

Harmful Algal Bloom Impacts on South Australian Benthic Habitats



Shannen Smith

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Office of Algal Bloom Research (OABR) and Harmful Algal Bloom (HAB) Symposium
2-3 June 2026



**Flinders
University**



**Adelaide
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OFFICE FOR ALGAL BLOOM RESEARCH



Government of South Australia
Department of Primary Industries
and Regions



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INSTITUTE



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New projects to advance harmful algal bloom monitoring, ecological understanding and national preparedness

Project 5.12 →

Project 5.13 →

Project 5.14 →

Project 5.15 →



Benthic habitat impact assessment

- First look at habitats that were not being monitored at the time
- Understand if some habitats might be more vulnerable than others
- Consider impacts from an ecosystem approach rather than targeting individual species

Quantifying the exposure, protection, and recovery of seafloor habitats in Spencer Gulf to prawn trawling

Final report to the Fisheries Research and Development Corporation

^{1,2} Grammer, G.L., ^{1,2} Bailleul, F., ² Pitcher, C.R., ^{1,2} Tanner, J.E.,
^{1,2} Diaz, F. and ^{1,2} Noell, C.

¹ South Australian Research and Development Institute

² The University of Adelaide

³ Commonwealth Scientific and Industrial Research Organisation

October 2025

FRDC Project No. 2020/002



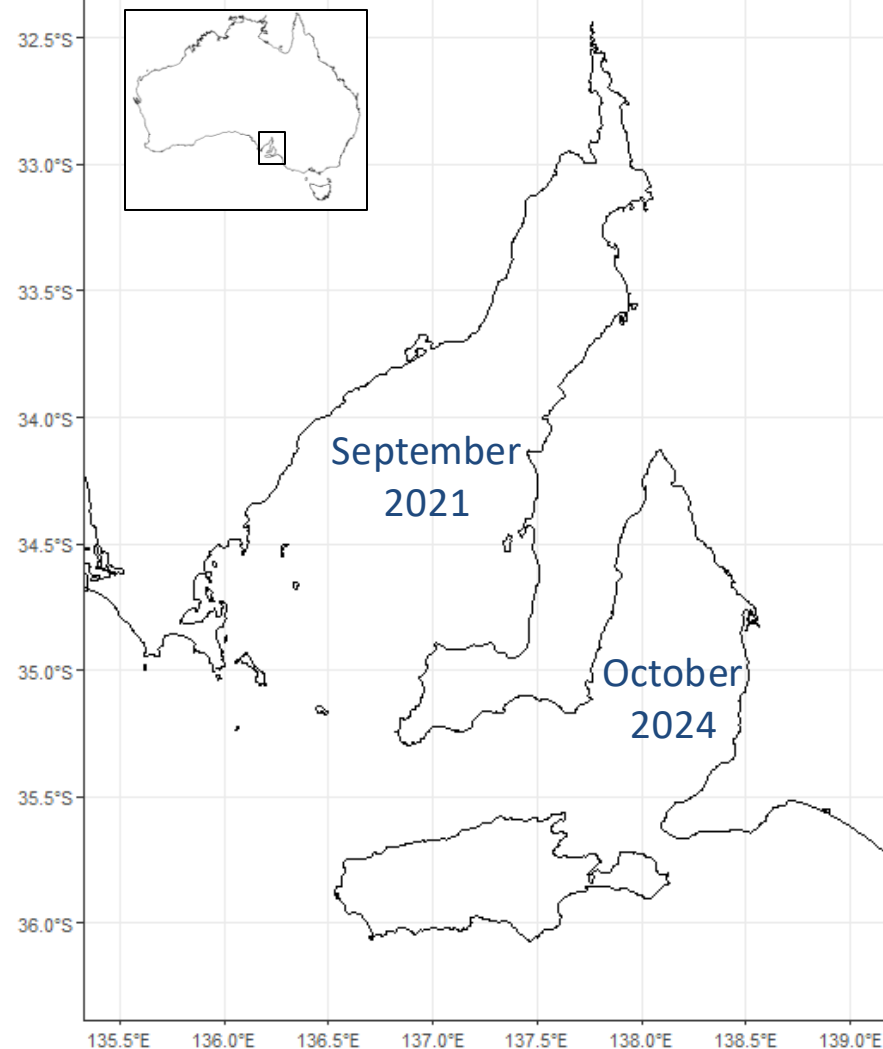
Snapper Science Program Theme 1: Biology and Ecology 1.4 Benthic Habitat Survey for Gulf St Vincent

