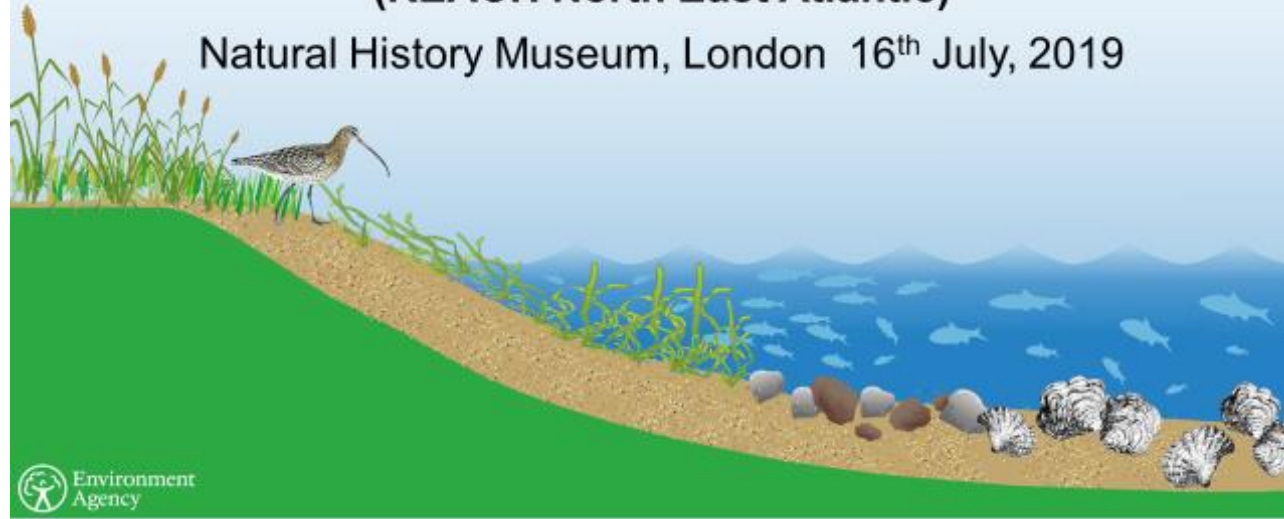


# Conference: Restoring Estuarine and Coastal Habitats in the North East Atlantic (REACH North East Atlantic)

Natural History Museum, London 16<sup>th</sup> July, 2019



## Welcome to the conference

#RestoringEstuariesandCoasts

<https://www.sli.do/>

Event name - REACH Conference 2019 Code - #S550

Thanks to our Sponsors:



