg/ha) and phosphorus (0.02 kg/ha) to waterways.
- The health of freshwater creeks declined from very good to fair condition, with a decline in water quality from excellent to very good. The macroinvertebrates health significantly declined from poor to very poor. The ecosystem processes and fish community health conditions remains the same, excellent and poor condition, respectively.
- Wetland extent remains excellent (91% remaining) in the freshwater reaches of the catchment. The extent of wetland habitat in the estuary is very good, with 89% of mangroves and saltmarshes remaining in the catchment.
- Riparian habitats in freshwater reaches are in fair condition in 2023. Woody vegetation cover is very good with more than 80% woody cover in 67% of Noosa sub-catchments. The bio condition of riparian areas is also very good. Riparian woody vegetation re-growth is poor, while remnant riparian vegetation clearing continues, though is minimal in extent.
- Estuarine water quality improved slightly, remaining in excellent condition. Turbidity within Lake Cooroibah and Lake Cootharaba improved slightly this year; nutrients (total nitrogen & total phosphorus) and chlorophyll a also improved slightly, remaining in excellent condition.



## 15.2 Socio-Economic Benefit Rating ★ ★ ★ ★ ☆

- The **Socio-Economic Benefit Rating** shows very good catchment condition results in very high numbers of residents satisfied (77%) with their local waterways, and very high levels of personal benefits local residents gain from using their waterways (74% compared to 63% for all of South East Queensland).
- Residents report that they highly value their local waterways for recreation. 63% of residents recreate in or alongside their local waterways at least weekly. The top activities include walking or running (95 days/year per resident), enjoying nature (36 days/year per resident), swimming (13 days/year per resident), and picnics/BBQs (12 days/year per resident).
- The average recreational value of the waterways was \$1,533 per person/year. This value was comprised mostly of picnics and BBQs (37% of value), boating and sailing (21% of value) and recreational fishing (13% of value).

## 15.3 Cultural Resource Management

- First Nation rights and interests to lead the stewardship of Country and culture have been fully recognised through Native Title over 0% of the landscapes of the Noosa Catchment where Native Title persists.
- First Nation parties are identified and recognised to lead the decisions relating to Aboriginal Cultural Heritage over 100% of the Noosa Catchment.
- Comprehensive archaeological surveys that formally document and maximise the protection of Aboriginal Cultural Heritage have been completed and recognised over 0% of the Noosa Catchment.
- Aboriginal Cultural Heritage Management Plans that enhance the protection of culture have been adopted over 0% of the formally recorded Aboriginal Cultural Heritage sites in the Noosa Catchment.

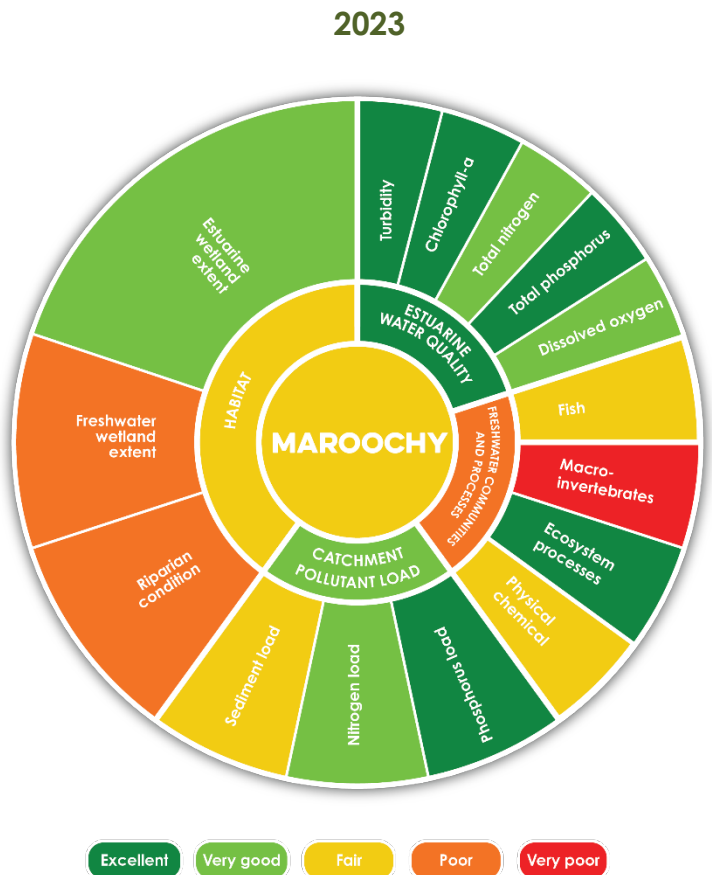
## 15.4 Ways to improve waterway health and benefits

- Protecting and managing existing values from the pressures of population growth is a priority, with the population in the Noosa Catchment projected to increase significantly over the next 25 years.
- Increase the use of erosion and sediment controls and compliance for new development, construction sites and private lands. Apply water sensitive urban design practices to new development as a priority and naturalise urban flow pathways where appropriate.
- Reduce sediment loads and nutrients entering waterways by implementing activities in priority catchments (e.g. Ringtail Creek and creeks flowing into Lake Cootharaba, including Kin Kin Creek) and continue to support catchment management as outlined in the "Keeping it in Kin Kin" implementation plan.
- Focus on engagement and compliance within industries with high soil disturbance, such as agriculture, plantation forestry and development.
- Continued investment in minimising wastewater treatment plant and other industrial discharges (point sources) is critical to keep up with population increases and maintaining the condition of receiving waters.
- Protect existing streambank vegetation and wetlands, including increasing waterway buffers within the peri-urban/agricultural landscape, as a priority.
- Support consistent investment in local community groups to deliver these actions to improve catchment and waterway health.
- Provide education campaigns on the respectful use of beaches, State Forests, and greenspace areas.
- Support land managers, including private properties, to:

- Manage and preserve bushland.
  - Manage regrowth vegetation.
  - Revegetate.
  - Manage pests and weeds.
  - Manage for fire.
- Support projects that strengthen Kabi Kabi connection with sea, such as re-establishing extinct Oyster Reefs in the Noosa River estuary, historically a culturally important food source.
  - Respect and recognise First Nations in daily work activities by getting to know and engaging with the appropriate First Nation group who have a registered interest in your catchment. For assistance on engagement, please see the [Guidance for proponents on best practice Indigenous engagement for environmental assessments under the Environment Protection and Biodiversity Conservation Act 1999](#) and the [AIATSIS Principles for engagement in projects concerning Aboriginal and Torres Strait Islander peoples](#).
  - Undertake comprehensive surveys of the Noosa catchment to record, document and safeguard Cultural Heritage and protect sites through Cultural Heritage Management Plans. Target strategic areas for cultural surveys and cultural heritage protection.

## 16 Maroochy catchment

### 16.1 Environmental condition (Fair)



The catchment improved slightly although remains in fair environmental condition.

#### Why?

- Pollutant loads decreased significantly from very high to low within the Maroochy catchment, with sediment (mud) load decreasing from 3,041 kg/ha in 2022 to 57 kg/ha in 2023. Run-off also delivered low loads of nitrogen (2.73 kg/ha) and moderate loads of phosphorus (0.63 kg/ha) to waterways.
- The health of freshwater creeks declined significantly from excellent to poor condition. Water quality and macroinvertebrates declined significantly from excellent and very good to fair and very poor condition, respectively.
- Wetland extent remains poor (31% remaining) in the freshwater reaches of the catchment. The extent of wetland habitat in the estuary (mangroves and saltmarshes) is very good (81% remaining).
- Riparian habitats in freshwater reaches are in poor condition in 2023. Woody vegetation cover is poor with >80% woody cover in only 28 % of Maroochy sub-catchments. The bio condition of riparian areas is fair. Riparian woody vegetation re-growth is poor, while remnant riparian vegetation clearing continues, though is minimal in extent.
- Estuarine water quality improved slightly remaining excellent. Slight improvements in total nitrogen and algae (phytoplankton) were observed in the mid to upper estuary compared to 2023. Turbidity and total phosphorus remained excellent. Dissolved oxygen slightly declined but remain in excellent condition.

## 16.2 Socio-Economic Benefit Rating ★ ★ ★ ★ ☆

- The **Socio-Economic Benefit Rating** shows that despite fair catchment condition, very high numbers of residents are satisfied (78%) with their local waterways. This is likely tied to the very high satisfaction with their ability to access and use local waterways (80% compared to 70% for all of South East Queensland).
- Residents report that they value their local waterways for recreation very highly. 61% of residents recreate in or alongside their local waterways weekly or more. The top activities include walking or running (65 days/year per resident), enjoying nature (45 days/year per resident), swimming (19 days/year per resident) and picnics and BBQs (15 days/year per resident).
- The waterway recreational value per person was \$1,871/year. The activities that made up this value include picnics and BBQs (39% of value) recreational fishing (21% of value) and swimming (14% of value).
- The catchment contributed to the supply of over 4,700 ML of drinking water to SEQ residents in 2022-2023. Very high levels of sludge relative to other drinking water catchments were removed from water treatment plants.

## 16.3 Cultural resource management

- First Nation rights and interests to lead the stewardship of Country and culture have been fully recognised through Native Title over 36.6% of the landscapes of the Maroochy Catchment where Native Title persists.
- First Nation parties are identified and recognised to lead the decisions relating to Aboriginal Cultural Heritage over 100% of the Maroochy Catchment.
- Comprehensive archaeological surveys that formally document and maximise the protection of Aboriginal Cultural Heritage have been completed and recognised over 0% of the Maroochy Catchment.
- Aboriginal Cultural Heritage Management Plans that enhance the protection of culture have been adopted over 1% of the formally recorded Aboriginal Cultural Heritage sites in the Maroochy Catchment.

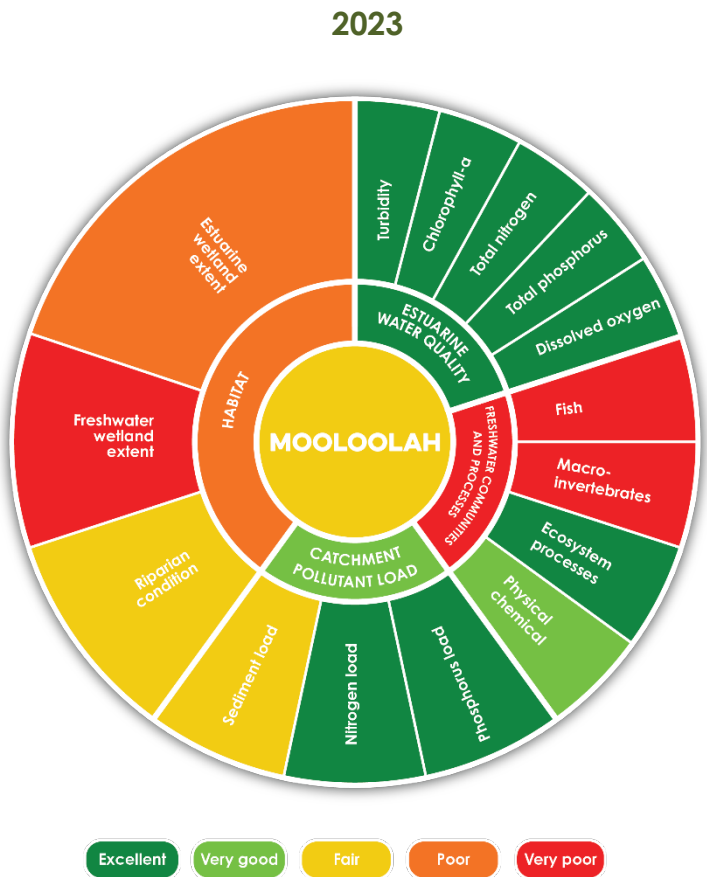
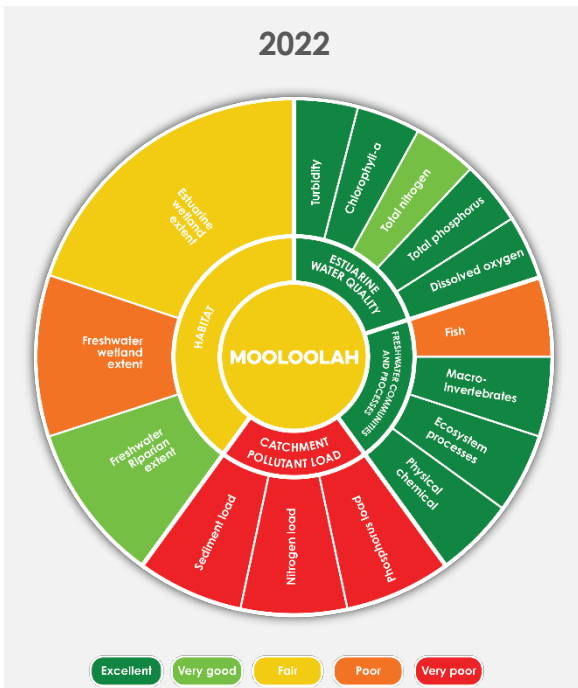
## 16.4 Ways to improve waterway health and benefits

- Protecting and managing existing values from the pressures of population growth is a priority, with the population in the Maroochy region projected to increase rapidly.
- Undertake active restoration and protection of wetlands and floodplains, to restore natural flows of water and reconnect waterways. This includes removing fish barriers, naturalising channels, protecting and restoring riparian habitats, wetlands, and freshwater refugia. For example, the restoration of the Yandina Creek Wetlands has increased the value to fish communities.
- Implement integrated catchment management and water planning as a means to solve complex water issues, improve waterway health outcomes and provide water security.
- Reduce sediment loads and nutrients entering waterways through stormwater management, property management, and restoration of areas of high erosion risk across the catchment. Focusing on engagement and compliance within industries with high soil disturbance, such as agriculture and development.
- Support land managers, including private properties, to:
  - Manage and preserve bushland.
  - Manage regrowth vegetation.
  - Revegetate.
  - Manage pests and weeds.

- Manage for fire.
- Respect and recognise First Nations in daily work activities by getting to know and engaging with the appropriate First Nation group who have a registered interest in your catchment. For assistance on engagement, please see the [Guidance for proponents on best practice Indigenous engagement for environmental assessments under the Environment Protection and Biodiversity Conservation Act 1999](#) and the [AIATSIS Principles for engagement in projects concerning Aboriginal and Torres Strait Islander peoples](#).
- Undertake comprehensive surveys of the Maroochy catchment to contemporarily record, document and safeguard Cultural Heritage and protect sites through Cultural Heritage Management Plans. Target strategic areas for cultural surveys and cultural heritage protection, including high energy risk areas/areas affected by erosion and sea level rise along the coast.
- Enhance Cultural Heritage compliance by improving development assessment processes and increasing education around compliance with the *Aboriginal Cultural Heritage Act 2003* and Best Practice Standards ([Heritage Chairs of Australia and New Zealand 2020, Dhawura Ngilan: A vision for Aboriginal and Torres Strait Islander heritage in Australia](#)).

# 17 Mooloolah catchment

## 17.1 Environmental condition (Fair)



The catchment has remained in fair condition.

### Why?

- Pollutant loads decreased significantly from very high to low within the Mooloolah catchment, with sediment (mud) load decreasing from 2,169kg/ha in 2022 to 78kg/ha in 2023. Run-off also delivered very low loads of nitrogen (2 kg/ha) and moderate loads of phosphorus (0.6 kg/ha) to waterways.
- Freshwater health significantly declined from excellent to very poor, with a decrease in macroinvertebrates from excellent to very poor. The water quality declined from excellent to very good, and the fish community health condition declined from poor to very poor.
- Freshwater wetland extent is very poor (30% remaining) in the freshwater reaches of the catchment. The extent of wetland habitat is poor, with 52% of mangroves and saltmarshes remaining in the catchment.
- Riparian habitats in freshwater reaches are in fair condition in 2023. Woody vegetation cover is fair with >80% woody cover in 55 % of Maroochy sub-catchments. The riparian bio condition score is excellent. Riparian woody vegetation re-growth is poor, while remnant riparian vegetation clearing is negligible.
- Estuarine water quality improved slightly, remaining excellent. Total nitrogen improved significantly across the Mooloolah estuary in 2023, from very good to excellent condition.

## 17.2 Socio-Economic Benefit Rating ★ ★ ★ ★ ★

- The **Socio-Economic Benefit Rating** shows that despite fair catchment condition, extremely high numbers of residents are satisfied with their local waterways (86% compared with 68% for all of South East Queensland). This is likely due to the community's very high satisfaction with their ability to access and use their local waterways (85%).
- Residents value their local waterways for recreation very highly. 56% enjoy recreating in or alongside their local waterway at least weekly. The most frequent recreation activities include walking/running (90 days/year per resident), enjoying nature (47 days/year per resident), picnics/BBQs (13 days/year per resident), and swimming (9 days/year per resident). They are also highly valued as a place of rest and relaxation and for spending time with friends and family.
- The waterway value per person was calculated as \$1,791/year. The most valuable activities, based on costs per visit, were picnics and BBQs (45 % of value), recreational fishing (18% of value) and boating and sailing (12% of value).
- The catchment supplied over 3,648M L of drinking water to residents in 2022-2023. High levels of sludge relative to other drinking water catchments were removed from the local water treatment plant.

## 17.3 Cultural Resource Management

- First Nation rights and interests to lead the stewardship of Country and culture have been fully recognised through Native Title over 4% of the landscapes of the Mooloolah Catchment where Native Title persists.
- First Nation parties are identified and recognised to lead the decisions relating to Aboriginal Cultural Heritage over 100% of the Mooloolah Catchment.
- Comprehensive archaeological surveys that formally document and maximise the protection of Aboriginal Cultural Heritage have been completed and recognised over 0% of the Mooloolah Catchment.
- Aboriginal Cultural Heritage Management Plans that enhance the protection of culture have been adopted over 0% of the formally recorded Aboriginal Cultural Heritage sites in the Mooloolah Catchment.

## 17.4 Ways to improve waterway health and benefits

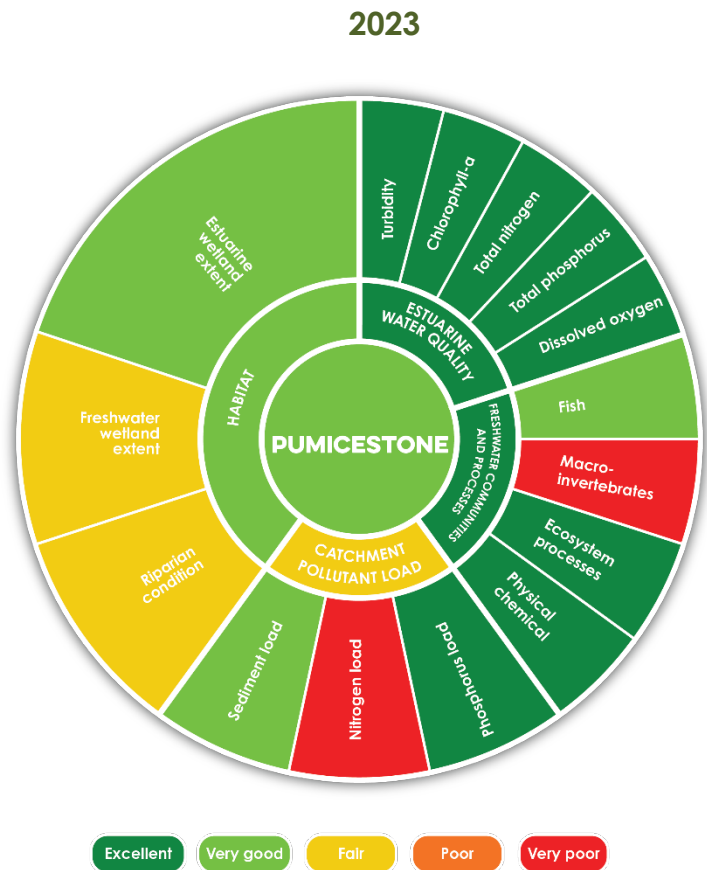
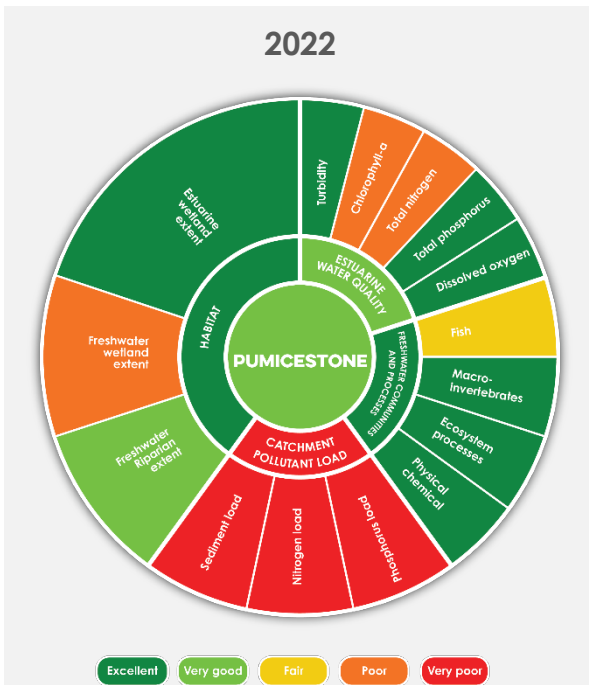
- Protecting and managing existing values from the pressures of population growth is a priority, with the population in the Mooloolah region projected to increase rapidly.
- Implement integrated catchment management and water planning as a means to solve complex water issues, improve waterway health outcomes, and provide water security.
- Undertake active restoration and protection of wetlands and floodplains, to restore natural flows of water and reconnect waterways. This includes removing fish barriers, naturalising channels, and protecting and restoring riparian habitats, wetlands and freshwater refugia. This also includes strengthening local planning and policy instruments to halt the further decline of freshwater wetlands.
- Maintain and enhance streambank vegetation to reduce sediment entering waterways. Seek and provide support for private landholders, particularly in the Upper Mooloolah River catchment.
- Provide extensions, workshops and field days that support community groups.
- Support land managers, including private properties, to:
  - Manage and preserve bushland.
  - Manage regrowth vegetation.
  - Revegetate.
  - Manage pests and weeds.