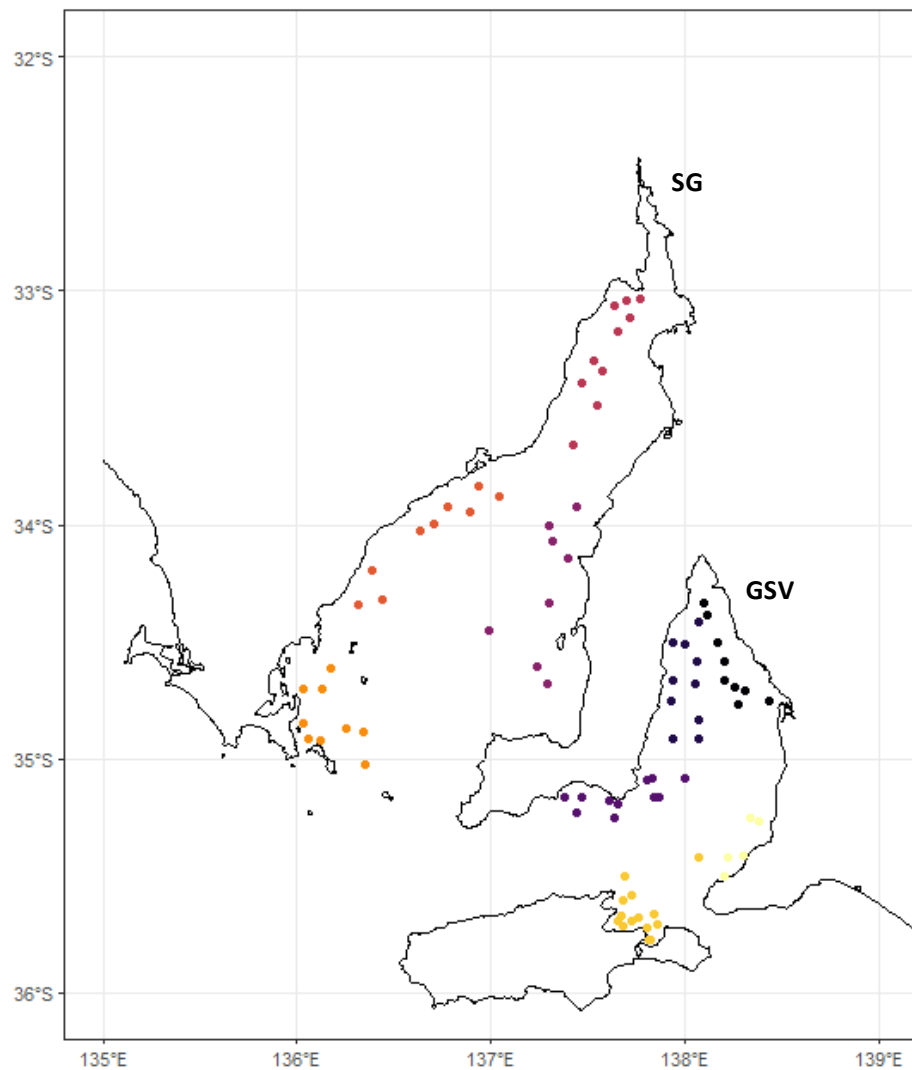
Shannen M. Smith, Fred Bailleul, Gretchen Grammer, Jason E. Tanner

South Australian Research and Development Institute (SARDI Aquaculture and Livestock)