**JACOBS**



**ZSL**  
LET'S WORK  
FOR WILDLIFE



# Sowing the seeds of recovery for our coast and our climate



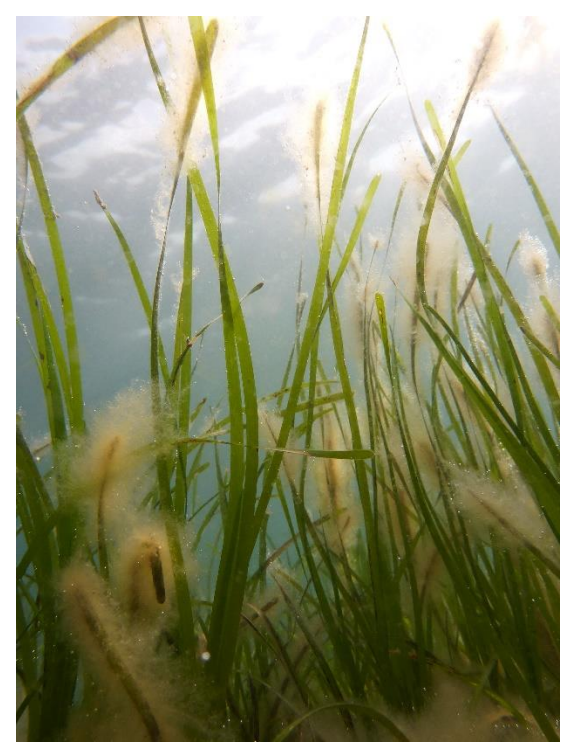
Dr Richard Unsworth

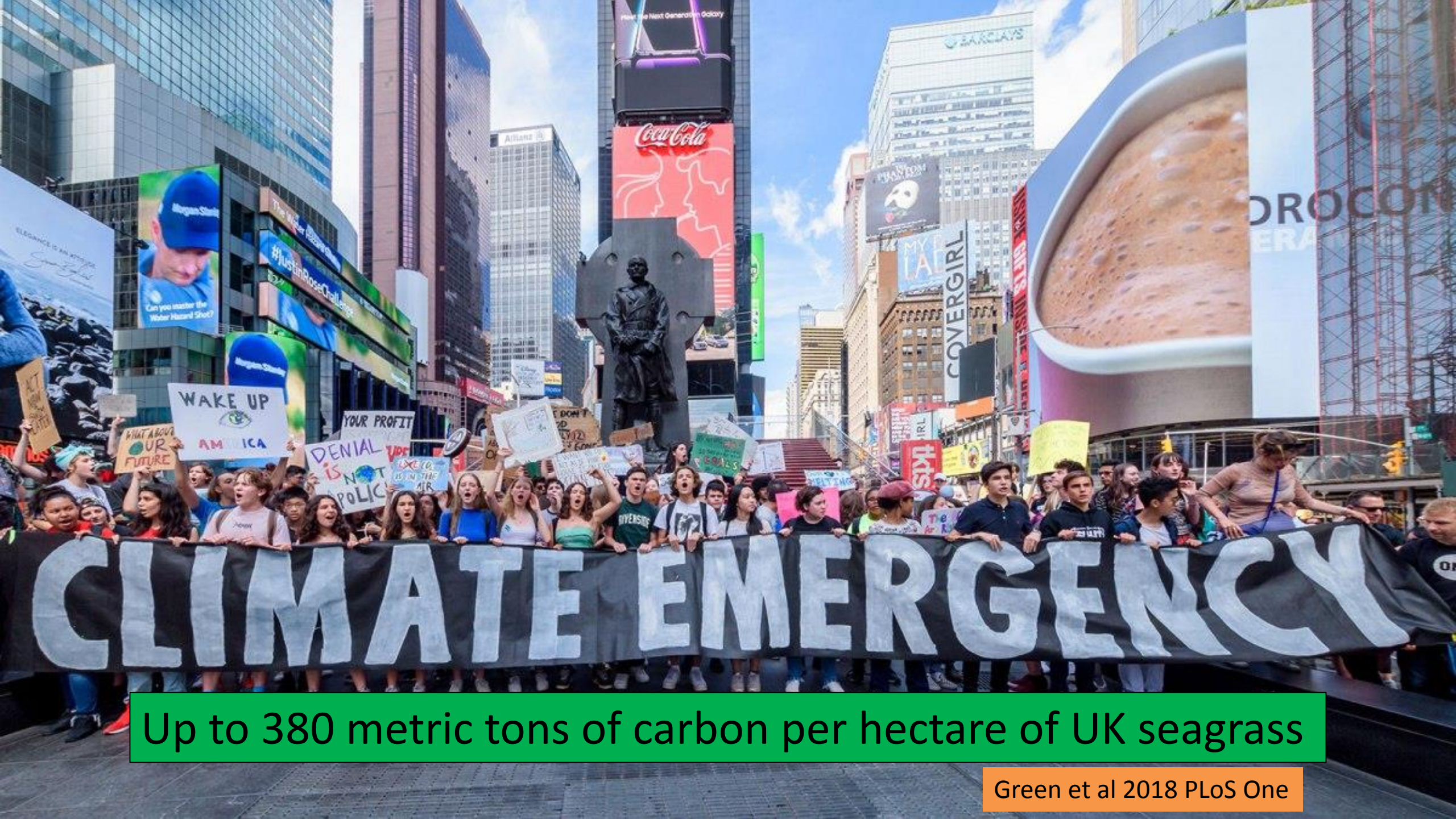


Chiara Bertelli, Greg Brown, Leanne Cullen-Unsworth, Nicole Esteban, Evie Furness, Alix Green, Steph Hinder, Benjamin Jones, Richard Lilley, Chris Lowe, Rosemary McCloskey, Hanna Nuuttila, Joe Peters, Sam Rees, Max Robinson



