NIWA
Taihoro Nukurangi

Prioritizing marine pests by traits

Framework for managing the unknown

Leigh Tait, Graeme Inglis, Tarek Soliman

Climate, Freshwater & Ocean Science

Invasive species impact assessment framework

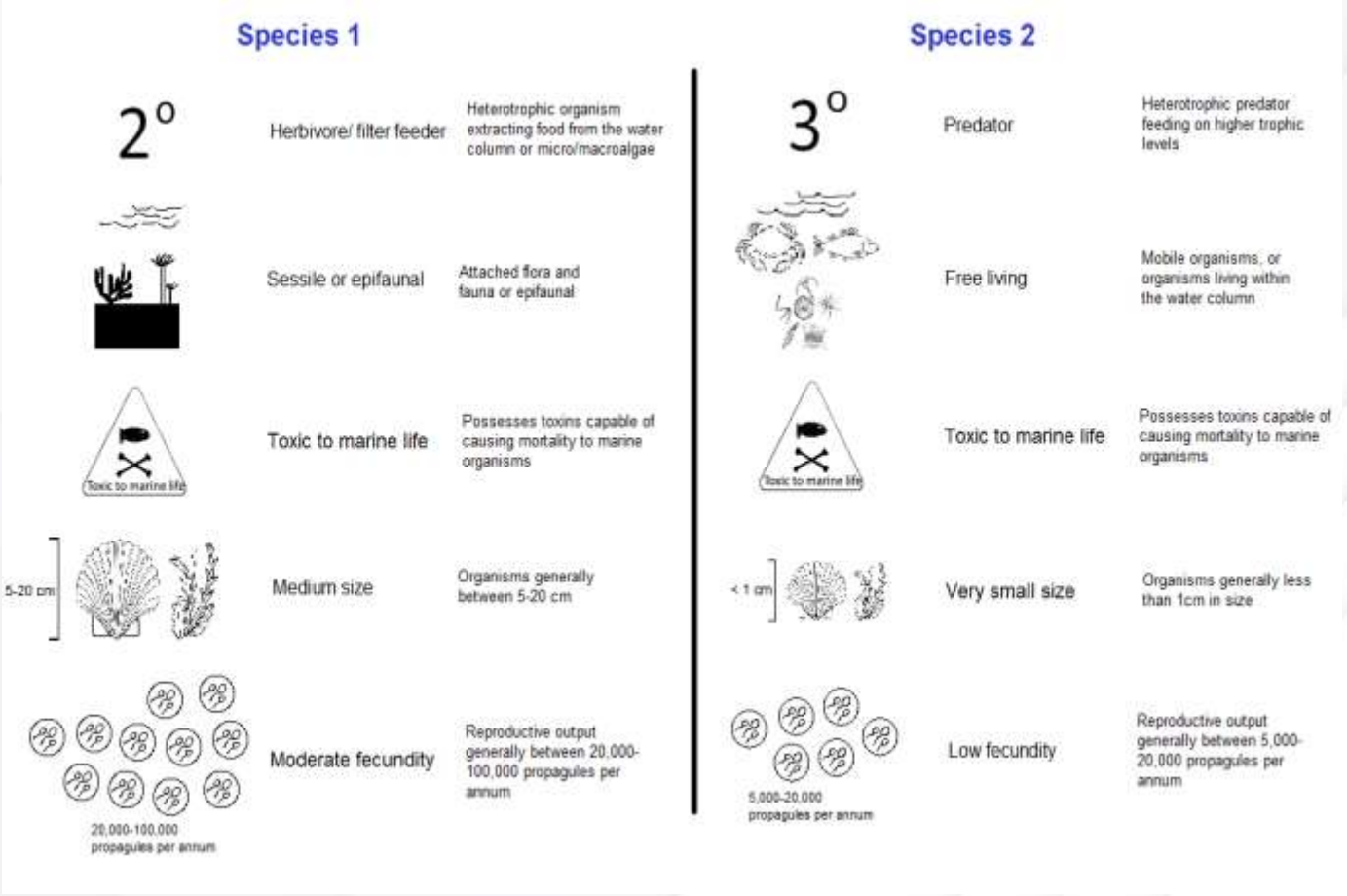
- Global pool of ***potential NIS*** very large
- Over 30% of NIS have no prior history

To quickly prioritize ***unknown NIS*** we need to:

- Have traits that are easily identified
- Make comparisons against known species
- Be able to make quick assessments

Traits related to ***impacts***

1. **Trophic feeding level**
2. **Habit**
3. **Toxicity**
4. **Size**
5. **Fecundity**



