2025 GLADSTONE HARBOUR REPORT CARD

Frequently Asked Questions

The purpose of the Gladstone Healthy Harbour Partnership is to monitor the overall health of Gladstone Harbour through a comprehensive assessment of environmental, social, cultural, and economic indicators. The aim is to assess the state of each indicator through annual monitoring of key measures and pressures, so that, relative to baseline assessments, variation and trends can be identified.

WHAT IS THE GLADSTONE HEALTHY HARBOUR PARTNERSHIP?

The Gladstone Healthy Harbour Partnership (GHHP) is a collaboration between the federal, state, and local government, industry partners, First Nations, research organisations and community groups aimed at monitoring the health of Gladstone Harbour and its surrounding environments. The partnership was formed in 2013 in response to public concerns about the health of the harbour, particularly in relation to ecosystem health and fish deaths.

Annually, GHHP contracts expert research organisations to undertake scientific monitoring of the Gladstone Harbour, which in turn provide GHHP with independent, robust, and credible data about the health of the harbour. The data is reviewed by an Independent Science Panel (ISP) before being released as an annual Gladstone Harbour Report Card and Technical Report.

The vision of GHHP is to have a healthy, accessible, working Gladstone Harbour.

WHEN WAS THE DATA COLLECTED FOR THE 2025 REPORT CARD?

The 2025 Report Card showcases new monitoring data collected between 1 July 2024 and 30 June 2025.

Eleven years of reporting has shown that some indicators are stable each year, therefore no new assessment of the Social and Cultural indicators was conducted in 2025, with results carried over from the 2022 report card. The 2025 Report Card presents a partial assessment of the Economic indicators, with a new assessment of Economic Performance and Economic Stimulus. Results from the Mangroves indicator have been carried over from 2024.

WHAT ARE SUB-INDICATORS AND HOW ARE THEY DIFFERENT TO INDICATORS?

An indicator is an aspect of a system that indicates the state or condition of that system. For example, 'water quality' may be used to indicate the environmental condition of Gladstone Harbour, while 'shipping activity' may be used to partially indicate the economic state of the Gladstone Harbour.

A sub-indicator is a measure or group of related measures that contribute to an indicator. For instance, the 'nutrients sub-indicator' (within water quality) is comprised of the measures 'total nitrogen', 'total phosphorus', and 'chlorophyll-a'.

CAN THE 2025 RESULTS BE DIRECTLY COMPARED TO THE 2024 RESULTS?

As no new indicators were included and the methods employed to calculate the scores and grades did not change, the 2025 and 2024 scores are directly comparable for most of the Environmental and Economic components. The Social, and Cultural components were not assessed in 2025 and the results from the previous assessments were used.

HOW DO THE SCORES FOR THE ENVIRONMENTAL COMPONENT COMPARE FROM 2025 TO 2024?

The Environmental component score rose to 0.70 (B, Good) from 0.67 (B, Good) in 2024.