seagrass  
ocean rescue

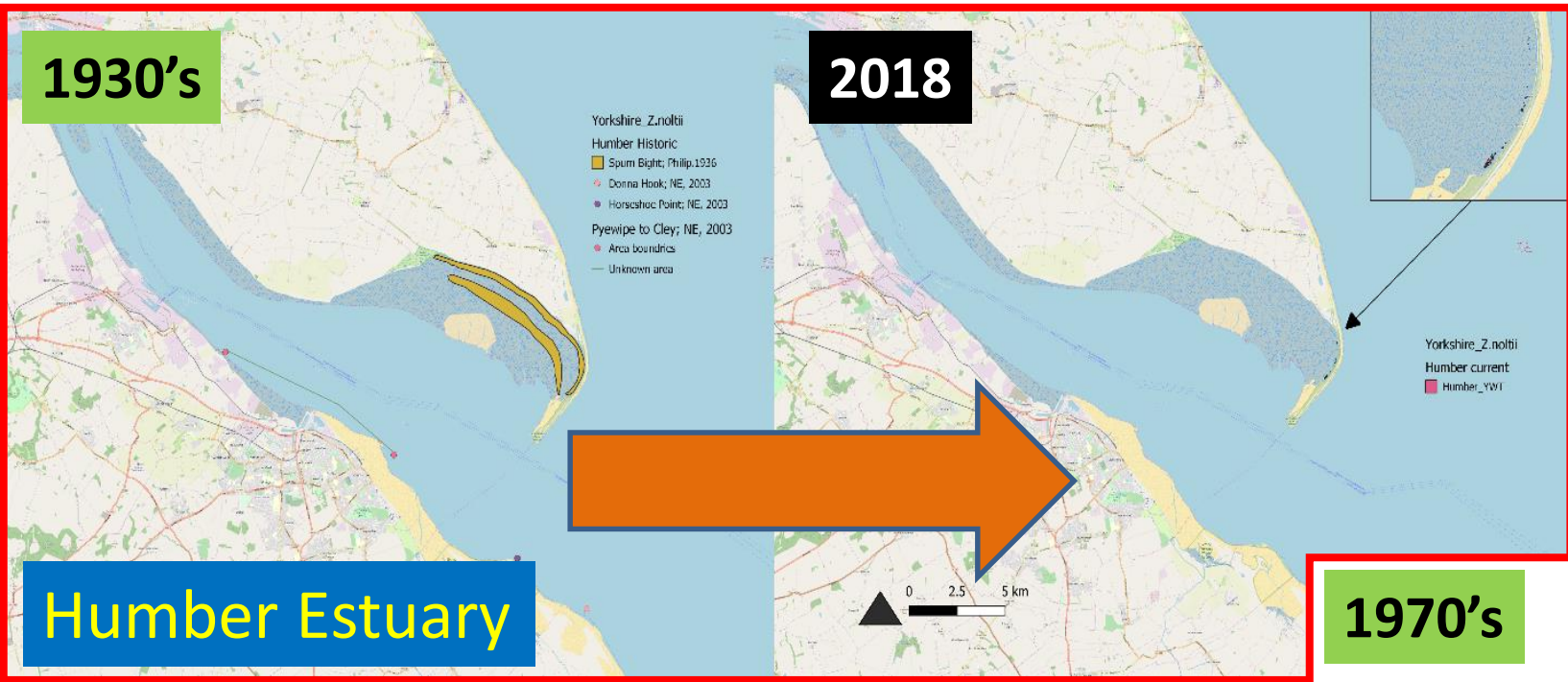




Up to 380 metric tons of carbon per hectare of UK seagrass

1930's

2018



Humber Estuary

Poor water quality and land reclamation biggest causes of loss

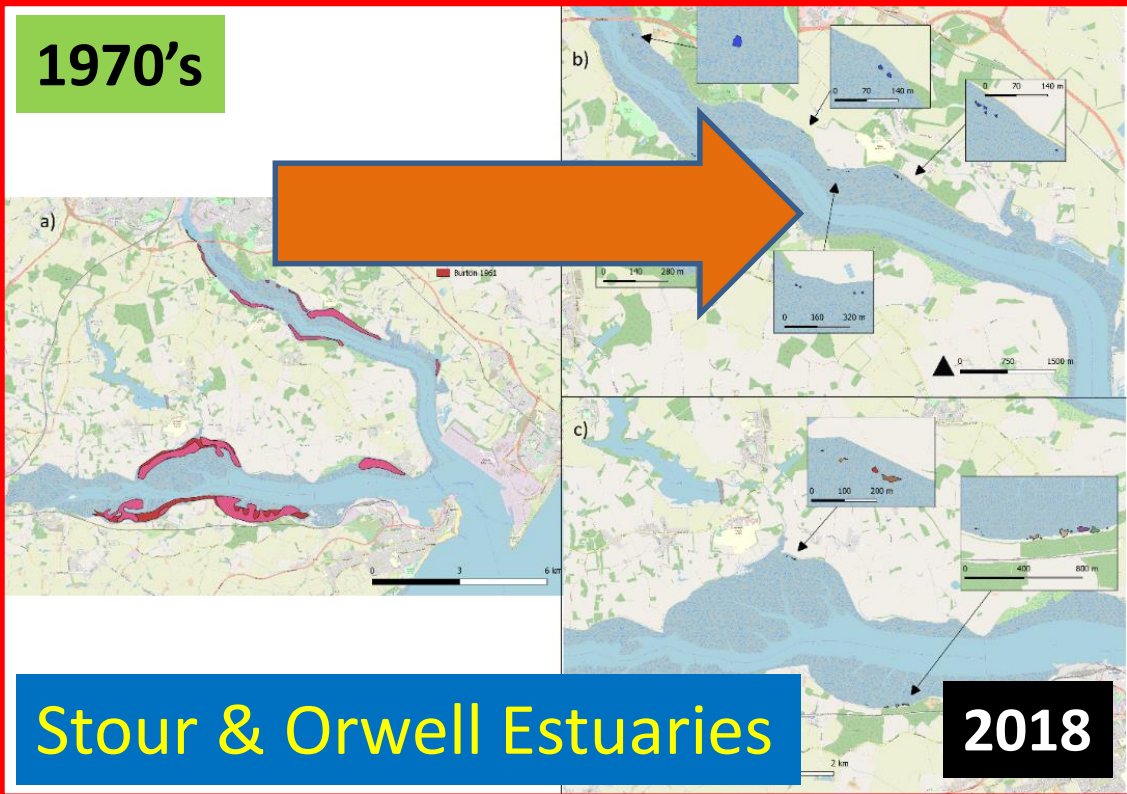
# Catastrophic seagrass loss in the UK

Between 36,799ha and 75,193ha of seagrass has been lost

Current UK seagrass extent = 8,569 ha


Modelled % UK seagrass loss = 84 to 92%

1970's



Stour & Orwell Estuaries

2018



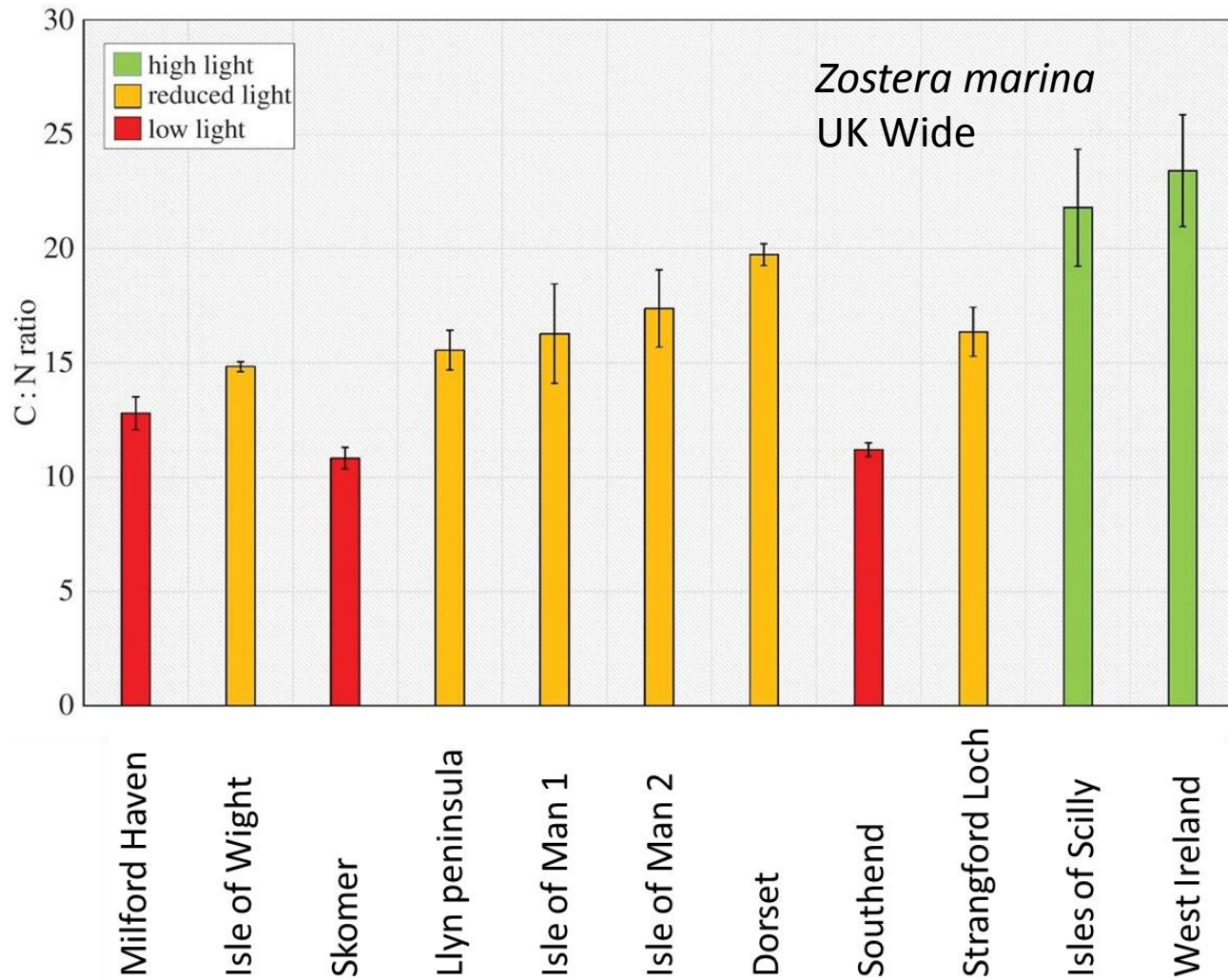
1ha seagrass =  
100k litres of  
oxygen

