

Interreg



France (Channel
Manche) England

RaNTrans

European Regional Development Fund

*RaNTrans - Rapid reduction of Nutrients in
Transitional waters:
The story so far...*

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[@ProjectRaNTrans](https://twitter.com/ProjectRaNTrans)

RaNTrans

Algal Mat

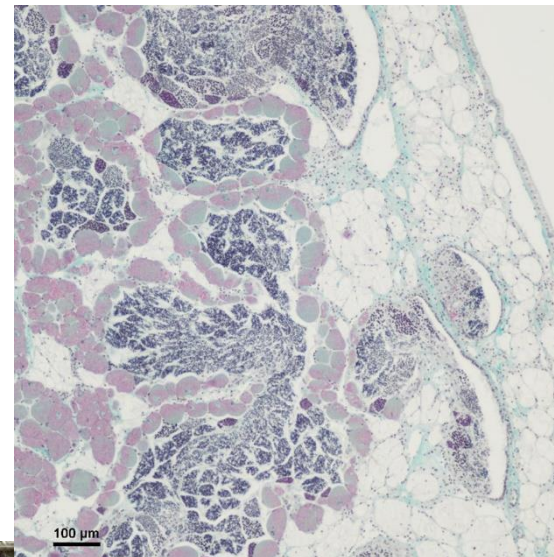
- Monthly monitoring
- Seasonal monitoring
- Water quality data
- Preparations for removal

Seaweed Aquaculture

- Nutrient uptake of different species
- Kelp lines

Oysters

- Growth
- Nutrient content
- Condition
- Fecundity



Algal mats

Currently what is available is a long series of coarse water quality data

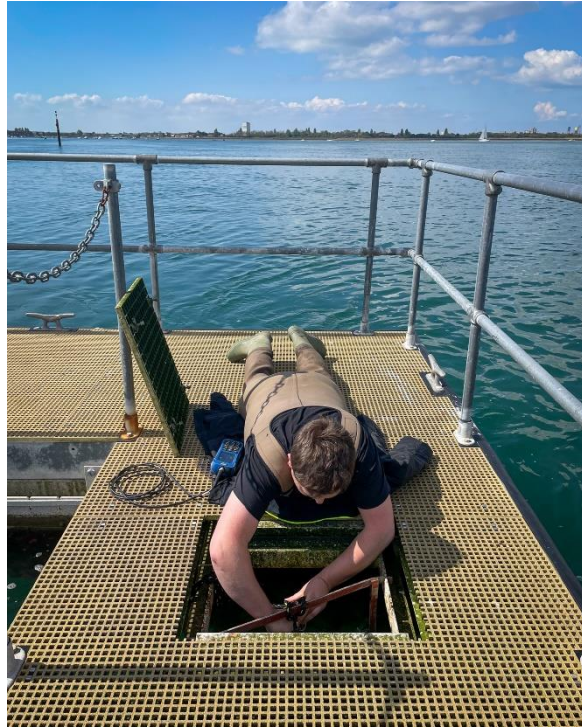
Infrequent algal mat coverage maps

Our aim is to create fine scale resolution of algal mat coverage in the Solent, utilising Langstone harbour as a case study site