- Manage for fire.
- Reduce and avoid light pollution impacting priority coastal areas and habitats, particularly for turtle nesting at Caloundra (particularly the high-energy beach zone around Alexandra Headlands and Point Cartwright).
- Protect and restore Sub-Tropical Lowland Rainforest linkages associated with waterway corridors in the Southern Blackall Range and Petrie Creek flowing into the Maroochy and Mooloolah Rivers.
- Respect and recognise First Nations in daily work activities by getting to know and engaging with the appropriate First Nation group who have a registered interest in your catchment. For assistance on engagement, please see the [Guidance for proponents on best practice Indigenous engagement for environmental assessments under the Environment Protection and Biodiversity Conservation Act 1999](#) and the [AIATSIS Principles for engagement in projects concerning Aboriginal and Torres Strait Islander peoples](#).
- Undertake comprehensive surveys of the Mooloolah catchment to record, document and safeguard Cultural Heritage and protect sites through Cultural Heritage Management Plans. Target strategic areas for cultural surveys and cultural heritage protection, including high energy risk areas/areas affected by erosion and sea level rise along the coast.
- Enhance Cultural Heritage compliance by improving development assessment processes and increasing education around compliance with the *Aboriginal Cultural Heritage Act 2003* and Best Practice Standards ([Heritage Chairs of Australia and New Zealand 2020, Dhawura Ngilan: A vision for Aboriginal and Torres Strait Islander heritage in Australia](#)).



## 18 Pumicestone catchment

### 18.1 Environmental condition (Very good)



The catchment has improved slightly but remains in very good environmental condition.

#### Why?

- Pollutant loads decreased significantly from very high to moderate, with sediment (mud) load decreasing from 2,040kg/ha in 2022 to 94kg/ha in 2023. Run-off also delivered low loads of phosphorus (0.4 kg/ha) and very high loads of nitrogen (7.7 kg/ha) to waterways.
- The health of freshwater creeks declined slightly remaining in excellent condition. The catchment had a significantly decline in macroinvertebrate health, from excellent to very poor. Water quality and ecosystem processes remain in excellent condition. Fish community health improved from fair to very good condition.
- Wetland extent is fair (49% remaining) in the freshwater reaches of the catchment. The extent of wetland habitat in the estuary is very good, with 90% of mangroves and saltmarshes remaining in the catchment.
- Riparian habitats in freshwater reaches are in fair condition in 2023. Woody vegetation cover is fair with more than 80% woody cover in 59 % of sub-catchments. The riparian bio condition score is very good. Remnant riparian vegetation clearing is continuing in the Pumicestone catchment.
- Estuarine water quality improved from very good to excellent. There has been a significant decrease in the levels of algae (phytoplankton) and total nitrogen.

## 18.2 Socio-Economic Benefit Rating ★ ★ ★ ★ ★

- The **Socio-Economic Benefit Rating** shows that very good catchment condition resulted in very high numbers of residents (77%) satisfied with their local waterways (compared with 68% for all of South East Queensland). Pumicestone residents reported very high levels of personal connection with nature (80%) and received very high amounts of emotional benefits from their local waterways (79%).
- Residents report they value their local waterways for recreation. 58% of residents recreate in or alongside their local waterway at least weekly. Very high numbers value them as a place of rest and relaxation (79%) or for social interaction with friends and family (67%). The top activities include walking/running (88 days/year per resident), enjoying nature (32 days/year per resident), and swimming (12 days/year per resident).
- The waterway value per person was calculated as \$1,853/year. The most valuable activities, based on costs per visit, were picnics and BBQs (31% of value), recreational fishing (24% of value) and boating and sailing (14% of value).

## 18.3 Cultural resource management

- First Nation rights and interests to lead the stewardship of Country and culture have been fully recognised through Native Title over 10.7% of the landscapes of the Pumicestone Catchment where Native Title persists.
- First Nation parties are identified and recognised to lead the decisions relating to Aboriginal Cultural Heritage over 100% of the Pumicestone Catchment.
- Comprehensive archaeological surveys that formally document and maximise the protection of Aboriginal Cultural Heritage have been completed and recognised over 0% of the Pumicestone Catchment.
- Aboriginal Cultural Heritage Management Plans that enhance the protection of culture have been adopted over 9% of the formally recorded Aboriginal Cultural Heritage sites in the Pumicestone Catchment.
- Note: the area monitored for the Cultural Resource Management Indicators for the Pumicestone currently does not include the Yarun (Bribie Island). Please also refer to the results for Yarun (Bribie Island).

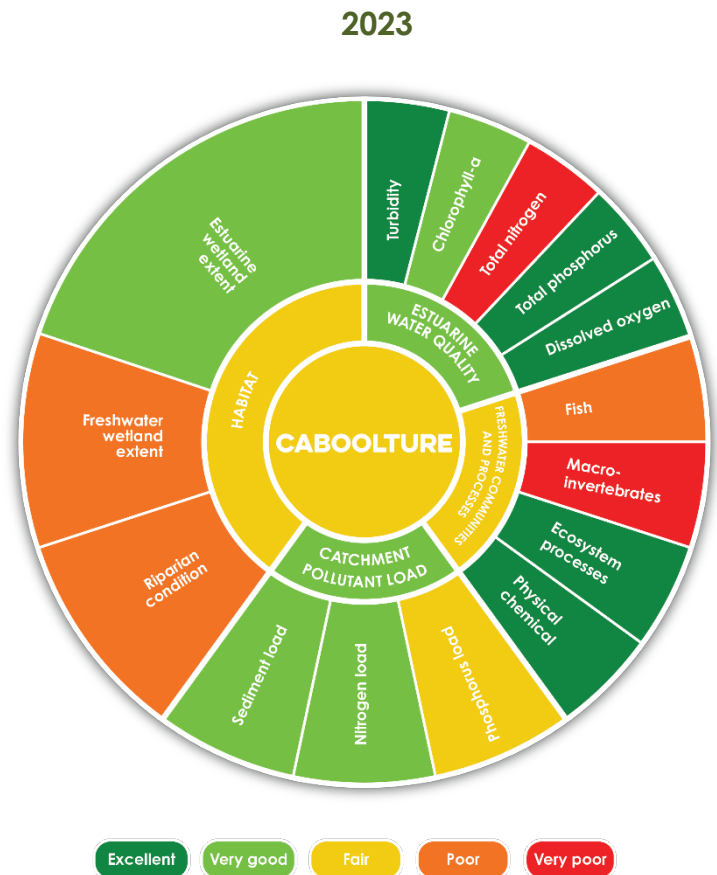
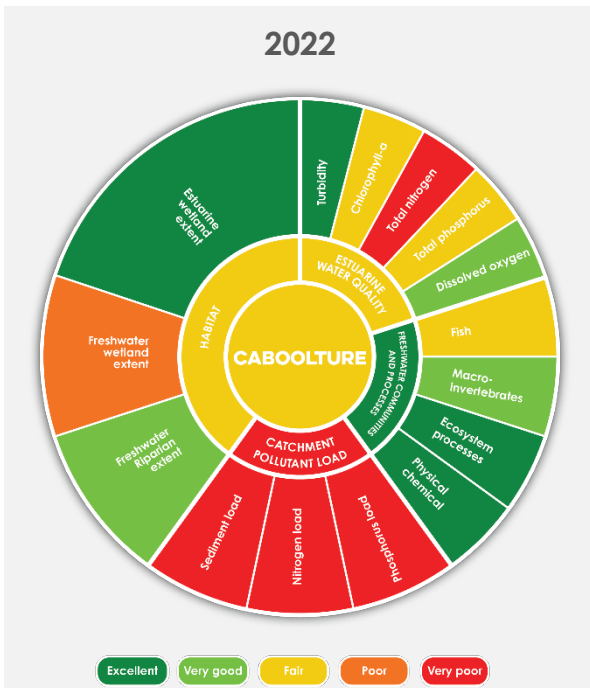
## 18.4 Ways to improve waterway health and benefits

- Protecting and managing existing values from the pressures of population growth is a priority, with the population in the Moreton Bay region projected to be one of the fastest-growing urbanised areas in the region.
- Protect and manage critical habitats within the Pumicestone catchment, including coastal saltmarsh, mangrove communities, existing critical streambank vegetation, and wetlands.
- Increase the use of erosion and sediment controls and compliance for new development, construction sites and private lands, particularly in the peri-urban landscape.
- Reduce sediment loads and nutrients entering waterways through stormwater management, property management, and restoration of areas of high erosion risk across the catchment. Focus on engagement and compliance within industries with high soil disturbance, such as agriculture and development.
- Reduce excess nutrient run-off from agricultural and agroforestry land by adopting best practice fertiliser use and management. Implement best management practices for unsealed roads and 4WD in the Pumicestone catchment.
- Manage pesticides and herbicide use to prevent un-intended ecological impacts in receiving waters

- Develop and implement management strategies to minimise the impact of increasing visitation and recreational use of the Passage.
- Provide education campaigns on the respectful use of waterways and greenspace areas.
- Community, First Nations, Industry, research and academia, and government work together to better understand what the Bribie Island “breakthrough” means for the health of the Pumicestone Passage. Hold a Community Science and Planning Forum aimed at understanding what the changes brought forward by this event mean for the Region.
- Maintain the northern inter-urban break as part of the Pumicestone Passage Catchment to prevent urban coalescence and maintain biodiversity corridors (this priority is supported by a Regional Policy in *ShapingSEQ 2017*).
- Restore depleted shellfish reefs to enhance natural filtration and improve water clarity for the benefit of other species.
- Respect and recognise First Nations in daily work activities by getting to know and engaging with the appropriate First Nation group who have a registered interest in your catchment. For assistance on engagement, please see the [Guidance for proponents on best practice Indigenous engagement for environmental assessments under the Environment Protection and Biodiversity Conservation Act 1999](#) and the [AIATSIS Principles for engagement in projects concerning Aboriginal and Torres Strait Islander peoples](#).
- Undertake comprehensive surveys of the Pumicestone Catchment to contemporarily record, document and safeguard Cultural Heritage and protect sites through Cultural Heritage Management Plans. Target strategic areas for cultural surveys and cultural heritage protection, including high energy risk areas/areas affected by erosion and sea level rise along the coast.
- Enhance Cultural Heritage compliance by improving development assessment processes and increasing education around compliance with the *Aboriginal Cultural Heritage Act 2003* and Best Practice Standards ([Heritage Chairs of Australia and New Zealand 2020, Dhawura Ngilan: A vision for Aboriginal and Torres Strait Islander heritage in Australia](#)).

## 19 Caboolture catchment

### 19.1 Environmental condition (Fair)



The catchment has improved slightly remaining in fair environmental condition.

#### Why?

- Pollutant loads decreased significantly from very high to low within the Caboolture Catchment, with sediment (mud) load decreasing from 2,869 kg/ha in 2022 to 396 kg/ha in 2023. Run-off also delivered low loads of nitrogen (2.9 kg/ha) and phosphorus (0.4 kg/ha) to waterways.
- Freshwater health declined significantly from excellent to fair condition. Fish community health and macroinvertebrates declined from very good to fair and excellent to very poor respectively, while ecosystem processes and water quality remained in excellent condition.
- Wetland extent remains poor (32% remaining) in the freshwater reaches of the catchment. The extent of wetland habitat in the estuary is very good, with 92% of mangroves and saltmarshes remaining in the catchment.
- Riparian habitats in freshwater reaches are in poor condition in 2023. Woody vegetation cover is fair with >80% woody cover in 33 % of sub-catchments. The riparian bio condition score is fair, and remnant riparian vegetation clearing is continuing in the Caboolture catchment.
- Estuarine water quality improved from fair to very good, due to improvements in nutrients (total nitrogen and total phosphorus) and in dissolved oxygen in the mid to lower estuary.

## 19.2 Socio-Economic Benefit Rating ★ ★ ★ ★ ★

- The **Socio-Economic Benefit Rating** shows that despite fair catchment condition, very high numbers of residents (68%) are satisfied with their local waterways, the same average value for South East Queensland. Caboolture residents reported very high levels of personal connection with nature (77%) with very high levels of motivation to use and access local waterways (69%).
- Residents report that they value their local waterways for recreation. 56% of residents recreate in or alongside their local waterway at least monthly. High numbers value them as a place of rest and relaxation (67%) or for social interaction with friends and family (59%). The top activities include walking or running (50 days/year per resident) and enjoying nature (22 days/year per resident).
- The waterway value per person was calculated as \$1,173/year. The most valuable activities, based on costs per visit, were picnics and BBQs (30% of value) and recreational fishing (27% of value).

## 19.3 Cultural resource management

- First Nation rights and interests to lead the stewardship of Country and culture have been fully recognised through Native Title over 12.7% of the landscapes of the Caboolture Catchment where Native Title persists.
- First Nation parties are identified and recognised to lead the decisions relating to Aboriginal Cultural Heritage over 100% of the Caboolture Catchment.
- Comprehensive archaeological surveys that formally document and maximise the protection of Aboriginal Cultural Heritage have been completed and recognised over 0% of the Caboolture Catchment.
- Aboriginal Cultural Heritage Management Plans that enhance the protection of culture have been adopted over 25% of the formally recorded Aboriginal Cultural Heritage sites in the Caboolture Catchment.

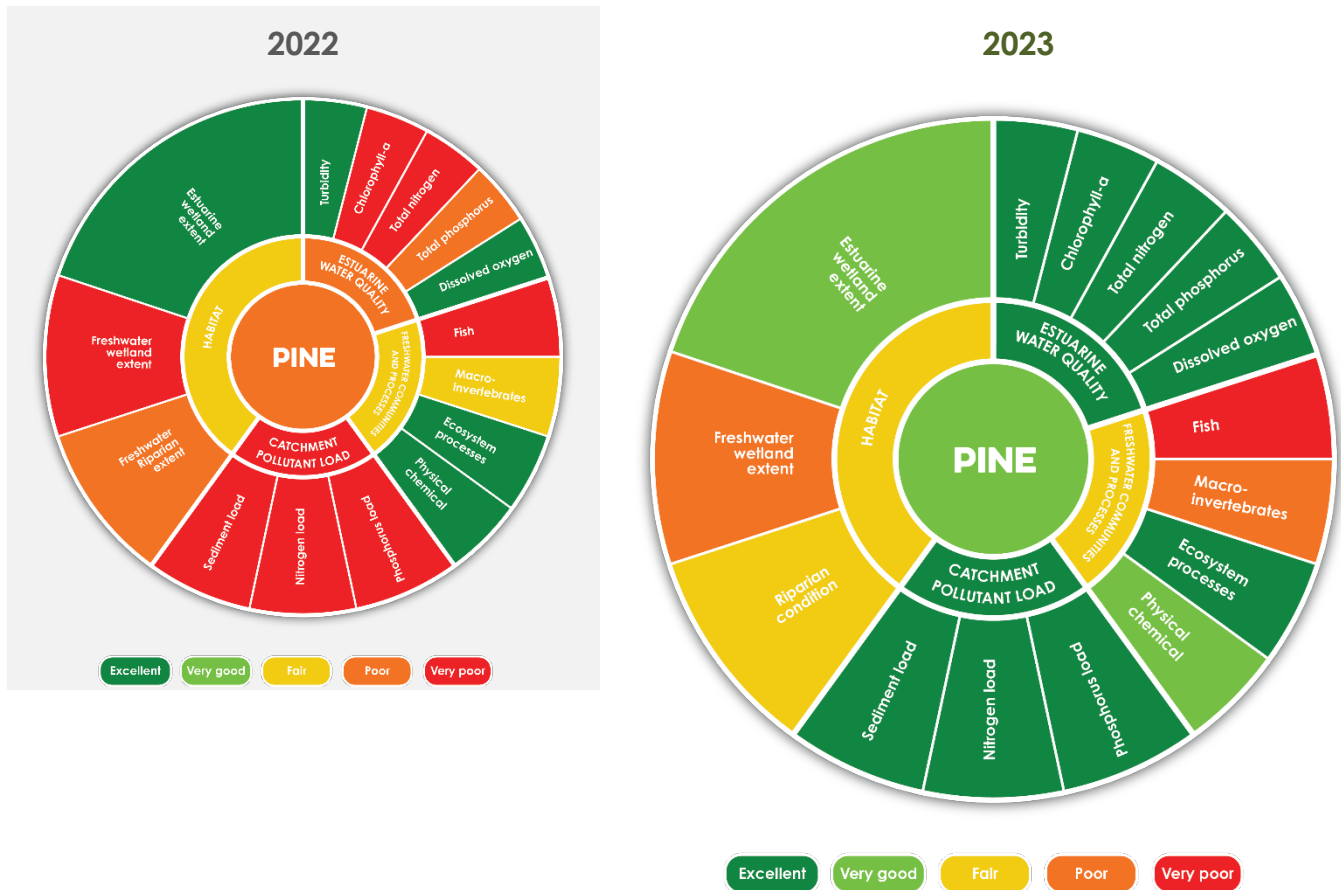
## 19.4 Ways to improve waterway health and benefits

- Protecting and managing existing values from the pressures of population growth is a priority, with the population in the Moreton Bay region projected to be one of the fastest-growing urbanised areas in the region.
- Support integrated catchment management planning and investment that manages the flow of flood water to enhance environmental, social, and economic resilience.
- Maintain levels of vegetation and groundcover along stream banks and in other priority areas such as hillslopes to reduce sediment pollution.
- Manage wastewater treatment plants and other point sources to maintain or improve water quality as the population grows.
- Increase the use of erosion and sediment controls and compliance for new development, construction sites and private lands.
- Reduce sediment loads and nutrients entering waterways through stormwater management, property management, and restoration of areas of high erosion risk across the catchment. Focus on engagement and compliance within industries with high soil disturbance, such as agriculture and development.
- Implement integrated and forward planning for urban development and associated infrastructure to avoid all adverse effects on people and natural areas.
- Reduce threats to key wetland areas, particularly the Moreton Bay Ramsar Site.
- Provide education campaigns on the respectful use of greenspace areas.
- Deliver urban backyard wildlife programs to support corridors for habitat, particularly waterways.