1ha seagrass =  
filters nutrients  
from 200 people

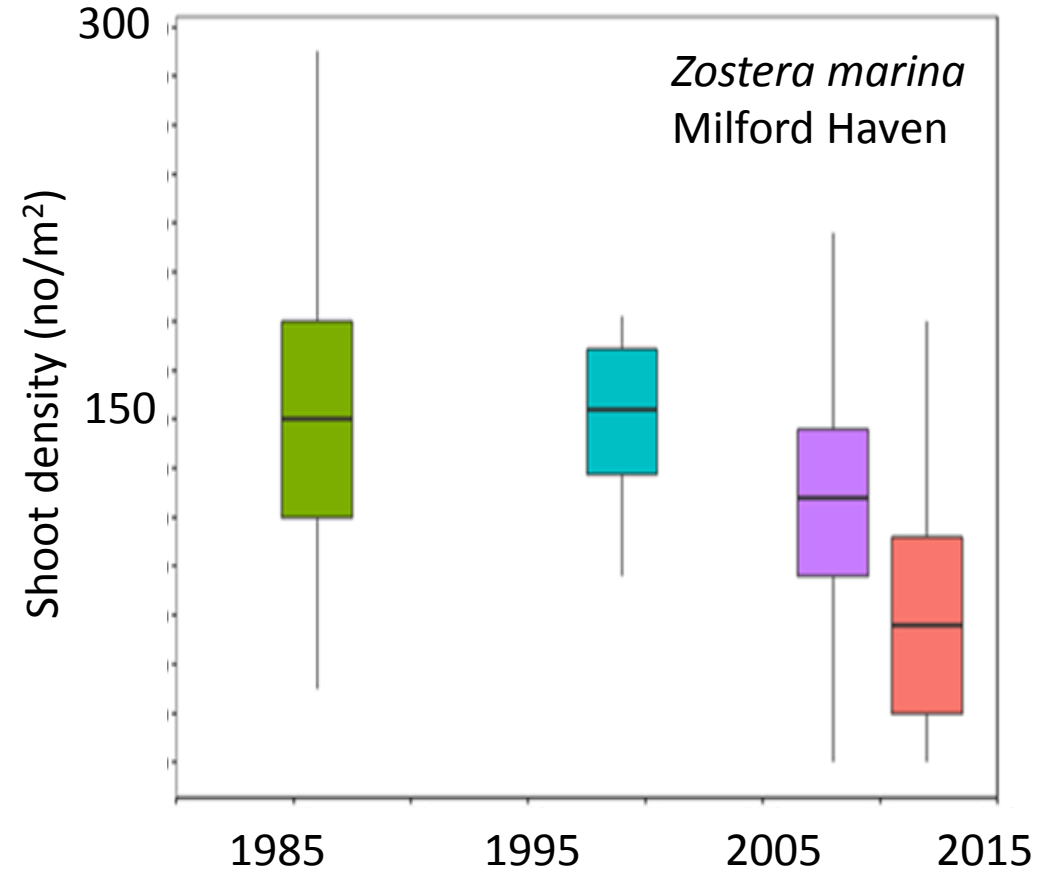
47000 football pitches of habitat for fish  
and  
10.6Mt of stored carbon

1ha seagrass =  
habitat for 80k  
fish

# Unhealthy and..... declining seagrass



Jones et al (2016)



Unsworth et al (2018)