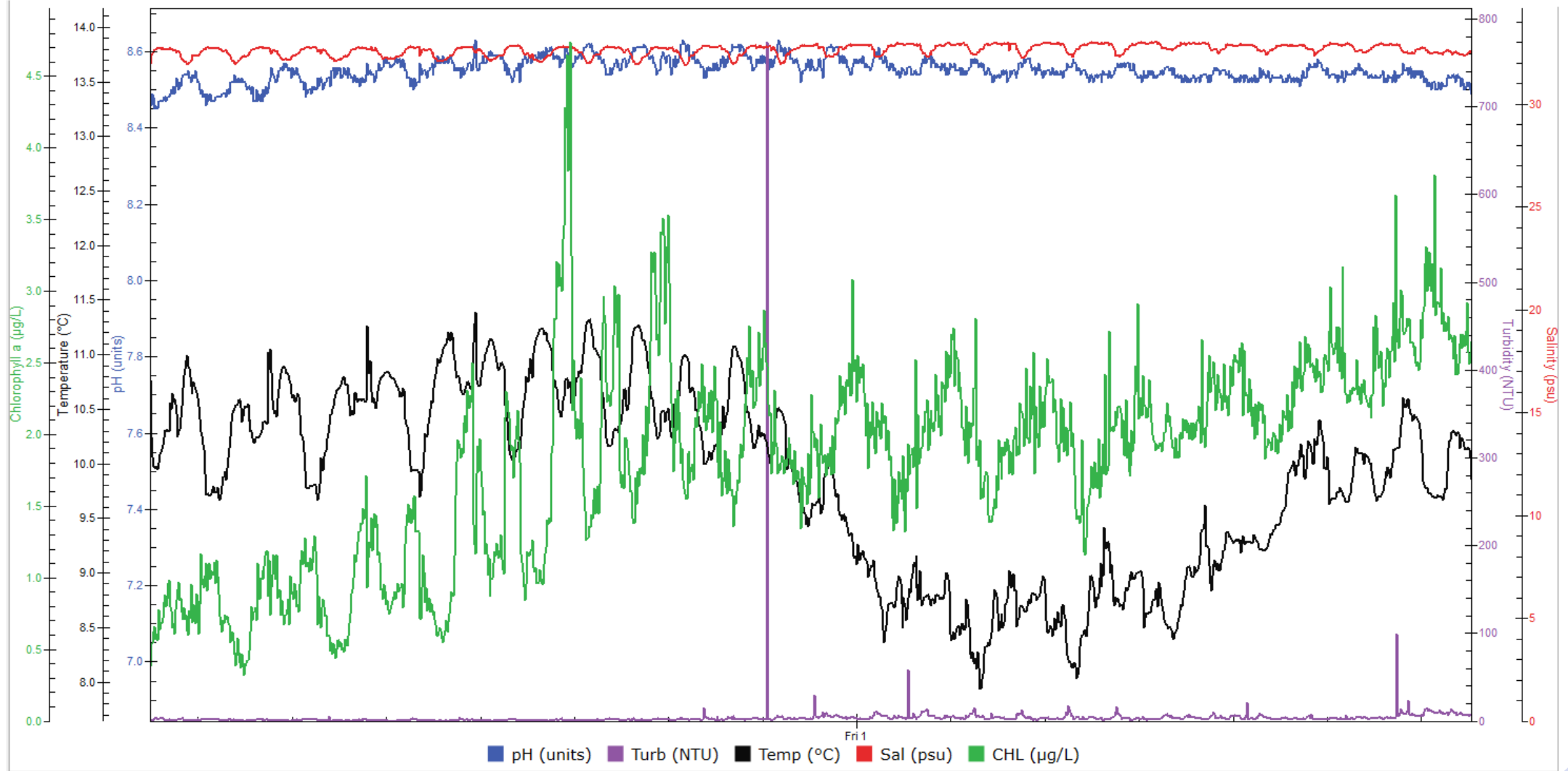
Study the effect of the algal mats on sediment and macrofauna



