

# AT A GLANCE

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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

### 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.

In recognition that First Nations have an important and leading role in caring for Country, we have developed cultural resource management indicators to highlight where First Nations stewardship is being enabled.

This set of indicators uses a range of public data sets to show how South East Queensland is recognising and advancing the leadership and role of First Nations peoples and the protection of Aboriginal Cultural Heritage.

#### Disclaimer

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## Cultural resource management indicators

INDICATOR	DESCRIPTION	QUICK FACTS
<b>1</b> Recognition of rights and interests	Highlights where First Nations rights and interests are recognised, to enable their ability to lead the stewardship of Country and culture through Native Title.	<b>20%</b> of the areas across the region have been fully recognised through Native Title over landscapes where Native Title persists
<b>2</b> Cultural referral	First Nations parties are identified and recognised to lead the decisions relating to Aboriginal Cultural Heritage.	<b>84%</b> of the region has First Nation parties identified and recognised to lead the decisions relating to Aboriginal Cultural Heritage
<b>3</b> Cultural surveys	Comprehensive archaeological studies that formally document and maximise the protection of Aboriginal Cultural Heritage have been completed and recognised.	<b>15,630 ha (0.62%)</b> of the region is covered by a fully completed archaeological survey
<b>4</b> Cultural protection and management	Aboriginal Cultural Heritage Management Plans are adopted over formally recorded Aboriginal Cultural Heritage sites.	<b>20%</b> of the region's documented sites have Cultural Heritage Management Plans in place

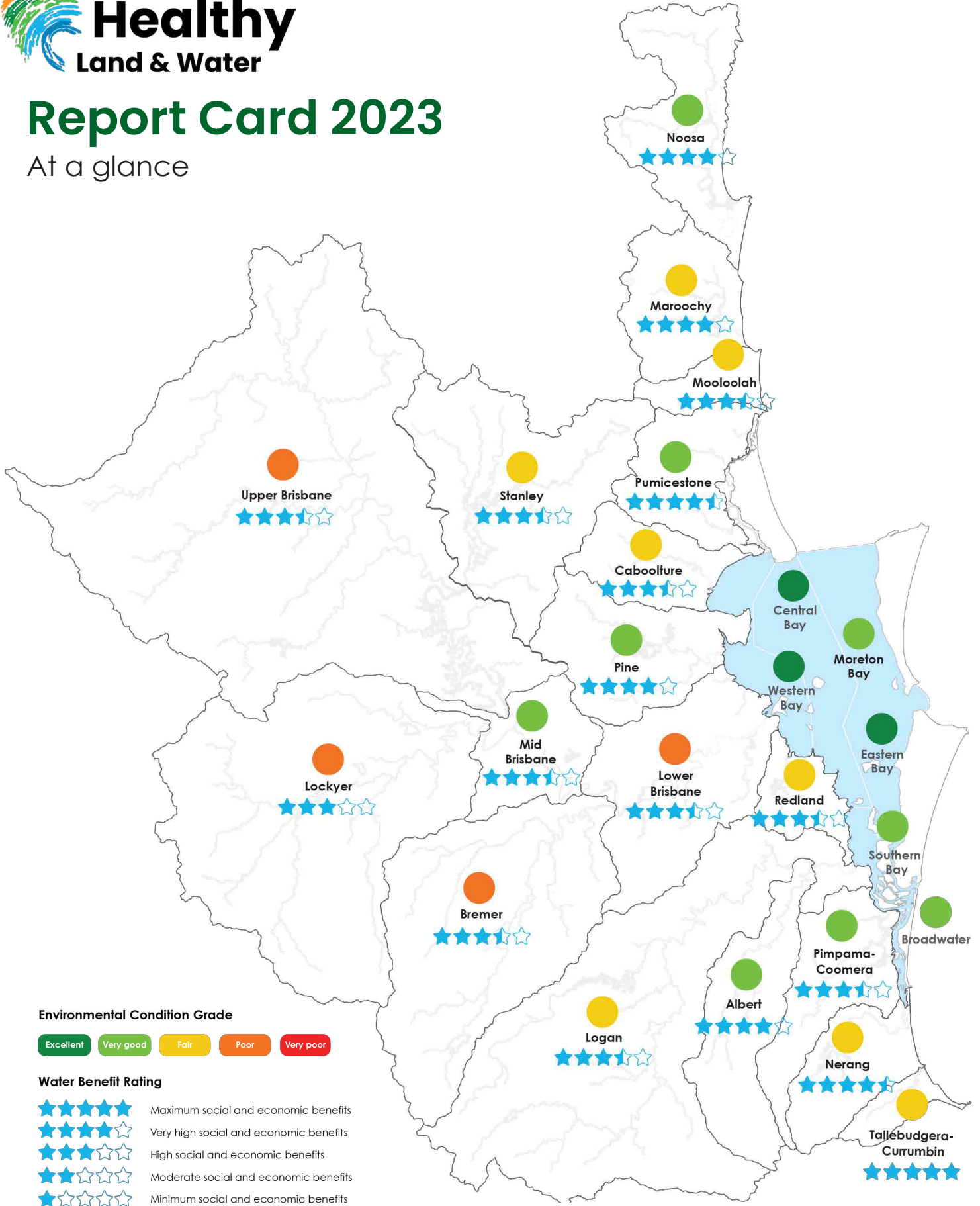
First Nations people of the region have a leading role in the stewardship of waterways, actively managing the land and waters of the region for millennia. First Nations rights, interests, and aspirations for land and water management are being increasingly recognised in law and policy. Over 500,000 hectares 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 *State of the Environment Report 2021*, 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.

## Report Card 2023

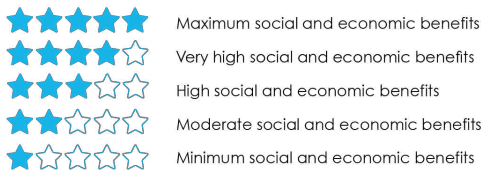
At a glance



### Environmental Condition Grade



### Water Benefit Rating





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

The value of our 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 environs 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 in 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 have 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.

