

Biofouling prediction in seaweed aquaculture

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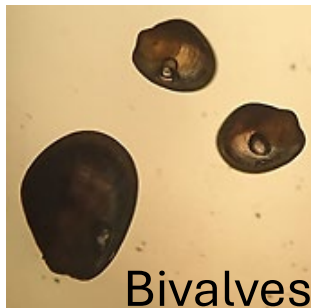
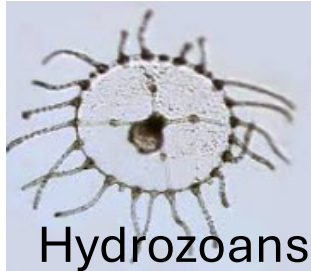
**Biotechnology and
Biological Sciences
Research Council**



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of Glasgow**

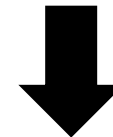
**School of Biodiversity,
One Health &
Veterinary Medicine**

The problem



Biofouling
Plankton

The solution



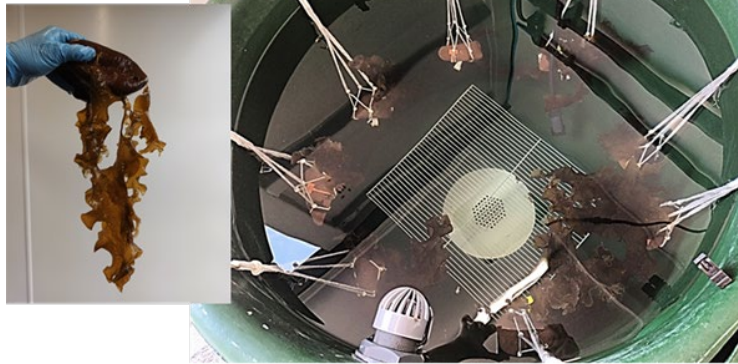
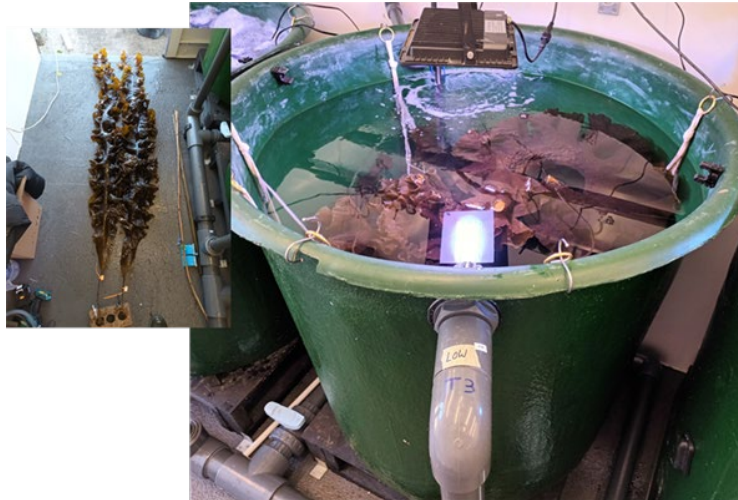
What are the drivers of kelp biofouling: Field & experiment