- Deliver education programs for rural residential landholders (including Landholder Guides) for improved natural resource management outcomes.
- Respect and recognise First Nations in daily work activities by getting to know and engaging with the appropriate First Nation group who have a registered interest in your catchment. For assistance on engagement, please see the [Guidance for proponents on best practice Indigenous engagement for environmental assessments under the \*Environment Protection and Biodiversity Conservation Act 1999\*](#) and the [AIATSIS Principles for engagement in projects concerning Aboriginal and Torres Strait Islander peoples](#).
- Undertake comprehensive surveys of the Caboolture Catchment to record, document and safeguard Cultural Heritage and protect sites through Cultural Heritage Management Plans. Target strategic areas for cultural surveys and cultural heritage protection, including risk areas/areas affected by erosion and sea level rise along the coast and along the river and creek systems.
- Enhance Cultural Heritage compliance by improving development assessment processes and increasing education around compliance with the *Aboriginal Cultural Heritage Act 2003* and Best Practice Standards ([Heritage Chairs of Australia and New Zealand 2020, Dhawura Ngilan: A vision for Aboriginal and Torres Strait Islander heritage in Australia](#)).

## 20 Pine catchment

### 20.1 Environmental condition (Very good)



The catchment has improved significantly from poor to very good environmental condition.

#### Why?

- Pollutant loads decreased significantly from very high to very low, with sediment (mud) load decreasing from 1,350 kg/ha in 2022 to 12 kg/ha in 2023. Run-off also delivered very low loads of nitrogen (0.7 kg/ha) and phosphorus (0.1 kg/ha) to waterways.
- The health of freshwater creeks slightly decreased though remains fair. Water quality health and macroinvertebrates declined from excellent to very good and very good to poor respectively. Macroinvertebrates declined from fair to poor condition. Fish community health slightly improved but remain in fair condition.
- Wetland extent is poor (39% remaining) in the freshwater reaches of the catchment. The extent of wetland habitat in the estuary is very good, with 80% of mangroves and saltmarshes remaining in the catchment.
- Riparian habitats in freshwater reaches are in fair condition in 2023. Woody vegetation cover is fair with >80% woody cover in 49 % of sub-catchments. The riparian bio condition score is fair. There has been minimal woody vegetation re-growth and remnant riparian vegetation clearing is continuing in the Pine catchment.
- Estuarine water quality improved significantly from poor to excellent this year due to significant improvements in total nutrients (total nitrogen and total phosphorus) and algae (phytoplankton). Dissolved oxygen improved slightly remaining in excellent condition, as did turbidity.

## 20.2 Socio-Economic Benefit Rating ★ ★ ★ ★ ★

- The **Socio-Economic Benefit Rating** shows that despite very good catchment condition, extremely high numbers of residents are satisfied (81%) with their local waterways. This is likely due to very high satisfaction with their ability to access and use local waterways (77% compared to 70% for all of South East Queensland).
- Residents report that they value their local waterways for recreation. 58% of residents recreate in or alongside their local waterway at least monthly. The top activities include walking/running (49 days/year per resident), enjoying nature (25 days/year per resident), picnics/BBQs (7 days/year per resident), and cycling (6 days/year per resident).
- The waterway value per person was calculated as \$1,024/person. The most valuable activities, based on costs per visit, were picnics and BBQs (45% of value), recreational fishing (18% of value) and boating and sailing (14% of value).
- The catchment supplied over 37,208M L of drinking water to residents in 2022-2023. Moderate levels of sludge relative to other drinking water catchments were removed from the local water treatment plant.

## 20.3 Cultural Resource Management

- First Nation rights and interests to lead the stewardship of Country and culture have been fully recognised through Native Title over 2.5% of the landscapes of the Pine Catchment where Native Title persists.
- First Nation parties are identified and recognised to lead the decisions relating to Aboriginal Cultural Heritage over 100% of the Pine Catchment.
- Comprehensive archaeological surveys that formally document and maximise the protection of Aboriginal Cultural Heritage have been completed and recognised over 0% of the Pine Catchment.
- Aboriginal Cultural Heritage Management Plans that enhance the protection of culture have been adopted over 1% of the formally recorded Aboriginal Cultural Heritage sites in the Pine Catchment.

## 20.4 Ways to improve waterway health and benefits

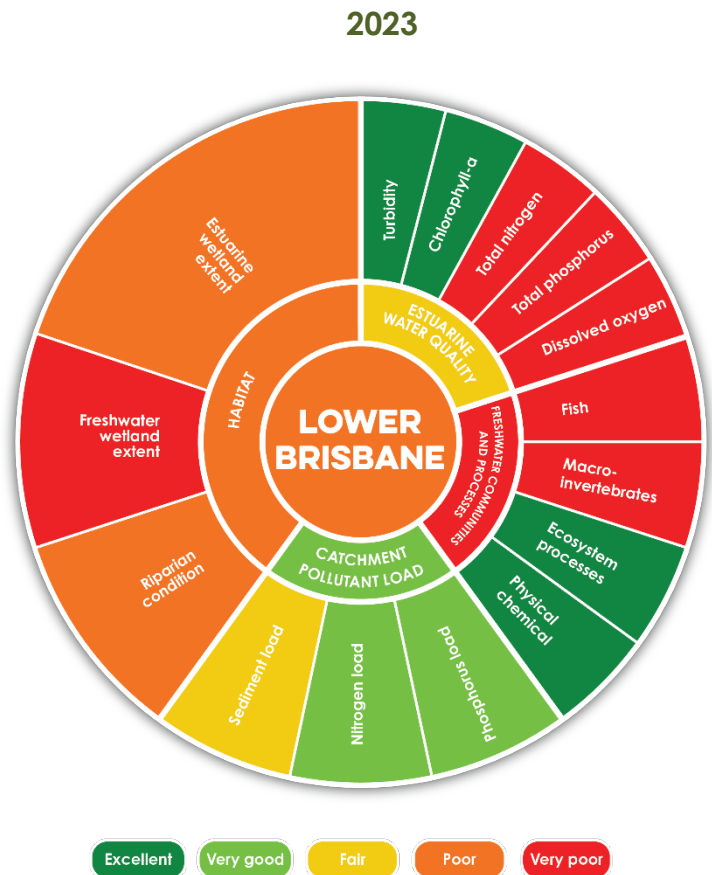
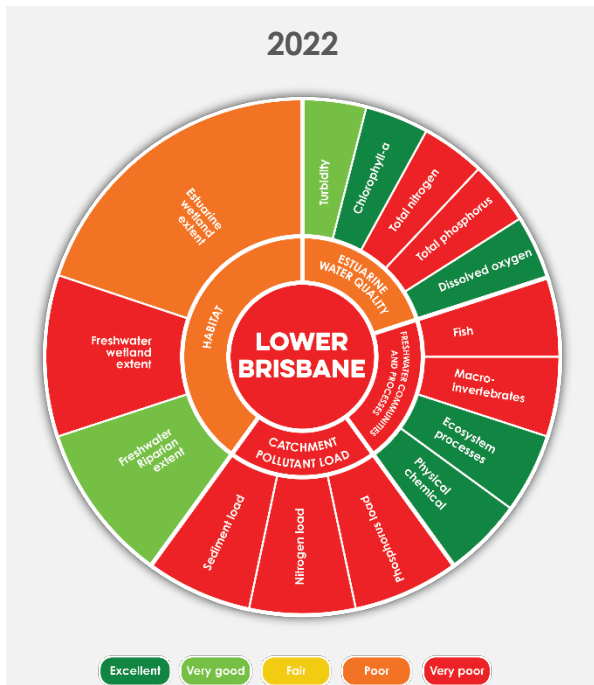
- Protecting and managing existing values from the pressures of population growth is a priority, with the population in the Moreton Bay region projected to be one of the fastest growing urbanised areas in the region.
- Support integrated catchment management planning and investment that manages the flow of flood water to enhance environmental, social, and economic resilience.
- Implement integrated and forward planning for urban development and associated infrastructure to avoid all adverse effects on people and natural areas.
- Manage wastewater treatment plants and other point source inputs to maintain or improve water by maximising pollutant removal.
- Minimise nutrient inputs from the urban landscape through maintenance and enhancement of stormwater quality treatment infrastructure.
- Increase the use of erosion and sediment controls and compliance for new development, construction sites and private lands.
- Protect natural habitats, including wetlands that process excess nitrogen delivered to waterways.
- Implement regenerative agricultural practices and grazing land management to enhance soil health and carbon levels.
- Invest in programs to support land managers including private properties to:



- Manage and preserve bushland.
- Manage regrowth vegetation.
- Revegetate.
- Identify and manage pests and weeds.
- Manage for fire.
- Respect and recognise First Nations in daily work activities by getting to know and engaging with the appropriate First Nation group who have a registered interest in your catchment. For assistance on engagement, please see the [Guidance for proponents on best practice Indigenous engagement for environmental assessments under the \*Environment Protection and Biodiversity Conservation Act 1999\*](#) and the [AIATSIS Principles for engagement in projects concerning Aboriginal and Torres Strait Islander peoples](#).
- Undertake comprehensive surveys of the Pine Catchment to contemporarily record, document and safeguard Cultural Heritage and protect sites through Cultural Heritage Management Plans. Target strategic areas for cultural surveys and cultural heritage protection, including risk areas/areas affected by erosion and sea level rise along the coast and along river and creek systems.
- Enhance Cultural Heritage compliance by improving development assessment processes and increasing education around compliance with the *Aboriginal Cultural Heritage Act 2003* and Best Practice Standards ([Heritage Chairs of Australia and New Zealand 2020, Dhawura Ngilan: A vision for Aboriginal and Torres Strait Islander heritage in Australia](#)).

## 21 Lower Brisbane catchment

### 21.1 Environmental condition (Poor)



The catchment has improved from very poor to poor environmental condition.

#### Why?

- Pollutant loads decreased significantly from very high to low. Sediment (mud) load decreased from 1,087 kg/ha in 2022 to 225 kg/ha in 2023. Run-off also delivered low loads of nitrogen (2.9 kg/ha) and moderate levels of phosphorus (0.5 kg/ha) to waterways.
- Freshwater health remains in very poor condition despite a slight improvement in fish community health. Water quality and ecosystem processes remain in excellent condition.
- Wetland extent remains very poor (25% remaining) in the freshwater reaches of the catchment. The extent of wetland habitat in the estuary remains poor, with 40% of mangroves and saltmarshes remaining in the catchment.
- Riparian habitats in freshwater reaches are in poor condition in 2023. Woody vegetation cover is fair with >80% woody cover in 46 % of sub-catchments. Riparian bio condition is poor. There has been minimal woody vegetation re-growth and remnant riparian vegetation clearing is continuing in the Lower Brisbane catchment.
- Estuarine water quality, including at Oxley and Cabbage Tree Creek, improved from poor to fair. Dissolved oxygen declined significantly from excellent to very poor within the Brisbane River estuary, while turbidity improved across all estuaries of the Lower Brisbane.

## 21.2 Socio-Economic Benefit Rating ★ ★ ★ ★ ★

- The **Socio-Economic Benefit Rating** shows that high numbers of residents (63%) were satisfied with the condition of their local waterways (compared with 68% for all of South East Queensland). Lower Brisbane residents also report high levels of personal connection with nature (54%).
- Residents particularly value their local waterways for recreation. 56% of residents enjoy recreating in or alongside their local waterway at least monthly or more. The most frequent recreation activities include walking/running (52 days/year per resident), and enjoying nature (20 days/year per resident).
- The waterway value per person was calculated as \$757/year. The most valuable activities, based on costs per visit, was picnics and BBQs (44% of value) and recreational fishing (15% of value).

## 21.3 Cultural resource management

- First Nation rights and interests to lead the stewardship of Country and culture have been fully recognised through Native Title over 4.6% of the landscapes of the Lower Brisbane Catchment where Native Title persists.
- First Nation parties are identified and recognised to lead the decisions relating to Aboriginal Cultural Heritage over 98% of the Lower Brisbane Catchment.
- Comprehensive archaeological surveys that formally document and maximise the protection of Aboriginal Cultural Heritage have been completed and recognised over 0% of the Lower Brisbane Catchment.
- Aboriginal Cultural Heritage Management Plans that enhance the protection of culture have been adopted over 15% of the formally recorded Aboriginal Cultural Heritage sites in the Lower Brisbane Catchment.

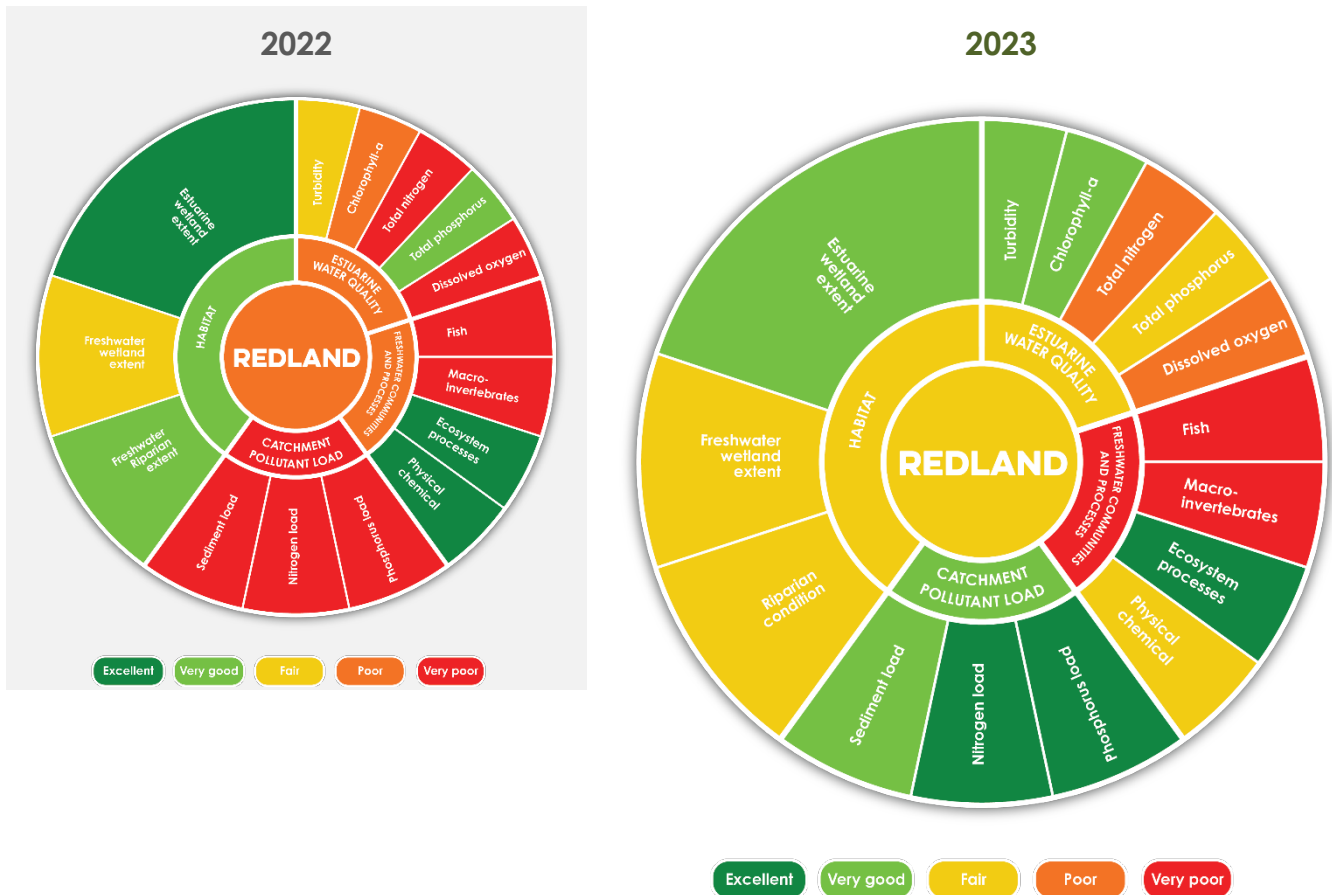
## 21.4 Ways to improve waterway health and benefits

- Protecting and managing existing values from the pressures of population growth is a priority, with the population in the Brisbane City Council projected to increase to approximately 1.5 million people over the next 25 years.
- Ensure there is a strategic approach to minimising the contribution of nutrients from wastewater treatment plants and other point sources in response to projected population increases.
- Minimise nutrient inputs from the urban landscape through maintenance and enhancement of stormwater quality treatment infrastructure.
- Enhance nature conservation outcomes in waterways and wetlands by addressing fish barriers, naturalising channels, and clearing weeds in priority areas.
- Actively undertake revegetation activities to reconnect fragmented landscapes and waterways to provide climate refugia, and buffers and reduce erosion.
- In conjunction with key stakeholders, develop and implement management plans for koalas, particularly the protection of large and connected areas of habitat.
- Deliver urban backyard wildlife programs to support habitat corridors.
- Implement fauna management solutions to reduce the impacts of infrastructure on habitat fragmentation (regional policy in ShapingSEQ 2017).
- Manage greenspace recreational activities to reduce negative ecological and community impacts.
- Reduce threats to key wetland areas, particularly the Moreton Bay Ramsar Wetland of International Significance.
- Support local events that combine art, music, and culture to celebrate the environment and attract local investment to improve catchment, wetland and waterway health.

- Respect and recognise First Nations in daily work activities by getting to know and engaging with the appropriate First Nation group who have a registered interest in your catchment. For assistance on engagement, please see the [Guidance for proponents on best practice Indigenous engagement for environmental assessments under the Environment Protection and Biodiversity Conservation Act 1999](#) and the [AIATSIS Principles for engagement in projects concerning Aboriginal and Torres Strait Islander peoples](#).
- Undertake comprehensive surveys of the Lower Brisbane Catchment to contemporarily record, document and safeguard Cultural Heritage and protect sites through Cultural Heritage Management Plans. Target strategic areas for cultural surveys and cultural heritage protection, including risk areas/areas affected by erosion and sea level rise along the coast and along river and creek systems.
- Enhance Cultural Heritage compliance by improving development assessment processes and increasing education around compliance with the *Aboriginal Cultural Heritage Act 2003* and Best Practice Standards ([Heritage Chairs of Australia and New Zealand 2020, Dhawura Ngilan: A vision for Aboriginal and Torres Strait Islander heritage in Australia](#)).

## 22 Redland catchment

### 22.1 Environmental condition (Fair)



The catchment has improved from poor to fair environmental condition.

Why?

- With lower flow within the creeks the pollutant loads decreased significantly from very high to low, with sediment (mud) loads from the catchment decreasing from 1,133 kg/ha in 2022 to 158 kg/ha in 2023. Run-off also delivered low loads of nitrogen (2.0 kg/ha) and phosphorus (0.3 kg/ha) to waterways.
- Freshwater health declined from poor to very poor, with significantly decline in water quality health from excellent to fair condition.
- Wetland extent remains fair (53% remaining) in the freshwater reaches of the catchment. The extent of wetland habitat in the estuary is very good, with 86% of mangroves and saltmarshes remaining in the catchment.
- Riparian habitats in freshwater reaches are in fair condition in 2023. Woody vegetation cover is fair with >80% woody cover in 42 % of sub-catchments. Riparian bio condition is very good. There has been minimal woody vegetation re-growth and remnant riparian vegetation clearing has been minimal.
- Estuarine water quality (Erapah and Tingalpa Creeks) improved from poor to fair. Improvements in water clarity (turbidity), total nitrogen, algae (phytoplankton) and dissolved oxygen were observed across both estuaries.

## 22.2 Socio-Economic Benefit Rating ★ ★ ★ ★ ★

- Despite fair catchment condition, very high numbers of residents (70%) are satisfied with their local waterways. Residents reported extremely high levels of personal connection (83%) with nature, with high levels of feeling motivated to use and protect their local waterways (45%).
- Residents report that they value their local waterways for recreation. 63% of residents recreate in or alongside their local waterway at least monthly or more. Very high numbers value them as a place of rest and relaxation (70%) or for social interaction with friends and family (57%). The top activities include walking/running (74 days/year per resident), enjoying nature (19 days/year per resident), and cycling (15 days/year per resident).
- The recreational value per person was valued at \$1,290/person. The most valuable activities, based on number of visitors multiplied by costs per visit were boating/sailing (40% of value), picnics and BBQs (26% of value) and recreational fishing (14% of value).
- The catchment supplied over 3,432M L of drinking water to residents in 2022-2023. Extremely high levels of sludge relative to other drinking water catchments was removed from Capalaba water treatment plant.