DRAFT

FRDC Project No 2023-085



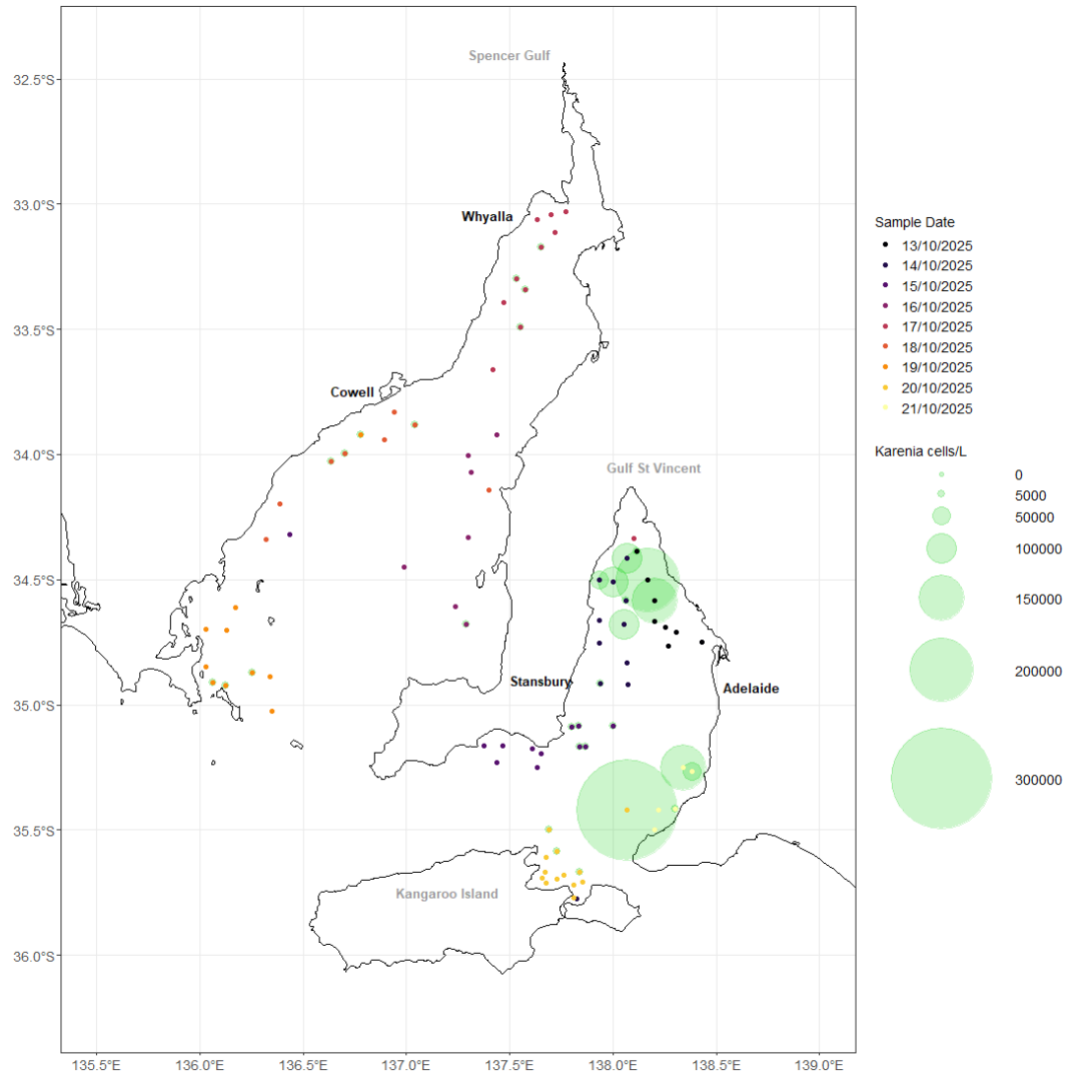


October 2025

84 stations surveyed

- 500m tow camera transect
- Water samples for *Karenia spp.* cell counts
- CTD cast