Mesocosm experiment

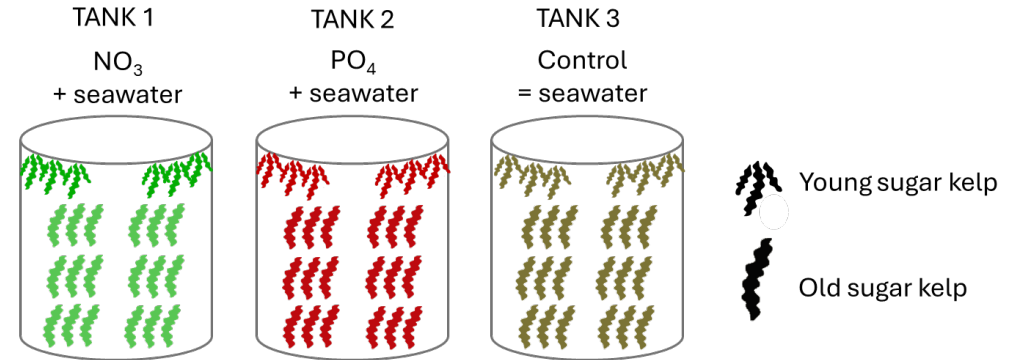


Elke Scheibler
FSC Millport

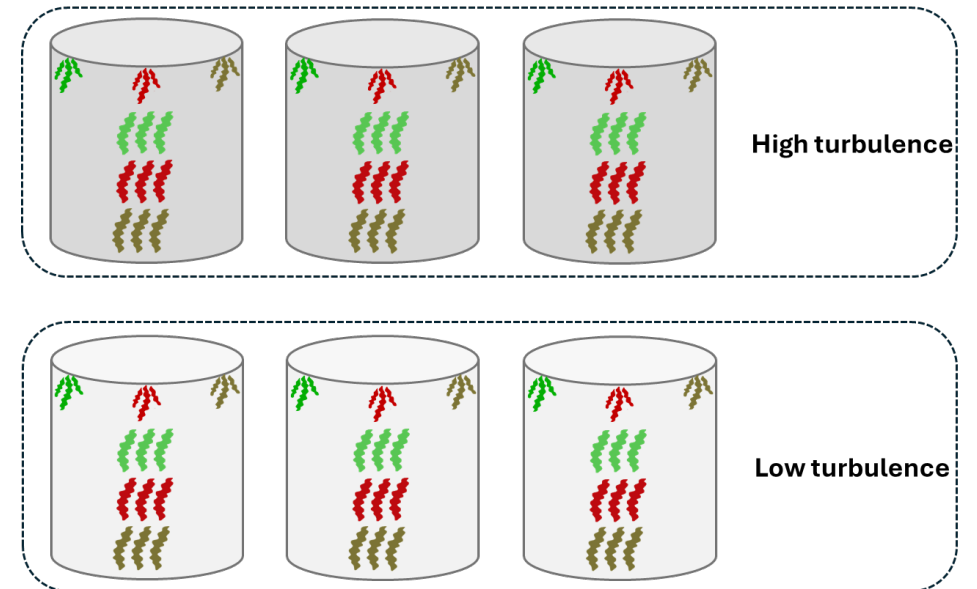
FSC
MILLPORT



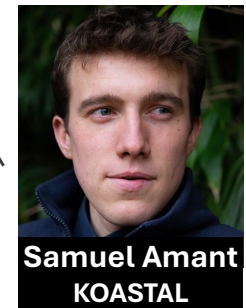
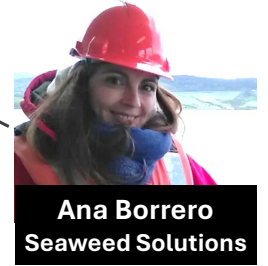
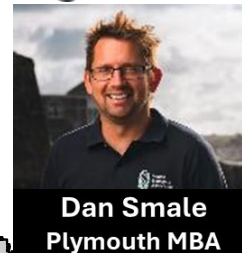
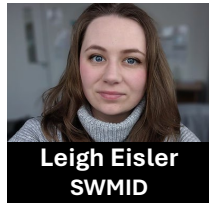
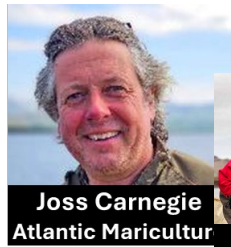
Enrichment phase – no flow through