## 22.3 Cultural Resource Management

- First Nation rights and interests to lead the stewardship of Country and culture have been fully recognised through Native Title over 0% of the landscapes of the Redland Catchment where Native Title persists.
- First Nation parties are identified and recognised to lead the decisions relating to Aboriginal Cultural Heritage over 100% of the Redland Catchment.
- Comprehensive archaeological surveys that formally document and maximise the protection of Aboriginal Cultural Heritage have been completed and recognised over 21.38 ha (0.08%) of the Redland Catchment.
- Aboriginal Cultural Heritage Management Plans that enhance the protection of culture have been adopted over 19% of the formally recorded Aboriginal Cultural Heritage sites in the Redland Catchment.

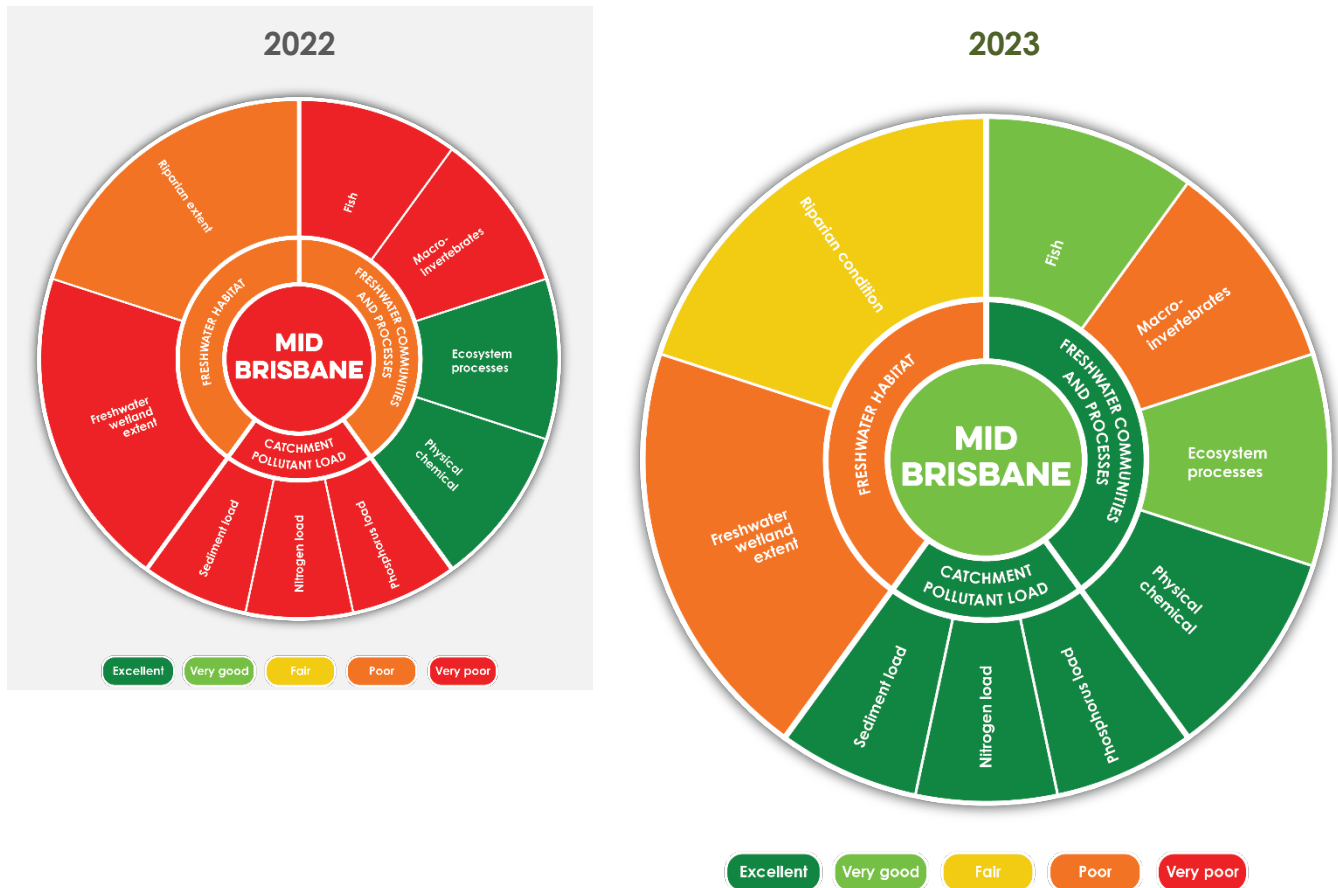
## 22.4 Ways to improve waterway health and benefits

- Protecting and managing existing values from the pressures of population growth is a priority, with the population of Redland's Coast projected to increase.
- Protect and manage critical habitats within the Redlands catchment, including remnant vegetation throughout Mount Cotton and existing critical streambank vegetation and wetlands.
- Continue to implement actions from the Redland City Councils Bay and Creeks Plan in partnership with internal and external stakeholders, including the community.
- Ensure there is a strategic approach to minimising the contribution of nutrients from wastewater treatment plants and other point sources in response to projected population increases.
- Increase the use of erosion and sediment controls and compliance for, construction sites and private lands.
- Support integrated catchment management planning and investment to enhance environmental, social, and economic resilience including impacts associated with extreme weather.
- Enhance nature conservation outcomes in waterways by addressing fish barriers, naturalising channels, restoring instream habitat, minimising clearing and managing biosecurity (such as pest fish and aquatic weeds) in priority areas.
- Actively undertake restoration activities to reconnect fragmented landscapes and waterways to provide climate refugia, buffers and reduce erosion.

- Reduce threats to key freshwater and estuarine wetland areas, including the Moreton Bay Ramsar Wetland of International Significance.
- Continue to minimise sediment and nutrient inputs from the urban landscape through maintenance and enhancement of stormwater quality treatment infrastructure
- Implement fauna management solutions to reduce the impacts of infrastructure on habitat fragmentation (regional policy in *ShapingSEQ 2017*).
- Protect and enhance access for residents to enjoy their local waterways.
- Minimise the negative impacts of recreational activities on waterways and 'greenspace' areas through management actions. Provide education campaigns on the respectful use of greenspace areas.
- In partnership with the community and other stakeholders, continue to deliver Redland City Council's Koala Conservation Plan and implement priority actions.
- Continue to provide opportunities for the community to be actively involved in bushland and waterway restoration projects and citizen science projects.
- Continue to deliver landholder engagement programs through Redland City Council's Environmental Partnerships programs to support the reinstatement of habitat, undertaking of natural resource management activities and fire management works on private property.
- Respect and recognise First Nations in daily work activities by getting to know and engaging with the appropriate First Nation group who have a registered interest in your catchment. For assistance on engagement, please see the [Guidance for proponents on best practice Indigenous engagement for environmental assessments under the Environment Protection and Biodiversity Conservation Act 1999](#) and the [AIATSIS Principles for engagement in projects concerning Aboriginal and Torres Strait Islander peoples](#).
- Undertake comprehensive surveys of the Redland Catchment to record, document and safeguard Cultural Heritage and protect sites through Cultural Heritage Management Plans. Target strategic areas for cultural surveys and cultural heritage protection, including high energy risk areas/areas affected by erosion and sea level rise along the coast and along river and creek systems.
- Enhance Cultural Heritage compliance by improving development assessment processes and increasing education around compliance with the *Aboriginal Cultural Heritage Act 2003* and Best Practice Standards ([Heritage Chairs of Australia and New Zealand 2020, Dhawura Ngilan: A vision for Aboriginal and Torres Strait Islander heritage in Australia](#)).

## 23 Mid Brisbane catchment

### 23.1 Environmental condition (Very good)



The catchment has improved significantly from very poor to very good condition.

#### Why?

- Pollutant loads decreased significantly from very high to very low, with sediment (mud) load decreasing from 1,490 kg/ha in 2022 to 24 kg/ha in 2023. Run-off also delivered very low loads of nitrogen (1.1 kg/ha) and phosphorus (0.1 kg/ha) to waterways.
- Freshwater health significantly improved from poor to excellent condition with a significant improvement in macroinvertebrates and fish community health. Water quality remains excellent.
- Wetland extent is poor in the freshwater reaches of the catchment with 36% remaining compared to the pre-clearing extent.
- Riparian habitats in freshwater reaches are in fair condition in 2023. Woody vegetation cover is fair with >80% woody cover in 42 % of sub-catchments. Riparian bio condition is fair. There has been minimal woody vegetation re-growth and remnant riparian vegetation clearing has been minimal.

### 23.2 Socio-Economic Benefit Rating ★★☆☆☆

- The **Socio-Economic Benefit Rating** shows that despite very good catchment condition, very high numbers of residents (68%) are satisfied with their local waterways. Residents reported very high satisfaction with their ability to access and use local waterways (67% compared to 70% for all of South East Queensland). Very high numbers of residents value them as a place of rest and



relaxation (62%) or for social interaction with friends and family (57%). Residents reported extremely high (81%) levels of personal connection with nature, being higher than the average for South East Queensland (77%).

- Residents report that they value their local waterways for recreation. 19% of residents recreate in or alongside their local waterway at least monthly or more. The top activities include walking and running (17 days/year per resident), recreational fishing (14 days/year per resident), and cycling (14 days/year per resident).
- The recreational value per person was valued at \$470/person and primarily comprised of recreational fishing (66%).
- The catchment contributed to the supply of over 148.106 ML of drinking water to SEQ residents in 2022-2023. High levels of sludge relative to other drinking water catchments were removed from downstream water treatment plants (Mount Crosby Eastbank, Mount Crosby Westbank and Lowood).

### 23.3 Cultural resource management

- First Nation rights and interests to lead the stewardship of Country and culture have been fully recognised through Native Title over 74.5% of the landscapes of the Mid Brisbane Catchment where Native Title persists.
- First Nation parties are identified and recognised to lead the decisions relating to Aboriginal Cultural Heritage over 100% of the Mid Brisbane Catchment.
- Comprehensive archaeological surveys that formally document and maximise the protection of Aboriginal Cultural Heritage have been completed and recognised over 0% of the Mid Brisbane Catchment.
- Aboriginal Cultural Heritage Management Plans that enhance the protection of culture have been adopted over 51% of the formally recorded Aboriginal Cultural Heritage sites in the Mid Brisbane Catchment.

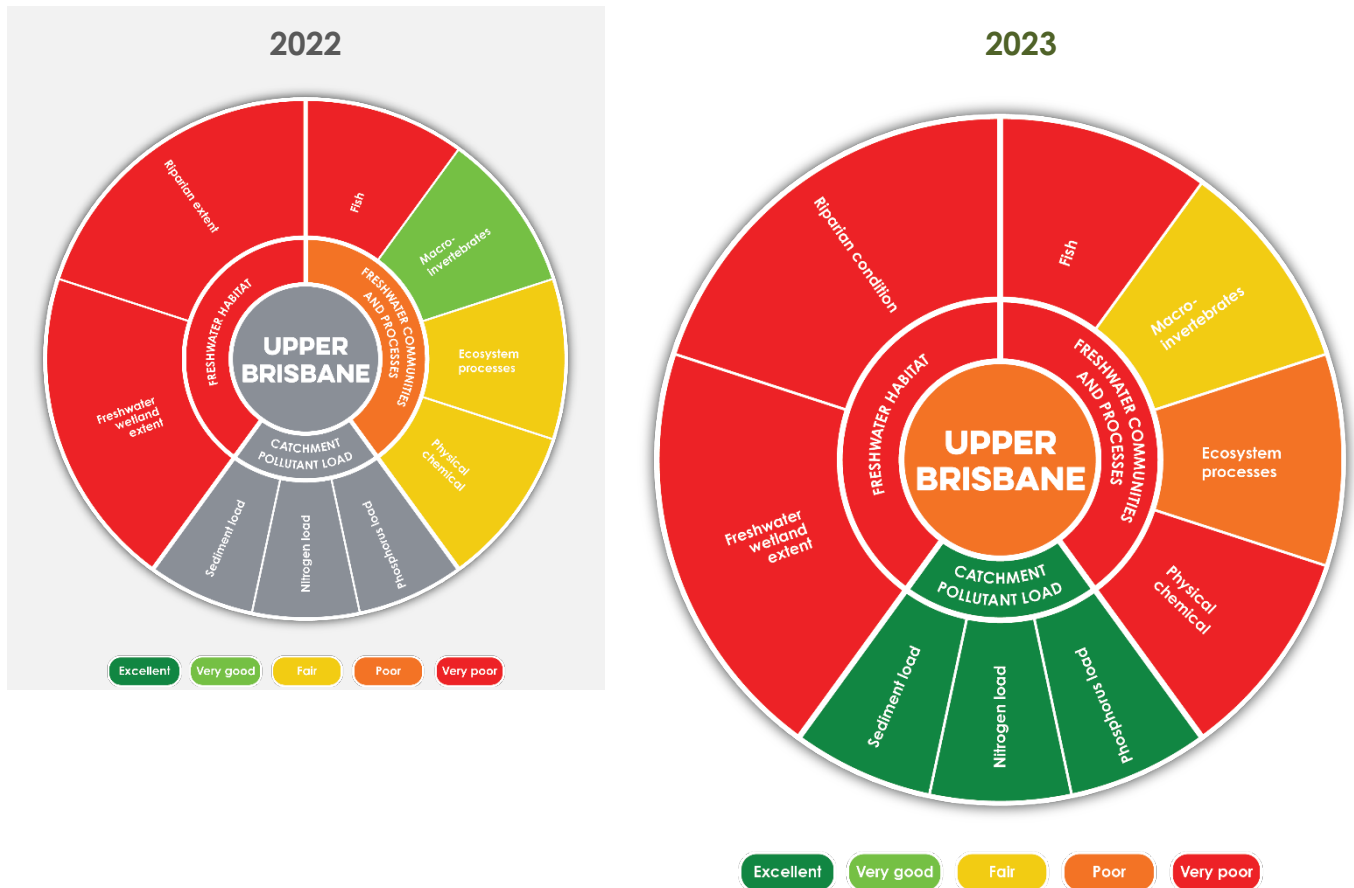
### 23.4 Ways to improve waterway health and benefits

- The western catchments of South East Queensland are impacted by the historic loss of vegetation and riparian cover, as such the priority is to protect, manage, and restore catchment vegetation and wetlands.
- Slow water down in the upper catchment to manage floodwater, reduce erosion, and rehydrate the landscape, by protecting and increasing vegetation (especially along riparian zones) and engaging floodplains through policy, land-use planning, incentives, and compliance.
- Implement integrated and forward planning for urban development and associated infrastructure to avoid all adverse effects on people and natural areas.
- Protect natural habitats, including wetlands and stream bank vegetation, from clearing, weed infestation and loss of connectivity. Currently 71% of streambanks in the Mid Brisbane catchment are vegetated, and only 23% of freshwater wetland extent remains.
- Maintain levels of vegetation and groundcover in priority areas such as hillslopes to reduce erosion and sediment pollution entering waterways.
- Address channel and gully erosion in priority to reduce erosion and sediment pollution entering waterways.
- Focus on engagement and compliance within industries with high soil disturbance such as agriculture and development.
- Recognise and support landholders providing ecosystem services to the wider community through their stewardship and management of land, water, and biodiversity assets.

- In conjunction with key stakeholders, develop and implement management plans for koalas, particularly the protection of large and connected areas of habitat.
- Create opportunities and incentives for residents to make changes around their homes, their businesses or in their local waterway to improve waterway condition. 47% of residents are motivated to use and protect local waterways.
- Respect and recognise First Nations in daily work activities by getting to know and engaging with the appropriate First Nation group who have a registered interest in your catchment. For assistance on engagement, please see the [Guidance for proponents on best practice Indigenous engagement for environmental assessments under the Environment Protection and Biodiversity Conservation Act 1999](#) and the [AIATSIS Principles for engagement in projects concerning Aboriginal and Torres Strait Islander peoples](#).
- Undertake comprehensive surveys of the Mid Brisbane Catchment to record, document and safeguard Cultural Heritage and protect sites through Cultural Heritage Management Plans. Target strategic areas for cultural surveys and cultural heritage protection, including risk areas/areas affected by erosion along river and creek systems.
- Enhance Cultural Heritage compliance by improving development assessment processes and increasing education around compliance with the *Aboriginal Cultural Heritage Act 2003* and Best Practice Standards ([Heritage Chairs of Australia and New Zealand 2020, Dhawura Ngilan: A vision for Aboriginal and Torres Strait Islander heritage in Australia](#)).

## 24 Upper Brisbane catchment

### 24.1 Environmental condition (Poor)



The catchment received a very poor (F) in 2021; no grade given in 2022 due to high uncertainty in the pollutant loads for this record rainfall year. This year the catchment is in poor environmental condition.

#### Why?

- Pollutant loads for this year was very low (39 kg/ha). Run-off also delivered very low loads of nitrogen (0.6 kg/ha) and phosphorus (0.2 kg/ha) to waterways.
- Freshwater health declined this year from fair to very poor. Water quality declined significantly from fair to very poor, ecosystem processes and macroinvertebrates declined from fair and very good to poor and fair, respectively. Fish community health declined slightly remaining in very poor condition.
- Wetland extent remains very poor (24% remaining) in the freshwater reaches of the catchment.
- Riparian habitats in freshwater reaches are in very poor condition in 2023. Woody vegetation cover is very poor with >80% woody cover in only 28 % of sub-catchments. Riparian bio condition very poor. There has been minimal woody vegetation re-growth and remnant riparian vegetation clearing continues.

### 24.2 Socio-Economic Benefit Rating ★★☆☆☆

- The **Socio-Economic Benefit Rating** shows that very high numbers of residents (68%) are satisfied with their local waterways. Residents reported high satisfaction with their ability to connect with local waterways (57% compared to 58% for all of South East Queensland). High numbers of

residents value them as a place of rest and relaxation (44%) or for social interaction with friends and family (39%). Very high levels of personal connection with nature (72%).

- Residents report that they value their local waterways for recreation. 33% of residents recreate in or alongside their local waterway at least weekly or more. The top activities include walking or running (22 days/year per resident), and enjoying nature (20 days/year per resident).
- The recreational value per person was valued at \$1,187/person. The most valuable activities, based on number of visitors multiplied by costs per visit were recreational fishing (26% of value), picnics and BBQs (26% of value) and boating/sailing (21% of value).
- The catchment contributed to the supply of over 145.148 ML of drinking water to SEQ residents in 2022-2023. Low levels of sludge relative to other drinking water catchments were removed from downstream water treatment plants (Mount Crosby Eastbank, Mount Crosby Westbank and Esk).

### 24.3 Cultural resource management

- First Nation rights and interests to lead the stewardship of Country and culture have been fully recognised through Native Title over 9% of the landscapes of the Upper Brisbane Catchment where Native Title persists.
- First Nation parties are identified and recognised to lead the decisions relating to Aboriginal Cultural Heritage over 43% of the Upper Brisbane Catchment.
- Comprehensive archaeological surveys that formally document and maximise the protection of Aboriginal Cultural Heritage have been completed and recognised over 0% of the Upper Brisbane Catchment.
- Aboriginal Cultural Heritage Management Plans that enhance the protection of culture have been adopted over 0% of the formally recorded Aboriginal Cultural Heritage sites in the Upper Brisbane Catchment.