High Biodiversity

Low Biodiversity



Zostera dominated

Algae & anoxic mud



3

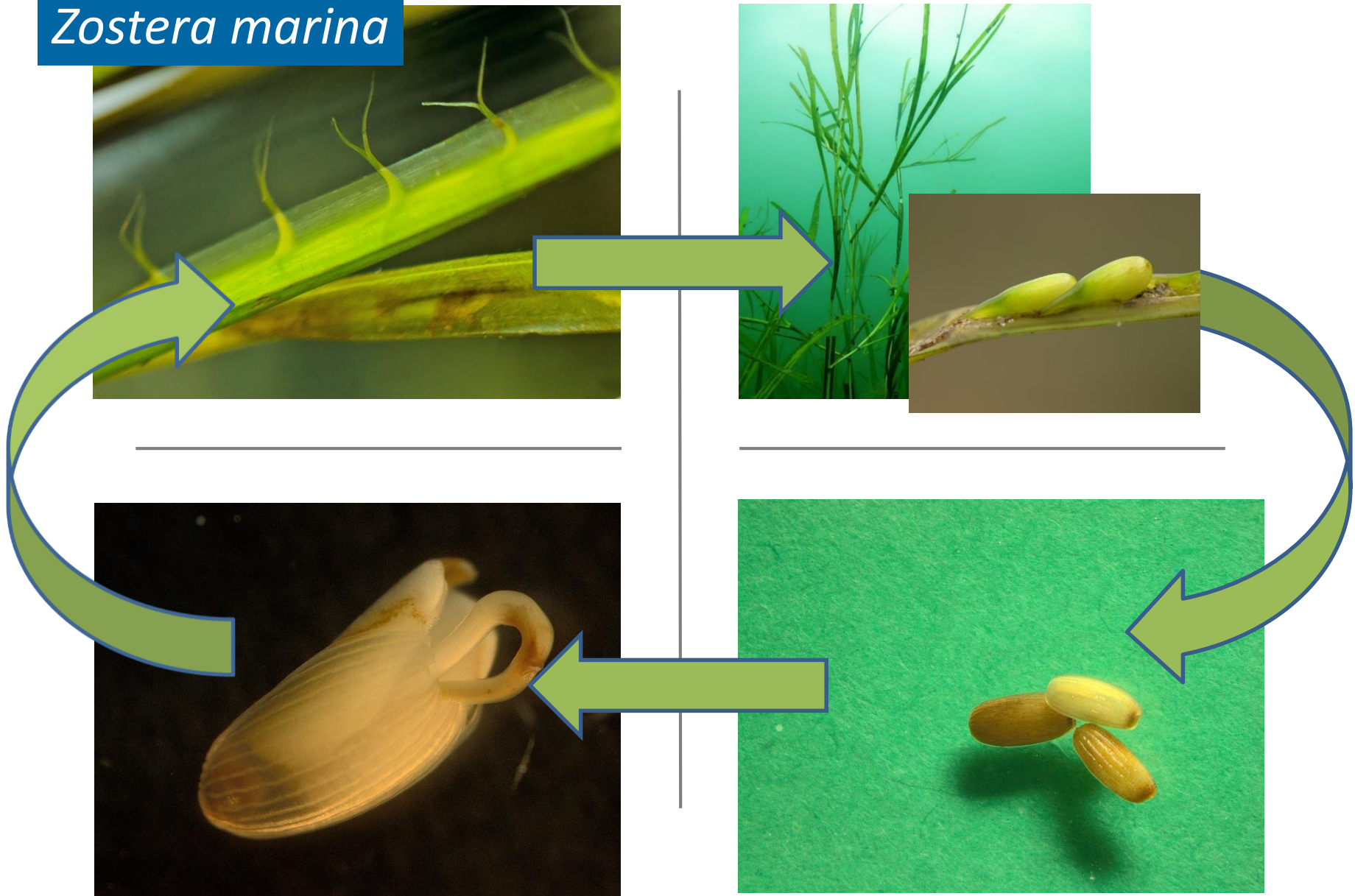
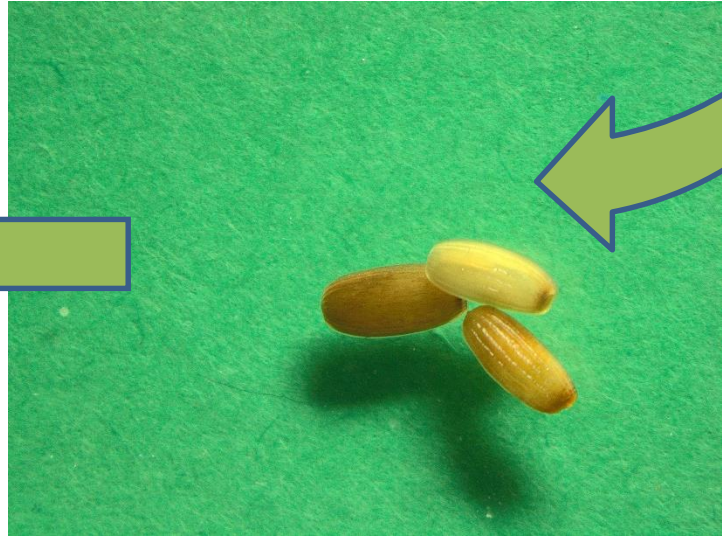
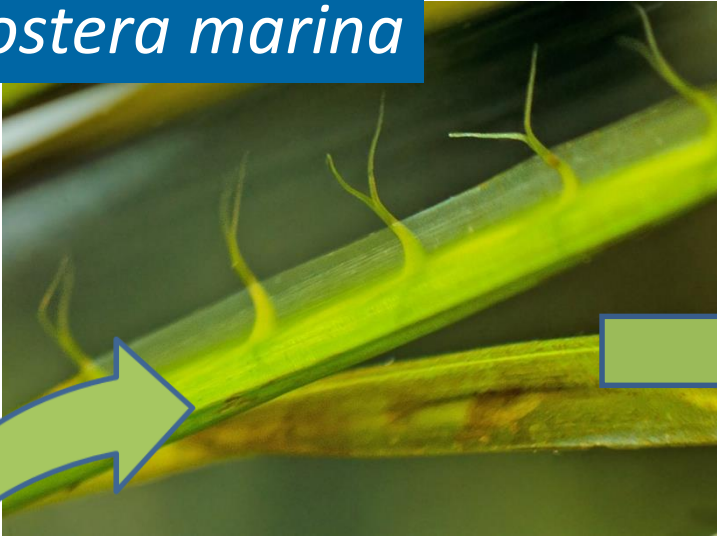
4