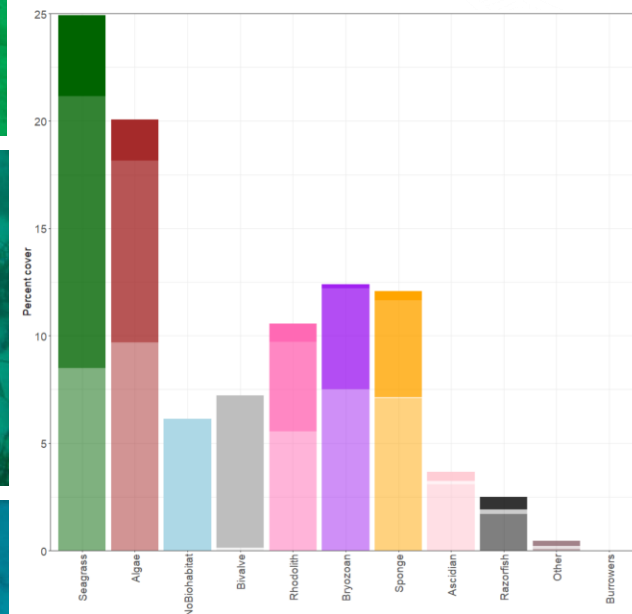
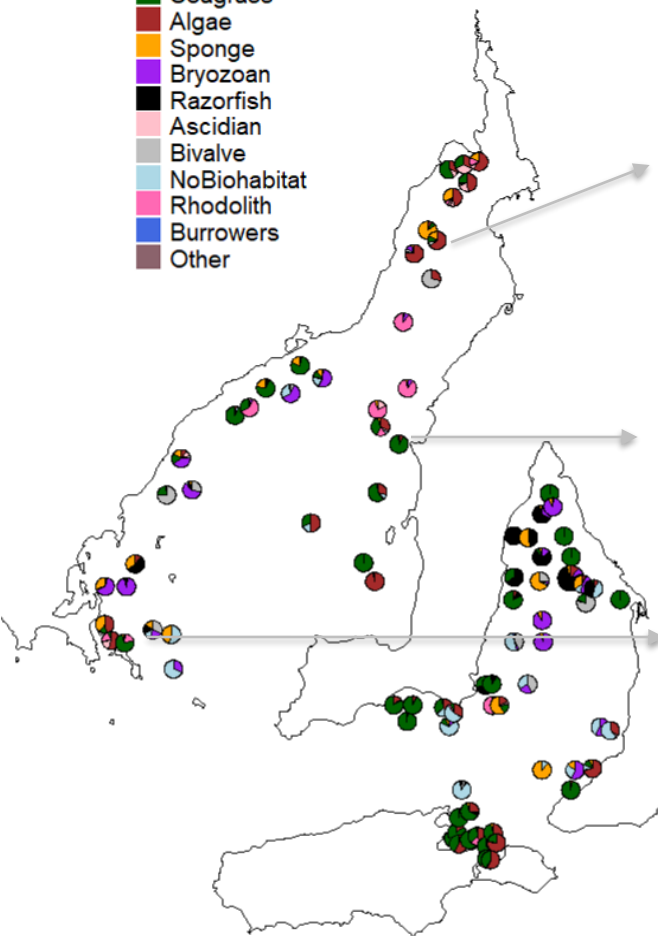




Biohabitat 2025

Habitat

- Seagrass
- Algae
- Sponge
- Bryozoan
- Razorfish
- Ascidian
- Bivalve
- NoBiohabitat
- Rhodolith
- Burrowers
- Other