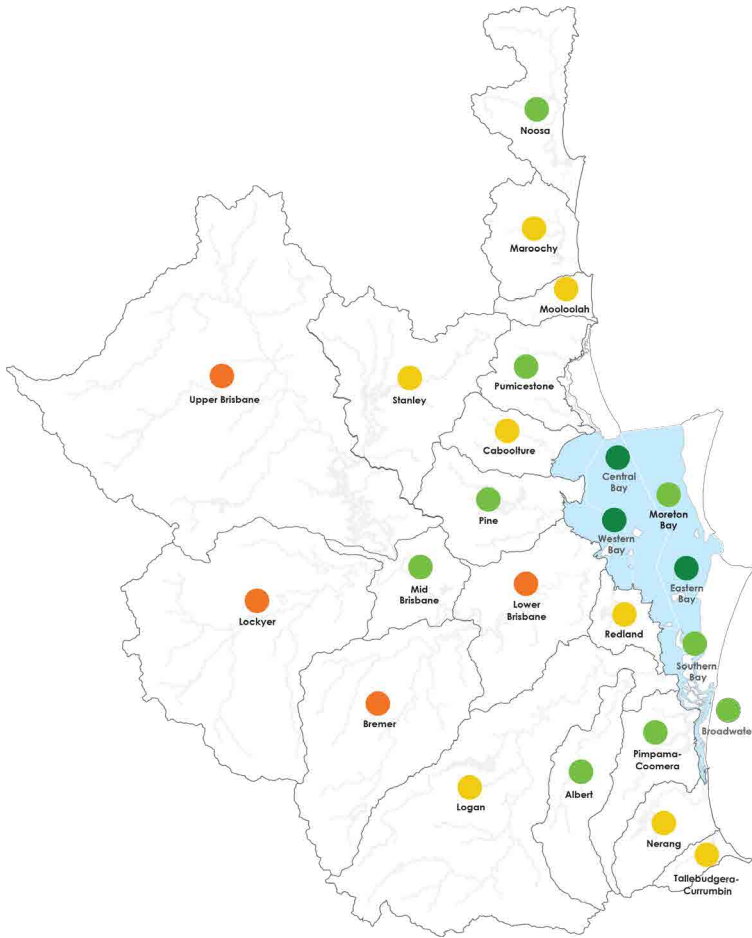
# Report Card

## 2023

### At a glance

## Environmental Condition

The Environmental Condition rating 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 rating for each catchment or bay zone. The data used to calculate the rating is an integration of modelling and field monitoring.



#### 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.

## 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 affects river flows, and surface and groundwater availability. This can place freshwater ecosystems under pressure as when river flow reduces, available habitat is reduced.

## The Environmental Condition Story

In recent years, the frequency and intensity of El Niño and La Niña 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, and 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 region's waterways. Catchment pollutant loads decreased substantially in 2023 due to low rainfall and reduced rivers 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 wastewater 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 restoring forested areas within catchments is critical to maintaining and enhancing freshwater ecosystem health. Riparian ecosystems also help protect waterway health by reducing catchment sediment and nutrient loads.

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 Creek 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.

# Report Card 2023

At a glance

## Waterway Benefit Rating

South East Queenslanders gain many benefits from their local waterways. Rivers, creeks, lakes and beaches that are easily accessible and usable are an important place of recreation where locals can walk, cycle, swim, boat, fish, camp, picnic, socialise and relax while enjoying nature.

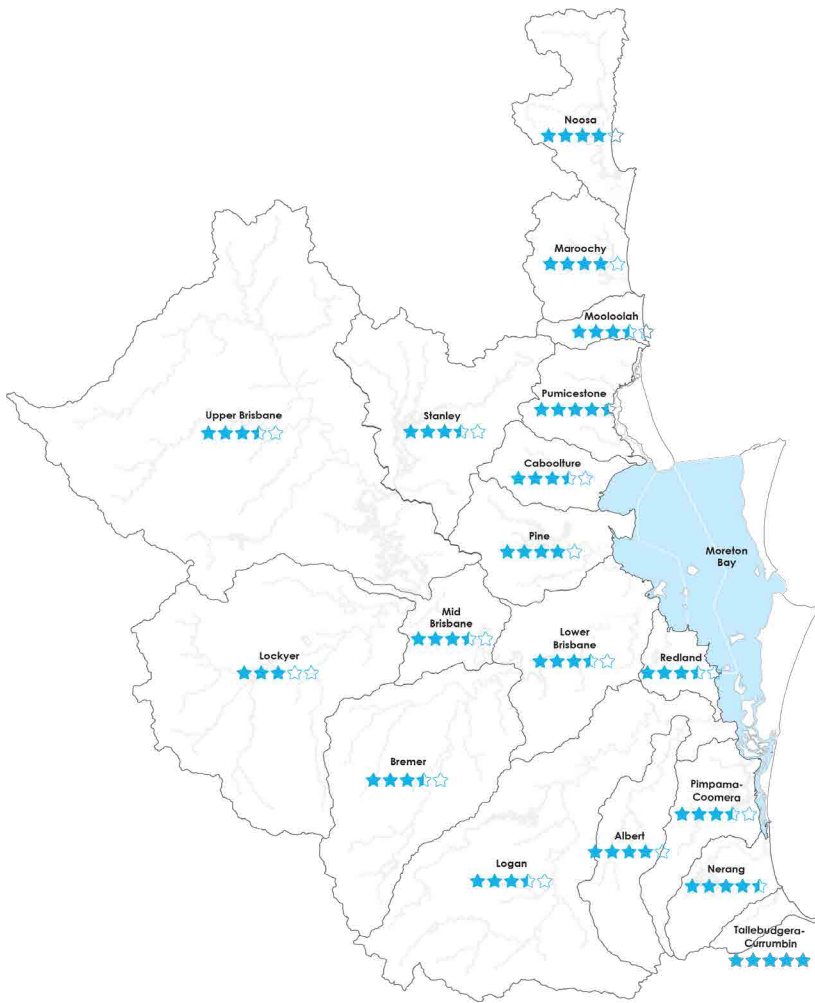
Locals also spend and save money using local waterways for recreation which contributes to the economic value of the area.

Waterways and catchments also provide financial benefits to local communities by contributing to low-cost drinking water, as treatment is needed for purification.

The waterway benefit rating provides an assessment of these social and economic benefits, which are combined to reach an overall rating.

### Water Benefit Rating

- ★★★★★ 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



## The Waterway Benefit Story

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.

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

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 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.

Our 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 region 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 the water quality received 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 their 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.



