



Pumicestone Shellfish Habitat Restoration

Susie Chapman





PUMICESTONE SHELLFISH HABITAT RESTORATION - Project partners

- Ngunda Joondoburri Land Trust
- Kabi Kabi First Nation
- Pumicestone Passage Fish Restocking Assoc
- Sunfish Queensland
- Digsfish Services Pty Ltd
- Carlo Sain – Sebastiani Oysters
- University of the Sunshine Coast
- Moreton Bay Regional Council
- Unitywater
- Healthy Land and Water
- Australian Government – National Landcare Programme
- OzFish Unlimited
- BCF
- Bureau Waardenburg
- Queensland Government – Community Benefit Fund







No exclusion zones allowed in Marine Park, so public awareness campaign implemented to reduce risk of anchor damage



Large signs at 11 boat ramps around the southern Passage

Pumicestone Shellfish Habitat Restoration

In December 2017 three types of experimental shellfish reef were installed in a one-hectare area off Kakadu Beach, Bribie Island.

The Pumicestone Shellfish Habitat Restoration Project aims to re-establish the historical shellfish beds once found throughout the region, to enhance fish stocks and marine biodiversity in the Pumicestone Passage.

Please do not anchor in the trial area (indicated by shading on the map opposite) as this may damage the reefs.

For more information, visit www.hlw.org.au or www.restorepumicestonepassage.org



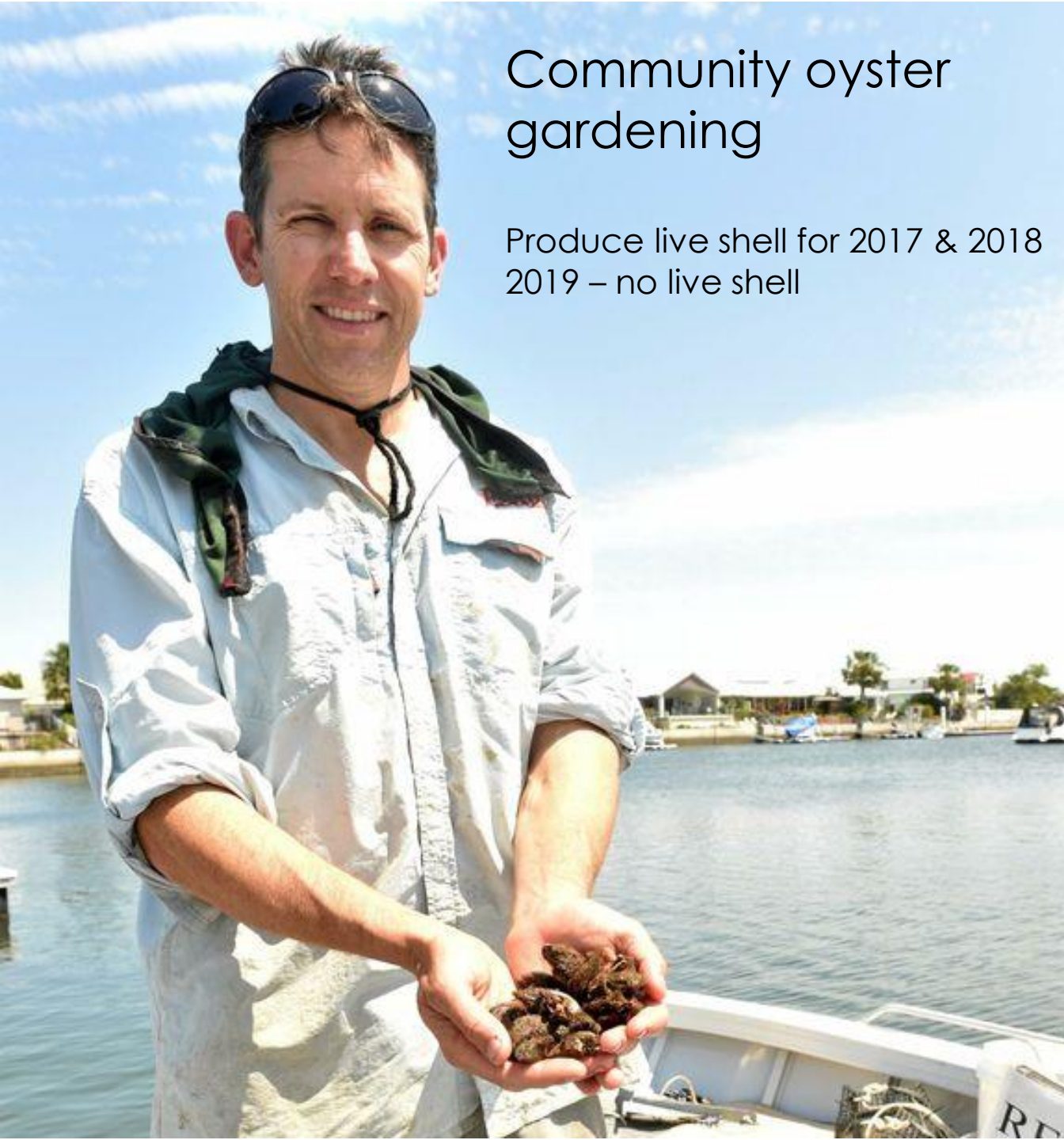
Project Partners:

Joondoburri Land Trust
Kabi Kabi First Nation
Pumicestone Passage Fish Restocking Assoc.
Sebastiani Oyster Farm



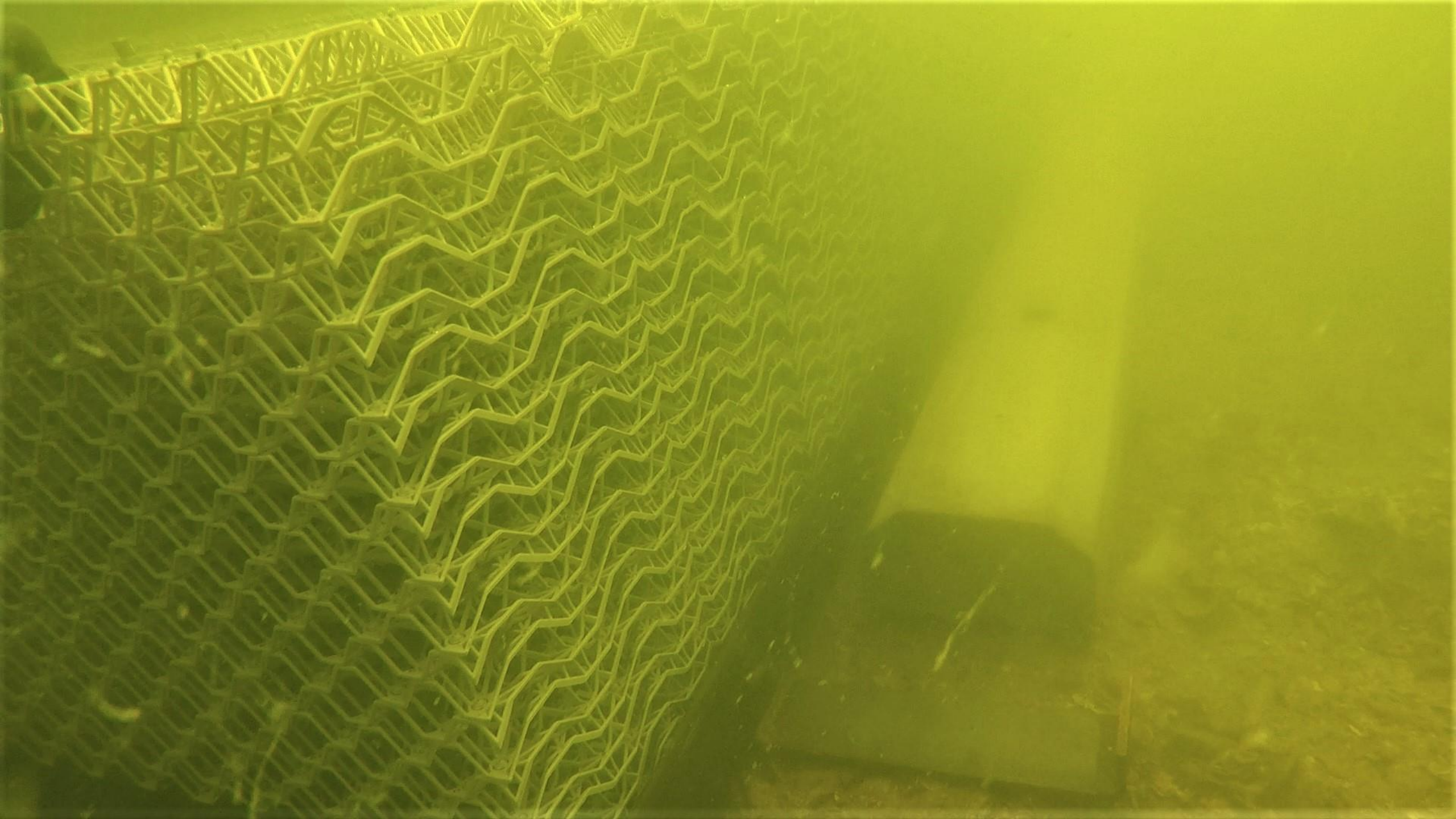
Community oyster gardening