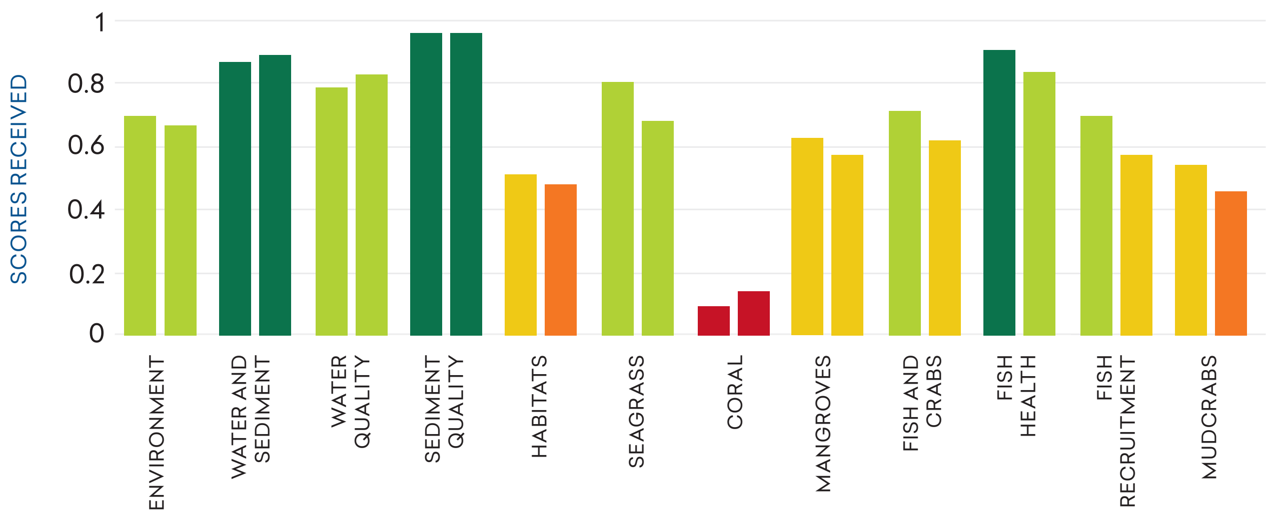
The Water and Sediment Quality indicator group remained stable, scoring 0.87 in 2025 (A, Very Good), and has consistently received a Very Good grade (A) for the past nine years. The Water Quality indicator declined slightly in score to 0.79 (B, Good) from 0.83, while Sediment Quality scored 0.96 (A, Very Good), remaining the same as 2024.

The Habitats indicator group increased to 0.51 (C, Satisfactory) from 0.48 (D, Poor), driven by an improved Seagrass score and grade (0.81, (B), up from 0.68, (C) in 2024.

Coral scores declined in score to 0.09 from 0.14 (E, Very Poor). Mangroves showed improvement to 0.63 (C, Satisfactory) from 0.57 in 2019.

The Fish and Crabs group scored 0.71 (B, Good), improving from 0.62 (C, Satisfactory) in 2024. Fish Health improved to 0.91 (A, Very Good) from 0.84 (B, Good), and Fish Recruitment improved to 0.70 (B. Good) from 0.57 (C, Satisfactory). Mud Crabs also increased both in score and grade, to 0.54 (C, Satisfactory) from 0.46 (D, Poor) in 2024.

GLADSTONE HARBOUR REPORT CARD - ENVIRONMENTAL RESULTS



2025 RESULTS (LEFT) COMPARED TO 2024 RESULTS (RIGHT)

A 0.85-1.00 B 0.65-0.84 C 0.50-0.64 D 0.25-0.49 E 0.00-0.24

HOW DO THE SCORES FOR THE FISH RECRUITMENT INDICATOR COMPARE IN 2025 FROM 2024?

Data for the two bream species were collected monthly from 26 sites across 12 harbour zones between December 2024 and February 2025. The Outer Harbour was excluded from the surveys as there were no suitable bream habitats. Each site was sampled 20 times using a standard cast net.

Overall, the Fish Recruitment score for 2025 was 0.70 – an improvement from the previous year (2024: 0.57) and an increase of one grade to Good (B) from Satisfactory (C) in 2024. Ten of the 12 monitored zones had increased scores and grades compared to 2024.

The two zones that did not improve, Inner Harbour and Colosseum Inlet, both decreased by 0.01 in score, resulting in the same grade (B, Good) between years.

A total of 844 bream were caught in 2025 from 1540 casts, comprising of 383 Yellowfin bream and 461 Pikey bream. This is an increase of 203 from the 641 bream caught and released in 2024. Fish recruitment has been a highly variable report card indicator, and further investigations are required to determine the extent of the relationship between prevailing climatic conditions and bream recruitment in Gladstone Harbour and its tributaries.

HOW DO THE SCORES FOR THE MUD CRAB INDICATOR COMPARE FROM 2025 TO 2024?

Mud crab monitoring took place on 6-9 February 2025 (warm, wet season) and 5-8 June 2025 (cool, dry season) for the 2025 Report Card. Overall, Mud crabs received a score of 0.54 (Satisfactory, C), which is an increase from the 2024 score of 0.46 (Poor, D).

Mud crabs are assessed with three sub-indicators: Abundance, Sex Ratio and Rust Lesions.