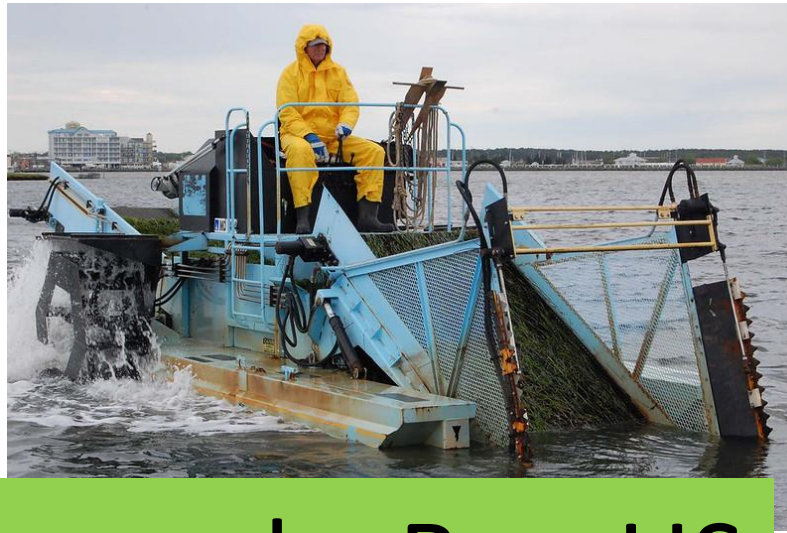
High Ecosystem services

Low Ecosystem Services



*Zostera marina*





# Chesapeake Bay, US



.....1000's of hectares of restored seagrass

At Swansea - methodological trials  
in the field and the lab



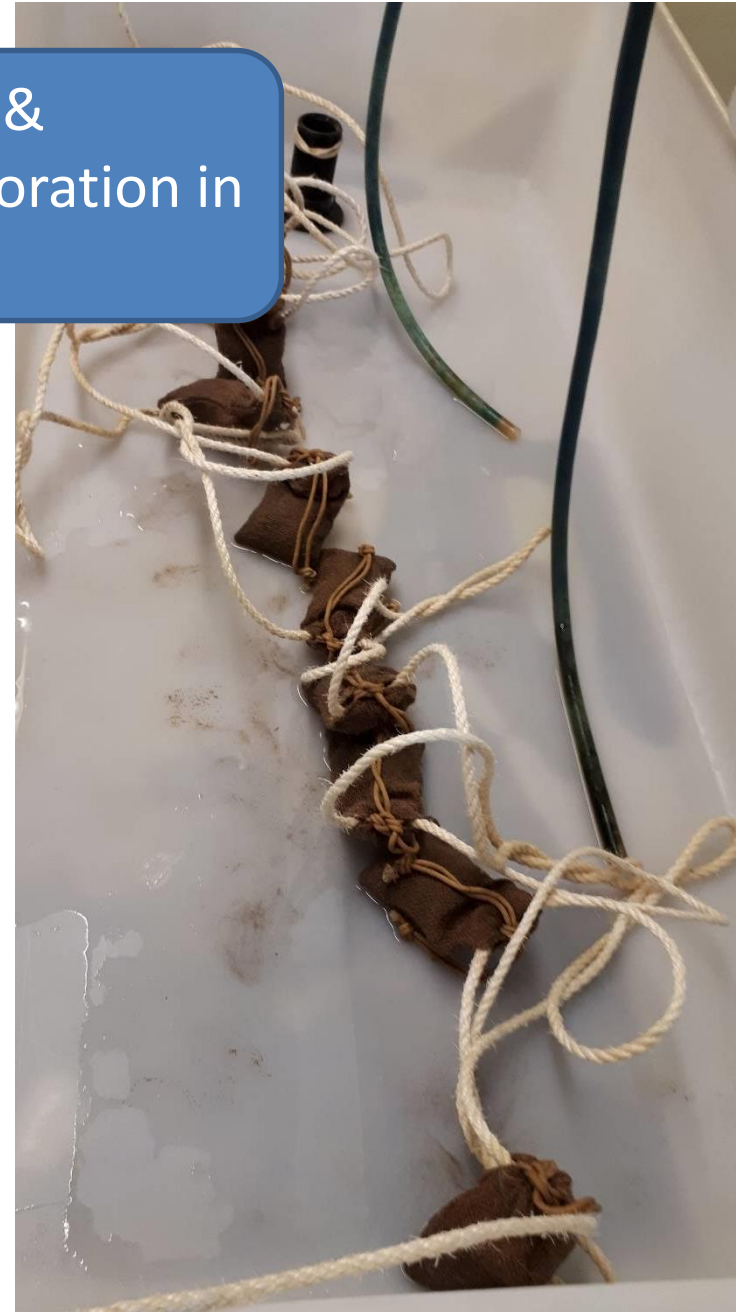
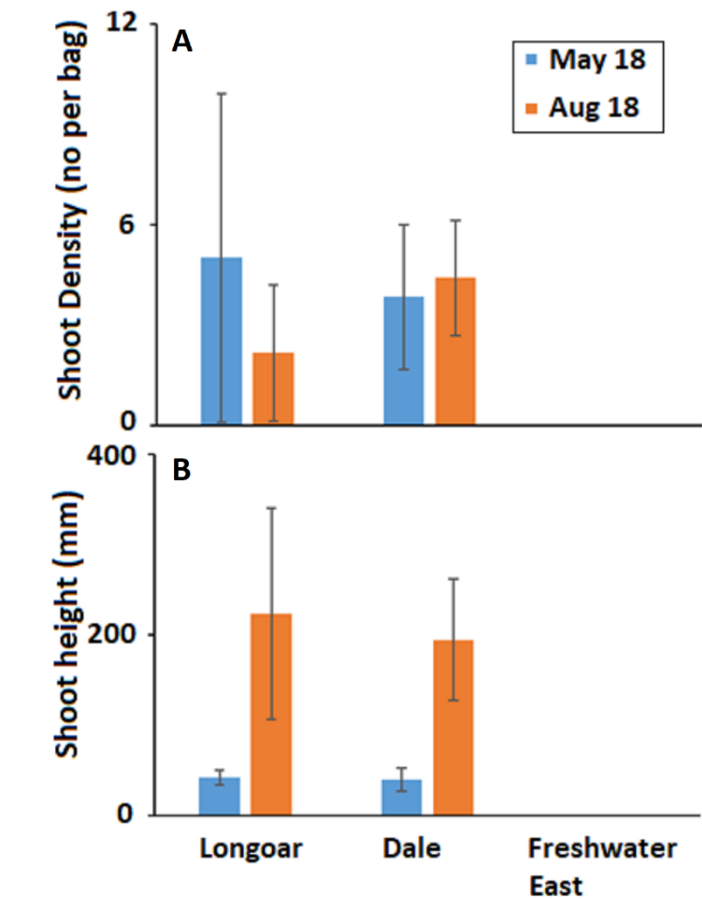
Swansea  
University  
Prifysgol  
Abertawe