Values of marine ecosystems

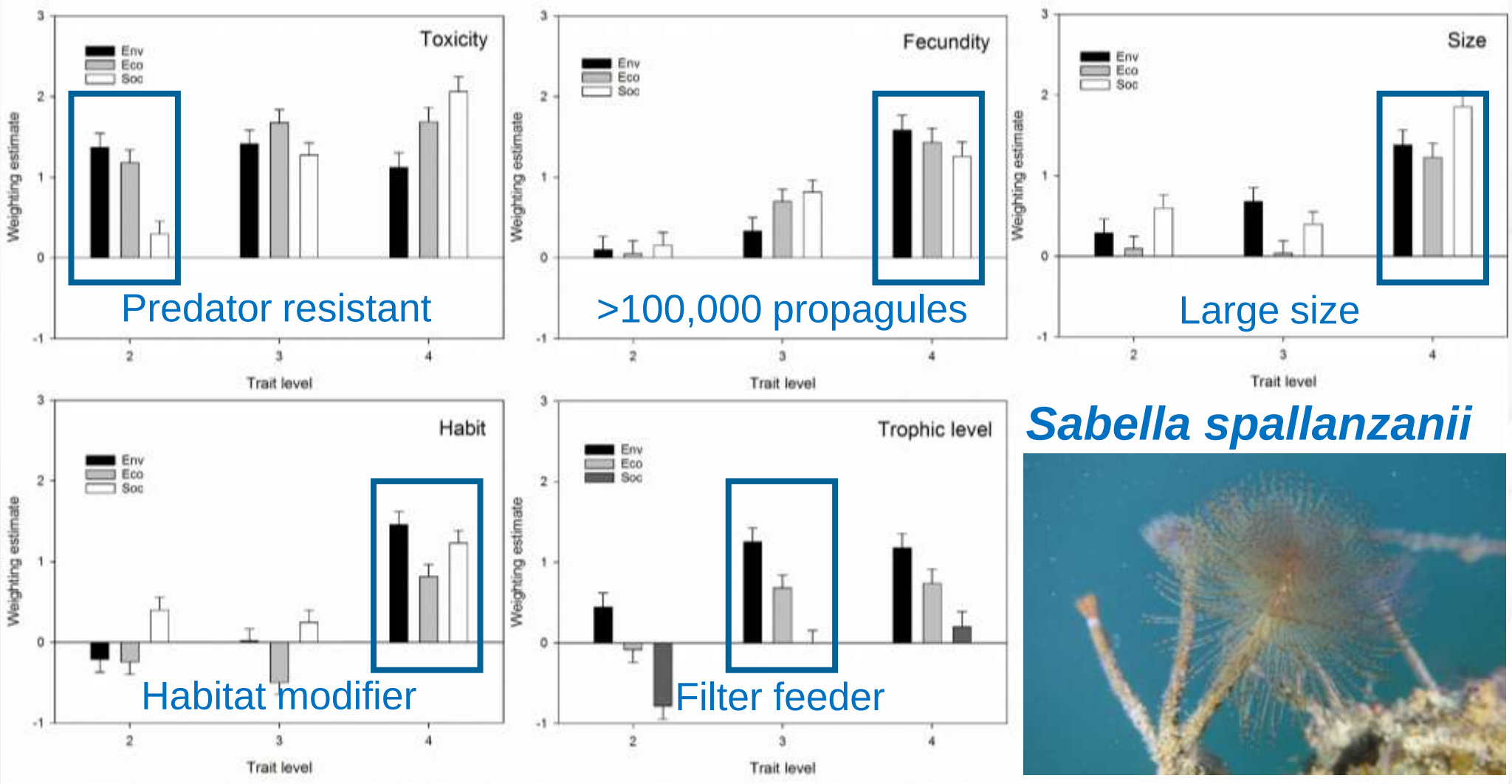
- **Environmental values:** ecosystem health, resilience, integrity, ecosystem services
- **Economic values:** fisheries, infrastructure, aquaculture
- **Social/cultural values:** aesthetic values, recreational harvesting

Expert elicitation survey

- 77 responses
- 8 countries
- 5 respondents with 20+ years experience (15 with 10-20 years)
- 3 areas of specialist research