## Noosa

2022



2023



Excellent   Very good   Fair   Poor   Very poor

## Maroochy

2022



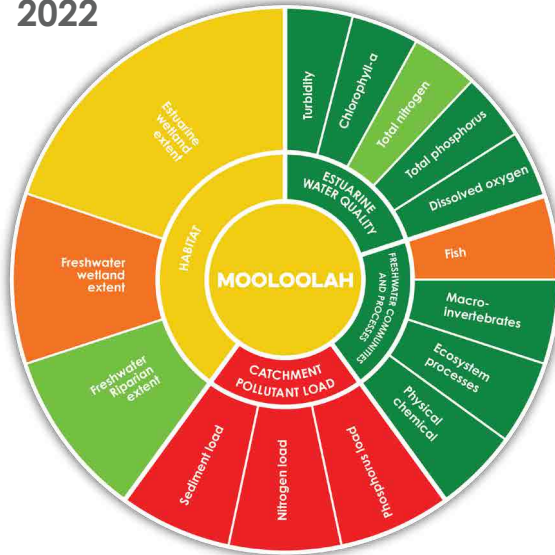
2023



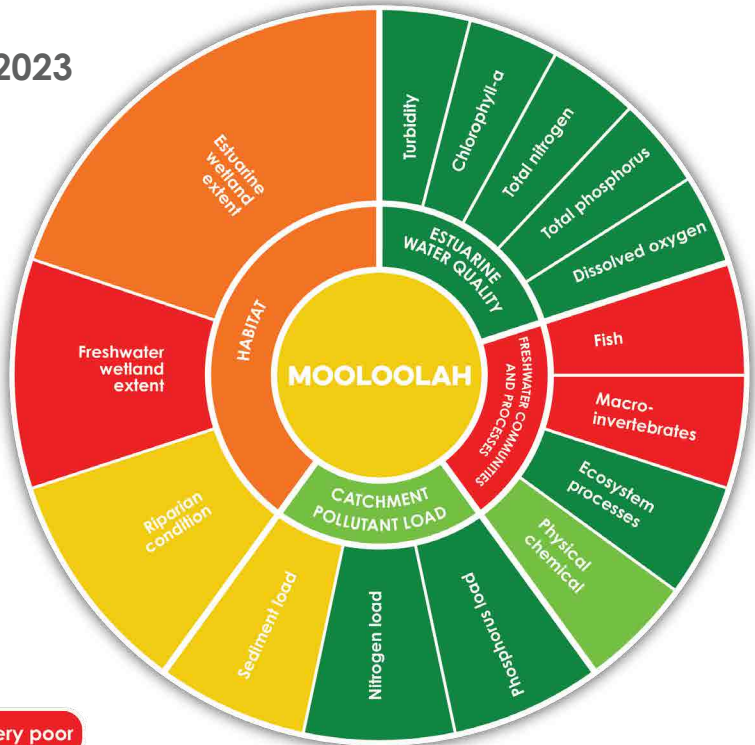
Excellent   Very good   Fair   Poor   Very poor

## Mooloolo

2022

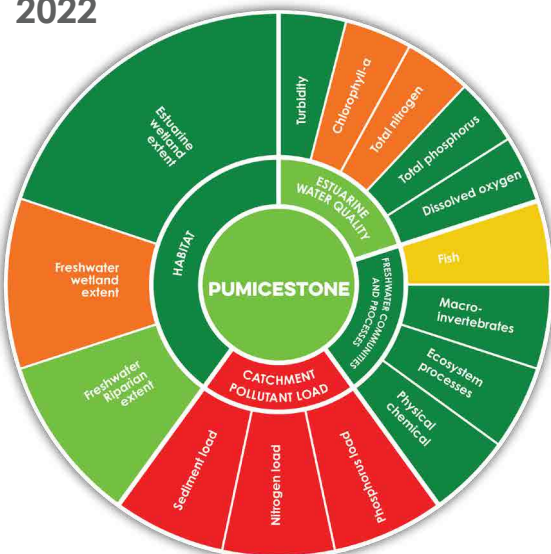


2023



## Pumicestone

2022

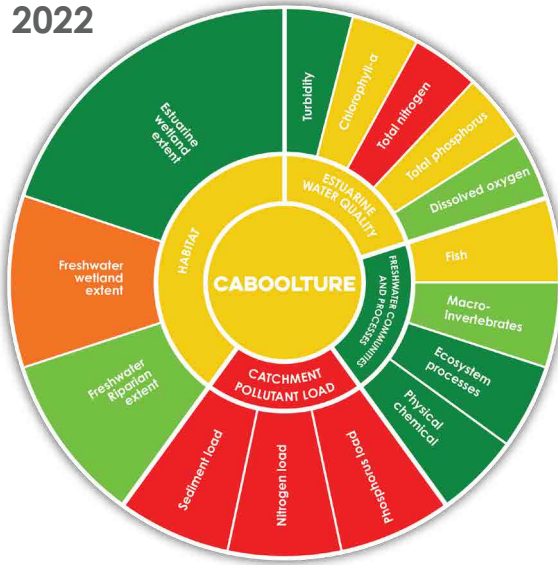


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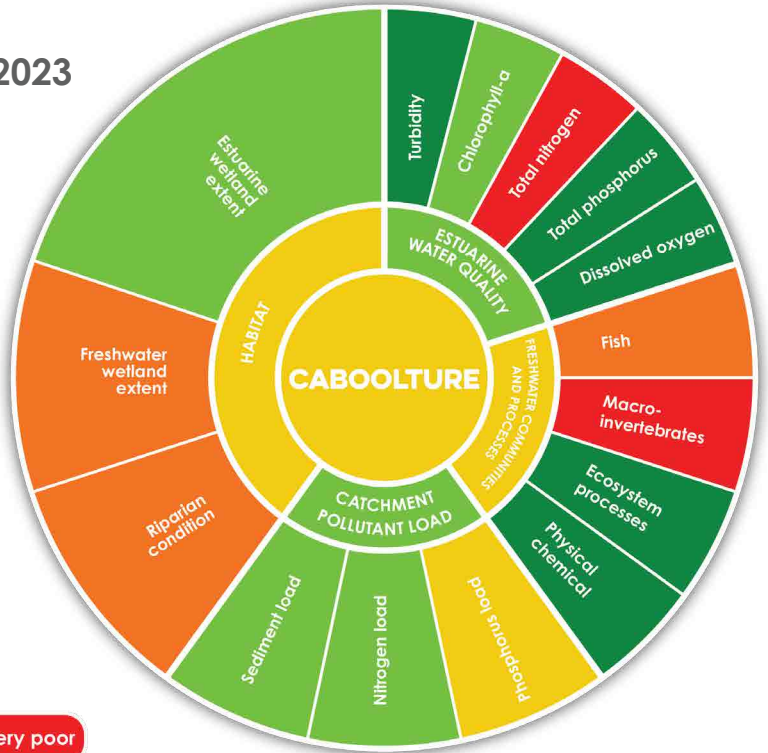


