



Gladstone
Healthy Harbour
Partnership

FISH RECRUITMENT



FIVE FAST FACTS

1. Fish Recruitment is an indicator under the environmental component of the Gladstone Harbour Report Card.
2. Fish Recruitment is one of the **THREE** key dynamic functions that affects a fish population.
3. The Fish Recruitment index is based on the total catch of juveniles of two bream species and is defined as the annual production of juvenile fish entering the mature fish population.
4. Pikey bream and yellowfin bream are the two bream species used to determine the Gladstone Harbour Report Card score.
5. Data was collected from **26 SITES** across 12 harbour zones between December 2017 and March 2018.

THE GRADES

2016	2017	2018	Grading system
D	B	B	A Very good (0.85 - 1.00)
			B Good (0.65 - 0.84)
			C Satisfactory (0.50 - 0.64)
			D Poor (0.25 - 0.49)
			E Very poor (0.00 - 0.24)

HOW IS FISH RECRUITMENT MEASURED?

Fish recruitment surveys in Gladstone Harbour were conducted by Infofish Australia using cast nets. Each survey was completed within two weeks following the largest spring tides as recruitment of fish into nursery habitats is influenced by these large tides. Where possible within each zone, a minimum of two sites were selected to cover the upper tidal limit and another within the daily tidal influence.

The cast netting surveys also collected other species of fish and prawns, however, the abundance of two bream species were used to determine the recruitment score in the report card.

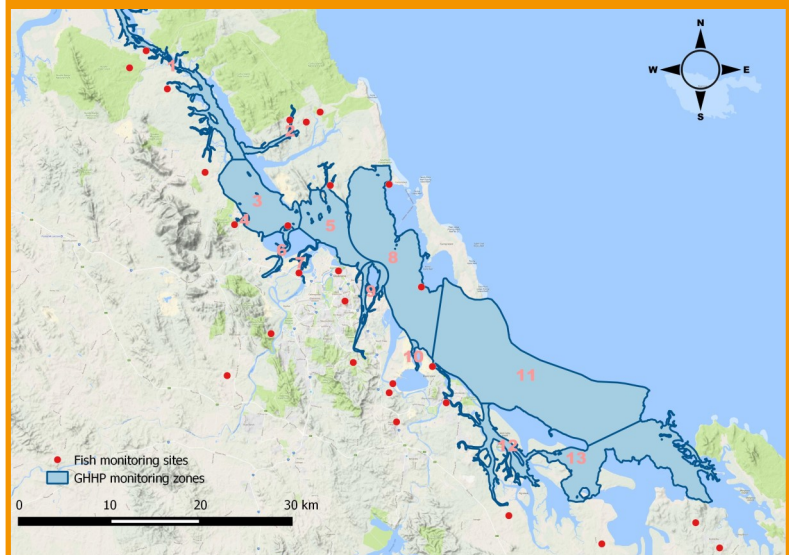
The recruitment indicator scores were based on a statistical model that explains variations in the catch per trip to a site (generally 20 casts per sample) to assess proportional changes in catch rate between the years relative to a notional baseline. Relevant data from 2011 to 2018 were also used in the model, together with predictor variables related to fish habitats to explain the variation in the data.

WHAT DO THE GRADES MEAN?

The fish recruitment grade in 2018 was a B, indicating a **GOOD** result.

The 2018 score of 0.66 for fish recruitment means a season with increased catch rate relative to the median reference level. The model identified large differences in fish recruitment between years (seasons) and that the 2017–18 year had a slightly lower recruitment rate than the previous year after correcting for a number of important environmental variables.

FISH RECRUITMENT SITES IN THE GLADSTONE HARBOUR



Fish recruitment is monitored in 26 sites across 12 harbour zones.