



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 Yellow-finned 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 2018 and March 2019.

THE GRADES

2016	2017	2018	2019	Grading system
D	B	B	D	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.

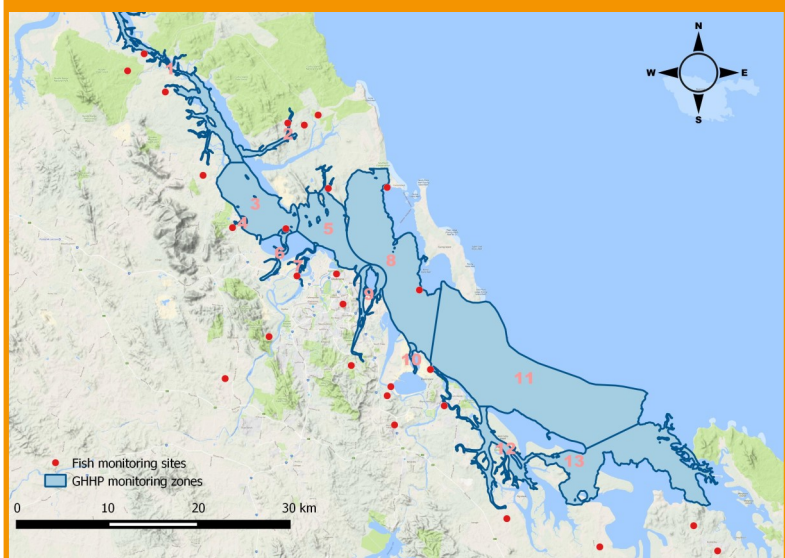
To determine fish recruitment grades and scores, a statistical model was developed that relates previous results (2015 – 2018) to the annual catch rate per trip and per site and incorporates seasonal and other relevant environmental variables. The recruitment indicator scores are determined from this model, which is updated on an annual basis.

WHAT DO THE GRADES MEAN?

The fish recruitment grade in 2019 was 0.26 (D), indicating a **POOR** result. This is the lowest annual recruitment score since surveying commenced.

This poor result is interpreted as a decrease in catch rate relative to the median reference level. In trying to understand why such a large decrease in recruitment was observed in 2019, we note that there was little or no freshwater flow at most survey sites during the survey period.

FISH RECRUITMENT SITES IN THE GLADSTONE HARBOUR



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