Produce live shell for 2017 & 2018
2019 – no live shell







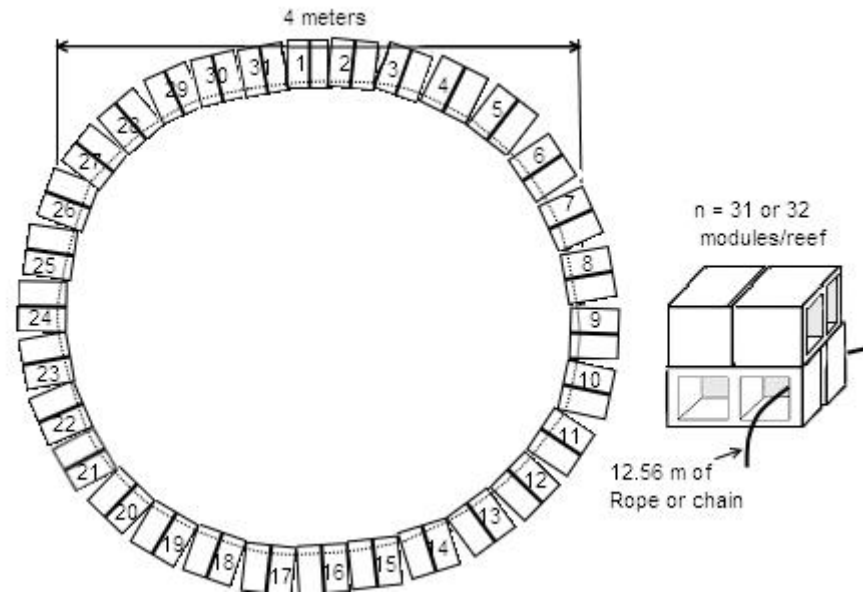


2017 – some patch reefs
surrounded by 'oyster balls'