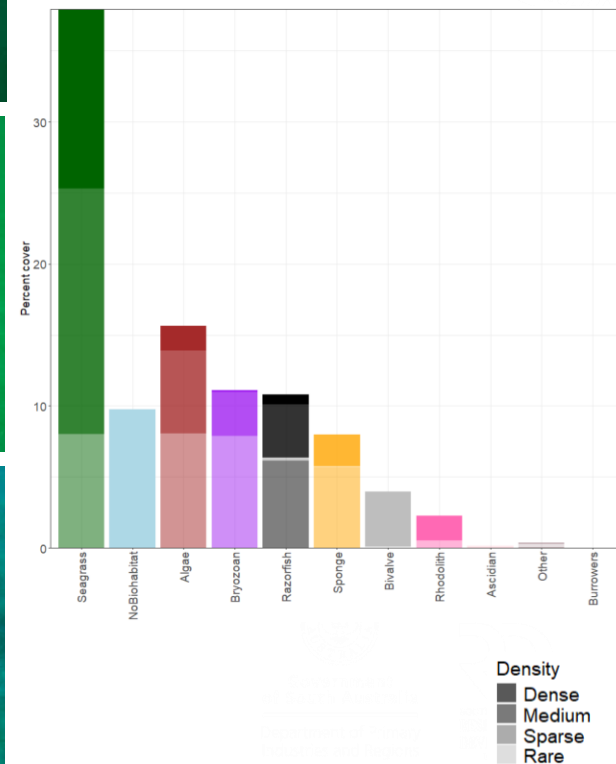
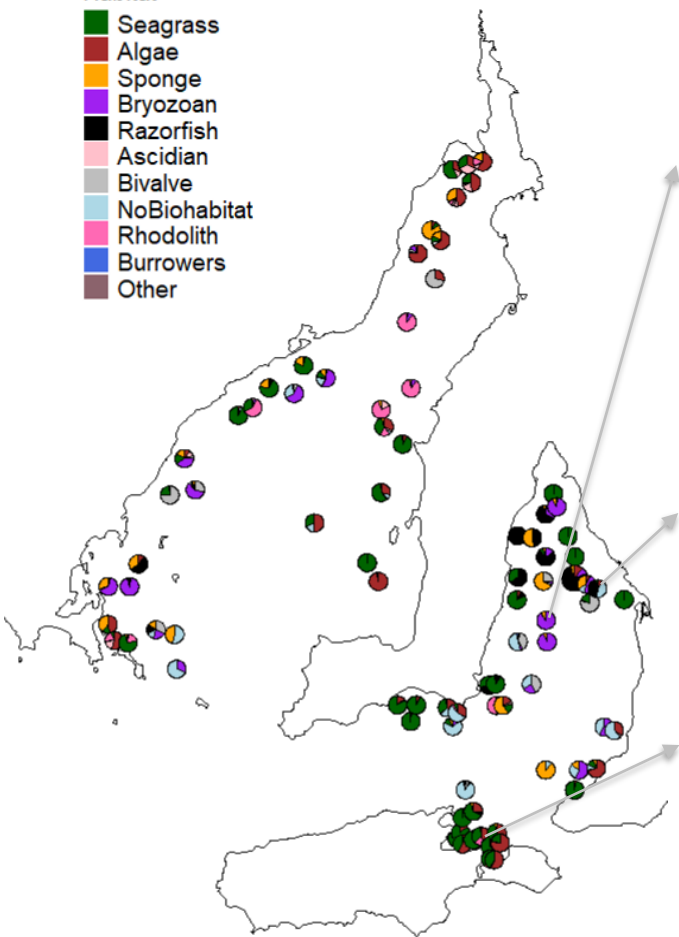