## Caboolture

2022

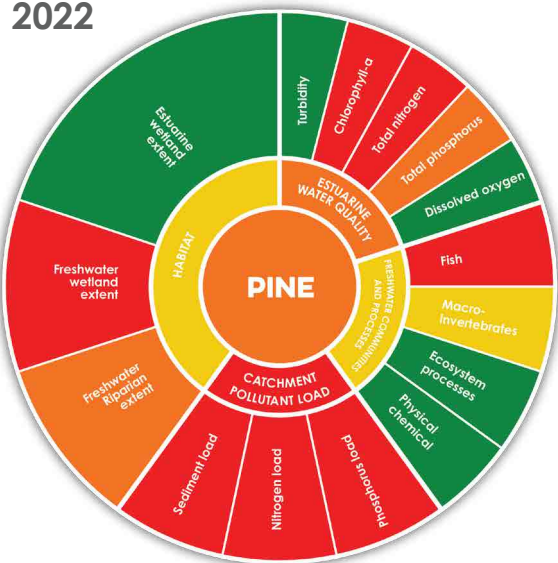


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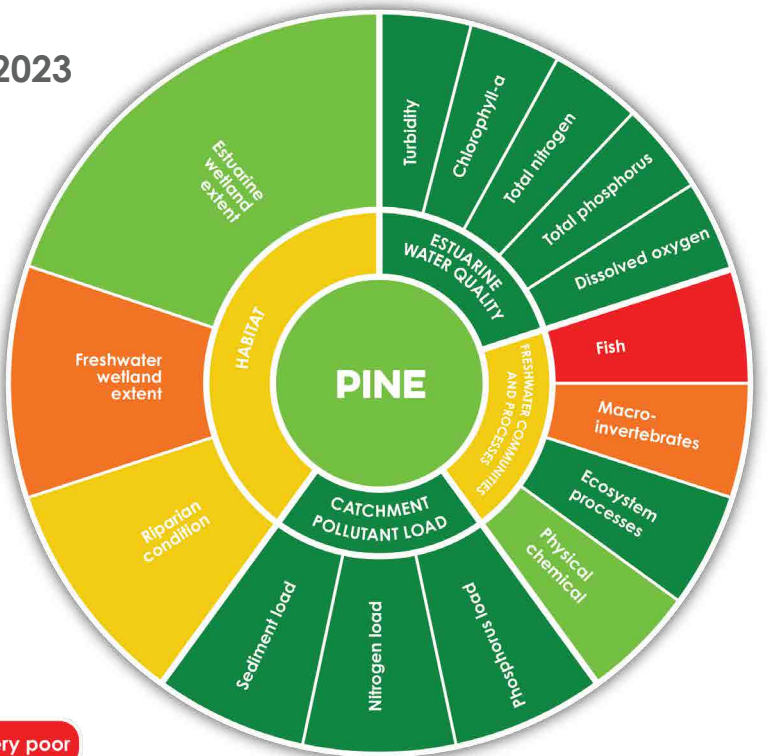


## Pine

2022

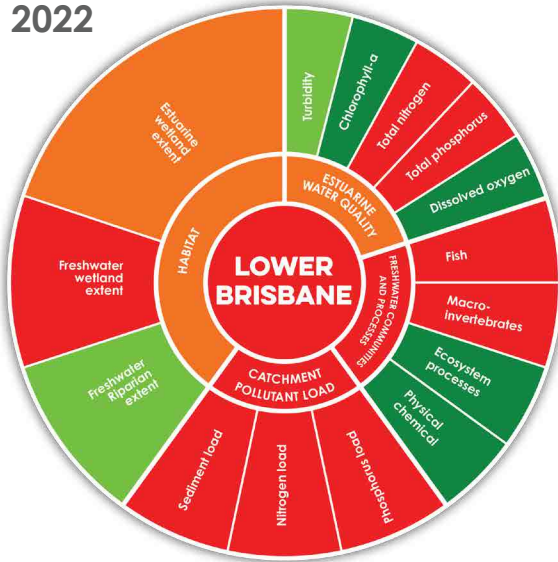


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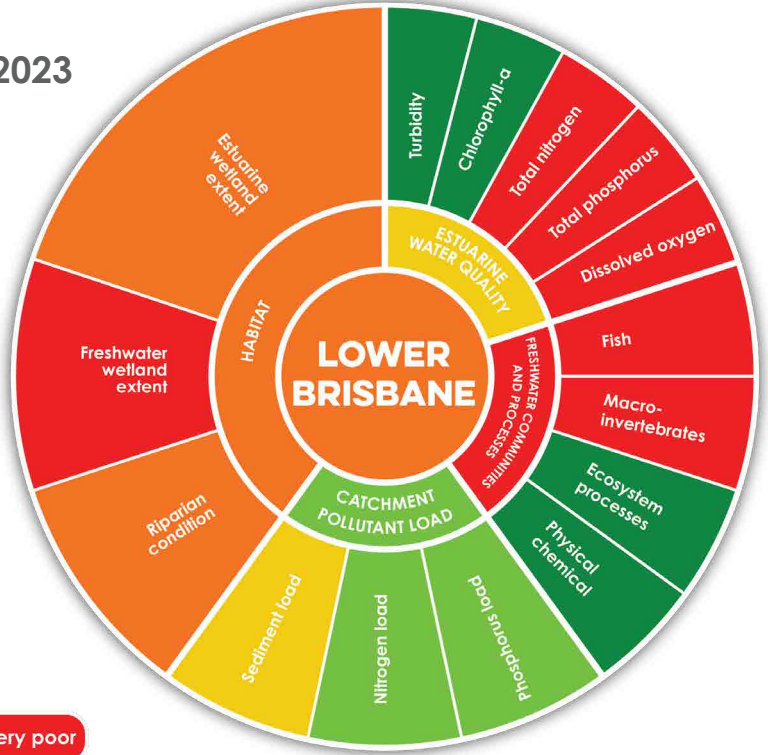


## Lower Brisbane

2022

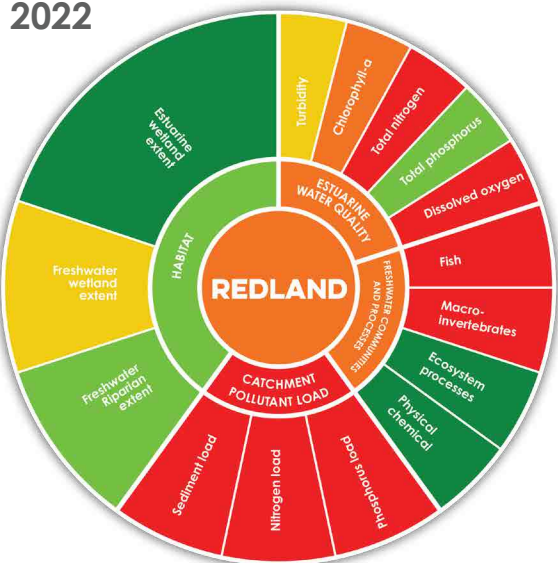


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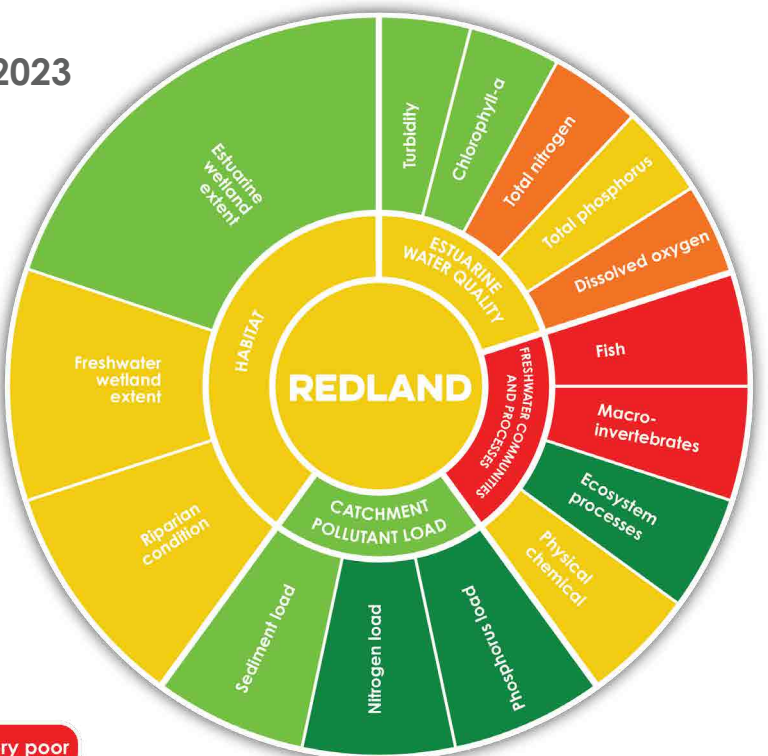