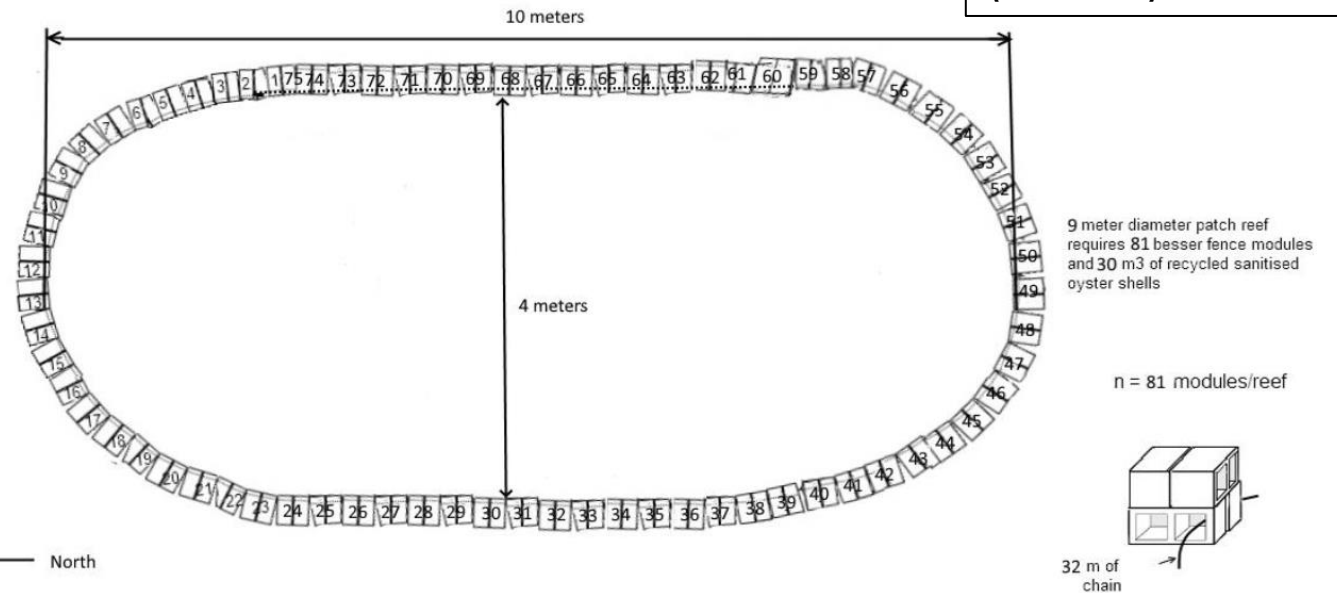
2017 – some patch reefs
surrounded by chained
singled Besser blocks





2018 – fence units of 4 cemented Besser blocks in 4m diameter circle (left)

2019 – same fence design in larger elongated configuration in line with current (below)