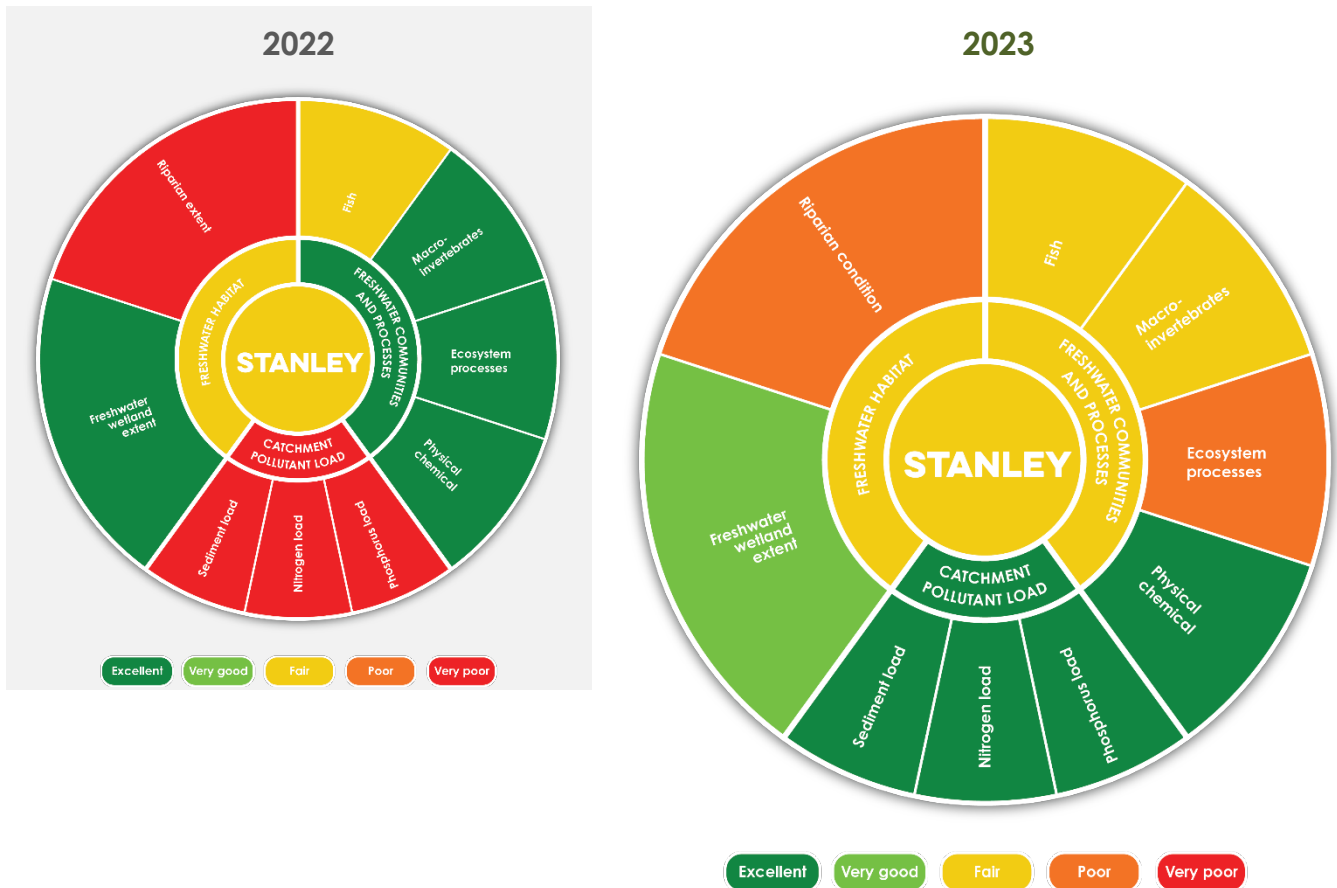
### 24.4 Ways to improve waterway health and benefits

- The western catchments of South East Queensland are impacted by a historic loss of vegetation and riparian cover. As such, the priority is to protect, manage and restore catchment vegetation and wetlands.
- Slow water down in the upper catchment to manage floodwater, reduce erosion, and rehydrate the landscape, by protecting and increasing vegetation (especially along riparian zones) and engaging floodplains through policy, land-use planning, incentives, and compliance.
- Improve riparian zone management by addressing clearing, weeds and cattle access in priority areas.
- Protect natural habitats, including wetlands and stream bank vegetation, from clearing, weed infestation and loss of connectivity. Currently 59% of streambanks in the Upper Brisbane catchment are vegetated, and only 23% of freshwater wetland extent remains.
- In conjunction with key stakeholders, develop and implement management plans for koalas, particularly the protection of large and connected areas of habitat with a focus on the lowland areas of the catchment.
- Enhance understanding and management of groundwater and groundwater-dependent ecosystems and wetlands, to better understand the role groundwater plays in supporting habitats and how it interacts with surface water.
- Maintain levels of vegetation and groundcover in priority areas, such as hillslopes, to reduce erosion and sediment pollution entering waterways.
- Address channel and gully erosion in priority to reduce erosion and sediment pollution entering waterways.

- Focus on engagement and compliance within industries with high soil disturbance, such as agriculture and development. Encourage best practice land management through activities like grazing management programs.
- Deliver education for rural residential landholders (including Landholder Guides) for improved natural resource management outcomes, particularly in the Ravensbourne, Dundas, Blackbutt North, South Burnett/Toowoomba, Blackbutt/Benarkin and Googa areas.
- Support and invest in community groups to improve catchment and waterway health, including administration and grant writing by providing extension, workshops and field days.
- Support land managers, including private properties (encourage absentee landholders) to:
  - Manage and preserve bushland.
  - Maintain ground cover in priority areas such as hillslopes to reduce sediment pollution.
  - Manage regrowth vegetation.
  - Revegetate.
  - Manage pests and weeds.
  - Manage for fire.
- Implement management and education programs for weeds, pests and fire, both fire preparedness and use of fire for ecological and environmental management, particularly in Upper Cooyar Creek.
- Coordinate regional and local strategies and programs to avoid, control and manage pest plants and animals and other biosecurity issues.
- Support sustainable and regenerative agricultural practices to maintain agricultural production (food and fibre) and enhance soil health, biodiversity, and waterway health.
- Promote and support local food production and marketing, e.g. local and sustainably produced food, buy and eat local produce. The 2032 Olympics will provide an opportunity to internationally showcase the food and fibre bowls of the Lockyer Valley, Somerset and Scenic Rim.
- Recognise and support landholders providing ecosystem services to the wider community through their stewardship and management of land, water and biodiversity assets.
- Actively restore wildlife and biodiversity corridors through mapping, revegetation, and reconnection of fragmented landscapes, including the Neurum Connection Corridor.
- Respect and recognise First Nations in daily work activities by getting to know and engaging with the appropriate First Nation group who have a registered interest in your catchment. For assistance on engagement, please see the [Guidance for proponents on best practice Indigenous engagement for environmental assessments under the Environment Protection and Biodiversity Conservation Act 1999](#) and the [AIATSIS Principles for engagement in projects concerning Aboriginal and Torres Strait Islander peoples](#).
- Undertake comprehensive surveys of the Upper Brisbane Catchment to record, document and safeguard Cultural Heritage and protect sites through Cultural Heritage Management Plans. Target strategic areas for cultural surveys and cultural heritage protection, including risk areas/areas affected by erosion along river and creek systems.
- Enhance Cultural Heritage compliance by improving development assessment processes and increasing education around compliance with the *Aboriginal Cultural Heritage Act 2003* and Best Practice Standards ([Heritage Chairs of Australia and New Zealand 2020](#), [Dhawura Ngilan: A vision for Aboriginal and Torres Strait Islander heritage in Australia](#)).

## 25 Stanley catchment

### 25.1 Environmental condition (Fair)



The catchment has remained in fair environmental condition.

#### Why?

- Pollutant loads decreased significantly from very high to very low, with sediment (mud) load decreasing from 1,125 kg/ha in 2022 to 47 kg/ha in 2023. Run-off also delivered very low loads of nitrogen (1.1 kg/ha) and phosphorus (0.2 kg/ha) to waterways.
- Freshwater stream health significantly declined from excellent to fair. Ecosystem processes and macroinvertebrates declined from excellent to poor and fair conditions respectively. Fish community and water quality health remains the same.
- Wetland extent is very good (69% remaining) in the freshwater reaches of the catchment.
- Riparian habitats in freshwater reaches are in poor condition in 2023. Woody vegetation cover is very poor with >80% woody cover in 30 % of sub-catchments. Riparian bio condition is poor. There has been minimal woody vegetation re-growth and remnant riparian vegetation clearing continues.

### 25.2 Socio-Economic Benefit Rating ★★☆☆☆

- The **Socio-Economic Benefit Rating** shows that very high numbers of Stanley residents are satisfied with their local waterways (68% compared to 68% for all of South East Queensland). Residents reported very high satisfaction with their ability to access and use local waterways (67%). Very high numbers of residents value them as a place of rest and relaxation (76%) or for

social interaction with friends and family (69%). Very high levels of personal connection with nature (76%).

- Residents report that they value their local waterways for recreation. 66% of residents recreate in or alongside their local waterway at least monthly. The top activities include enjoying nature (48 days/year per resident), walking or running (31 days/year per resident), and picnics and BBQ's (8 days/year per resident).
- The recreational value per person was valued at \$1,374/person and primarily comprised of picnics/BBQs (34%).
- The catchment contributed to the supply of over 1,328 ML of drinking water to residents in 2022-2023. Moderate levels of sludge relative to other drinking water catchments were removed from the Kilcoy water treatment plant.

### 25.3 Cultural resource management

- First Nation rights and interests to lead the stewardship of Country and culture have been fully recognised through Native Title over 78.8% of the landscapes of the Stanley Catchment where Native Title persists.
- First Nation parties are identified and recognised to lead the decisions relating to Aboriginal Cultural Heritage over 100% of the Stanley Catchment.
- Comprehensive archaeological surveys that formally document and maximise the protection of Aboriginal Cultural Heritage have been completed and recognised over 0% of the Stanley Catchment.
- Aboriginal Cultural Heritage Management Plans that enhance the protection of culture have been adopted over 0% of the formally recorded Aboriginal Cultural Heritage sites in the Stanley Catchment.

### 25.4 Ways to improve waterway health and benefits

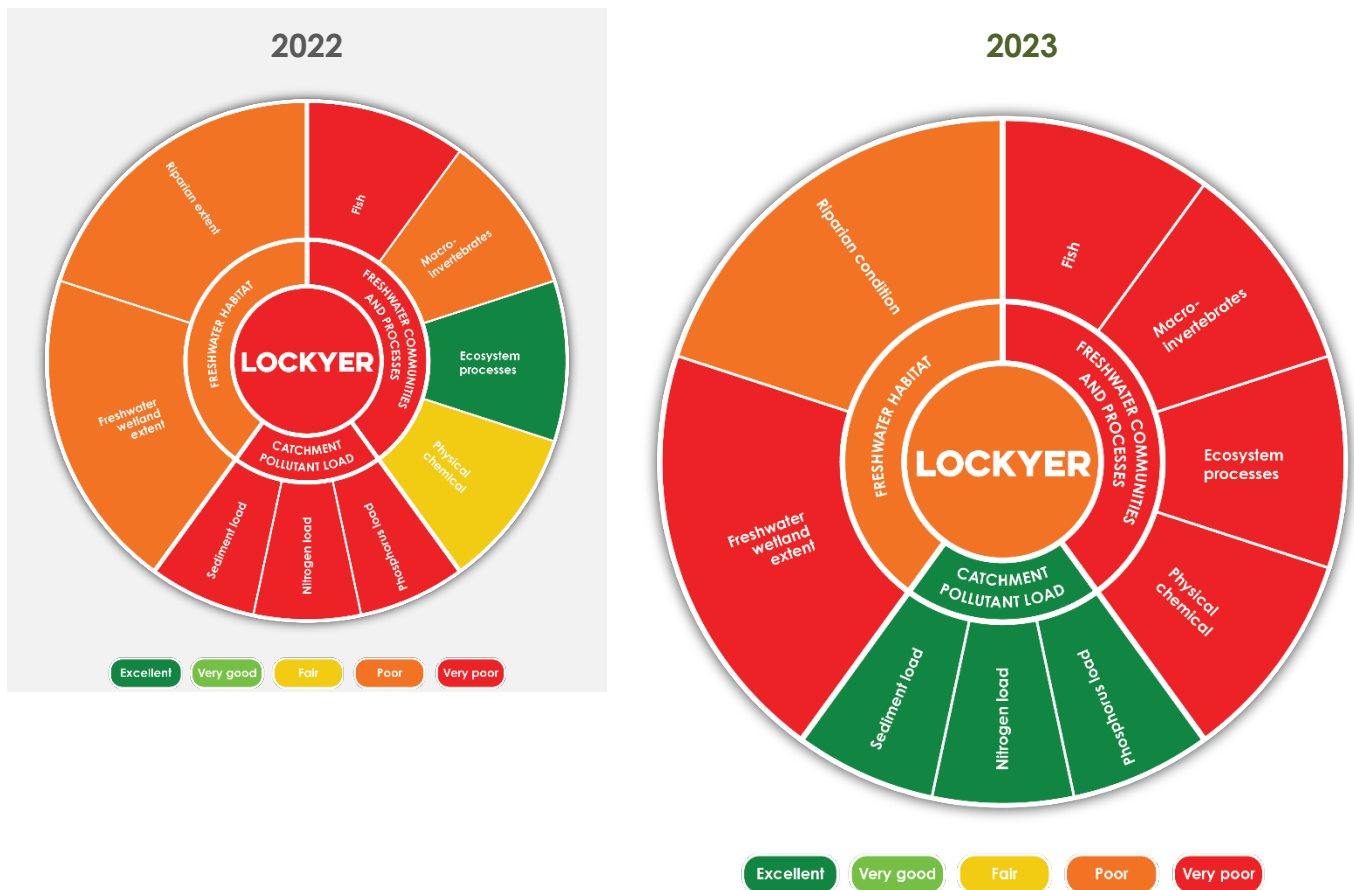
- The western catchments of South East Queensland are impacted by a historic loss of vegetation and riparian cover. As such, the priority is to protect, manage, and restore catchment vegetation and wetlands.
- Slow water down in the upper catchment to manage floodwater, reduce erosion, and rehydrate the landscape, by protecting and increasing vegetation (especially along riparian zones) and engaging floodplains through policy, land-use planning, incentives, and compliance.
- Protect natural habitats, including wetlands and stream bank vegetation, from clearing and loss of connectivity. Currently 64% of streambanks in the Stanley catchment are vegetated, and 72% of freshwater wetlands remain. Improve riparian zone management by addressing weeds and cattle access in priority areas.
- Enhance understanding and management of groundwater and groundwater-dependent ecosystems and wetlands, to better understand the role groundwater plays in supporting habitats and how it interacts with surface water.
- In conjunction with key stakeholders, develop and implement management plans for koalas, particularly the protection of large and connected areas of habitat with a focus on the lowland areas of the catchment.
- Maintain and increase levels of vegetation and groundcover on stream banks and other priority areas such as hillslopes to reduce erosion and sediment pollution entering waterways.
- Deliver education for rural residential landholders (including Landholder Guides) for improved natural resource management outcomes, particularly in the Ravensbourne, Dundas, Blackbutt North, South Burnett/Toowoomba, Blackbutt/Benarkin and Googa areas.

- Focus on engagement and compliance within industries with high soil disturbance, such as agriculture and development. Encourage best-practice land management through activities like grazing management programs.
- Support sustainable and regenerative agricultural practices to maintain agricultural production (food and fibre) and enhance soil health, biodiversity and waterway health.
- Respect and recognise First Nations in daily work activities by getting to know and engaging with the appropriate First Nation group who have a registered interest in your catchment. For assistance on engagement, please see the [Guidance for proponents on best practice Indigenous engagement for environmental assessments under the \*Environment Protection and Biodiversity Conservation Act 1999\*](#) and the [AIATSIS Principles for engagement in projects concerning Aboriginal and Torres Strait Islander peoples](#).
- Undertake comprehensive surveys of the Stanley Catchment to record, document and safeguard Cultural Heritage and protect sites through Cultural Heritage Management Plans. Target strategic areas for cultural surveys and cultural heritage protection, including risk areas/areas affected by erosion along river and creek systems.
- Enhance Cultural Heritage compliance by improving development assessment processes and increasing education around compliance with the *Aboriginal Cultural Heritage Act 2003* and Best Practice Standards ([Heritage Chairs of Australia and New Zealand 2020, Dhawura Ngilan: A vision for Aboriginal and Torres Strait Islander heritage in Australia](#)).



## 26 Lockyer catchment

### 26.1 Environmental condition (Poor)



The catchment has improved from very poor to poor environmental condition.

#### Why?

- Pollutant loads decreased significantly from very high to very low, with sediment (mud) load decreasing from 3,771 kg/ha in 2022 to 40 kg/ha in 2023. Run-off also delivered very low loads of nitrogen (1.0 kg/ha) and phosphorus (0.2 kg/ha) to waterways.
- Freshwater stream health has declined remaining in very poor condition. In 2022 water quality was in fair condition, ecosystem processes was in excellent condition and macroinvertebrates was in fair condition, this year all the parameters were very poor.
- Wetland extent is very poor (28% remaining) in the freshwater reaches of the catchment.
- Riparian habitats in freshwater reaches are in poor condition in 2023. Woody vegetation cover is poor with >80% woody cover in 46 % of sub-catchments. Riparian bio condition is very poor. There has been minimal woody vegetation re-growth and remnant riparian vegetation clearing continues.

### 26.2 Socio-Economic Benefit Rating ★★☆☆☆

- The **Socio-Economic Benefit Rating** shows that despite poor catchment condition, residents highly value their local waterways as a place of personal connection with nature (78%). 41% of residents enjoy recreating in or alongside their local waterway at least monthly or more. The

most frequent recreation activities include walking or running (38 days/year per resident), enjoying nature (20 days/year per resident), picnics and BBQs (8 days/year per resident).

- The recreational value per person was valued at \$1,180/year and was primarily composed of picnics/BBQs (33% of value), recreational fishing activities (26% of value) and boating (21% of value).
- Residents report very high levels of personal connection with nature (78%), and they are motivated to use and protect their local waterways (28%).
- The catchment contributed to the supply of over 148.106 ML of drinking water to SEQ residents in 2022-2023. Moderate levels of sludge relative to other drinking water catchments were removed from downstream water treatment plants (Lowood, Mount Crosby Eastbank, and Mount Crosby Westbank).

### 26.3 Cultural resource management

- First Nation rights and interests to lead the stewardship of Country and culture have been fully recognised through Native Title over 0% of the landscapes of the Lockyer Catchment where Native Title persists.
- First Nation parties are identified and recognised to lead the decisions relating to Aboriginal Cultural Heritage over 100% of the Lockyer Catchment.
- Comprehensive archaeological surveys that formally document and maximise the protection of Aboriginal Cultural Heritage have been completed and recognised over 0% of the Lockyer Catchment.
- Aboriginal Cultural Heritage Management Plans that enhance the protection of culture have been adopted over 44% of the formally recorded Aboriginal Cultural Heritage sites in the Lockyer Catchment.