## Redland

2022



2023



## Logan

2022



Excellent Very good Fair Poor Very poor

2023



## Albert

2022



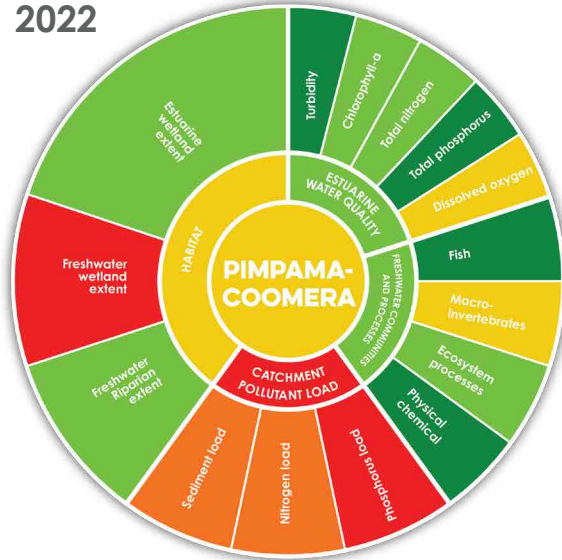
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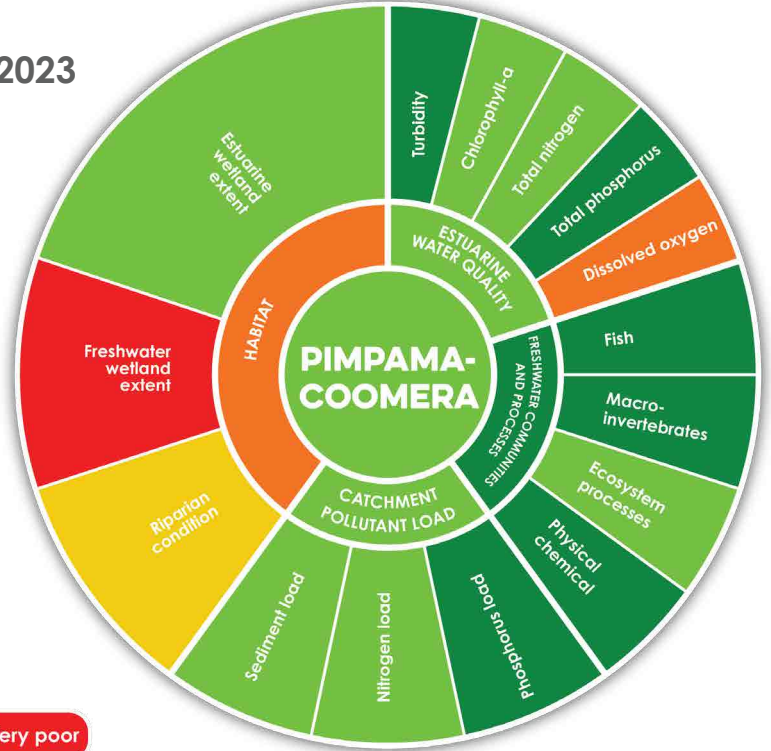


## Pimpama-Coomera

2022

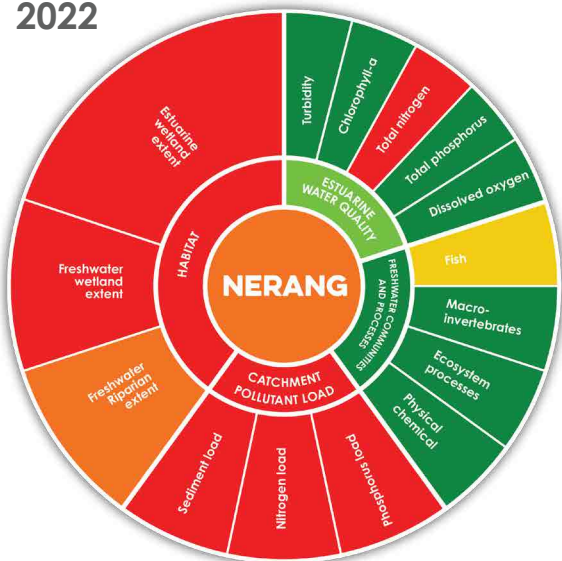


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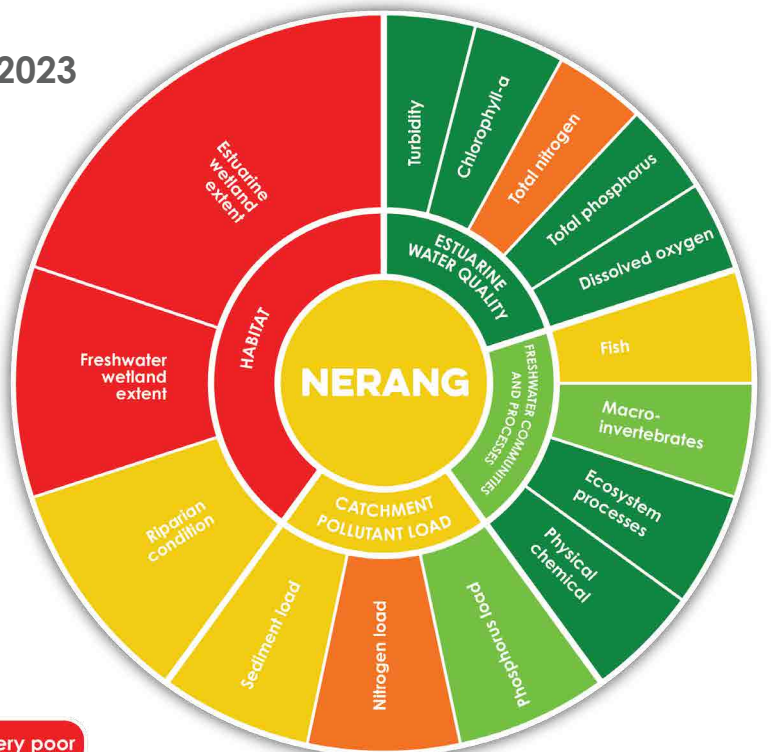


