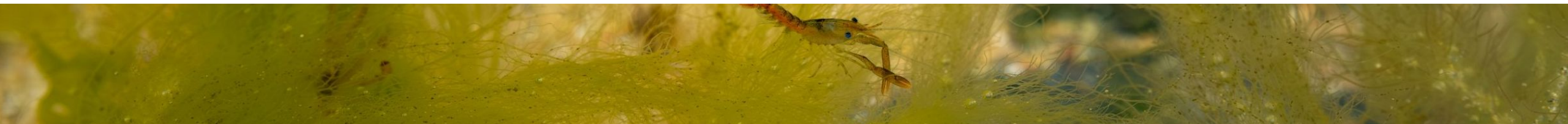




# 55th Annual Conference

Shellfish Association of Great Britain

#SAGB55





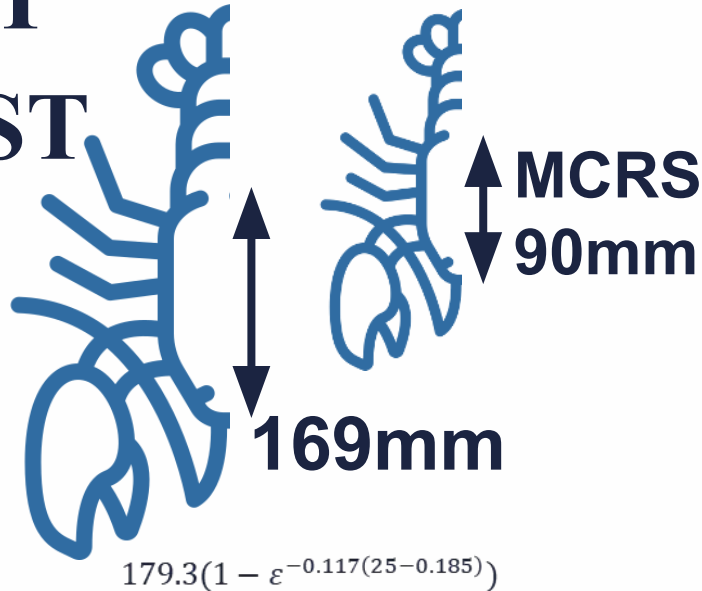
InShOt



# What does 25 years signify?

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**OUR OLDEST  
AND BIGGEST  
RELEASED  
LOBSTERS**



**~ 400,000**

**JUVENILES HAVE  
BEEN RELEASED,**

Primarily in Cornwall,  
but also further away in Scilly  
and Île de Ré

**CO-AUTHORED AT LEAST**

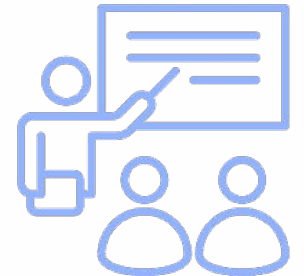
**33**

**SCIENTIFIC  
PUBLICATIONS**



**EDUCATED TENS OF THOUSANDS**

about marine conservation and  
sustainable fisheries at our  
Visitor's centre



# Why did we start?

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In the 1990s....

**Overfishing** and **pollution** had put significant pressure on Cornish lobster stocks

Lobster stocks were **suffering across Europe** (collapses from 1930 – 1970)



# How did we start?

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🦞 Proof of the stock enhancement concept from 1970's – 90s

🦞 Micro-tags and long term monitoring proved that released juvenile lobsters could survive, grow and even mate with their wild counterparts

🦞 Journey to establish the National Lobster Hatchery site took most of the 90s!



Hatchery opening in 2000

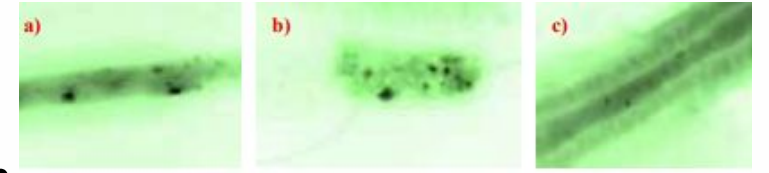
Our patron, Baroness Wilcox of Plymouth with Eddy Derriman & the Chairman of the Cornwall Sea Fisheries Committee

# Developing the hatchery process



## Understanding optimum diets

Pre & probiotic and antioxidant supplementation, protein lipid content



SECTION 1 Negative fluorescent microscope photos in the green spectrum depicting the internal gut sections and external views of *Artemia* at various stages through a 24-hour enrichment period.