The overall harbour grade for Abundance declined in score to 0.29 from 0.32 in 2024, maintaining a Poor (D) grade between years. However, Sex Ratio improved to 0.53 (C, Satisfactory) from the 2024 result of 0.09 (E, Very Poor). At the zone level, three of the seven zones received a Very Good (A) grade; The Narrows, Inner Harbour, and Rodds Bay.

Consistent with previous years, more oversized female crabs were caught than oversized male crabs in 2024. A total of 96 mud crabs over the legal-size limit of 150 mm carapace width (equivalent to 143 mm notch width) were caught, of which just under half were male.

In Queensland, it is illegal to take female crabs, hence changes in the ratio of male to female crabs can indicate changes in fishing pressures.

However, the timing and population effect of the female spawning migration is not well understood and the possibility that this may be influencing the observed scores cannot be ruled out.

11 of the 171 mud crabs caught in 2025 had Rust Lesions, a higher proportion than 2024, resulting in a decline to 0.79 (B, Good) from 0.96 (A, Very Good). Small capture numbers at Calliope Estuary and Rodds Bay meant the percentage of crabs with lesions was relatively high despite low incidence.

HOW DID THE CORAL INDICATOR SCORE IN 2025?

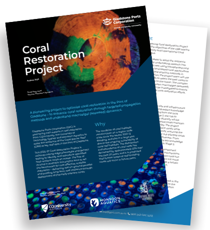
The overall grade for coral in the 2025 report card was Very Poor (E) for the eighth consecutive year. Low scores reflect low cover of living coral, high macroalgal cover, low abundance of juvenile corals, and minimal change in hard coral cover at most of the surveyed reefs.

The data for each of the four indicators was scored against a baseline of coral surveys collected before 2010 in Gladstone and other data from the Marine Monitoring Program for inshore reefs in the Great Barrier Reef. The initial coral monitoring in 2015 noted very low coral cover, which reflected the severe impacts of the 2013 flooding on coral, linked to prolonged periods of low salinity and higher turbidity. Ten years on, there has been very little change. There is evidence of higher nutrient concentrations with increased growth of macroalgae at the monitored reefs since monitoring commenced. Subsequent monitoring has shown little recovery in coral condition.

Based on various sub-indicator scores, the corals of Gladstone Harbour demonstrated very limited recovery potential in 2025. While the poor coral condition scores are similar to other inshore reefs in the Fitzroy and Mackay Whitsunday regions, the observed rate of recovery is lower in the Gladstone Harbour.

WHAT COULD BE DONE TO IMPROVE CORAL SCORES?

Corals in Gladstone Harbour are consistently graded Very Poor (E) and are showing limited potential for recovery. However, projects are underway in the region to assess possible methods for restoration. GHHP Partner organisation Gladstone Ports Corporation (GPC), are working with a service provider to trial active restoration techniques for restoring living coral communities at two reefs monitored for the GHHP Report Card. The research looks at the effectiveness of transplanting broken coral fragments which would have otherwise perished, combined with removal of macroalgae (seaweed). GPC are also working with GHHP Partner organisation CQUniversity, as well as the University of Technology Sydney and Monsoon Aquatics to look at coral resilience in Gladstone Harbour. Their 2025-27 Coral Restoration Project will explore different cultivation methods for coral restoration and investigate the interactions between coral and macroalgae. A fact sheet is available by scanning below.



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2025-27 CORAL RESTORATION PROJECT

HOW DO THE SCORES FOR THE FISH HEALTH INDICATOR COMPARE IN 2025 TO 2024?

The Fish Health indicator is made up of two sub-indicators: Fish Health Assessment Index (HAI) which is a pathological analysis undertaken through dissection, and Fish condition, which assesses fish body mass and visual health.

Fish HAI was assessed in 2025, for the first time since 2021. Sampling was conducted in summer 2024 and autumn 2025 and collected 353 fishes from 20 species, resulting in a score of 0.91 (A, Very Good), an improvement to the 2021 score of 0.90 (A, Very Good).

Overall, the Fish condition sub-indicator score was 0.83 – an improvement from the previous year (2024: 0.78) and retained a Good (B) grade.