2017 – 1 bag
at a time



2019 -
Only bags,
2 at a time



Hose to sink

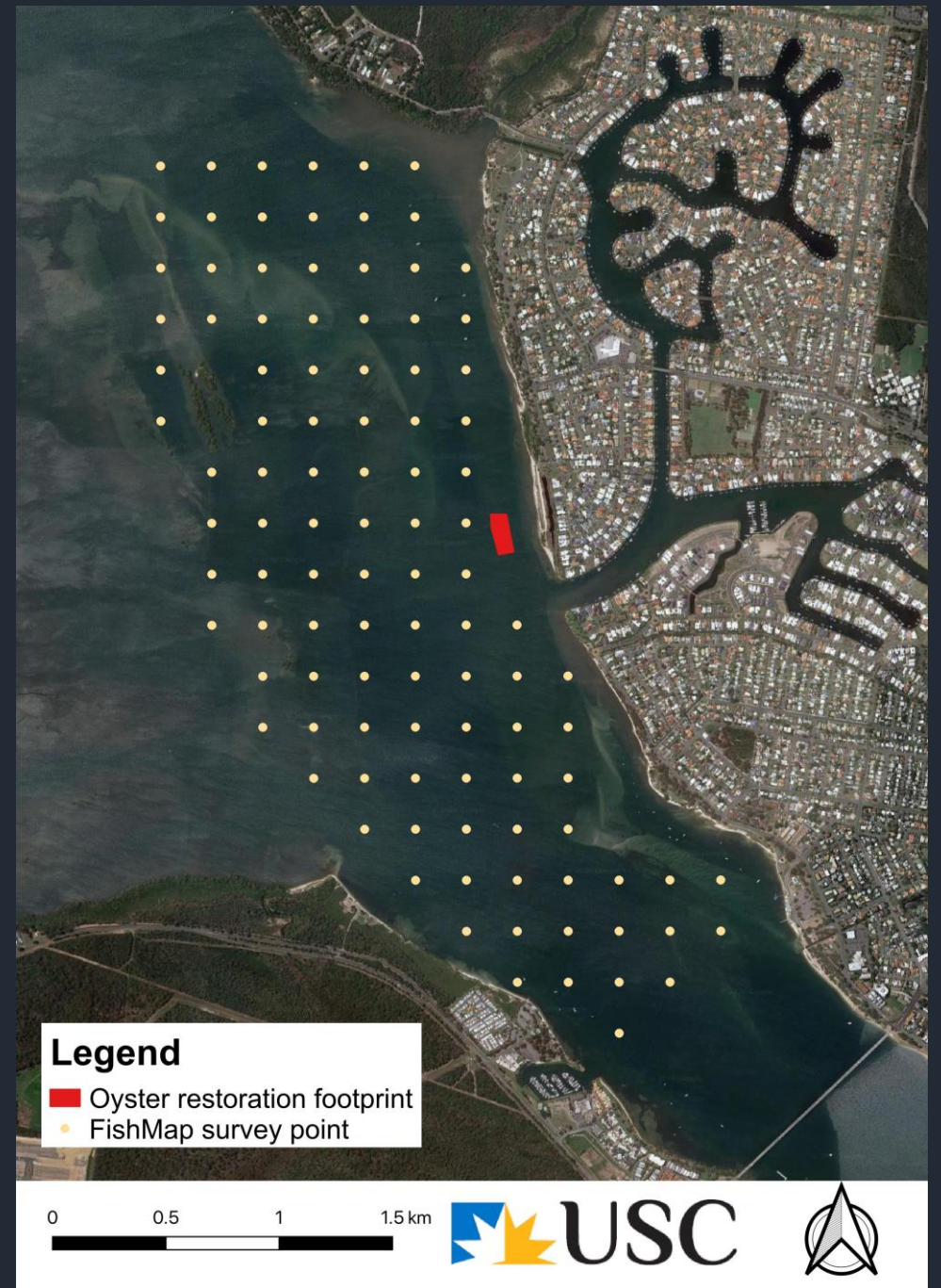


2018 – bins and bags,
one at a time



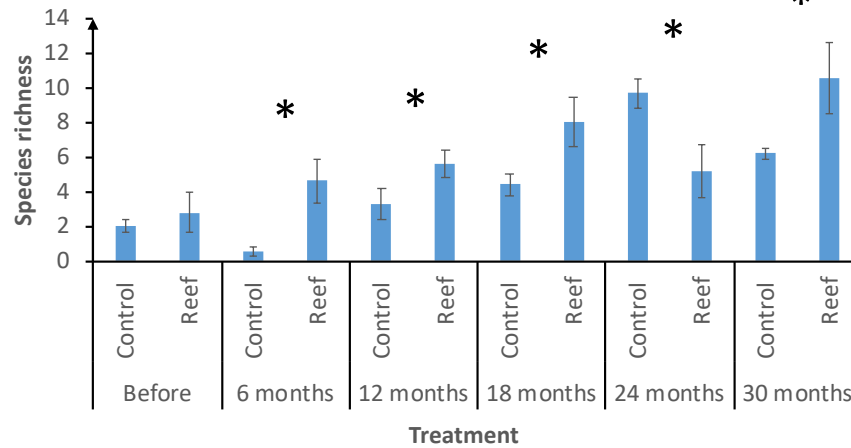
Fish monitoring methods- effects of the reef across the seascape

- Remote underwater video stations (RUVS)
- 'FishMap' grid survey method
 - One RUVS deployment across every point in 200m grid
- Quantified effects of distance from reef, and fish redistribution
- ~120 sites surveyed before installation, and then every 6 months