## Maintaining optimum water quality

Ozone and UV water treatment, bioassay for assessing acute impacts of water sources, temperature & CO<sub>2</sub> acidification, Choramine-T disinfection



## Understanding juvenile behaviour after release

Benefits of behavioural enrichment in hatcheries, substrate preference, shelter-seeking







# Developing the hatchery process



## Hatchery in a box & EuroSWAC

Newlyn satellite site for production and research

Explored potential for Seawater Air Conditioning systems



## Sea – based container culture for on-growing

Low cost and resource efficient ecological conditioning step which could further improve settlement success.





# Developing our understanding of population dynamics



## Reproduction

Single paternal fertilisation of a clutch

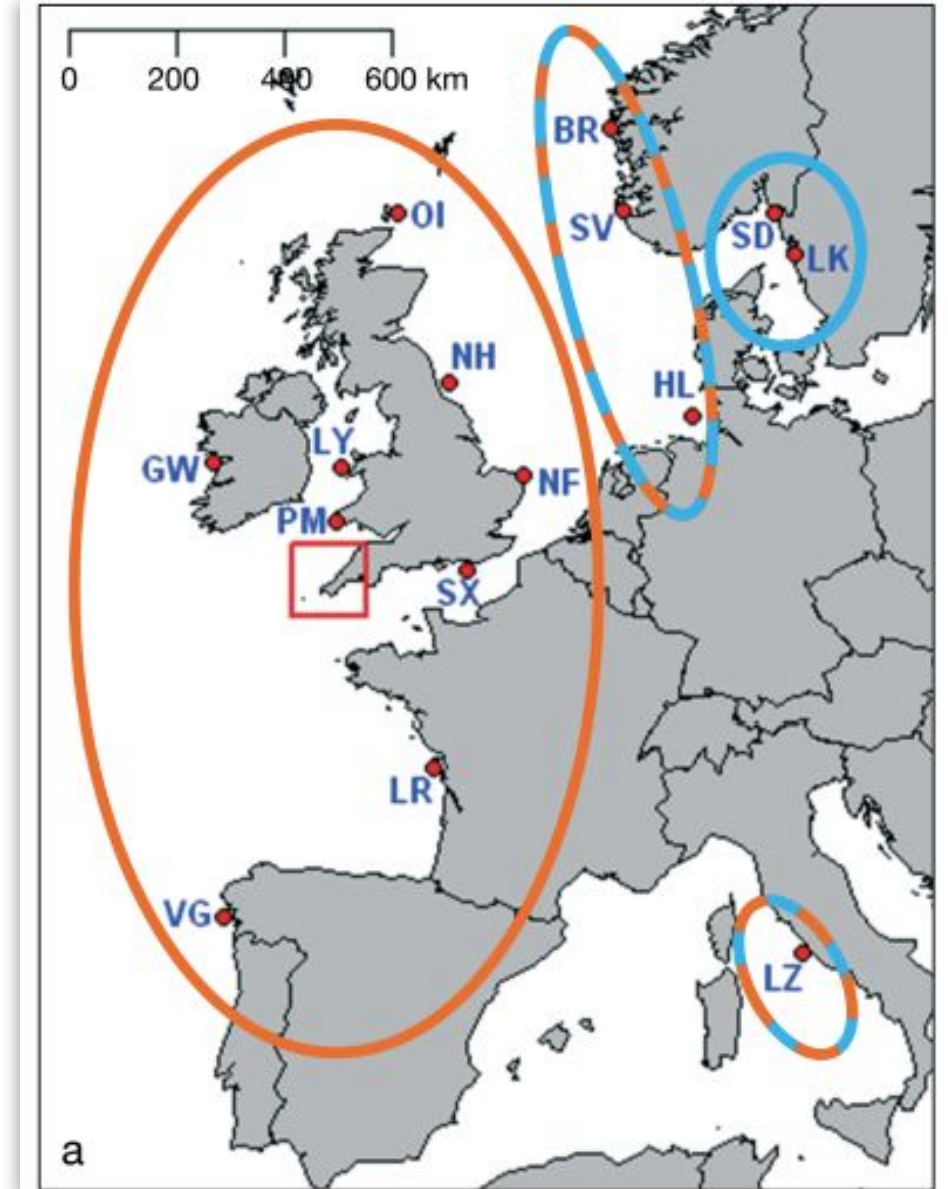
Geographic and environmental drivers of fecundity

Harvesting pressure affects mating behavior.