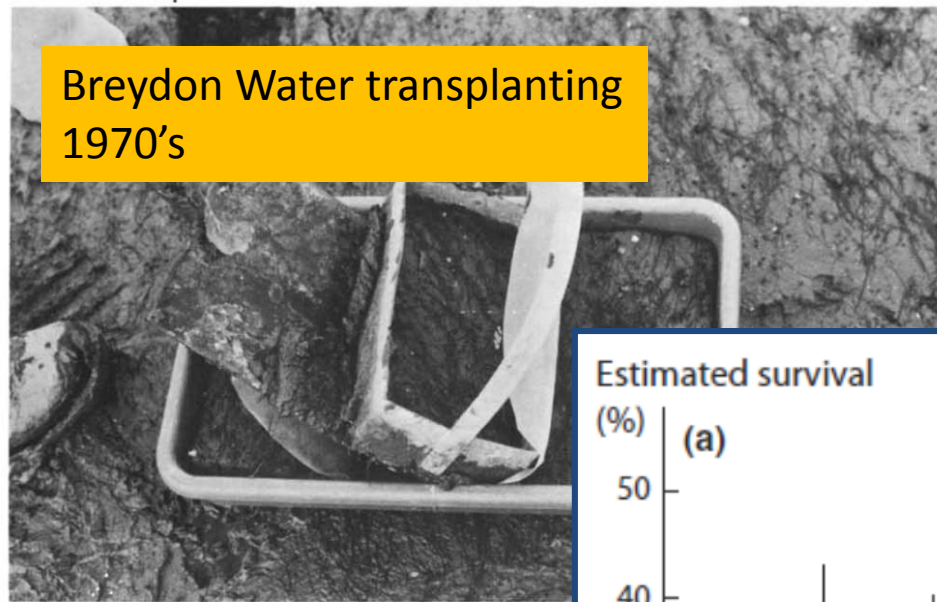
In UK, no seagrass restoration at  
meaningful scale has ever been  
conducted – only trials



Strings of seed bags are a successful & appropriate method of seagrass restoration in the UK



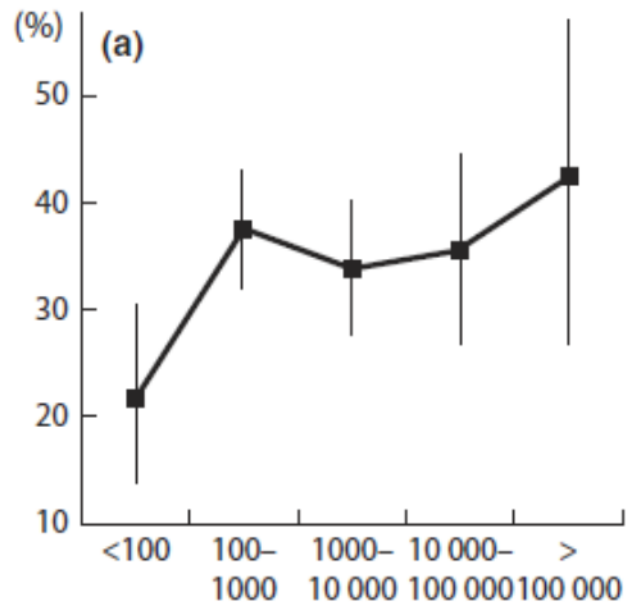
Breydon Water transplanting 1970's



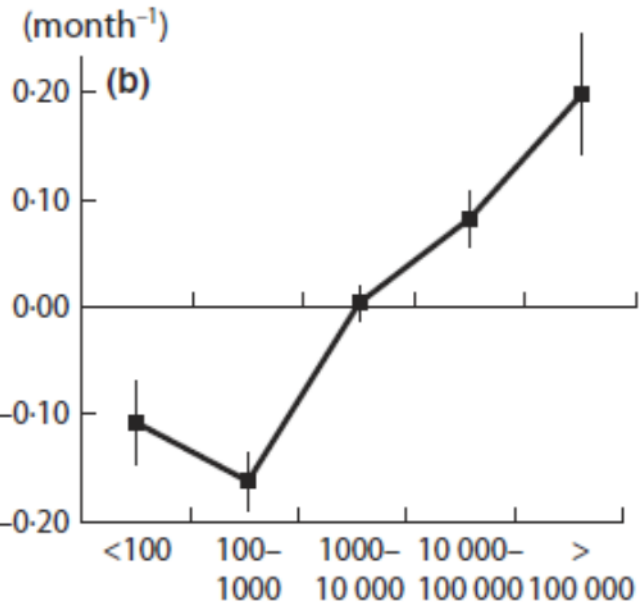
Falmouth transplanting (2013???)



Estimated survival



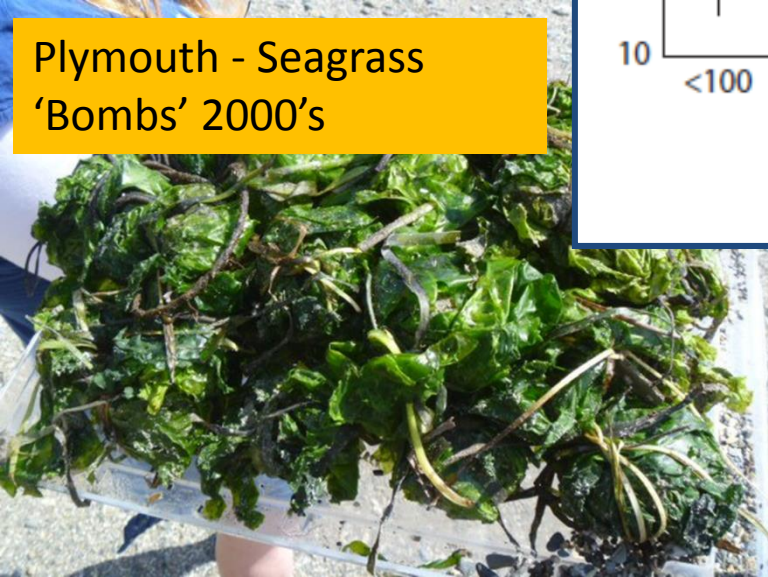
Mean growth rate



Initial number of shoots or seeds

Van Katwijk et al. 2015

Plymouth - Seagrass 'Bombs' 2000's



Helford - Transplants 1990's



Our vision: Create the UK's first seagrass restoration demonstration site  
- Dale, West Wales