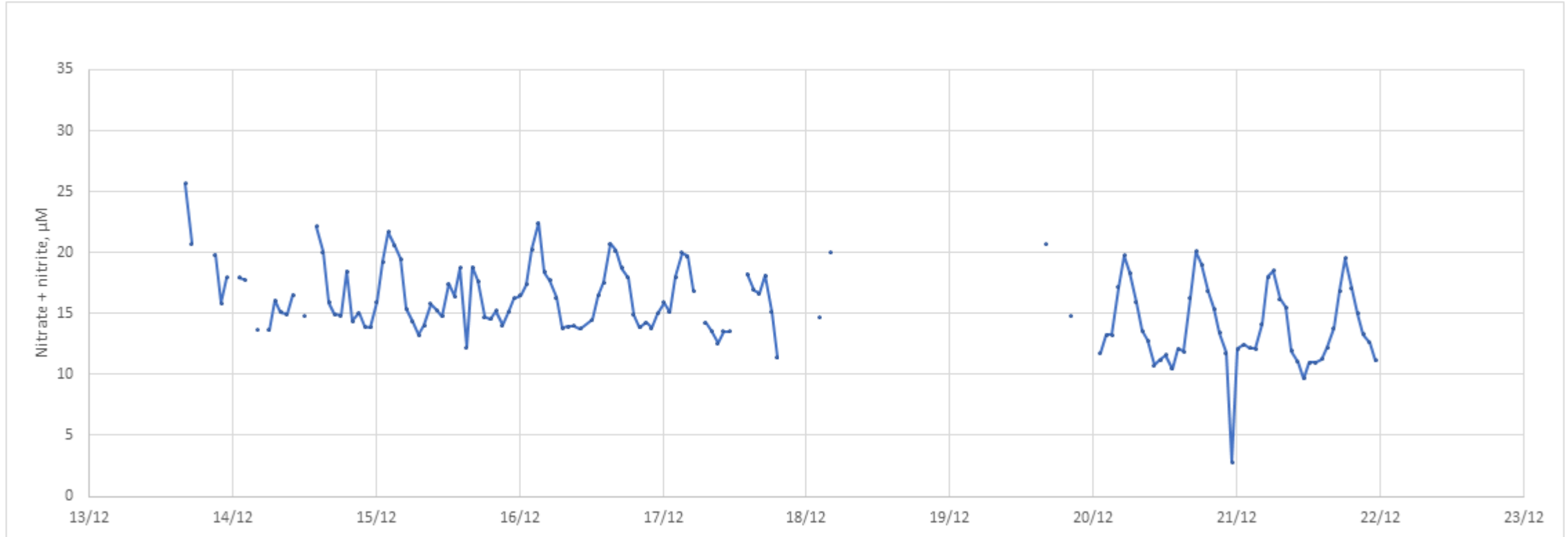
Fine scale water quality data



24/03/2022 11:39:41 to 07/04/2022 12:39:41

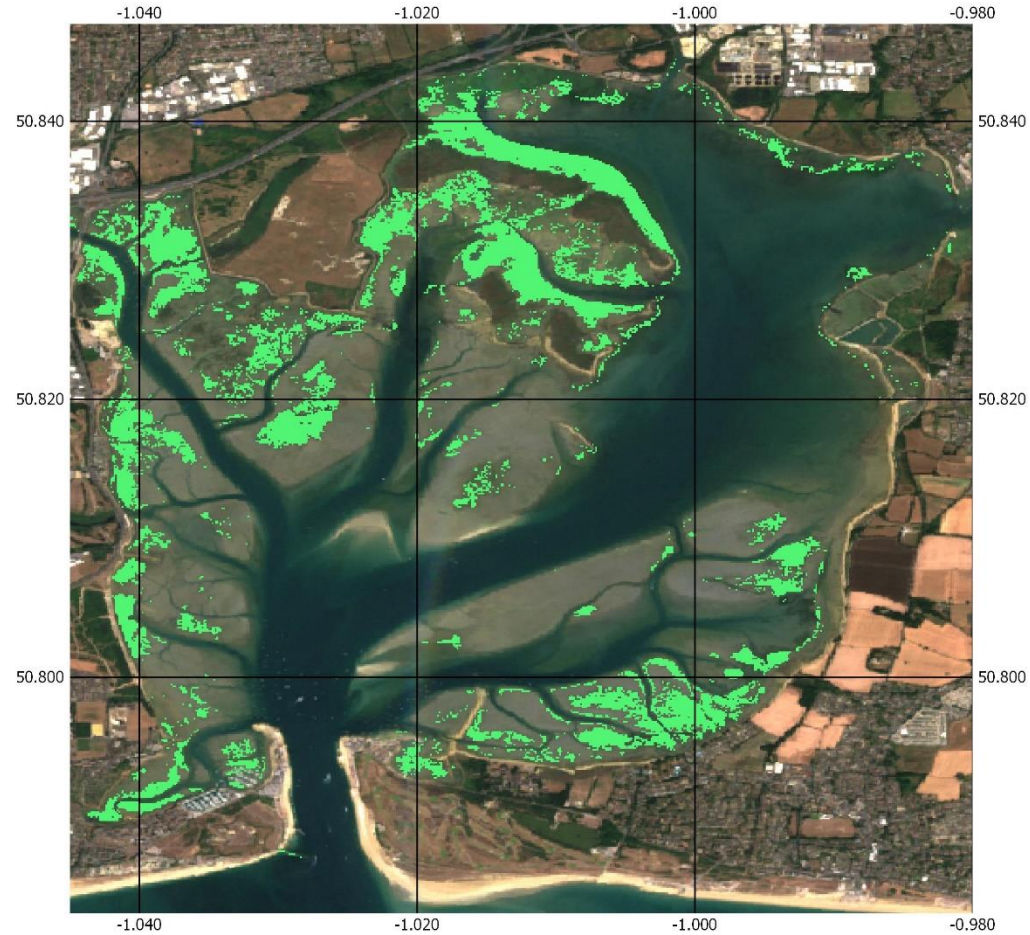


Nitrate data