## Nerang

2022



2023



## Tallebudgera-Currumbin

2022

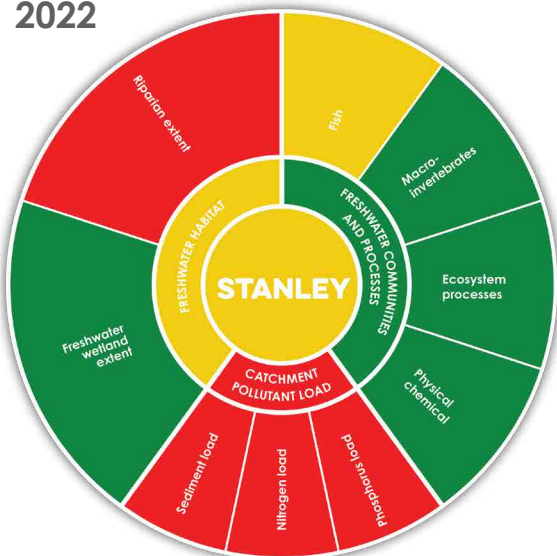


2023



## Stanley

2022

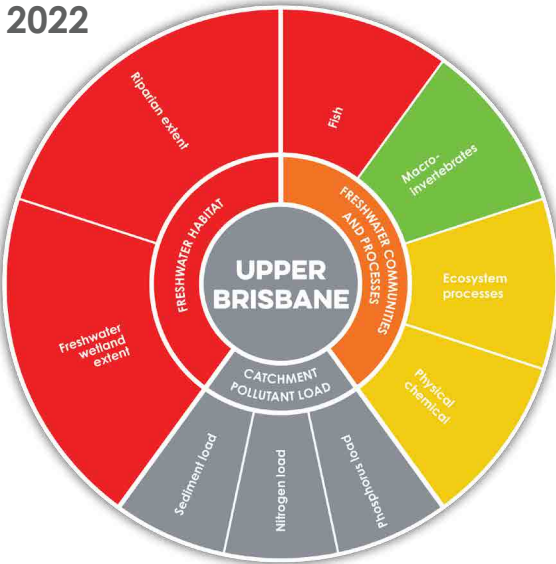


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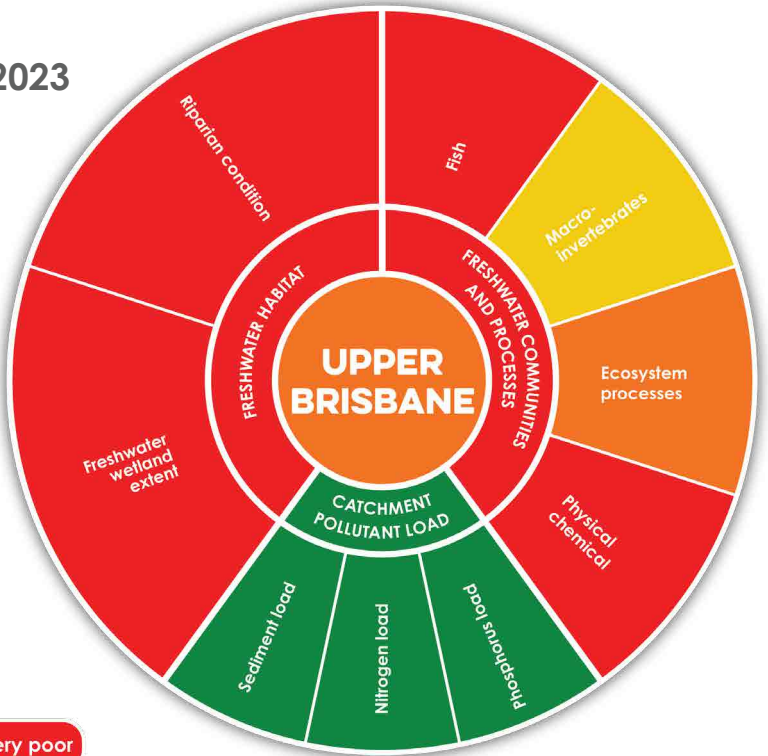