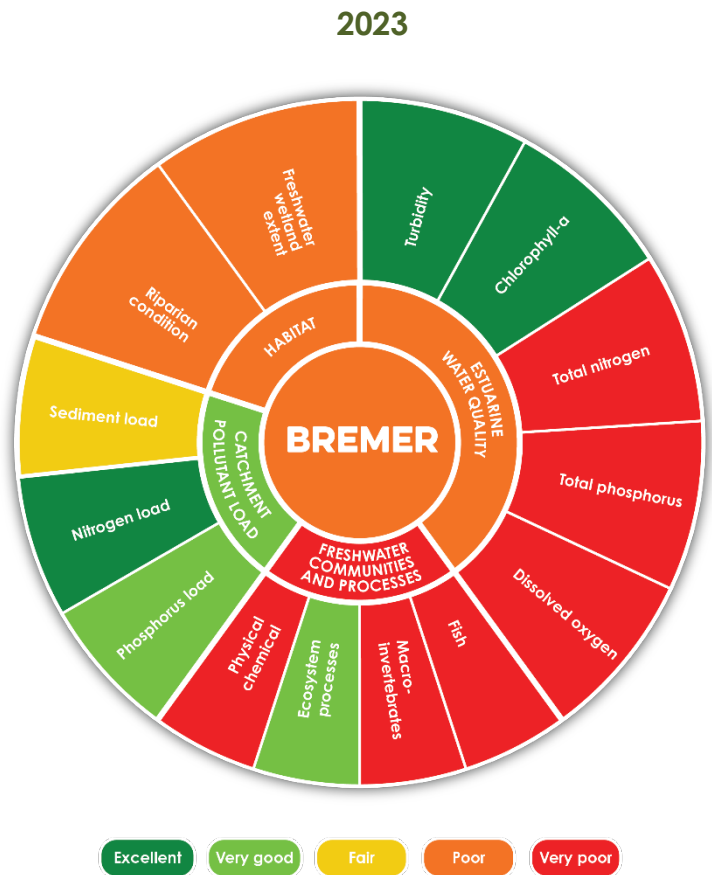
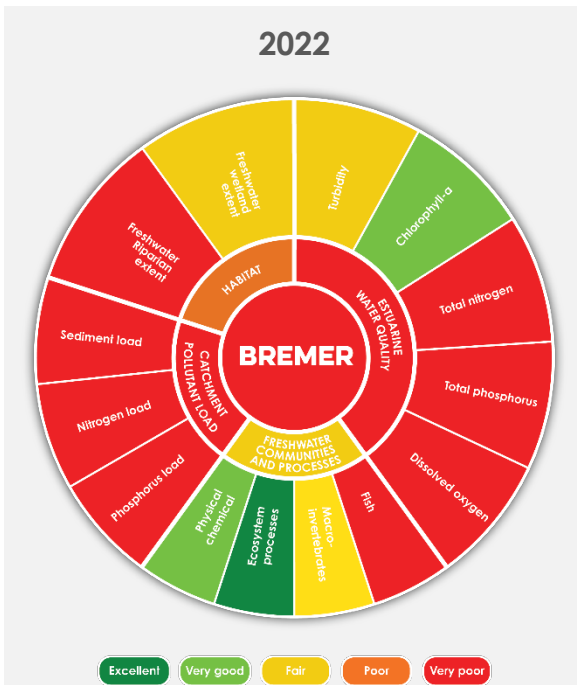
### 26.4 Ways to improve waterway health and benefits

- The western catchments of South East Queensland are impacted by historic loss of vegetation and riparian cover, as such the priority is to protect, manage, and restore catchment vegetation and wetlands.
- Protect natural habitats, including wetlands and stream bank vegetation, from clearing and loss of connectivity. Improve riparian zone management by addressing weeds and cattle access in priority areas.
- Slow water down in the upper catchment to manage floodwater, reduce erosion, and rehydrate the landscape, by protecting and increasing vegetation (especially along riparian zones) and engaging floodplains through policy, land-use planning, incentives, and compliance.
- Increase the proportion of remnant vegetation cover, by protecting and enhancing significant high value regrowth in high risk areas.
- Enhance understanding and management of groundwater and groundwater dependent ecosystems and wetlands, to better understand the role groundwater plays in supporting habitats and how it interacts with surface water.
- In conjunction with key stakeholders, develop and implement management plans for koalas particularly the protection of large and connected areas of habitat with a focus on the lowland areas of the catchment.
- Maintain levels of vegetation and groundcover on stream banks and in other priority areas, such as hillslopes to reduce erosion and sediment pollution entering waterways.
- Address channel and gully erosion in priority to reduce erosion and sediment pollution entering waterways.

- Focus on engagement and compliance within industries with high soil disturbance such as agriculture and development. Encourage best-practice land management, through activities like grazing and horticultural management programs.
- Deliver education for rural residential landholders (including Landholder Guides) for improved natural resource management outcomes.
- Promote the positive community actions underway in catchments with water quality issues (e.g. Lockyer) to share knowledge about what works to improve waterway health.
- Support sustainable and regenerative agricultural practice to maintain and enhance production, soil health, biodiversity, and waterway health.
- Identify priority areas for best value investment for reducing pollutant loads using integrated biophysical and economic mapping and modelling.
- Apply and align long-term monitoring and modelling to support the Lockyer Valley Regional Council Environment Strategy 2021-2026 and Strategic Priorities
- Respect and recognise First Nations in daily work activities by getting to know and engaging with the appropriate First Nation group who have a registered interest in your catchment. For assistance on engagement, please see the [Guidance for proponents on best practice Indigenous engagement for environmental assessments under the Environment Protection and Biodiversity Conservation Act 1999](#) and the [AIATSIS Principles for engagement in projects concerning Aboriginal and Torres Strait Islander peoples](#).
- Undertake comprehensive surveys of the Lockyer Catchment to contemporarily record, document and safeguard Cultural Heritage and protect sites through Cultural Heritage Management Plans. Target strategic areas for cultural surveys and cultural heritage protection, including risk areas/areas affected by erosion along river and creek systems.
- Enhance Cultural Heritage compliance by improving development assessment processes and increasing education around compliance with the *Aboriginal Cultural Heritage Act 2003* and Best Practice Standards ([Heritage Chairs of Australia and New Zealand 2020, Dhawura Ngilan: A vision for Aboriginal and Torres Strait Islander heritage in Australia](#)).

## 27 Bremer catchment

### 27.1 Environmental condition (Poor)



The catchment has improved from very poor to poor environmental condition.

Why?

- Pollutant loads decreased significantly from very high to low, with sediment (mud) load decreasing from 1,071 kg/ha in 2022 to 193 kg/ha in 2023. Run-off also delivered low loads of nitrogen (2.1 kg/ha) and phosphorus (0.6 kg/ha) to waterways.
- Freshwater health declined significantly from fair to very poor condition, with decline in macroinvertebrates, water quality, and ecosystem processes health.
- Wetland extent remains poor (41% remaining) in the freshwater reaches of the catchment.
- Riparian habitats in freshwater reaches are in poor condition in 2023. Woody vegetation cover is very poor with >80% woody cover only 22 % of sub-catchments. Riparian bio condition is very poor. There has been minimal woody vegetation re-growth and remnant riparian vegetation clearing continues.
- Estuarine water quality improved from very poor to poor. Total nutrients (total nitrogen and total phosphorus) remain very poor, while algae (phytoplankton) and turbidity significantly improved from very good and fair, respectively, to excellent.

### 27.2 Socio-Economic Benefit Rating ★★☆☆☆

- The **Socio-Economic Benefit Rating** shows that despite poor catchment condition results, residents expressed high levels of satisfaction (54%) with their local waterways.

- Residents highly value their local waterways for recreation, with 39% recreating in or alongside their local waterway on a monthly basis or more. Residents reported their recreational use of local waterways was predominantly walking or running (35 days/year), enjoying nature (16 days/year), and cycling (8 days/year).
- The recreational value per person was \$980/year. The most valuable activities, based on costs per visit, were picnics and BBQs (44% of value), and recreational fishing (22% of value).
- While residents have very high levels of personal connection with nature in general (75%), only 32% of residents were motivated to use and protect their local waterways.
- The catchment contributed to the supply of over 546 ML of drinking water to residents in 2022-2023. Very low levels of sludge relative to other drinking water catchments were removed from the Boonah-Kalbar water treatment plant.

### 27.3 Cultural resource management

- First Nation rights and interests to lead the stewardship of Country and culture have been fully recognised through Native Title over 0% of the landscapes of the Bremer Catchment where Native Title persists.
- First Nation parties are identified and recognised to lead the decisions relating to Aboriginal Cultural Heritage over 100% of the Bremer Catchment.
- Comprehensive archaeological surveys that formally document and maximise the protection of Aboriginal Cultural Heritage have been completed and recognised over 0% of the Bremer Catchment.
- Aboriginal Cultural Heritage Management Plans that enhance the protection of culture have been adopted over 38% of the formally recorded Aboriginal Cultural Heritage sites in the Bremer Catchment.

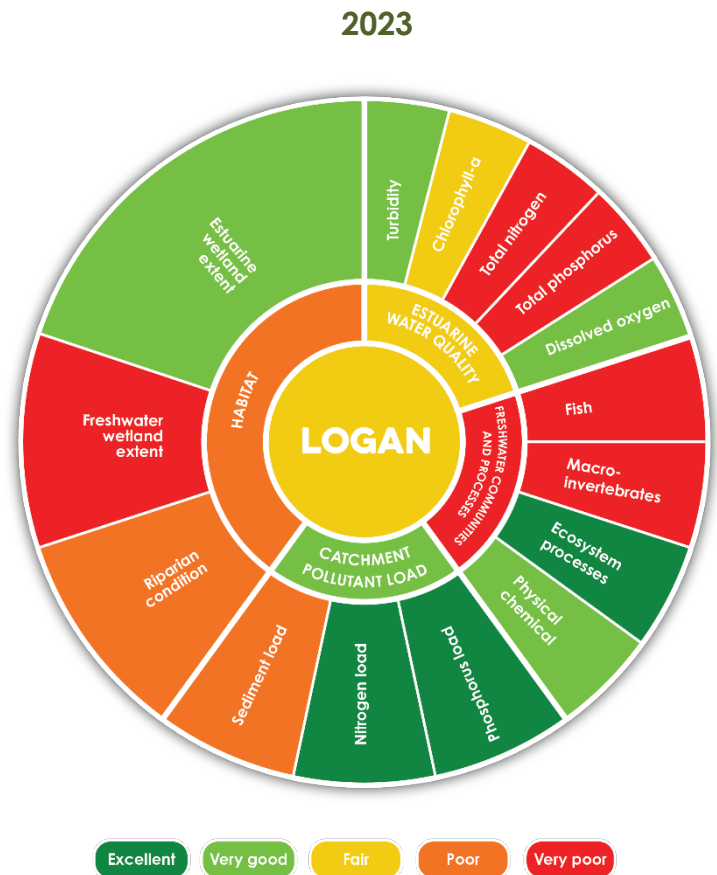
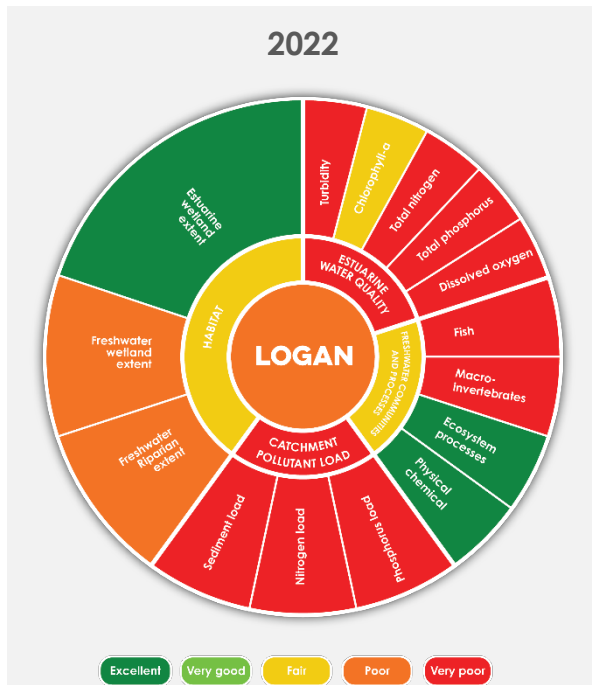
### 27.4 Ways to improve waterway health and benefits

- Protecting and managing existing values from the pressures of population growth is a priority, with the population in the Ipswich City Council area projected to be one of the fastest-growing urbanised areas in South East Queensland.
- Restore stream bank vegetation to restore resilience across the region. Protect natural habitats, including wetlands and stream bank vegetation, from clearing, weed infestation and loss of connectivity. Currently, 55% of streambanks in the Bremer catchment are vegetated, and only 46% of freshwater wetland extent remains.
- Slow water down in the upper catchment to manage floodwater, reduce erosion, and rehydrate the landscape, by protecting and increasing vegetation (especially along riparian zones) and engaging floodplains through policy, land-use planning, incentives, and compliance.
- Increase the use of erosion and sediment controls and compliance for new development, construction sites and private lands.
- Minimise nutrient inputs from the urban landscape through maintenance and enhancement of stormwater quality treatment infrastructure.
- Enhance understanding and management of groundwater and groundwater dependent ecosystems and wetlands, to better understand the role it plays in supporting habitats and how it interacts with surface water.
- Undertake freshwater protection and restoration activities including removing fish barriers, restoring instream habitat, naturalising channels, protecting and restoring riparian habitats and freshwater refugia.

- In conjunction with key stakeholders, develop and implement management plans for koalas particularly the protection of large and connected areas of habitat with a focus on the lowland areas of the catchment.
- Deliver education for rural residential landholders (including Landholder Guides) for improved natural resource management outcomes.
- Support land managers including private properties (encourage absentee landholders) to:
  - Manage and preserve bushland and riparian zones.
  - Maintain ground cover in priority areas such as hillslopes to reduce sediment pollution.
  - Manage regrowth vegetation.
  - Revegetate.
  - Manage pests and weeds.
  - Manage for fire.
- Create opportunities and incentives for residents to make changes around their homes, their businesses or in their local waterway to improve waterway condition. 65% of residents are motivated to use and protect local waterways.
- Respect and recognise First Nations in daily work activities by getting to know and engaging with the appropriate First Nation group who have a registered interest in your catchment. For assistance on engagement, please see the [Guidance for proponents on best practice Indigenous engagement for environmental assessments under the Environment Protection and Biodiversity Conservation Act 1999](#) and the [AIATSIS Principles for engagement in projects concerning Aboriginal and Torres Strait Islander peoples](#).
- Undertake comprehensive surveys of Bremer Catchment to contemporarily record, document and safeguard Cultural Heritage and protect sites through Cultural Heritage Management Plans. Target strategic areas for cultural surveys and cultural heritage protection, including risk areas/areas affected by erosion along river and creek systems.
- Enhance Cultural Heritage compliance by improving development assessment processes and increasing education around compliance with the *Aboriginal Cultural Heritage Act 2003* and Best Practice Standards ([Heritage Chairs of Australia and New Zealand 2020, Dhawura Ngilan: A vision for Aboriginal and Torres Strait Islander heritage in Australia](#)).

## 28 Logan catchment

### 28.1 Environmental condition (Fair)



Catchment condition has improved from poor to fair environmental condition.

#### Why?

- Pollutant loads decreased significantly from very high to low, with sediment (mud) load decreasing from 8,113 kg/ha in 2022 to 168 kg/ha in 2023. Run-off also delivered low loads of nitrogen (2 kg/ha) and phosphorus (0.7 kg/ha) to waterways.
- Freshwater health declined significantly from fair to very poor condition. Water quality declined from excellent to very good condition, while macroinvertebrate and fish communities remain in very poor condition in 2023. Ecosystem processes remain in excellent condition.
- Wetland extent is very poor (29% remaining) in the freshwater reaches of the catchment. The extent of wetland habitat in the estuary is very good, with 75% of mangroves and saltmarshes remaining in the catchment.
- Riparian habitats in freshwater reaches are in poor condition in 2023. Woody vegetation cover is very poor with >80% woody cover in only 24 % of sub-catchments. Riparian bio condition is very poor. There has been woody vegetation re-growth and remnant riparian vegetation clearing has been minimal.
- Estuarine water quality improved significantly from very poor to fair. The most indicators improved with turbidity and dissolved oxygen improving from very poor to very good, except for algae (phytoplankton) which declined slightly remaining fair.

## 28.2 Socio-Economic Benefit Rating ★ ★ ★ ★ ★

- The **Socio-Economic Benefit Rating** shows that despite fair catchment condition results, high numbers of residents (60%) are satisfied with the usability and accessibility of their local waterways (compared with 70% for all of South East Queensland).
- Very high numbers of residents (79%) report a personal connection with nature, however, only 33% of residents felt motivated to use and protect their local waterways. Residents' personal connection is higher than the regional average at 77%.
- Residents report they value their local waterways for recreation. 52% of people recreate in or alongside their local waterway on a monthly basis or more. The top activities include walking or running (37 days/year per resident), enjoying nature (22 days/year per resident), picnicking (10 days/year per resident), and cycling (8 days/year per resident).
- The recreational value per person is \$1,220/year and is comprised mostly of picnic/BBQ activities (37%), boating or sailing (24%) and recreational fishing (22%).
- The catchment supplied over 870 ML of drinking water to residents in 2022-2023. Very low levels of sludge relative to other drinking water catchments were removed from the Beaudesert water treatment plant.

## 28.3 Cultural resource management

- First Nation rights and interests to lead the stewardship of Country and culture have been fully recognised through Native Title over 0.3% of the landscapes of the Logan Catchment where Native Title persists.
- First Nation parties are identified and recognised to lead the decisions relating to Aboriginal Cultural Heritage over 97% of the Logan Catchment.
- Comprehensive archaeological surveys that formally document and maximise the protection of Aboriginal Cultural Heritage have been completed and recognised over 104.39 ha (0.03%) of the Logan Catchment.
- Aboriginal Cultural Heritage Management Plans that enhance the protection of culture have been adopted over 29% of the formally recorded Aboriginal Cultural Heritage sites in the Logan Catchment.

## 28.4 Ways to improve waterway health and benefits

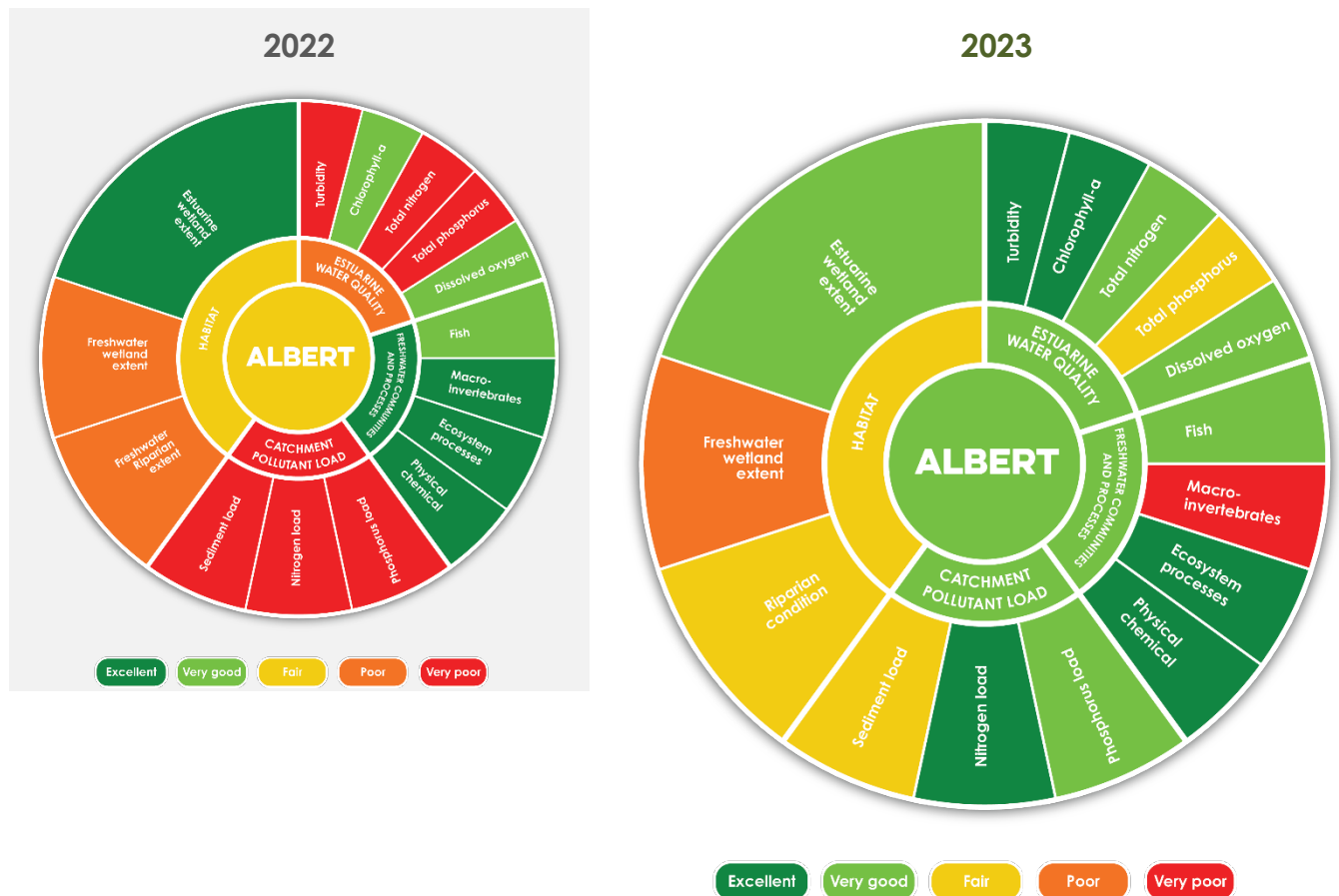
- Protecting and managing existing values from the pressures of population growth is a priority, with the population in the Logan City Council area projected to be one of the fastest-growing urbanised areas in South East Queensland.
- Restore stream bank vegetation and wetlands to restore resilience across the region, through urban areas, including Slacks and Scrubby Creeks. Protect natural habitats, including wetlands and stream bank vegetation, from clearing, weed infestation, and loss of connectivity. Currently 66% of streambanks in the Logan catchment are vegetated, and only 28% of freshwater wetland extent remains.
- Support and create processes for the community, First Nations, industry, and various levels of government to work together to invest in whole of catchment (land and water) stewardship.
- Increase the use of erosion and sediment controls and compliance for new development, construction sites and private lands. Apply water sensitive urban design practices to new development as a priority and naturalise urban flow pathways where appropriate.
- Ensure there is a strategic approach to minimising the contribution of nutrients from wastewater treatment plants and other point sources in response to projected population increases.
- Minimise nutrient inputs from the urban landscape through maintenance and enhancement of stormwater quality treatment infrastructure.