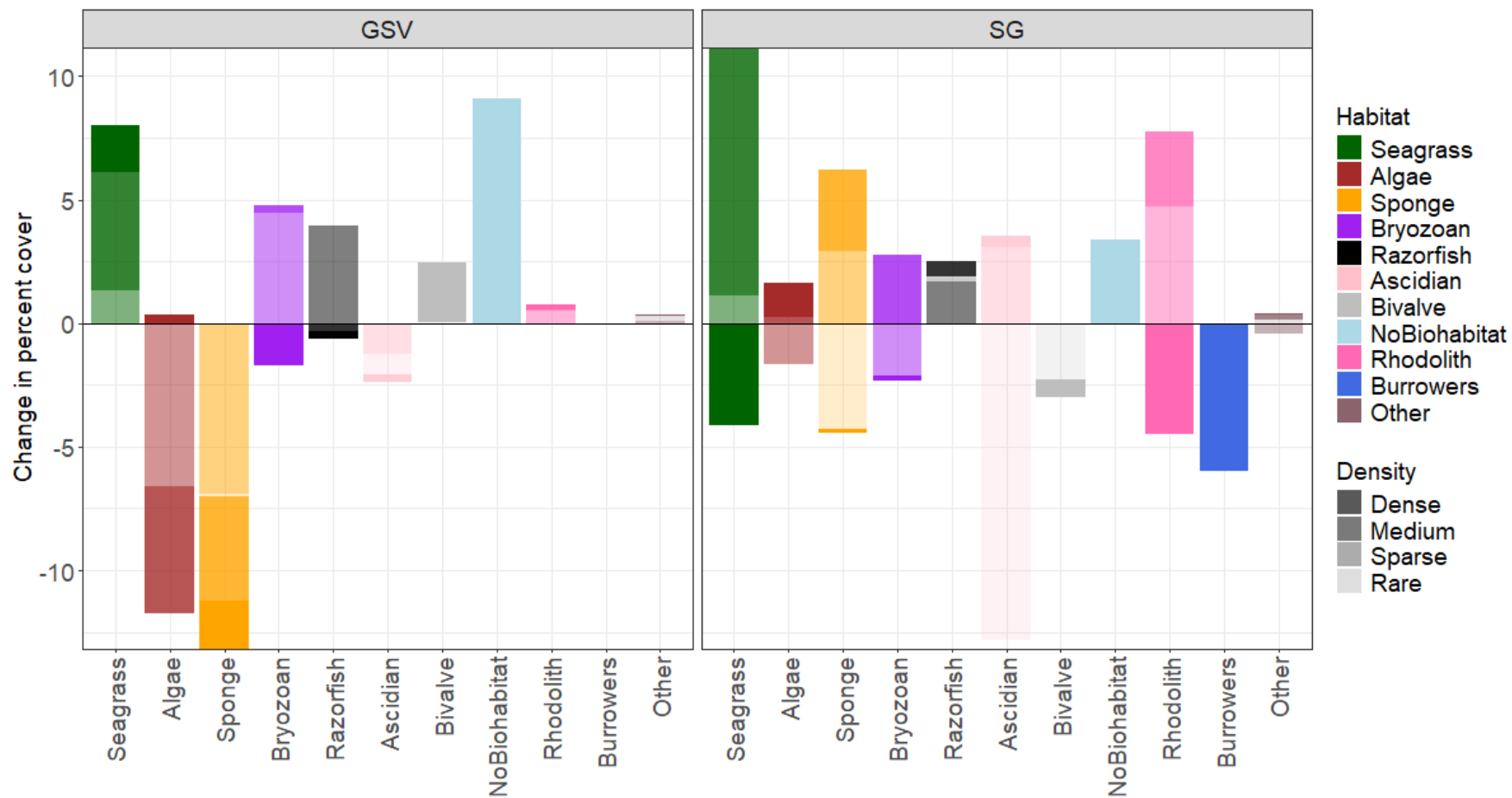
Seagrass
Algae
Sponge
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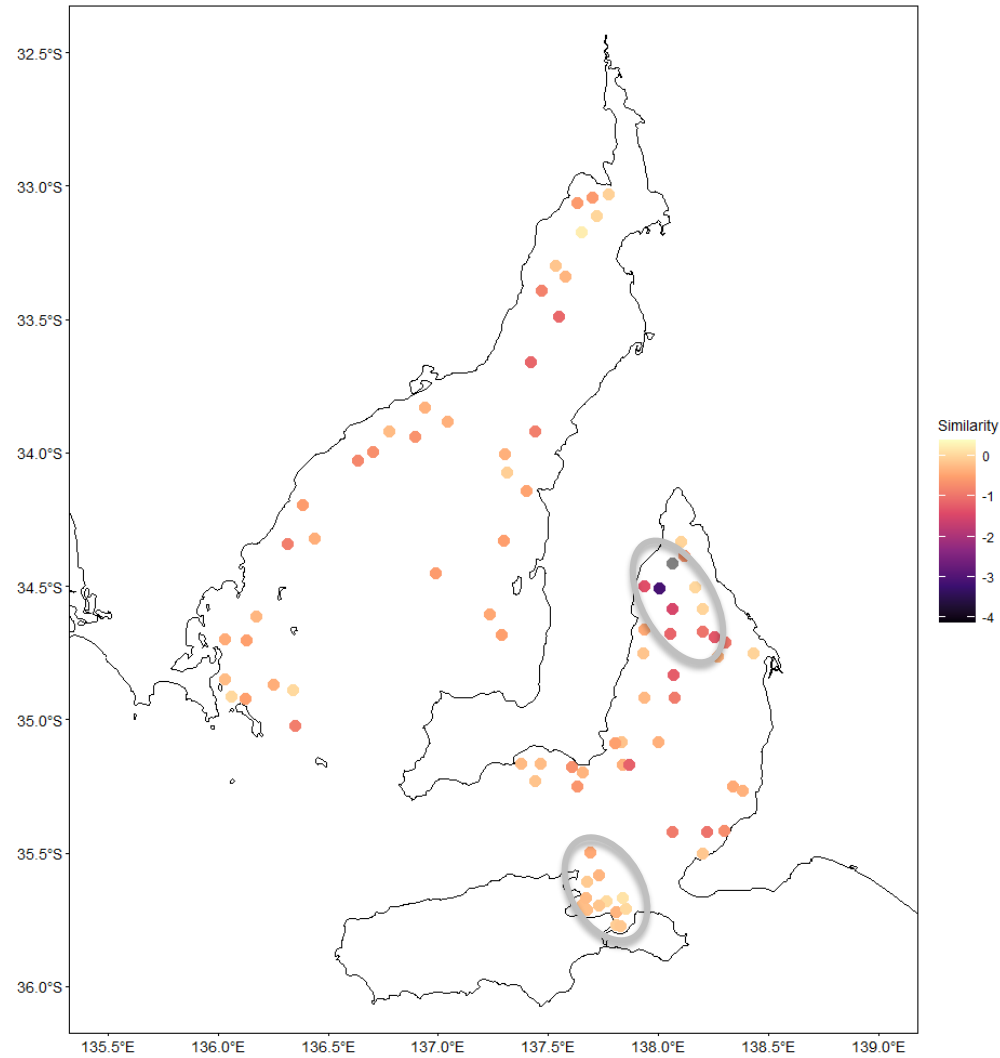
Density
Dense
Medium
Sparse
Rare

