



TAMAR ESTUARY

2020 REPORT CARD

Ecosystem Health Assessment Program

Monitoring Period December 2018 – November 2019

‘Working together for healthy waterways’

kanamaluka/Tamar estuary

Updated December 2021

TAMAR ESTUARY 2020 REPORT CARD RESULTS

The 2020 Report Card shows an overall improvement in grades across all zones of the kanamaluka/Tamar estuary, compared to the 2018 Report Card. The smallest improvement was seen in Zone 3 (Swan Point to Rowella), which changed from a B- to a B, both years associated with 'good ecosystem health'. Zone 1 (Launceston to Legana) is in 'poor ecosystem health', but has improved from the 'fail' grade in the 2018 Report Card. Factors which have improved ecosystem health in the reporting period are:

- sediment raking activities in the estuary ended in June 2019, with a substantially reduced number of days of raking and prop washing during the 2020 Report Card period; and
- there were no impacts from extreme weather events, such as the large floods in June 2016 that had a continued impact on water quality in the 2018 Report Card period.

Further detail on these changes and their impacts on the ecosystem can be found at:

nrmnorth.org.au/teer

Ecosystem Health Assessment Program study area
Tamar River estuary



Anemone (*Epiactis australiensis*)



Australian Fur Seal (*Arctocephalus pusillus*)



Australian Grayling (*Prototroctes maraena*)



Green and Gold Frog (*Litoria raniformis*)



White-Faced Heron (*Egretta novaehollandiae*)

ZONE 5 Marine Zone

A*
2018 **C+**
Excellent ecosystem health. Zone 5 is marine and generally well flushed. Water quality has improved compared to the 2018 grade of 'fair'. The improvement in water quality has been driven by reduced concentrations of nutrients and metals, and reduced turbidity.

ZONE 4 Marine Zone

A-
2018 **C**
Excellent ecosystem health. Zone 4 is marine and generally well flushed. Water quality has improved compared to the 2018 grade of 'fair'. The improvement in water quality has been driven by reduced concentrations of phosphorus, aluminium and arsenic, reduced turbidity and improved dissolved oxygen and pH.

ZONE 3 Estuarine Zone

B
2018 **B-**
Good ecosystem health. Zone 3 has consistently received 'good' grades in past reporting years, primarily due to the lack of urban and industrial development discharging directly to this zone. The ecosystem health for 2020 has remained 'good' as it was in the 2018 Report Card with a small improvement from B- to B due to reductions in aluminium, arsenic, and nitrogen concentrations and increased dissolved oxygen.

ZONE 2 Estuarine Zone

B-
2018 **C**
Good ecosystem health. Water quality has improved compared to the 2018 Report Card grade of 'fair'. This improvement in grade has been driven by improved dissolved oxygen levels, reduced concentrations of arsenic, cadmium and chlorophyll-a, and reduced turbidity. This has been partially offset by an increased concentration of nitrogen and zinc.

ZONE 1 Estuarine Zone

D
2018 **F**
Poor ecosystem health. Zone 1 has consistently received 'poor' grades in past reporting years except 2018, when it received a 'fail'. Improved grades in Zone 1 are due to improved levels of dissolved oxygen, reduced turbidity and a decreased concentration of aluminium, cadmium and arsenic.

REVIEW OF THE REPORT CARD METHOD

A review of the Tamar Estuary and Esk Rivers program Report Card method has been undertaken since the 2018 Report Card was released. Grades for the 2018 Report Card have been recalculated using this method to allow for comparison with 2020 grades.

*ERRATUM

A review of the 2020 Tamar Estuary Report Card grade uncovered that the freshwater water quality guidelines had been used to assess site 17 water quality parameters for one sample in June 2019, instead of the marine water quality guidelines. As a consequence, the grade for Zone 5 has been revised from an 'A+' to an 'A'. The revised 'A' grade for Zone 5 represents excellent ecosystem health. All other grades remain unchanged.

RECREATIONAL MESSAGES

Avoid swimming in the estuary for at least three days following heavy rainfall and check for current warnings, signs and information online from councils and the Department of Health regarding the safety of local swimming sites or recreational use of the Tamar estuary.

It is not safe to harvest and consume wild shellfish from the kanamaluka/Tamar estuary.

It is recommended that servings of fish caught from the kanamaluka/Tamar estuary are limited to 2-3 serves per week.

WHAT DO THE GRADES MEAN?

Ecosystem Health Report Card grades ('A' to 'F') are generated for five zones in the kanamaluka/Tamar estuary. Water quality parameters are assessed against local targets, resulting in a single grade for each zone.

A EXCELLENT

Conditions almost always fall well within water quality guidelines across the range of indicators measured.

B GOOD

Conditions almost always fall within or well within water quality guidelines, with very few failing to meet water quality targets across the range of indicators measured.

C FAIR

Conditions frequently meet water quality guidelines, with limited failures across the range of indicators measured.

D POOR

There are a mix of outcomes across indicators with conditions more frequently failing to meet water quality guidelines.

F FAIL

Conditions fail to meet the water quality guidelines for the majority of indicators, with some falling well outside guideline levels.



'+' and '-' signs are included to indicate smaller changes within the bands of the grade scores.

HOW THE GRADES ARE CALCULATED?

The 2020 Report Card has been produced using 12 months of kanamaluka/Tamar estuary ambient monitoring data, collected between December 2018 and November 2019, at 16 sites along the length of the estuary. All seasons are captured in the reporting period. In 2020, the methodology used to calculate the Report Card grades was revised. Key changes to the Report Card methodology include the adoption of trigger values with more specific biological relevance, which are generally more stringent than previous methods. This revised method provides a grade that better reflects the likely biological impact of changes in water quality. All past grades have been recalculated using the new methodology. Further information on the data, methods and results for the Report Card can be found on the NRM North website nrmnorth.org.au/teer.

WHAT IS ECOSYSTEM HEALTH?

An ecosystem consists of plant and animal communities and the physical environment in which they live. Ecosystem health is a measure of the well-being and natural condition of an ecosystem and its function. It is affected by natural and human induced pressures. Poor ecosystem health can reduce the resilience of the system and its ability to withstand additional pressures and change. Ecosystem health is a complex concept and can be difficult to measure directly. It is generally described by comparing key water quality and biological indicators to acceptable levels and established reference conditions.

WHY MONITOR?

It is important to monitor and understand the health of the kanamaluka/Tamar estuary so that natural resource managers can better evaluate the condition of our waterways, and target investment and on-ground works to improve ecosystem health. The Ecosystem Health Assessment Program in northern Tasmania is used to evaluate the effectiveness of activities undertaken to improve water quality, such as: sewage treatment plant upgrades; addressing combined sewer overflows in the Launceston area; adoption of water sensitive urban design and sediment and erosion controls in urban areas; and best practice catchment management activities.

The Ecosystem Health Assessment Program covers an area extending 70 kilometers from the Tamar Yacht Basin at the confluence of the North and South Esk rivers, to the mouth of the estuary at Low Head. In 2016, the Ecosystem Health Assessment Program transitioned to a program of continuous monitoring of the estuary and publishing Report Cards every two years.

TAMAR ESTUARY AND ESK RIVERS (TEER) PROGRAM

The TEER Program was established in 2008 and is a regional partnership between the agencies responsible for management of the kanamaluka/Tamar estuary and Esk rivers. A key goal of the program is to improve scientific understanding of the issues impacting the health of the TEER waterways to better identify and target priority areas requiring investment in on-ground works.

PROGRAM PARTNERS



FURTHER INFORMATION



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