



FISH RECRUITMENT



FIVE FAST FACTS

1. Fish recruitment is an indicator of Environmental health in the Gladstone Harbour Report Card.
2. Fish recruitment is one of the key dynamic functions that affects a fish population.
3. The fish recruitment score 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 species used to determine the Gladstone Harbour Report Card score.
5. Data was collected from **26 SITES** across 12 harbour zones between December 2019 and March 2020.

THE GRADES

| 2019 | 2020 | Grading system |
|----------|----------|-------------------------------------|
| D | C | 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 using cast nets.

All zones except the Outer Harbour were surveyed between December and April. 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 abundance of **TWO BREAM SPECIES** was used to determine the recruitment score in the report card. However the cast netting also collected other species of fish and prawns.

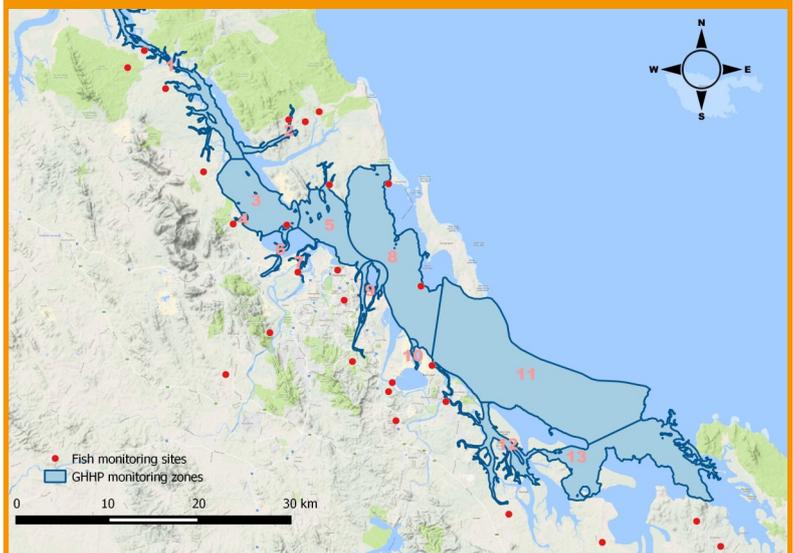
To determine fish recruitment scores, a statistical model was developed that relates previous results (2015 – 2019) to the annual catch rate per trip and per site and incorporates seasonal and other relevant environmental variables. The recruitment indicator scores are determined from this model, which is updated on an annual basis.

WHAT DO THE GRADES MEAN?

The fish recruitment grade in 2020 was 0.64 (C), indicating a **SATISFACTORY** result. A strong improvement on the poor score of the previous year.

This satisfactory result indicates that the 2020 catch rate was close to the long term average (2011 – 2022). This may be a response to the increase in rainfall from the previous year. As estuarine productivity, including fish recruitment, can be linked to freshwater inflows.

FISH RECRUITMENT SITES IN THE GLADSTONE HARBOUR



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