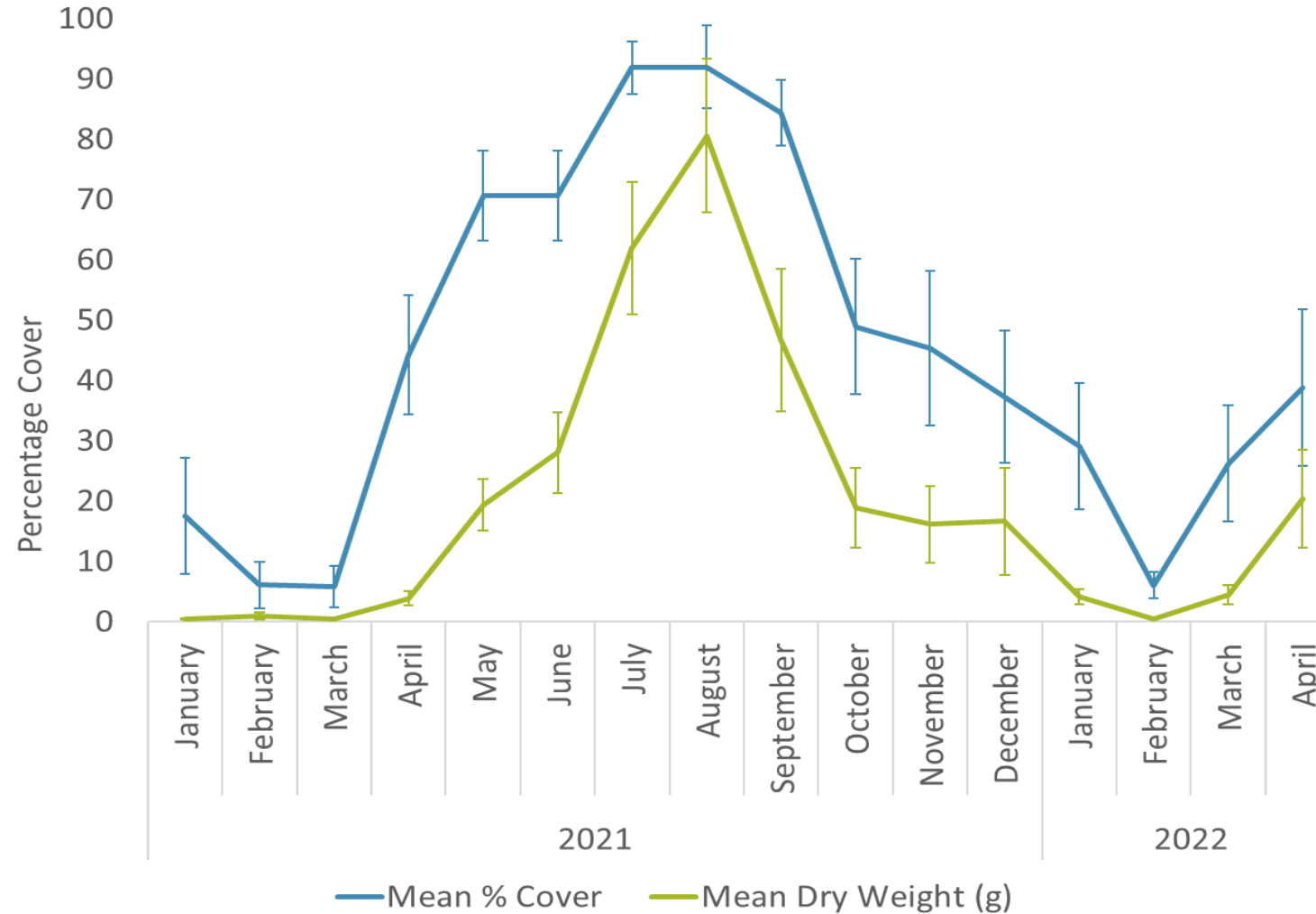


Eye in the sky

Algal mat detection at "Langstone Harbour" (UK) with sentinel-2/MSI imagery
Date : 9th August 2020
Algal coverage : 19 914 000 m²