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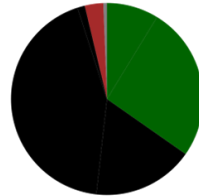
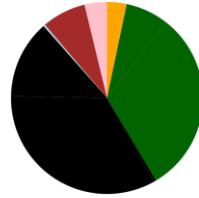
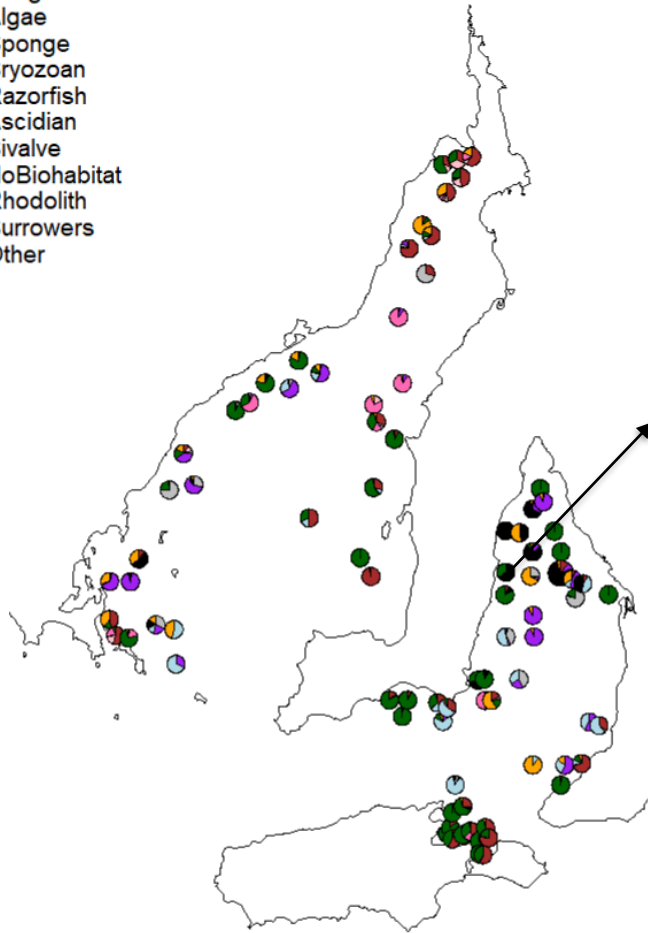