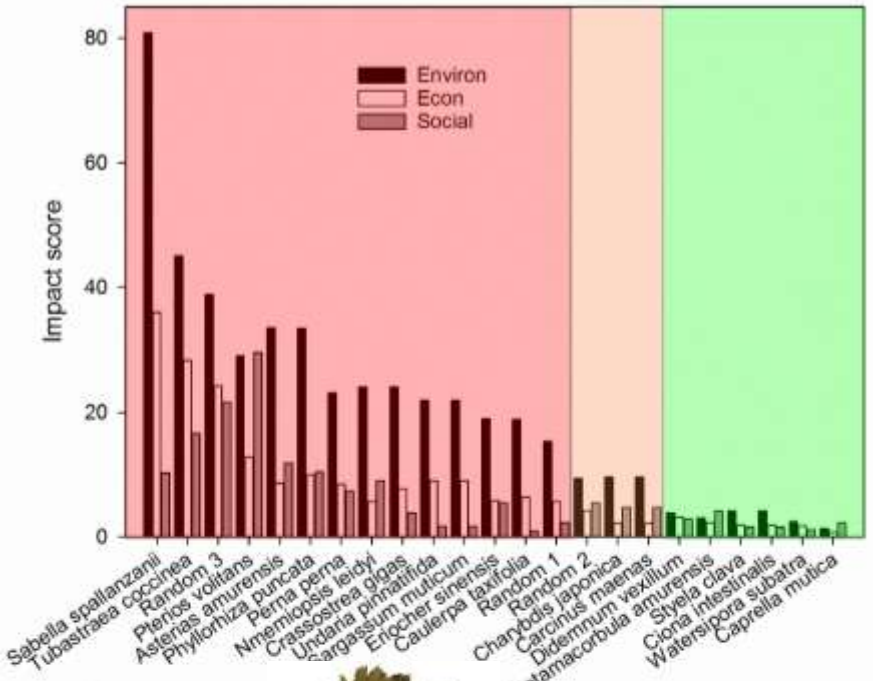
NIWA
Taihoro Nukurangi

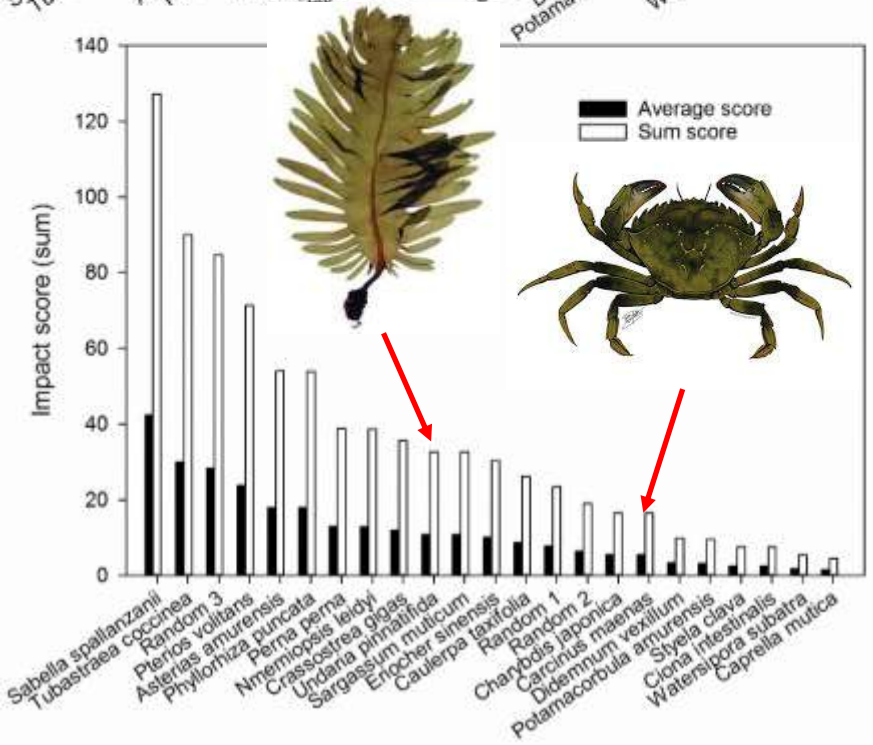
Expert elicitation results



Sabella spallanzanii

Prioritization framework in use





- Using trait weighting we can then run the weightings across species traits
- ***New arrival-*** we would then enter the traits into the framework and compare against invaders with known impacts
- *NOTE: Known invaders heavily weighted towards those that have had measurable impacts*

NIWA
Taihoro Nukurangi

To participate in the survey

https://www.surveymonkey.com/r/NIS_impacts

OR

To participate in the next stage please email me

Leigh.tait@niwa.co.nz

Acknowledgements:
MPI: Mike Taylor, Eugene Georgiades, Daniel Kluza, Tim Riding*MfE, Andrew Bell, Brendon Gould
NIWA: Chris Woods, Kate Davies
ALL survey respondents thus far

NIWA
Taihoro Nukurangi