## Genetic connectivity across Europe

Well connected but with greater geographical distance they are more distinct



# Developing our understanding population dynamics



## GEMALOR

Monitors hatchery-reared lobsters to ensure wild populations in UK waters remain genetically diverse.



## Measuring lobster age using epigenetic 'clock'

Estimated by quantifying rDNA methylation







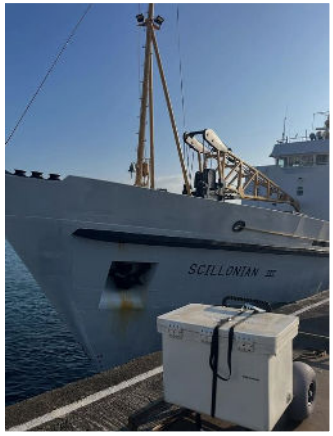
It's all thanks to the people!





# The Release-athon

25 year Anniversary – 25 Days - 25 Locations



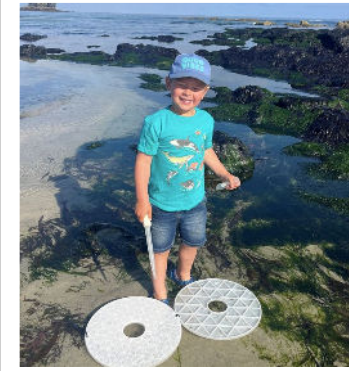
**1** St Mary's



**2** Swanpool



**3** Falmouth  
**4** Trevose



**5** Portreath



**6** Fistral  
**7** Harlyn



**8** Newquay Bay  
**9** Helford



**10** Gerran's Bay  
**11** Charlestown



**12** Trevone



**13** Polzeath  
**14** Mousehole



**15** Rosemullion  
Head

# Where could we go from here?

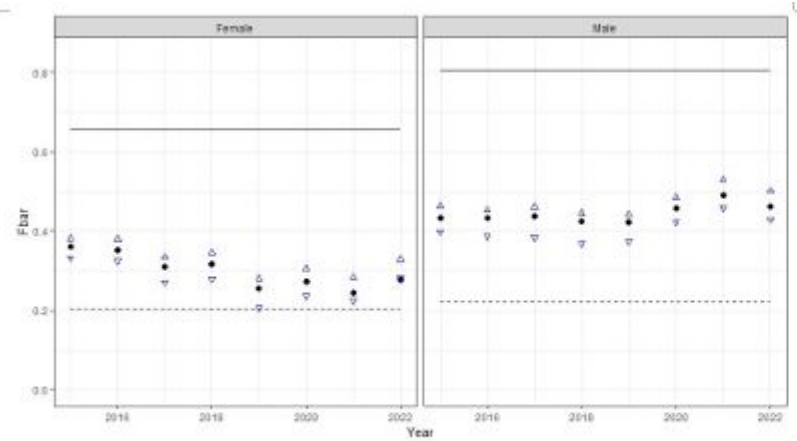


Further evidence of impact

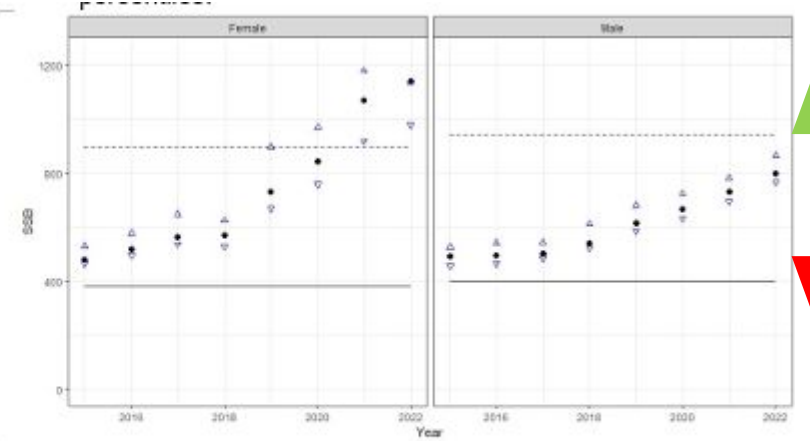
→  
Cefas 2023  
Stock  
Assessment



Fishing mortality



Spawning stock biomass



Expansion – Species & locations



Integration – Sea-based container culture systems & populating artificial reefs



# Thanks for listening & for your support !



Watch a new film about us !



 @padstowlobster



**[nationallobsterhatchery.co.uk](http://nationallobsterhatchery.co.uk)**





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