A discussion document for the HG-BSPAG

By Shaun Lee March 2022

Mediteranean fanworm (*Sabella spallanzanii*) is an unwanted organism spreading through the Hauraki Gulf Marine Park. 5.8kg of Sabella were caught at six stations in this trawl survey. https://fs.fish.govt.nz/Doc/24856/FAR-2021-08-Hauraki-Gulf-2019-Bay-Of-Plenty-2020-Trawl-Surveys-4125.pdf.ashx Max depth 34m 13.6% occurrence.

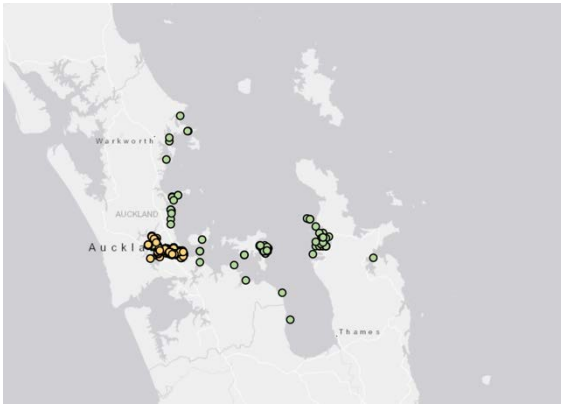
Under section 52 of the Biosecurity Act 1993 – *"No person shall knowingly communicate, cause to be communicated, release, or cause to be released or otherwise spread any pest or unwanted organism"* with some exceptions. There are additional restrictions regarding the or *"cause the propagation, breeding or multiplication of unwanted organisms"* under section 53 of the act.

Sabella at 20m depth on mud north of Waiheke Island (photo by Shaun Lee)

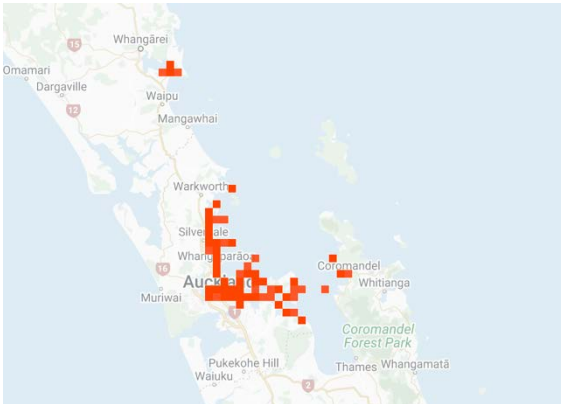
Sabella at 2m depth on sand in Te Haruhi Bay (photo by Shaun Lee)

Should HG-BSPAG value *Sabella* as a habitat?

Large clumps of *Sabella* provide biogenic habitat structure. There is case to be made for protecting *Sabella* as a habitat forming species https://www.mdpi.com/1424-2818/12/6/228. But also some downsides https://www.frontiersin.org/articles/10.3389/fevo.2019.00481/full.



Sabella distribution on the Marine Biosecurity Porthole (March 2022)



Sabella distribution on iNaturalist.nz (March 2022)

Transport and multiplication

The spatial distribution of *Sabella*, trawling and seining don't currently overlap much but this will change as *Sabella* spreads.

Typical bottom trawl tow lengths are 12–15 km (Boyd R. Commercial fishing in Whangarei Harbour and Bream Bay. Wanaka: Boyd Fisheries Consultants Ltd; 2017).

Sabella may be transported by:

- Being caught and discarded from trawl nets at the surface
- Being caught and discarded from trawl nets during a tow
- Being detached from the seafloor by fishing gear then drifting in currents

Sabella may be multiplied by:

- Being broken into fragments by trawling and Danish seining gear. These fragments may then grow into new individuals.

Recommendation

Rather than attempting to value *Sabella* as a habitat or assess trawl nets as a biosecurity pathway I suggest we apply a depth limit to the study area. Michael Townsend suggested a habitat range of 0-30m for *Sabella* but the trawl survey mentioned above has them at 34m, I suggest 40m (6m buffer) pending advice from Biosecurity New Zealand. Note that a similar unwanted organism clubbed tunicate (*Styela clava*) has been recorded at 40m depth overseas https://hmr.biomedcentral.com/track/pdf/10.1007/BF02908912.pdf Clavelina and Caulerpa which have recently been discovery around Aotea / Great Barrier Island have 50m depth limits. Smaller unwanted organisms are unlikely to be caught in nets by themselves they may get caught when attached to larger biogenic structures.

Botrylloides growing on Sabella in Okahu Bay. Photo by Shaun Lee.

Michael Townsend suggested if considered in scope it might be more suitable to evaluate the intersection of unwanted organism distribution (both present and potential) with the corridors once we have some exploratory scenarios.