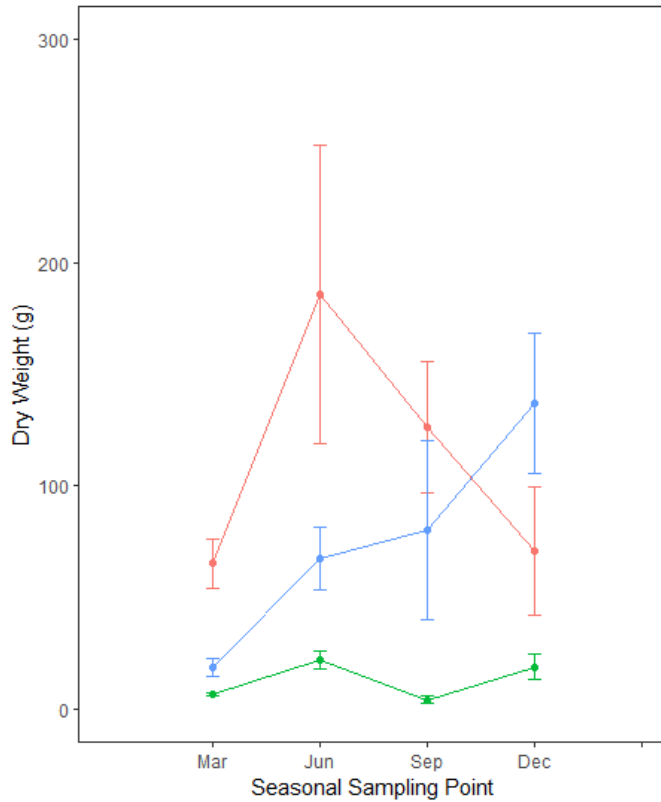


Monthly sampling of algal mat

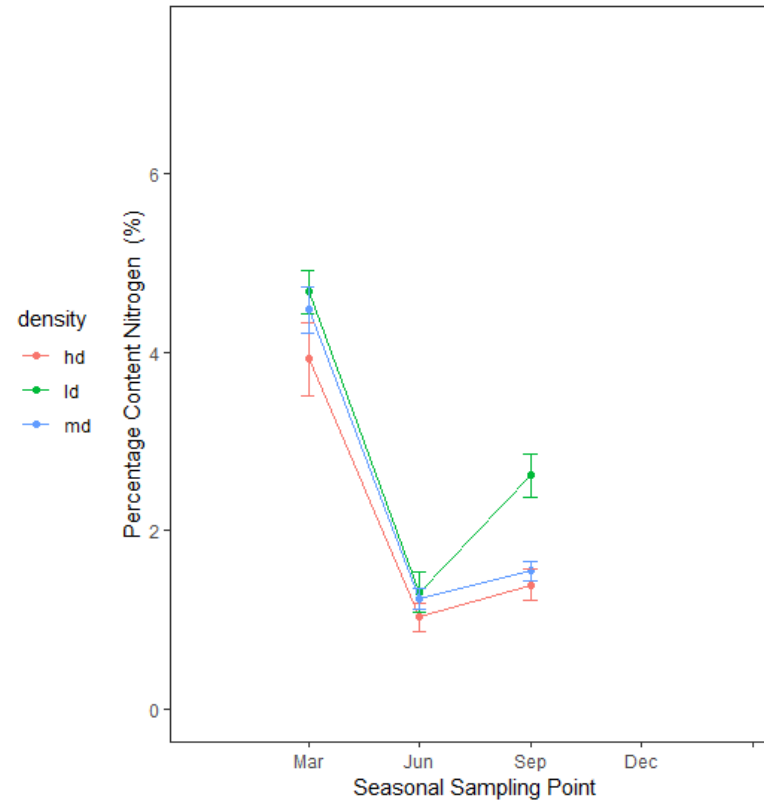


What would be removed

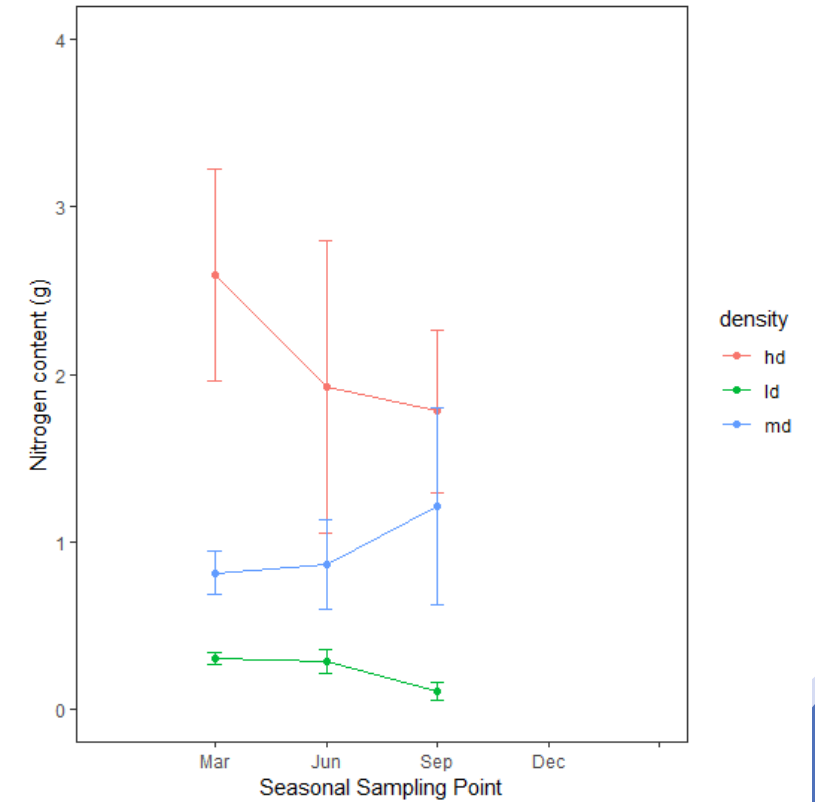
A Algal Mat Dry weight



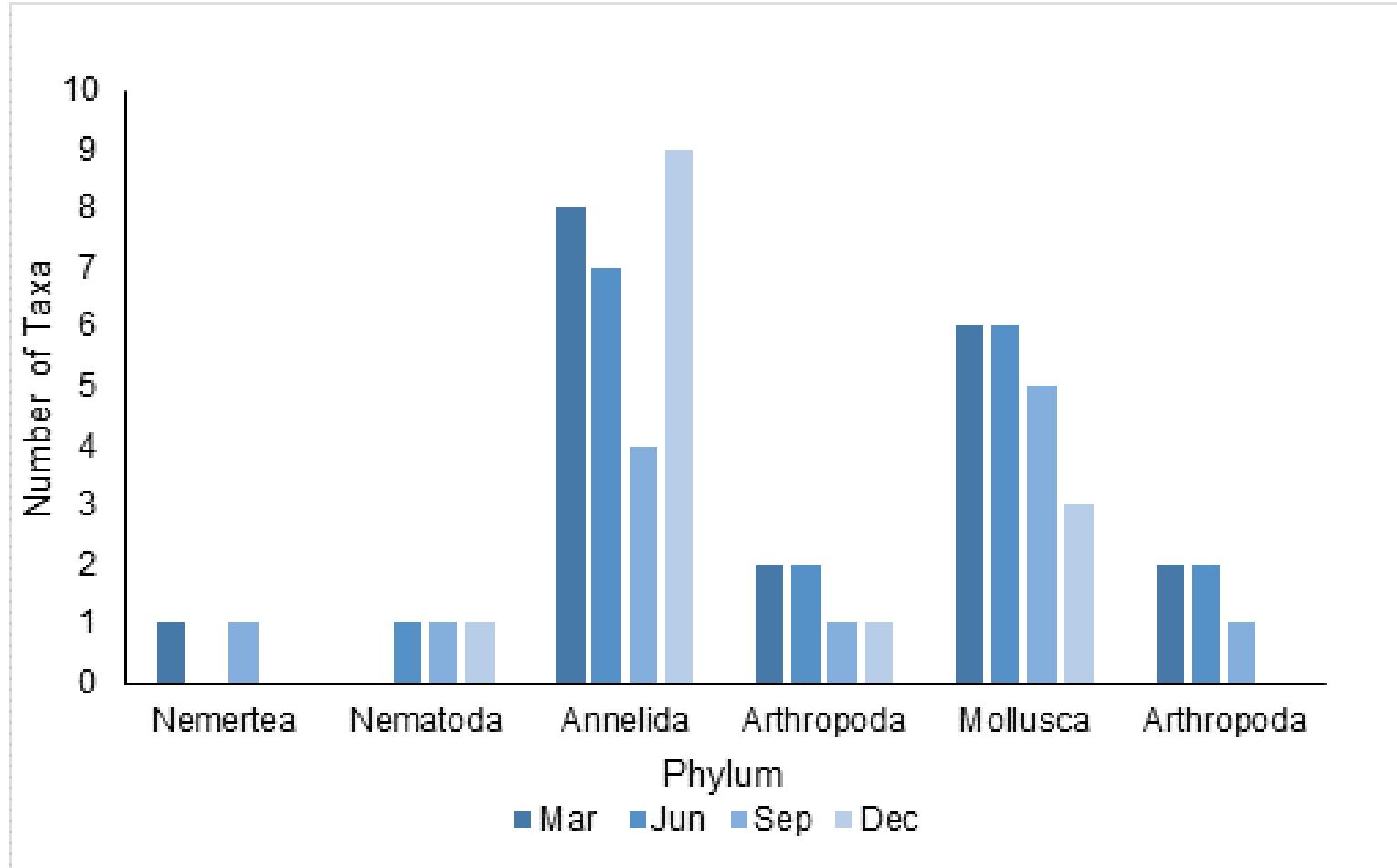
B Percentage Content Nitrogen



C Nitrogen Content



Tracking the changes caused by algal mats



Removal