- Undertake freshwater protection and restoration activities, including removing fish barriers, restoring instream habitat, naturalising channels, and protecting and restoring riparian habitats and freshwater refugia.
- Promote responsible waterway use and access, such as promoting local tidal estuaries as valuable recreational fishing and nature experience. Enhance urban waterways and wetlands in a way that provides cooling, green corridors that residents can access throughout the city.
- Implement management and education programs like Landholder Guides that cover weeds, pests and fire, both fire preparedness and use of fire for ecological and environmental management.
- In conjunction with key stakeholders, develop and implement management plans for koalas, particularly the protection of habitat.
- Consider urban design and infrastructure, including roads, bridges and rail, hard rock quarries and other large-scale development, to come up with strategies to manage potential adverse effects on floodplain management, wildlife movement and habitat fragmentation (regional policy in ShapingSEQ 2017). Mount Barney to Karawatha Terrestrial Corridor, Corridor, Bahrs Scrub (corridors and connectivity), Spring Mountain Reserve, Undullah (corridors and connectivity), Munruben (regional ecosystem corridor), Chambers Flat (landscape corridor), Logan Village, Greenbank Military Reserve and Veresdale Scrub are priorities for this action.
- Create opportunities and incentives for residents to make changes around their homes, their businesses or in their local waterway to improve waterway condition. 28% of residents are motivated to use and protect local waterways.
- Respect and recognise First Nations in daily work activities by getting to know and engaging with the appropriate First Nation group who have a registered interest in your catchment. For assistance on engagement, please see the [Guidance for proponents on best practice Indigenous engagement for environmental assessments under the Environment Protection and Biodiversity Conservation Act 1999](#) and the [AIATSIS Principles for engagement in projects concerning Aboriginal and Torres Strait Islander peoples](#).
- Undertake comprehensive surveys of the Logan Catchment to contemporarily record, document and safeguard Cultural Heritage and protect sites through Cultural Heritage Management Plans. Target strategic areas for cultural surveys and cultural heritage protection, including risk areas/areas affected by erosion along river and creek systems.
- Enhance Cultural Heritage compliance by improving development assessment processes and increasing education around compliance with the *Aboriginal Cultural Heritage Act 2003* and Best Practice Standards ([Heritage Chairs of Australia and New Zealand 2020, Dhawura Ngilan: A vision for Aboriginal and Torres Strait Islander heritage in Australia](#)).

## 29 Albert catchment

### 29.1 Environmental condition (Very good)



Catchment condition has improved from fair to very good environmental condition.

#### Why?

- Pollutant loads decreased significantly from very high to low, with sediment (mud) load decreasing from 1,065 kg/ha in 2022 to 301 kg/ha in 2023. Run-off also delivered low loads of nitrogen (1.4 kg/ha) and phosphorus (0.6 kg/ha) to waterways.
- Freshwater health declined from excellent to very good condition. Water quality and ecosystem processes health remained excellent and fish community health remained in very good condition, while macroinvertebrate community health declined significantly from excellent to very poor condition.
- Wetland extent remains poor (44% remaining) in the freshwater reaches of the catchment. The extent of wetland habitat in the estuary is very good, with 76% of mangroves and saltmarshes remaining in the catchment.
- Riparian habitats in freshwater reaches are in fair condition in 2023. Woody vegetation cover is poor with >80% woody cover in 41% of sub-catchments. Riparian bio condition is fair. There has been minimal woody vegetation re-growth and remnant riparian vegetation clearing has been minimal.
- Estuarine water quality improved significantly from poor to very good. Nutrients (total nitrogen and phosphorus) and algae (phytoplankton) significantly improved across the estuary, while dissolved oxygen declined slightly remaining very good. Turbidity improved from very poor to excellent.

## 29.2 Socio-economic rating ★ ★ ★ ★ ☆

- The **Socio-Economic Benefit Rating** shows that despite very good catchment condition results, high numbers of people (56%) were satisfied with their local waterways (compared with 68% for all of South East Queensland). Very high numbers of residents (69%) valued their local waterway as a place of rest and relaxation or for social interaction with friends and family (63%).
- Residents report that they value their local waterways for recreation. 47% recreate in or alongside their local waterway on a monthly basis or more. Residents reported their recreational use of local waterways was predominantly walking or running (29 days/year per resident), enjoying nature (18 days/year per resident), and recreational fishing (9 days/year per resident). The recreational value per person was valued at \$740/year. The most valuable activities, based on costs per visit, were recreational fishing (40% of value) and boating and sailing (25%).
- The catchment supplied over 140 ML of drinking water to residents in 2022-2023. Very low levels of sludge relative to other drinking water catchments were removed from the Canungra water treatment plant.

## 29.3 Cultural resource management

- First Nation rights and interests to lead the stewardship of Country and culture have been fully recognised through Native Title over 0% of the landscapes of the Albert Catchment where Native Title persists.
- First Nation parties are identified and recognised to lead the decisions relating to Aboriginal Cultural Heritage over 100% of the Albert Catchment.
- Comprehensive archaeological surveys that formally document and maximise the protection of Aboriginal Cultural Heritage have been completed and recognised over 307.60 ha (0.39%) of the Albert Catchment.
- Aboriginal Cultural Heritage Management Plans that enhance the protection of culture have been adopted over 1% of the formally recorded Aboriginal Cultural Heritage sites in the Albert Catchment.

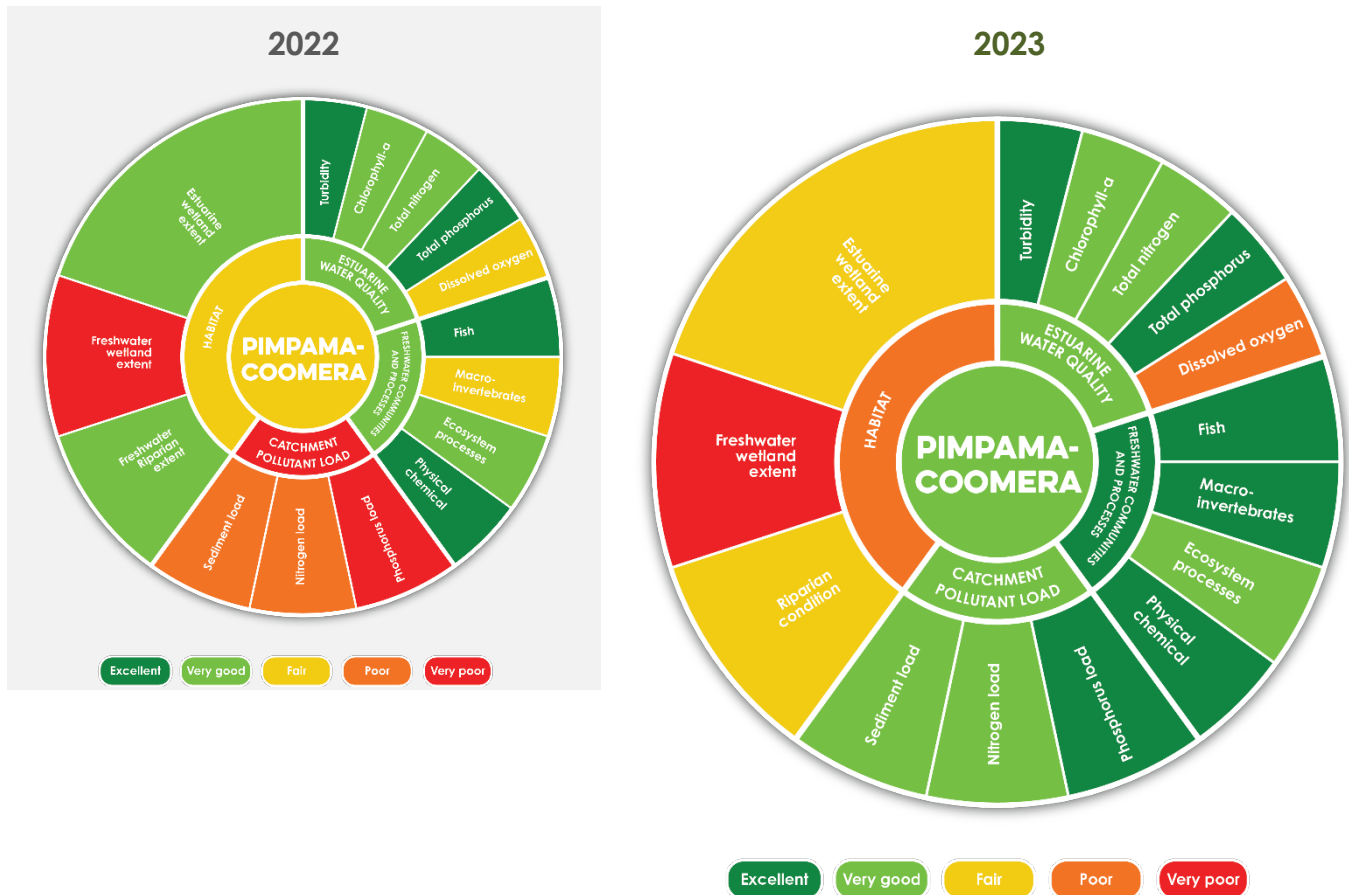
## 29.4 Ways to improve waterway health and benefits

- Protecting and managing existing values from the pressures of population growth is a priority.
- Restore stream bank vegetation and wetlands, to restore resilience across the region. Protect natural habitats, including wetlands and stream bank vegetation, from clearing, weed infestation and loss of connectivity. Currently 73% of streambanks in the Albert catchment are vegetated, and only 31% of freshwater wetland extent remains.
- Slow water down in the upper catchment to manage floodwater, reduce erosion, and rehydrate the landscape, by protecting and increasing vegetation (especially along riparian zones) and engaging floodplains through policy, land-use planning and compliance.
- Enhance understanding and management of groundwater and groundwater-dependent ecosystems and wetlands to better understand the role groundwater plays in supporting habitats and how it interacts with surface water.
- Increase the use of erosion and sediment controls and compliance for new development, construction sites and private lands.
- Enhance waterway corridors and instream habitats and stabilise eroding gullies and channels to improve water quality, especially in new urban development areas.
- Focus on engagement and compliance within industries with high soil disturbance, such as agriculture and development.
- Implement management and education programs like Landholder Guides that cover weeds, pests and fire, both fire preparedness and use of fire for ecological and environmental management.

- In conjunction with key stakeholders, develop and implement management plans for koalas, particularly the protection of habitat.
- Reduce threats to key areas, including the Gondwana Rainforests World Heritage Area.
- Provide targeted invasive species management to reduce threats to UNESCO-designated or World Heritage listed areas, including the Queensland components of the Gondwana Rainforests of Australia and other listed properties.
- Create opportunities and incentives for residents to make changes around their home, their businesses or in their local waterway to improve waterway condition. 46% of residents are motivated to use and protect local waterways.
- Respect and recognise First Nations in daily work activities by getting to know and engaging with the appropriate First Nation group who have a registered interest in your catchment. For assistance on engagement, please see the [Guidance for proponents on best practice Indigenous engagement for environmental assessments under the Environment Protection and Biodiversity Conservation Act 1999](#) and the [AIATSIS Principles for engagement in projects concerning Aboriginal and Torres Strait Islander peoples](#).
- Undertake comprehensive surveys of the Albert Catchment to contemporarily record, document and safeguard Cultural Heritage and protect sites through Cultural Heritage Management Plans. Target strategic areas for cultural surveys and cultural heritage protection, including risk areas/areas affected by erosion along river and creek systems.
- Enhance Cultural Heritage compliance by improving development assessment processes and increasing education around compliance with the *Aboriginal Cultural Heritage Act 2003* and Best Practice Standards ([Heritage Chairs of Australia and New Zealand 2020, Dhawura Ngilan: A vision for Aboriginal and Torres Strait Islander heritage in Australia](#)).

## 30 Pimpama-Coomera catchment

### 30.1 Environmental condition (Very good)



Catchment condition has improved from fair to very good environmental condition.

#### Why?

- Pollutant loads decreased significantly from very high to low, with sediment (mud) load decreasing from 563 kg/ha in 2021 to 115 kg/ha in 2023. Run-off also delivered low loads of nitrogen (2.9 kg/ha) and phosphorus (0.4 kg/ha) to waterways.
- The health of freshwater creeks improved from very good to excellent. Macroinvertebrates community health condition improved from fair to excellent. Fish community, ecosystem processes health and water quality condition remained the same.
- Wetland extent remains very poor (19% remaining) in the freshwater reaches of the catchment. The extent of wetland habitat in the estuary is fair, with 71% of mangroves and saltmarshes remaining in the catchment.
- Riparian habitats in freshwater reaches are in fair condition in 2023. Woody vegetation cover is fair with >80% woody cover in 49 % of sub-catchments. Riparian bio condition is very good. There has been minimal woody vegetation re-growth and remnant riparian vegetation clearing has continued.
- Estuarine water quality remained very good. In the Pimpama, total phosphorus improved across the estuary. Algal (phytoplankton) and nitrogen remained the same, while dissolved oxygen declined from fair to poor condition.

### 30.2 Socio-Economic Benefit Rating ★ ★ ★ ★ ★

- The **Socio-Economic Benefit Rating** shows that despite very good catchment condition, very high numbers of residents (68%) are satisfied with their local waterways (compared with 68% for all of South East Queensland). This is likely due to the community's very high satisfaction with their ability to access and use their local waterways (71%).
- Residents value their local waterways for recreation with 59% recreating in or alongside their local waterway on a weekly basis. The top activities include walking or running (77 days/year per resident), enjoying nature (30 days/year per resident) and cycling (10 days/year per resident).
- The recreational value per person was valued at \$1,774/year. The most valuable activities, based on costs per visit, were picnics and BBQs (27% of value), boating and sailing (25% of value) and recreational fishing (19% of value).

### 30.3 Cultural resource management

- First Nation rights and interests to lead the stewardship of Country and culture have been fully recognised through Native Title over 0% of the landscapes of the Pimpama-Coomera Catchment where Native Title persists.
- First Nation parties are identified and recognised to lead the decisions relating to Aboriginal Cultural Heritage over 100% of the Pimpama-Coomera Catchment.
- Comprehensive archaeological surveys that formally document and maximise the protection of Aboriginal Cultural Heritage have been completed and recognised over 0% of the Pimpama-Coomera Catchment.
- Aboriginal Cultural Heritage Management Plans that enhance the protection of culture have been adopted over 8% of the formally recorded Aboriginal Cultural Heritage sites in the Pimpama-Coomera Catchment.

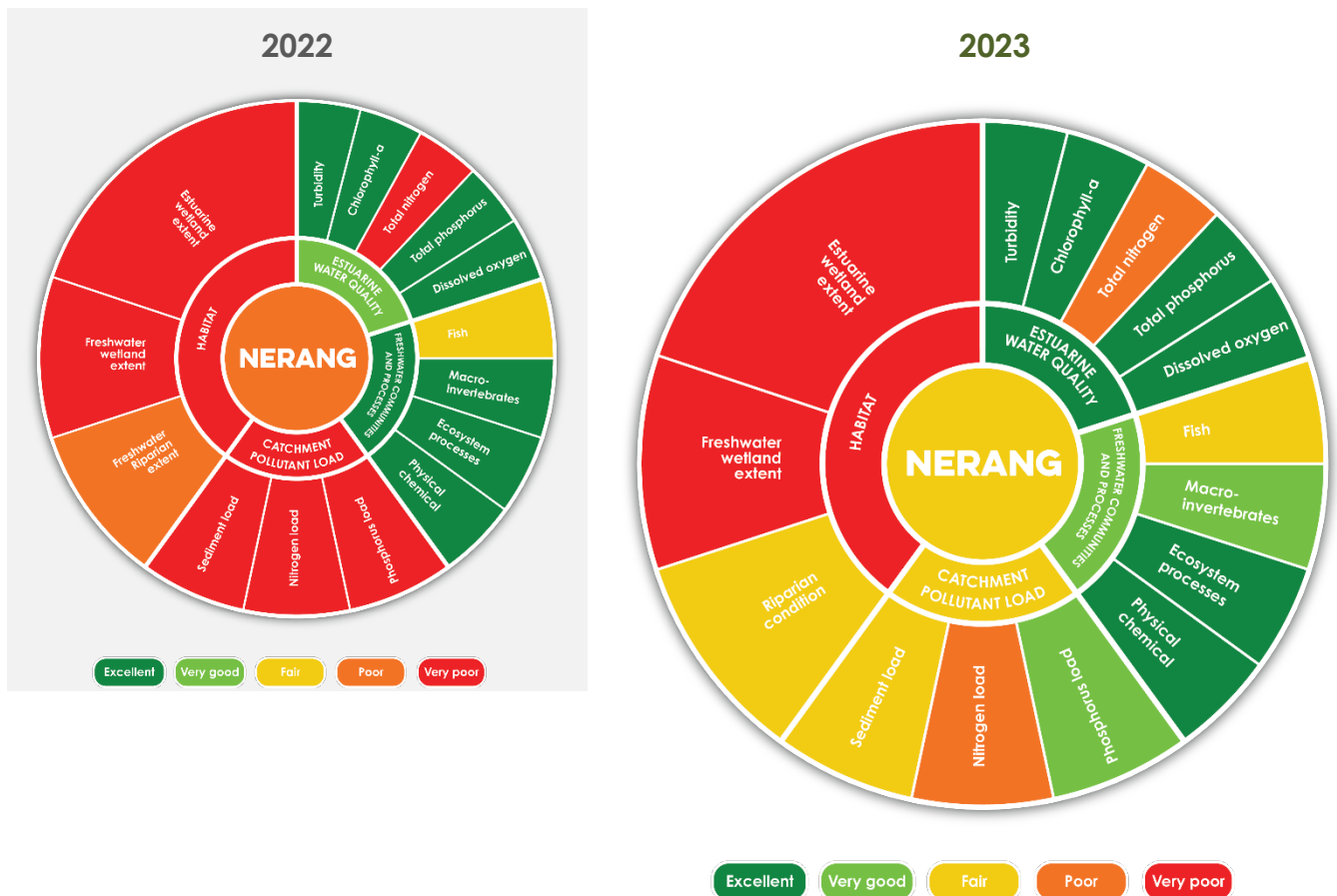
### 30.4 Ways to improve waterway health and benefits

- Protecting and managing existing values from the pressures of population growth is a priority, with the population in the Pimpama-Coomera catchment projected to be one of the fastest-growing urbanised areas in the City of Gold Coast over the next 25 years.
- Slow water and reduce erosion in the upper catchment by protecting and increasing vegetation (especially along riparian zones) and engaging floodplains through policy, land-use planning and compliance.
- Implement integrated and forward planning for urban development and associated infrastructure to avoid all adverse effects on people and natural areas.
- Manage land-use change and increase the use of erosion and sediment controls and compliance for new development, construction sites and private lands.
- Apply water sensitive urban design practices to new development. Minimise nutrient inputs from the urban landscape through maintenance and enhancement of stormwater quality treatment infrastructure.
- Develop Gold Coast catchment and waterways models for water quality, catchment sediment/nutrient load, sea level rise, scenario testing and future planning.
- Improve priority waterway corridors and instream habitats by addressing vegetation clearing, weeds management and cattle access.
- Identify barriers to fish passage and develop and implement solutions in priority areas.
- Enhance the awareness and use of planning tools and regulatory structures that promote collaborative action for biosecurity, particularly weed and pest management.
- Implement management and education programs for weeds, pests and fire, both fire preparedness and use of fire for cultural/ecological/environmental outcomes.