Two fish species were assessed for body condition (length and weight): Yellowfin bream (2025: 0.67, B, 2024: 0.46, D), and Pikey bream (2025: 0.71, B, 2024: 0.68, B). There was insufficient data to assess body condition of Barred javelin, Dusky flathead, or Mangrove jack. All five species were assessed for visual fish condition, which considers visible pathologies such as eye health and skin issues. A higher score indicates a lower prevalence of abnormalities, and all five fish species received a Very Good (A) grade, consistent with 2024.

The overall score for Fish health in the 2025 Gladstone Harbour Report Card was the aggregation of the Fish HAI (2025: 0.91, A) and Fish condition (2025: 0.83, B) and resulted in an overall score of 0.91 and a grade of Very Good (A), an increase from 2024 (0.84, B). Scores have increased from 2024 in part because of the addition of the Fish HAI component, and some variation in the fish species assessed for Fish condition.

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HOW DO THE SCORES FOR THE SEAGRASS INDICATOR COMPARE IN 2025 TO 2024?

Seagrass monitoring in Port Curtis and Rodds Bay commenced in 2002 and has been conducted annually since 2004 as part of a long-term partnership between Gladstone Ports Corporation (GPC) and the Centre for Tropical Water and Aquatic Ecosystem Research (TropWATER) at James Cook University. Since 2015, that data has also been provided to GHHP for the annual report card assessment.

Fourteen meadows representing the range of different seagrass community types in Port Curtis and Rodds Bay are monitored each October/November. Three indicators of seagrass condition are assessed: biomass, area, and species composition.

Overall, the Seagrass score for 2025 was 0.81 – an improvement in score from the previous year (2024: 0.68) whileand remaining at a Good (B) grade. All 14 monitored seagrass meadows and each of the seven zones had increased scores compared to 2024. This resulted in an increase in grade for four zones: Inner Harbour (2025; C, 2024; D), Mid Harbour (2025; B, 2024; D), South Trees Inlet (2025; A, 2024; B), and Rodds Bay (2025; A, 2024; B). Seagrass biomass and area were some of the highest recorded since monitoring commenced for meadows in Rodds Bay and the Narrows. Seagrass at Pelican Banks was in Good condition for the first time in 14 years, with the highest level of biomass since 2010.

HOW DO THE SCORES FOR THE ECONOMIC COMPONENT COMPARE IN 2025 FROM 2024?

Economic Health is assessed through three indicator groups: Economic performance, Economic stimulus and Economic value (recreation). Economic value was not assessed in 2025, with results carried over from the 2022 Report Card.

Overall, Economic Health received a score of 0.71, equating to a Good (B) grade, and remaining the same from 2024. Both of the two sub-indicators measured remained stable; Economic performance (2025: 0.89, A, 2024: 0.90, A), and Economic stimulus (2025: 0.51, C, 2024: 0.50, C).

WHY IS THE COMMERCIAL FISHING SCORE IN THE ECONOMIC COMPONENT SO LOW?

GHHP collects data from QFish on commercial catch (weight in kilograms, number of days fished and number of licenses issued) for line, net, and otter trawl fisheries in the QFish S30 grid, which includes Gladstone Harbour and the open coastal waters immediately adjacent to the harbour.

Fishing data from grids at Yeppoon and Mackay were also used in the analysis to control for spatial differences in catch in different locations across years. This provides more balanced information on fishing productivity in the region. This method was first developed by CSIRO for the pilot Report Card in 2014.

The low scores reflect that the value of commercial fishing catch in the S30 grid is lower than the 10-year average starting from 2012.

In recent years, the ways in which commercial catch is recorded has been changing, in accordance with the Queensland Sustainable Fisheries Strategy 2017-2027. This sometimes means that GHHP scores for commercial fishing are based on incomplete data from QFish, as there can be delays in data publication. This may have contributed to the lower scores in 2025.

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QUEENSLAND SUSTAINABLE FISHERIES
STRATEGY 2017-2027

Thank-you

We'd like to extend a big thank-you to the following partners for their ongoing support of GHHP and the Gladstone Healthy Harbour Report Card.