Currently finalising the company to carry out algal mat removals

Permission request submitted with Marine Management Organisations

Habitat Risk Assessments have been signed off by Natural England



Utilising bivalves to remediate nutrients

Bioremediation by shellfish often discussed as a solution

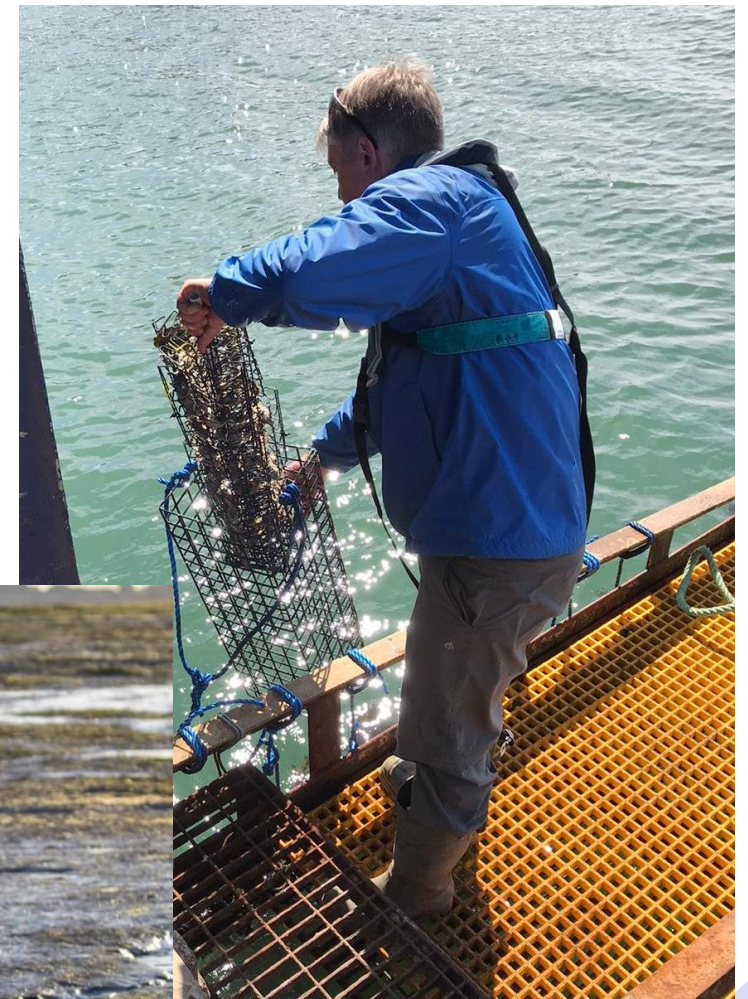
Ostrea edulis - species with a large restoration effort behind it