## Upper Brisbane

2022



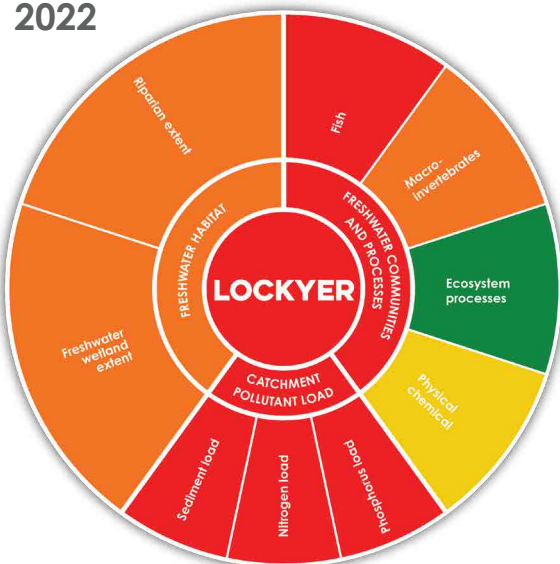
2023



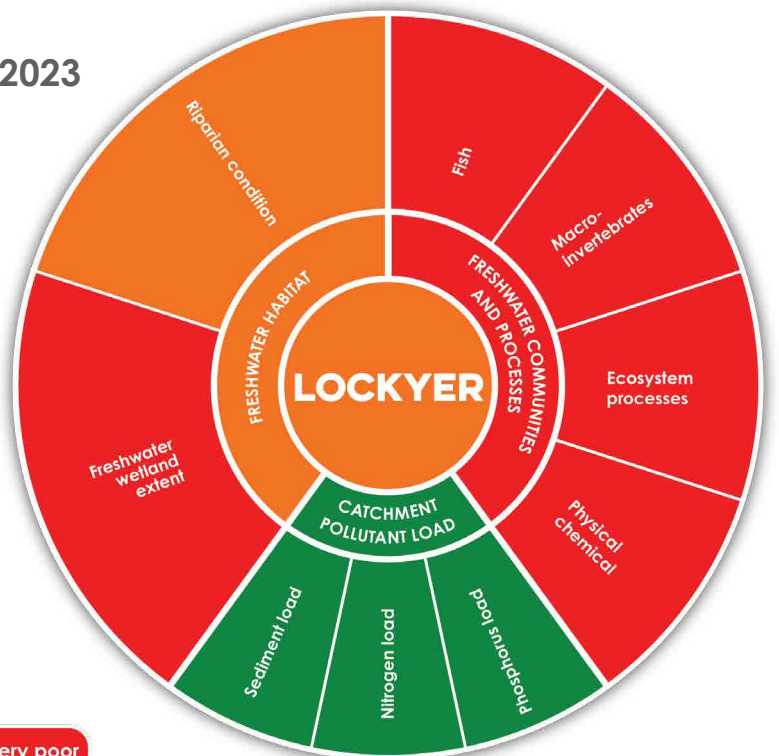
Excellent Very good Fair Poor Very poor

## Lockyer

2022



2023

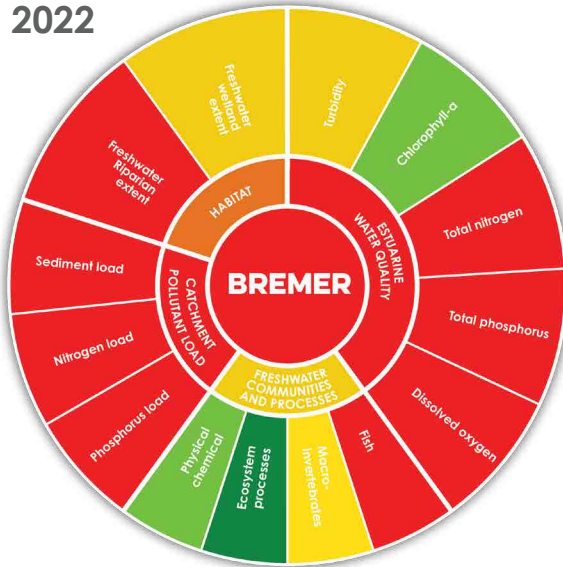


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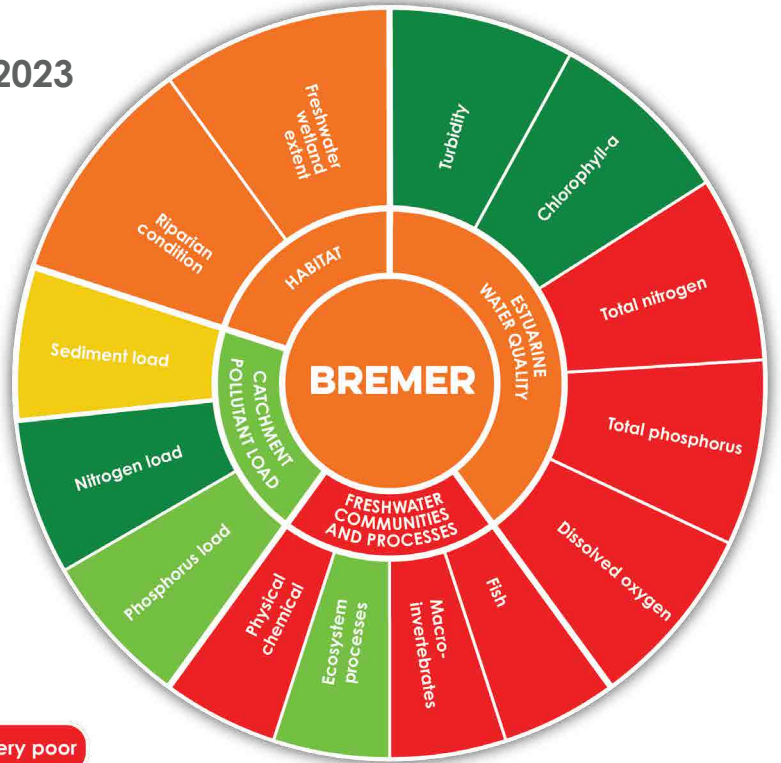


## Bremer

2022

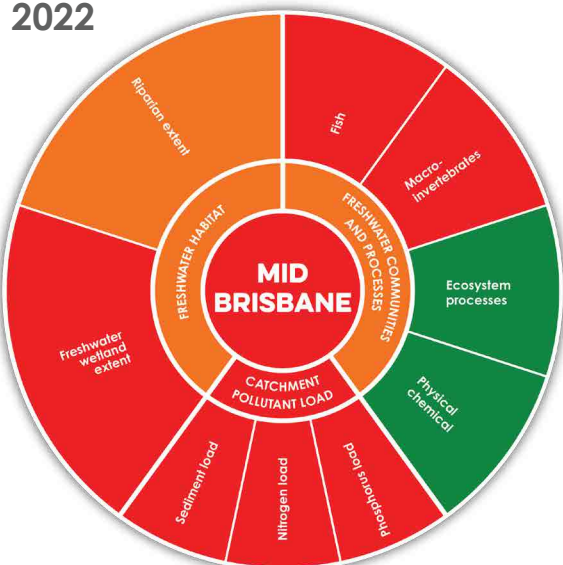


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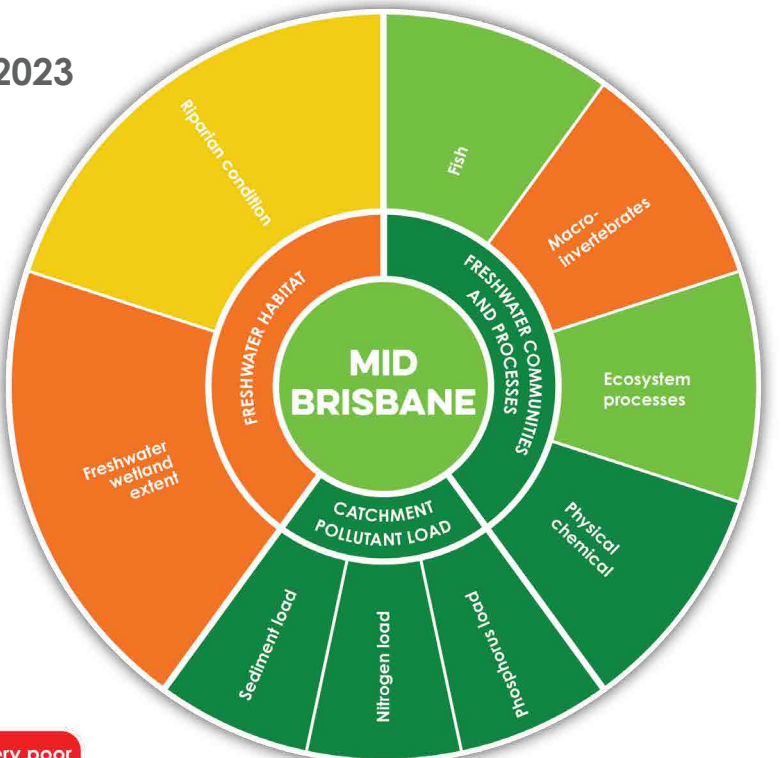