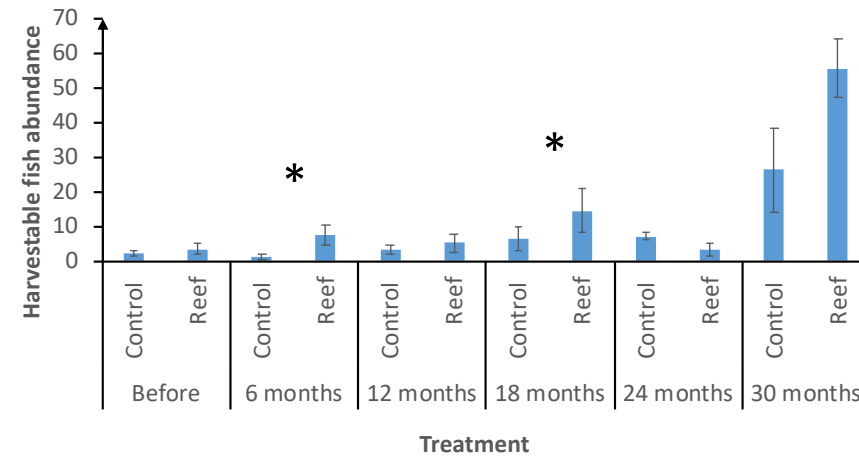


Significantly greater fish abundance and diversity at the reef site

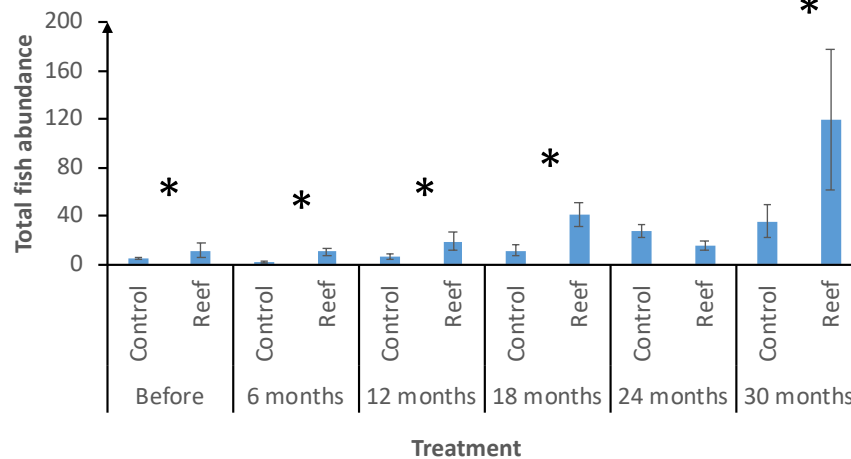
A. Species richness



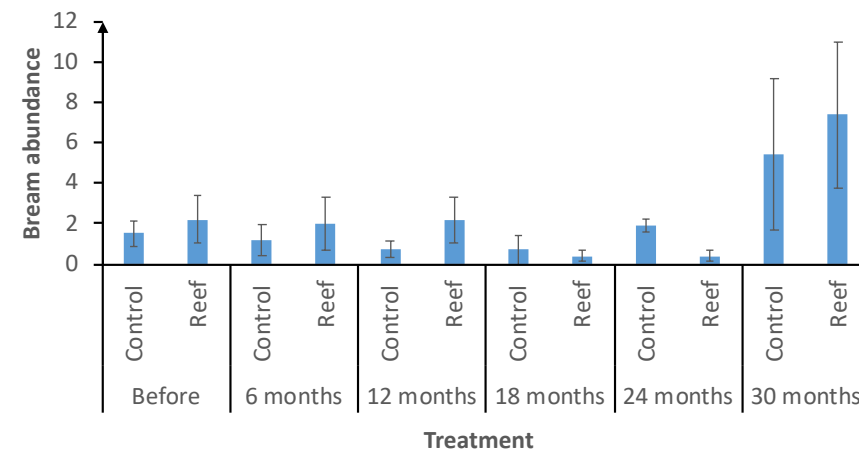
B. Harvestable fish abundance



C. Total fish abundance



D. Yellowfin bream



But do the reefs simply attract fish from throughout the estuary?

Pre-installation (Nov/Dec 2017)

Post-installation (May 2018)

Post-installation (December 2018)

Post-installation (May 2019)

Post-installation (December 2019)

Post-installation (May 2020)