Cages and Ortacs

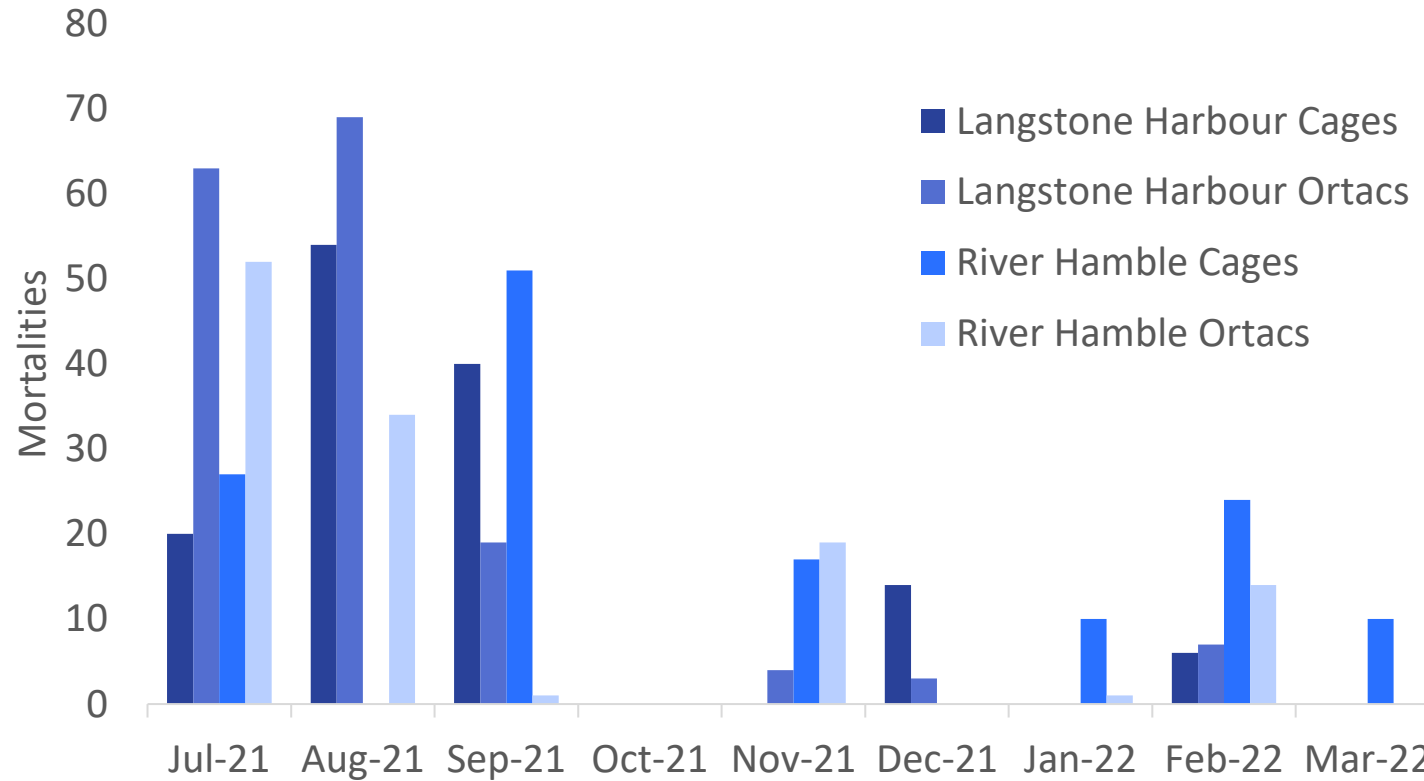
Subtidal and Intertidal

Mortality

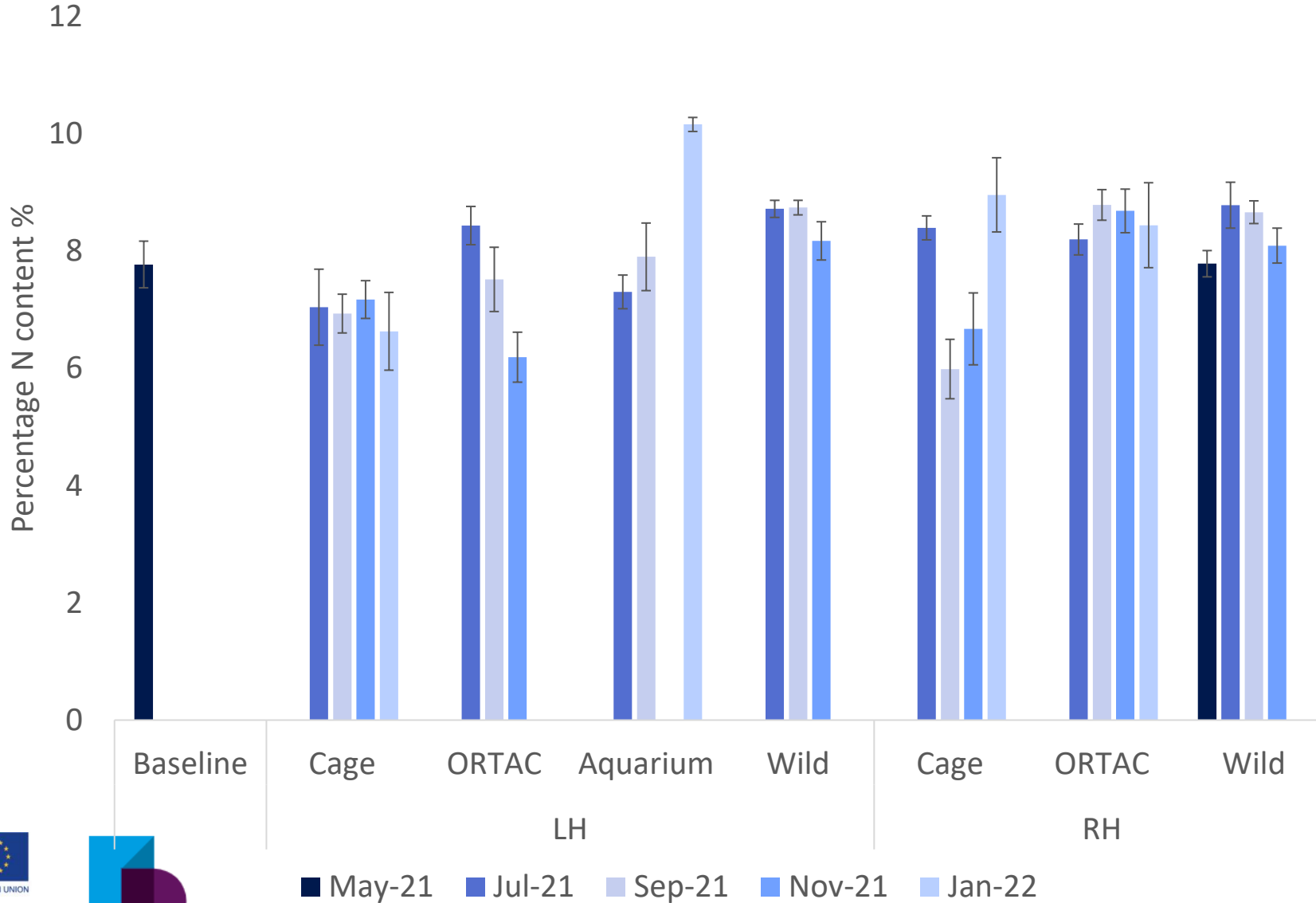
Nitrogen content



Mortality

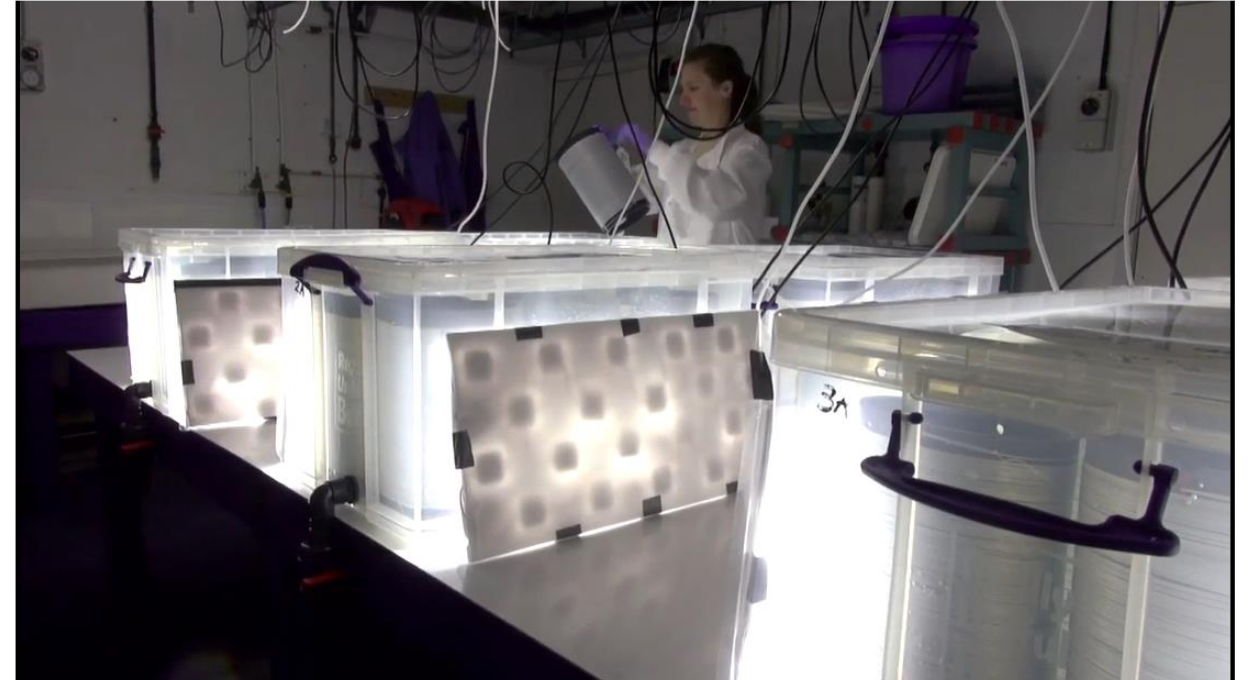


Nitrogen content



Seaweed aquaculture

Saccharina latissima



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EUROPEAN UNION
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RaNTrans workshop

3rd and 4th November 2022

University of Portsmouth

Thank you for your time

Any questions?