## Mid Brisbane

2022



2023



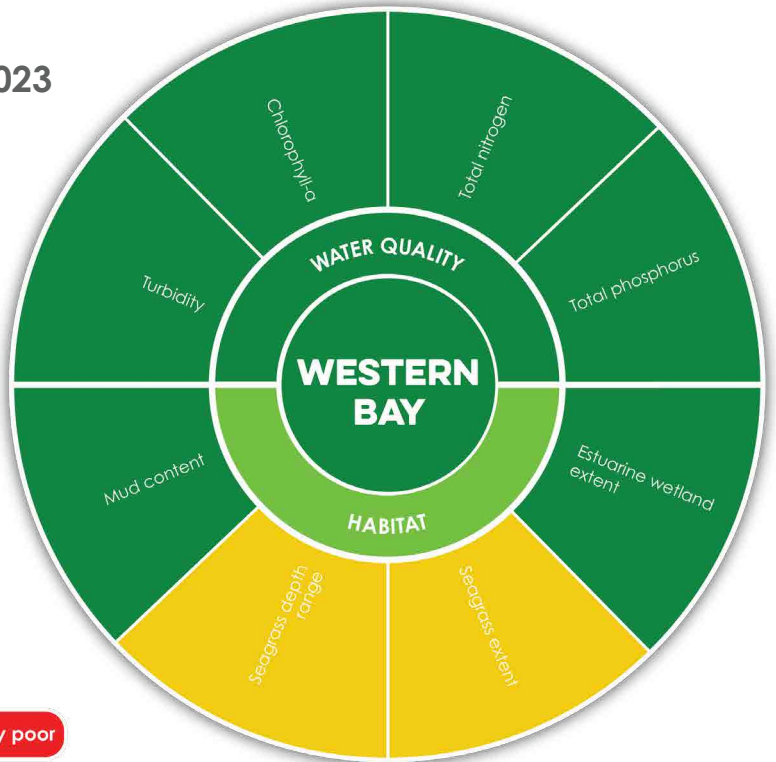
## Western Bay

2022



Excellent Very good Fair Poor Very poor

2023



## Central Bay

2022



Excellent Very good Fair Poor Very poor

2023



**Eastern Bay**

2022

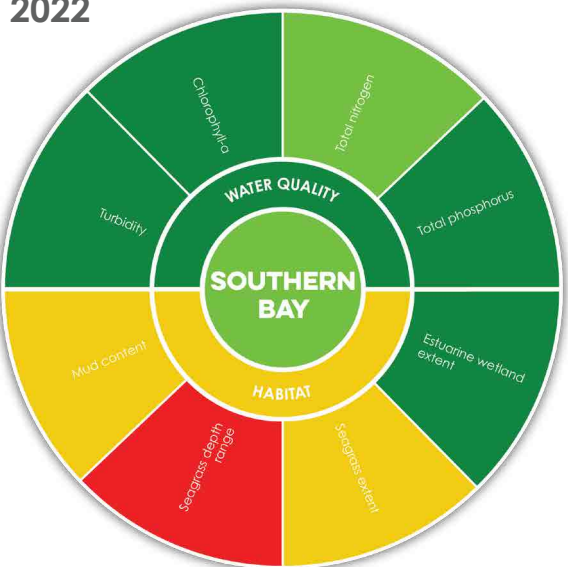


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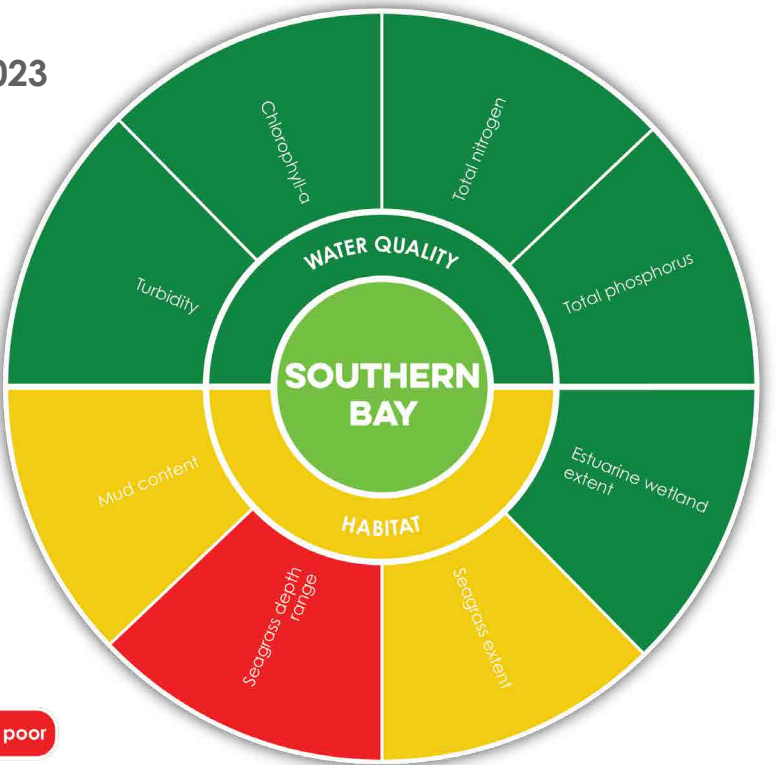


**Southern Bay**

2022

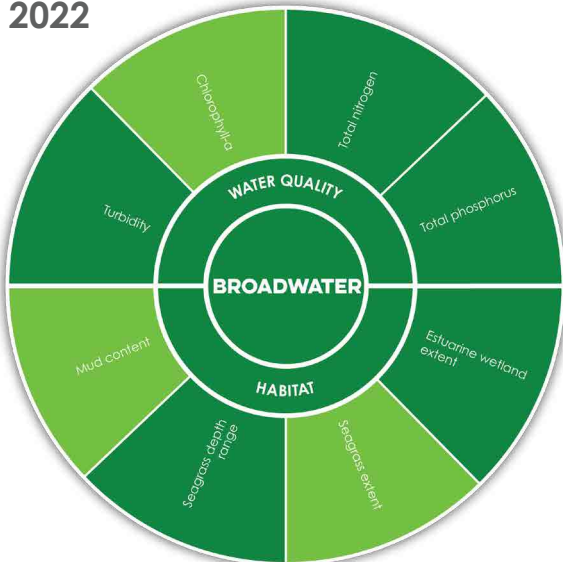


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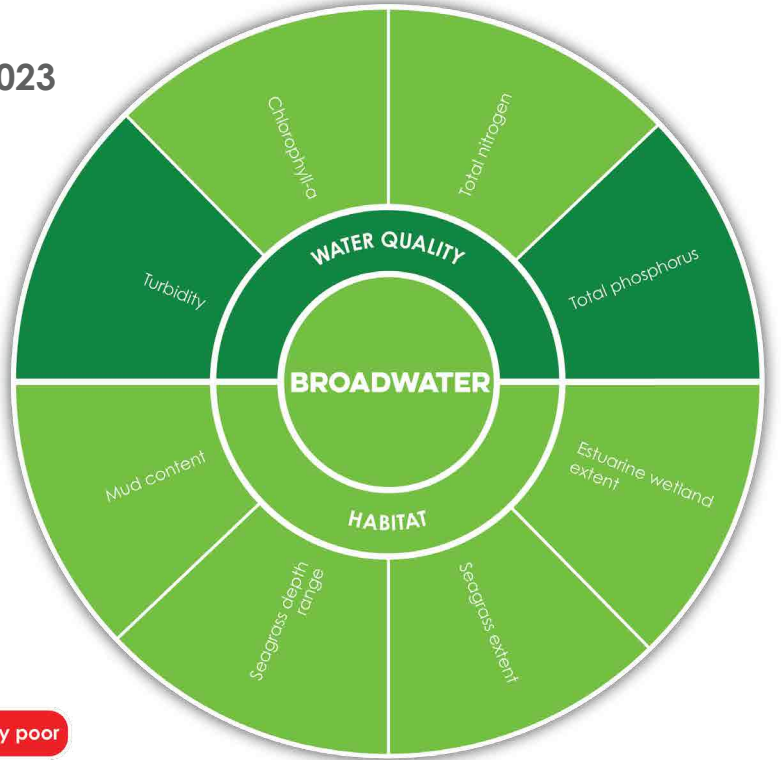


## Broadwater

2022



2023



Excellent

Very good

Fair

Poor

Very poor



# Healthy Land & Water

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