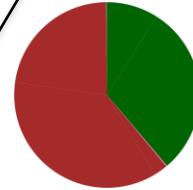
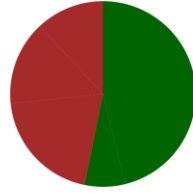
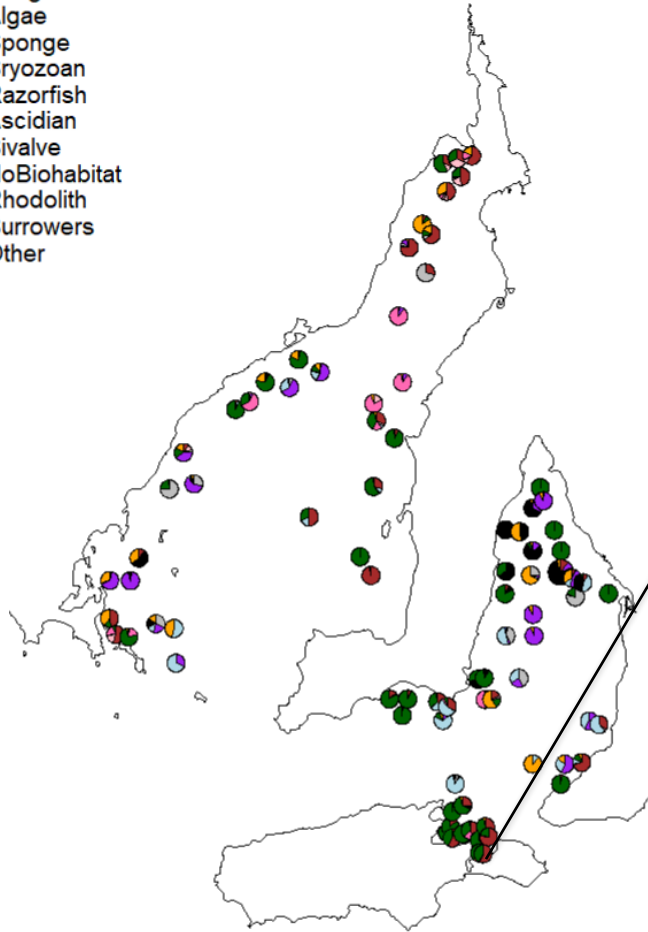
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Ecosystem level questions

May 2026



October 2025



So far...

- Evidence for the vulnerability of some habitat types over others
- Evidence for a reduced diversity amongst benthic invertebrates
- Spatial differences in the degree of change

Next steps...

- What are the flow on effects of habitat change?
- What will the patterns of recovery look like?