- Support capacity building across government, industry, and the broader community of the rights, interests, knowledge and critical role of First Nations and Traditional Owners in caring for Country.
- Enhance the community's emotional connection with waterways by promoting their use and access, such as promoting local tidal estuaries as valuable recreational fishing and nature experience. Emotional connection fosters feelings of responsibility and willingness to engage in or support waterway protection activities.
- Create opportunities and incentives for residents to make changes around their homes, their businesses or in their local waterway to improve waterway condition. 46% of residents are motivated to use and protect local waterways.
- Respect and recognise First Nations in daily work activities by getting to know and engaging with the appropriate First Nation group who have a registered interest in your catchment. For assistance on engagement, please see the [Guidance for proponents on best practice Indigenous engagement for environmental assessments under the Environment Protection and Biodiversity Conservation Act 1999](#) and the [AIATSIS Principles for engagement in projects concerning Aboriginal and Torres Strait Islander peoples](#).
- Undertake comprehensive surveys of the Pimpama-Coomera Catchment to contemporarily record, document and safeguard Cultural Heritage and protect sites through Cultural Heritage Management Plans. Target strategic areas for cultural surveys and cultural heritage protection, including high energy risk areas/areas affected by erosion and sea level rise along the coast.
- Enhance Cultural Heritage compliance by improving development assessment processes and increasing education around compliance with the *Aboriginal Cultural Heritage Act 2003* and Best Practice Standards ([Heritage Chairs of Australia and New Zealand 2020, Dhawura Ngilan: A vision for Aboriginal and Torres Strait Islander heritage in Australia](#)).

## 31 Nerang catchment

### 31.1 Environmental condition (Fair)



The catchment improved from poor to fair environmental condition.

#### Why?

- Pollutant loads decreased significantly from very high to moderate. Sediment (mud) load decreased from 754 kg/ha in 2022 to 207 kg/ha in 2023. Run-off also delivered lower loads of nitrogen (6.4 kg/ha) and phosphorus (0.6 kg/ha) to waterways.
- The health of freshwater creeks declined from excellent to very good. Water quality and ecosystem processes remain excellent, and fish community health remains in fair condition while macroinvertebrate community health declined from excellent to very good condition.
- Wetland extent remains very poor (4% remaining) in the freshwater reaches of the catchment. The extent of wetland habitat in the estuary remains very poor, with 1% of mangroves and saltmarshes remaining in the catchment.
- Riparian habitats in freshwater reaches are in fair condition in 2023. Woody vegetation cover is very good with >80% woody cover in 42 % of sub-catchments. Riparian bio condition is very good. There has been minimal woody vegetation re-growth and remnant riparian vegetation clearing continues.
- Estuarine water quality improved from very good to excellent. Total nitrogen improved from very poor to poor, while total phosphorus, algae (phytoplankton), turbidity, and dissolved oxygen improved slightly, remaining excellent.



### 31.2 Socio-Economic Benefit Rating ★ ★ ★ ★ ★

- The **Socio-Economic Benefit Rating** shows that despite fair catchment condition, very high numbers of residents (80%) are satisfied with their local waterways (compared with 68% for all South East Queensland). Very high numbers of residents reported that they utilised their local waterway for rest and relaxation (77%).
- Residents report that they very highly value their local waterways for recreation. 66% of residents recreate in or alongside their local waterway on a weekly basis. The top activities include walking or running (99 days/year per resident), enjoying nature (47 days/year per resident), swimming (15 days/year per resident), and picnics/BBQs (12 days/year per resident).
- The recreational value per person was valued at \$1,852/year. The most valuable activities, based on costs per visit, were picnics and BBQs (31% of value), boating and sailing (19% of value) and recreational fishing (16% of value).
- The catchment supplied over 69,671 ML of drinking water to residents in 2022-2023. Very Low levels of sludge relative to other drinking water catchments was removed from Molendinar and Mudgeeraba water treatment plants.

### 31.3 Cultural resource management

- First Nation rights and interests to lead the stewardship of Country and culture have been fully recognised through Native Title over 0% of the landscapes of the Nerang Catchment where Native Title persists.
- First Nation parties are identified and recognised to lead the decisions relating to Aboriginal Cultural Heritage over 100% of the Nerang Catchment.
- Comprehensive archaeological surveys that formally document and maximise the protection of Aboriginal Cultural Heritage have been completed and recognised over 0% of the Nerang Catchment.
- Aboriginal Cultural Heritage Management Plans that enhance the protection of culture have been adopted over 9% of the formally recorded Aboriginal Cultural Heritage sites in the Nerang Catchment.

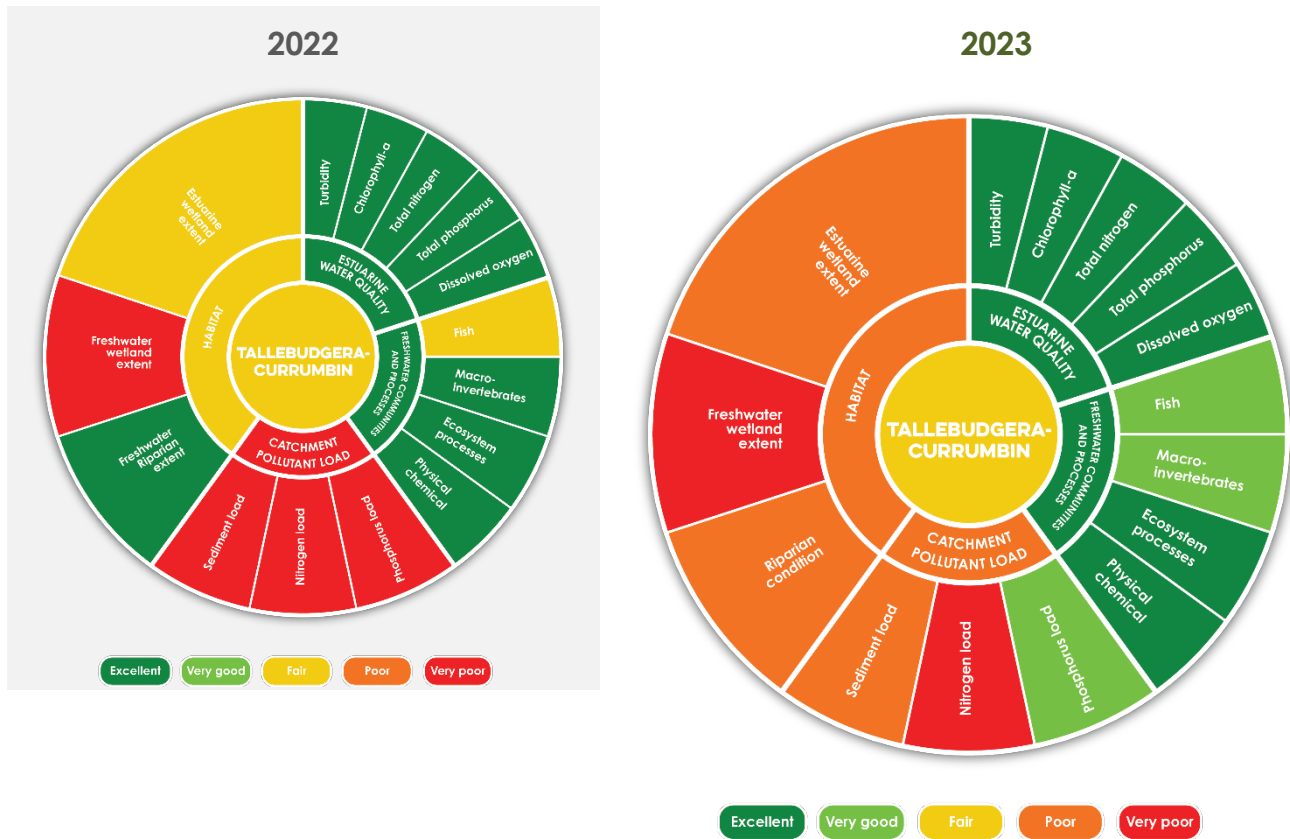
### 31.4 Ways to improve waterway health and benefits

- Protecting and managing existing values from the pressures of population growth is a priority, with the population of the City of Gold Coast area projected to nearly double to approximately 930,000 over the next 25 years.
- Slow water down in the upper catchment to manage floodwater, reduce erosion, and rehydrate the landscape, by protecting and increasing vegetation (especially along riparian zones) and engaging floodplains through policy, land-use planning and compliance.
- Implement integrated and forward planning for urban development and associated infrastructure to avoid all adverse effects on people and natural areas.
- Manage land-use change and increase the use of erosion and sediment controls and compliance for new development, construction sites and private lands.
- Focus on engagement and compliance within industries with high soil disturbance, such as agriculture and development.
- Apply water sensitive urban design practices to new development. Minimise nutrient inputs from the urban landscape through maintenance and enhancement of stormwater quality treatment infrastructure.
- Improve priority waterway corridors and instream habitats by addressing clearing, weeds and cattle access. Currently less than 5% of freshwater and estuarine wetland extent remains, and only 73% of freshwater stream banks have riparian cover
- Identify barriers to fish passage and develop and implement solutions in priority areas.

- Implement management and education programs for weeds, pests and fire, both fire preparedness and use of fire for cultural/ecological/environmental outcomes. First Nations to lead on cultural burning programs.
- Enhance the community's emotional connection with waterways by promoting their use and access, such as promoting local tidal estuaries as valuable recreational fishing and nature experience. Emotional connection fosters feelings of responsibility and willingness to engage in or support waterway protection activities
- Create opportunities and incentives for residents to make changes around their homes, their businesses or in their local waterway to improve waterway condition. 46% of residents are motivated to use and protect local waterways.
- Respect and recognise First Nations in daily work activities by getting to know and engaging with the appropriate First Nation group who have a registered interest in your catchment. For assistance on engagement, please see the [Guidance for proponents on best practice Indigenous engagement for environmental assessments under the Environment Protection and Biodiversity Conservation Act 1999](#) and the [AIATSIS Principles for engagement in projects concerning Aboriginal and Torres Strait Islander peoples](#).
- Undertake comprehensive surveys of the Nerang Catchment to contemporarily record, document and safeguard Cultural Heritage and protect sites through Cultural Heritage Management Plans. Target strategic areas for cultural surveys and cultural heritage protection, including high energy risk areas/areas affected by erosion and sea level rise along the coast.
- Enhance Cultural Heritage compliance by improving development assessment processes and increasing education around compliance with the *Aboriginal Cultural Heritage Act 2003* and Best Practice Standards ([Heritage Chairs of Australia and New Zealand 2020, Dhawura Ngilan: A vision for Aboriginal and Torres Strait Islander heritage in Australia](#)).

## 32 Tallebudgera-Currumbin catchment

### 32.1 Environmental condition (Fair)



The catchment improved slightly remaining in fair environmental condition.

#### Why?

- Pollutant loads decreased from very high to high, with sediment (mud) load decreasing from 1,148 kg/ha in 2022 to 263 kg/ha in 2023. Run-off also delivered lower loads of nitrogen (8.2 kg/ha) and phosphorus (0.7 kg/ha) to waterways.
- The health of freshwater creeks remains excellent. Fish community health improved from fair to very good condition. Water quality and ecosystem processes remain excellent, and macroinvertebrate community health declined from excellent to very good.
- Wetland extent remains very poor (6% remaining) in the freshwater reaches of the catchment. The extent of wetland habitat in the estuary is poor, with 50% of mangroves and saltmarshes remaining in the catchment.
- Riparian habitats in freshwater reaches are in poor condition in 2023. Woody vegetation cover is fair with >80% woody cover in 59 % of sub-catchments. Riparian bio condition is very good. There has been minimal woody vegetation re-growth and remnant riparian vegetation clearing has been continued.
- Estuarine water quality remains excellent, with little change observed across all water quality indicators. Nutrients slightly improved while algae (phytoplankton), water clarity, and dissolved oxygen slightly declined.

## 32.2 Socio-Economic Benefit Rating ★ ★ ★ ★ ★

- The **Socio-Economic Benefit Rating** shows that despite fair catchment condition, extremely high numbers of residents (84%) are satisfied with their local waterways (compared with 68% for all of South East Queensland). The Tallebudgera-Currumbin catchment has some of the highest levels of personal connection with nature (87%) in South East Queensland, with very high numbers of residents (65%) motivated to use and protect their waterways.
- Residents report they value their local waterways for recreation. 89% of residents recreate in or alongside their local waterway on a monthly basis, with 81% of residents recreating weekly. Extremely high numbers value them as a place of rest and relaxation (90%) and a place which provides emotional benefit (83%).
- The top activities include walking/running (93 days/year per resident), enjoying nature (51 days/year per resident) and swimming (36 days/year per resident). The recreational value per person was valued at \$2,130/year. The most valuable activities, based on costs per visit, were picnics and BBQs (38% of value), swimming (21% of value), and surfing, kite surfing or sail boarding (14% of value).

## 32.3 Cultural resource management

- First Nation rights and interests to lead the stewardship of Country and culture have been fully recognised through Native Title over 0% of the landscapes of the Tallebudgera-Currumbin Catchment where Native Title persists.
- First Nation parties are identified and recognised to lead the decisions relating to Aboriginal Cultural Heritage over 100% of the Tallebudgera-Currumbin Catchment.
- Comprehensive archaeological surveys that formally document and maximise the protection of Aboriginal Cultural Heritage have been completed and recognised over 0% of the Tallebudgera-Currumbin Catchment.
- Aboriginal Cultural Heritage Management Plans that enhance the protection of culture have been adopted over 31% of the formally recorded Aboriginal Cultural Heritage sites in the Tallebudgera-Currumbin Catchment.

## 32.4 Ways to improve waterway health and benefits

- Protecting and managing existing values from the pressures of population growth is a priority, with the population of the City of Gold Coast council area projected to nearly double to approximately 930,000 over the next 25 years.
- Slow water down in the upper catchment to manage floodwater, reduce erosion, and rehydrate the landscape, by protecting and increasing vegetation (especially along riparian zones) and engaging floodplains through policy, land-use planning and compliance.
- Implement integrated and forward planning for urban development and associated infrastructure to avoid all adverse effects on people and natural areas.
- Focus on engagement and compliance within industries with high soil disturbance, such as agriculture and development.
- Apply water sensitive urban design practices to new development. Minimise nutrient inputs from the urban landscape through maintenance and enhancement of stormwater quality treatment infrastructure.
- Identify barriers to fish passage and develop and implement solutions in priority areas. Undertake freshwater protection and restoration activities, including removing fish barriers, restoring instream habitat, naturalising channels, protecting and restoring riparian habitats and freshwater refugia.
- Enhance waterway corridors and instream habitats and stabilise eroding gullies and channels to improve water quality, especially in new urban development areas.

- Protect natural habitats, including wetlands and stream bank vegetation, from clearing, weed infestation and loss of connectivity.
- Implement management and education programs like Landholder Guides that cover weeds, pests and fire, both fire preparedness and use of fire for ecological and environmental management.
- Recognise and support landholders providing ecosystem services to the wider community (particularly mental and physical health) through their stewardship and management of land, water and biodiversity assets.
- Deliver capacity-building programs to support landholders, including rural residential, to achieve good NRM outcomes, particularly in the buffer zones adjacent to conservation areas.
- Develop integrated weed and pest management programs for rural landholders.
- Deliver fire education for rural landholders (both fire preparedness and use of fire for cultural/ecological/environmental management).
- Enhance the community's emotional connection with waterways by promoting their use and access, such as promoting local tidal estuaries as valuable recreational fishing and nature experience. Emotional connection fosters feelings of responsibility and willingness to engage in or support waterway protection activities
- Create opportunities and incentives for residents to make changes around their homes, their businesses or in their local waterway to improve waterway condition. 69% of residents are motivated to use and protect local waterways.
- Respect and recognise First Nations in daily work activities by getting to know and engaging with the appropriate First Nation group who have a registered interest in your catchment. For assistance on engagement, please see the [Guidance for proponents on best practice Indigenous engagement for environmental assessments under the Environment Protection and Biodiversity Conservation Act 1999](#) and the [AIATSIS Principles for engagement in projects concerning Aboriginal and Torres Strait Islander peoples](#).
- Undertake comprehensive surveys of the Tallebudgera-Currumbin Catchment to contemporarily record, document and safeguard Cultural Heritage and protect sites through Cultural Heritage Management Plans. Target strategic areas for cultural surveys and cultural heritage protection, including high energy risk areas/areas affected by erosion and sea level rise along the coast.
- Enhance Cultural Heritage compliance by improving development assessment processes and increasing education around compliance with the *Aboriginal Cultural Heritage Act 2003* and Best Practice Standards ([Heritage Chairs of Australia and New Zealand 2020, Dhawura Ngilan: A vision for Aboriginal and Torres Strait Islander heritage in Australia](#)).

### 33 Appendix 1: Summary of Environmental Condition Grades and Waterway Benefit Rating scores from 2015 to 2023

Catchment/Bay zone	Environmental Condition Grade									Waterway Benefit Rating								
	2015	2016	2017	2018	2019	2020	2021	2022	2023	2015	2016	2017	2018	2019	2020	2021	2022	2023
Noosa	A-	A-	A-	A-	A-	A-	A-	B	-	4.5	4	4.5	4.5	5	4.5	5	5	4
Maroochy	C+	B	B-	B-	B-	C+	C+	C+	-	4	4	4	3.5	4	4.5	4	4	4
Mooloolah	C+	B	B-	C+	C+	C	C+	C	-	4	4.5	4	3.5	4	4.5	4.5	3.5	3.5
Pumicestone	B-	B+	A-	B+	A-	A-	B+	B-	-	4.5	4.5	4	4	4	4.5	4.5	4.5	4.5
Caboolture	C+	B	B	B+	B+	B+	B	C	-	3.5	3	3	3	3.5	3.5	3.5	3.5	3.5
Pine	C	B-	B-	B-	B	B	C+	D+	-	3	3	3.5	3.5	3.5	4	4	3.5	4
Lower Brisbane	C-	C-	D+	D+	C-	D+	D+	F	-	2.5	3	2.5	2.5	3	3	3	3.5	3.5
Redland	C+	C+	C+	C	C+	C+	C+	D+	-	3.5	3.5	3.5	3.5	3.5	3.5	3	3	3.5
Mid Brisbane	D	D+	B-	C-	C+	C	C+	F	-	2.5	3	3	3	3.5	2.5	3.5	4	3.5
Upper Brisbane	D	D	D	D	D	D	F	/	-	3.5	3	3	2.5	3	2.5	3.5	4	3.5
Stanley	B	B	B-	B	B-	B	B+	C	-	2.5	3	3.5	3.5	3.5	3.5	4	3.5	3.5
Lockyer	D+	D+	D+	D+	D	D-	D-	F	-	2.5	2.5	2.5	2.5	3	2.5	3	3.5	3
Bremer	D-	D+	D-	D+	D+	D	D	F	-	2.5	2.5	2.5	2.5	2.5	3	3.5	3	3.5
Logan	D	C-	C-	C-	C	C+	C+	D-	-	2.5	2.5	2	2	2.5	2.5	2.5	3	3.5
Albert	C-	C+	C	C	B-	B-	B	C-	-	3	3.5	3	2.5	3.5	3.5	4	3.5	4
Pimpama-Coomera	C+	B	B-	B	B-	B	B	C+	-	3.5	3.5	3.5	3.5	4	4	4	4	3.5
Nerang	C-	C	C-	C+	C	C	C	D	-	4	4	4	4	4	4.5	4.5	4.5	4.5
Tallebudgera-Currumbin	C+	B	B-	B	B+	B	C+	C+	-	4	4	4.5	4	4.5	5	4.5	5	5
Western Bay	B	B	B	B+	A-	A-	A-	B+	-	Not applicable								
Central Bay	B+	B+	A-	A-	A-	A-	A	A-	-									
Eastern Bay	A	A-	A	A-	A	A	A	A-	-									
Southern Bay	B+	B	B	B	B+	B+	B+	B-	-									
Broadwater	A-	B+	A-	A	A	B+	A	A-	-									
Moreton Bay	A-	A-	B+	A-	A-	A-	A-	B+	-									



Level 11, 240 Queen St, Brisbane QLD 4000 | PO BOX 13204 George St, Brisbane QLD 4003  
T. 07 3177 9100 | F. 07 3177 9190 | [hlw.org.au](http://hlw.org.au) | [reportcard.hlw.org.au](http://reportcard.hlw.org.au)