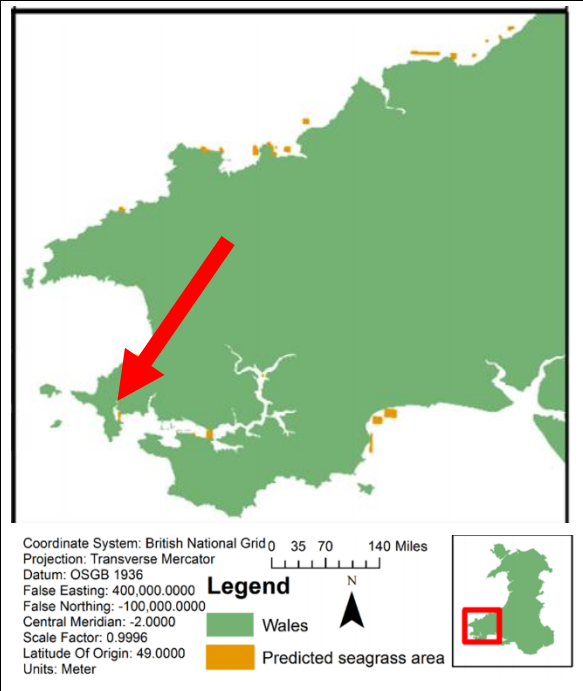
- Collect 1 million seagrass seeds
- Create 20,000 seagrass seed bags
- Plant 2 hectares of seagrass
- Involve community volunteers
- Working with and NOT against the local community
- Inspire further UK seagrass restoration



Working together to safeguard  
Marine Protected Areas



# Why Dale?



Historic records

Habitat suitability modelling



Detailed site assessments



Trial planting



Working together to safeguard  
Marine Protected Areas





Working together to safeguard  
Marine Protected Areas



# Seagrass WITHOUT altering peoples livelihoods and way of life

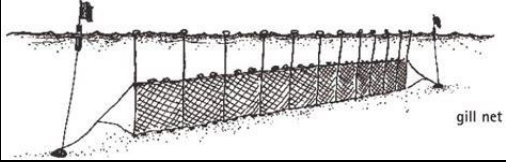
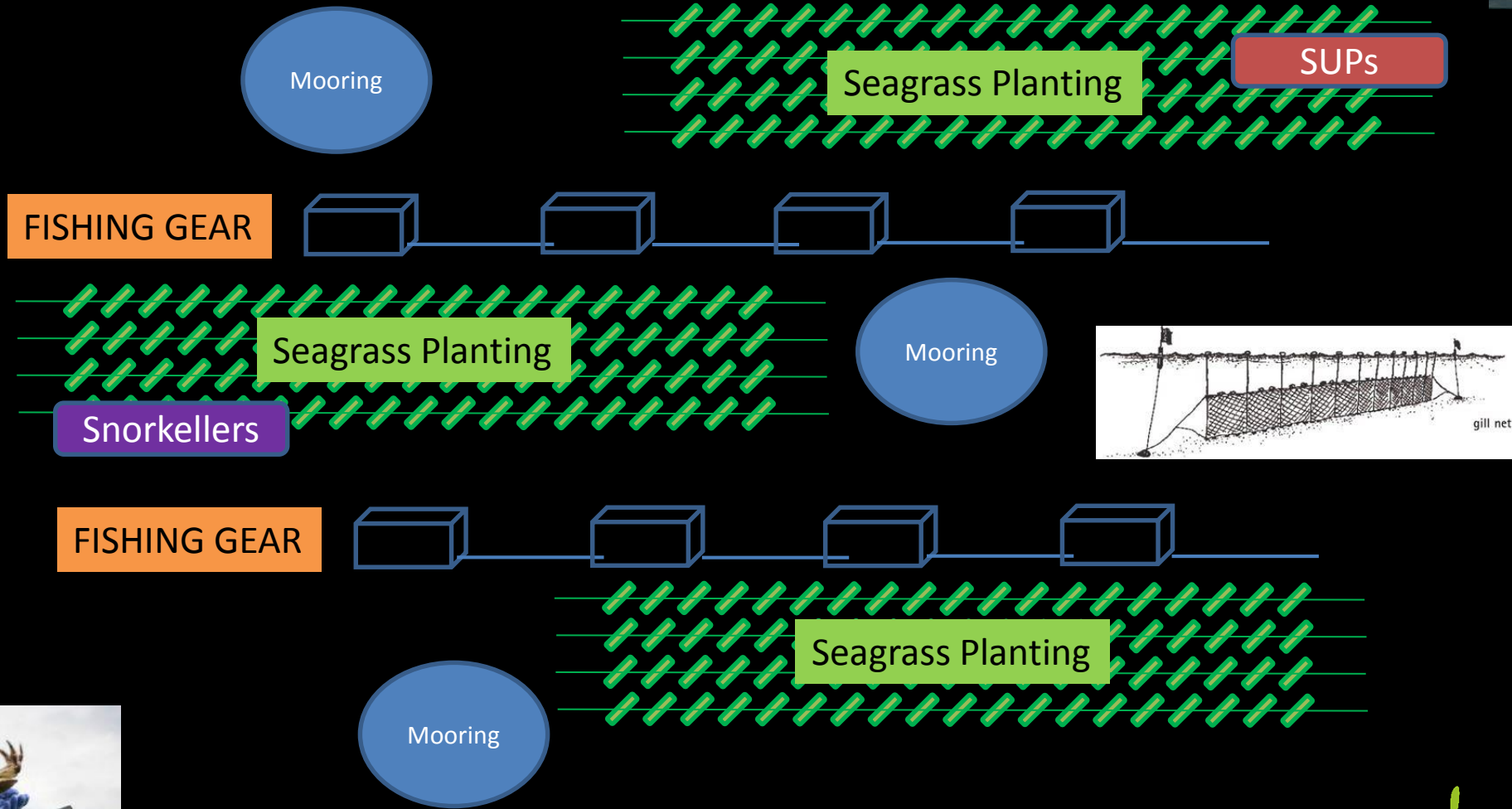
## Seagrass as a resource for everyone



Working together to safeguard  
Marine Protected Areas



# A Vision for Seagrass & People Together in Dale



Working together to safeguard  
Marine Protected Areas





# SEAGRASS MEASURES ROCKS