Experimental phase – flow through



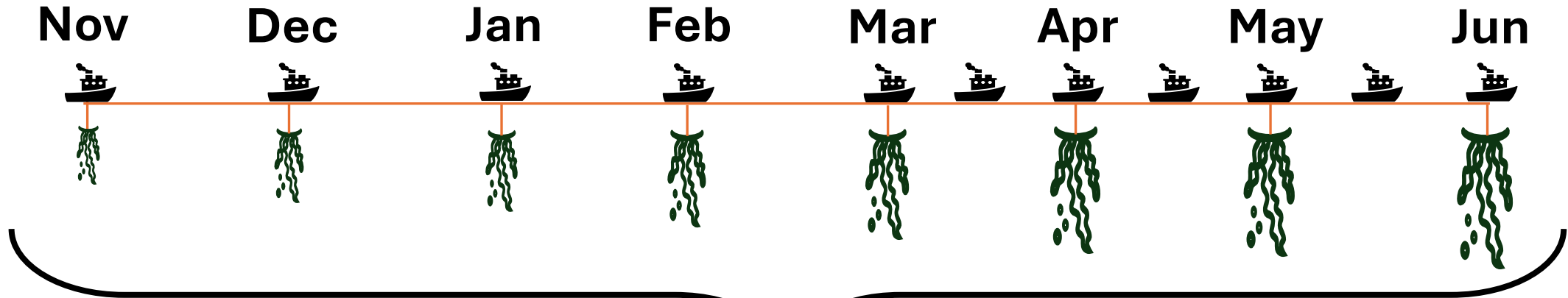
Field monitoring



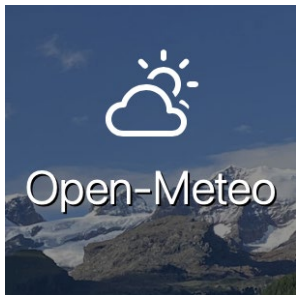
Latitudinal range: 50 ° - 63°

Field monitoring

@ 5 stations per farm



**Sea temperature,
light and climate**



**Current
velocity**



**Nutrients,
chl-a, salinity**



**Plankton
microscopy**



**Plankton
eDNA**



**Kelp
biofouling**

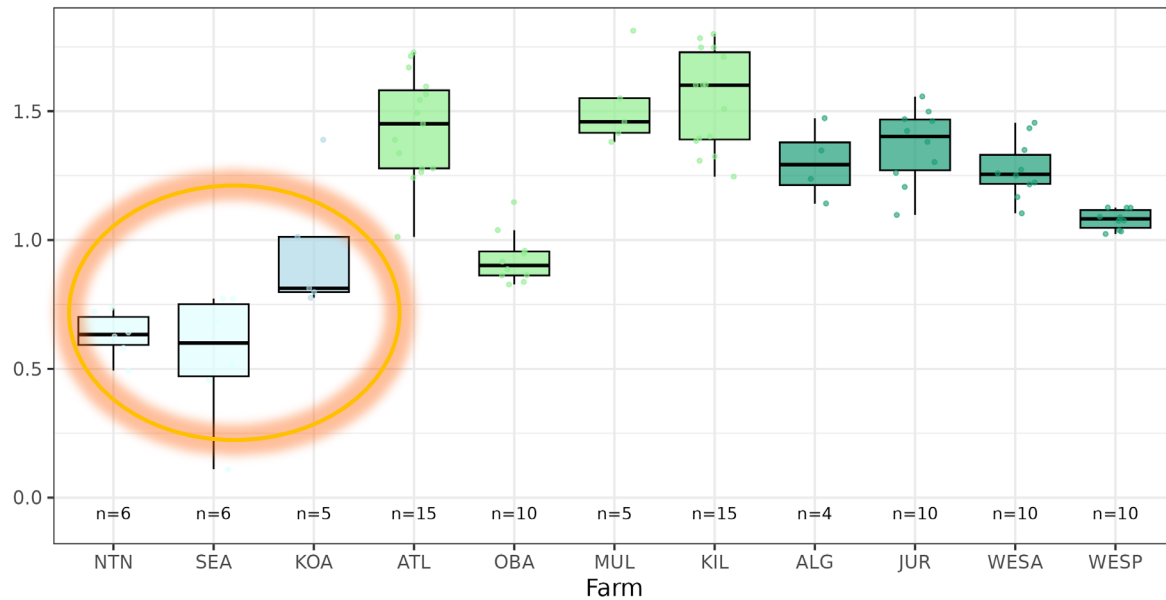


Preliminary results

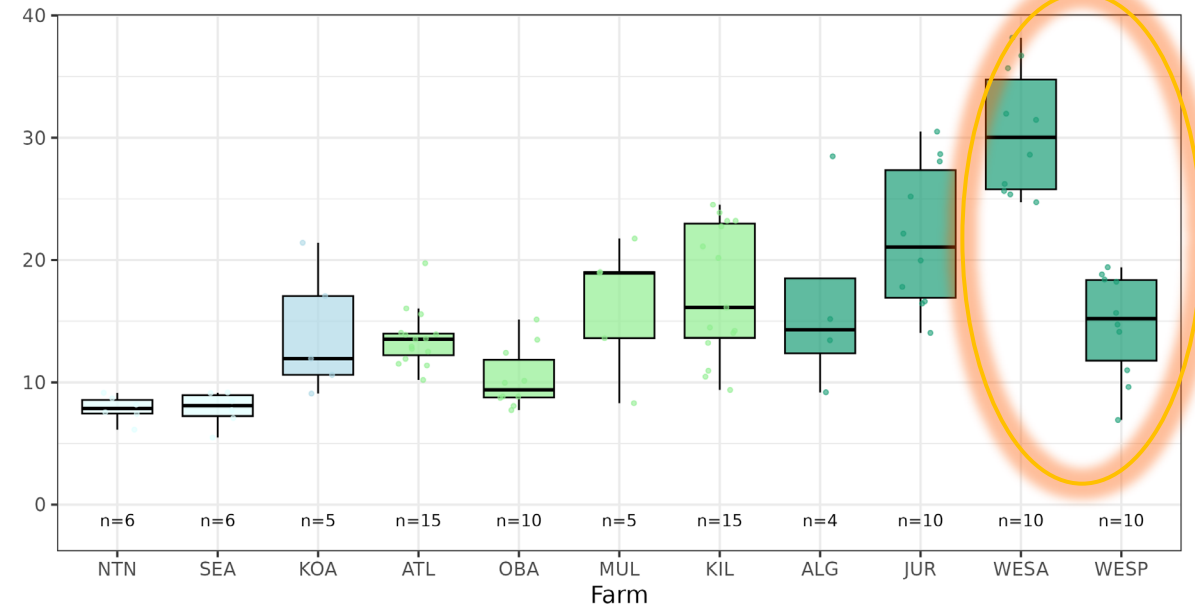


Region  Norway  Sweden  Scotland  England

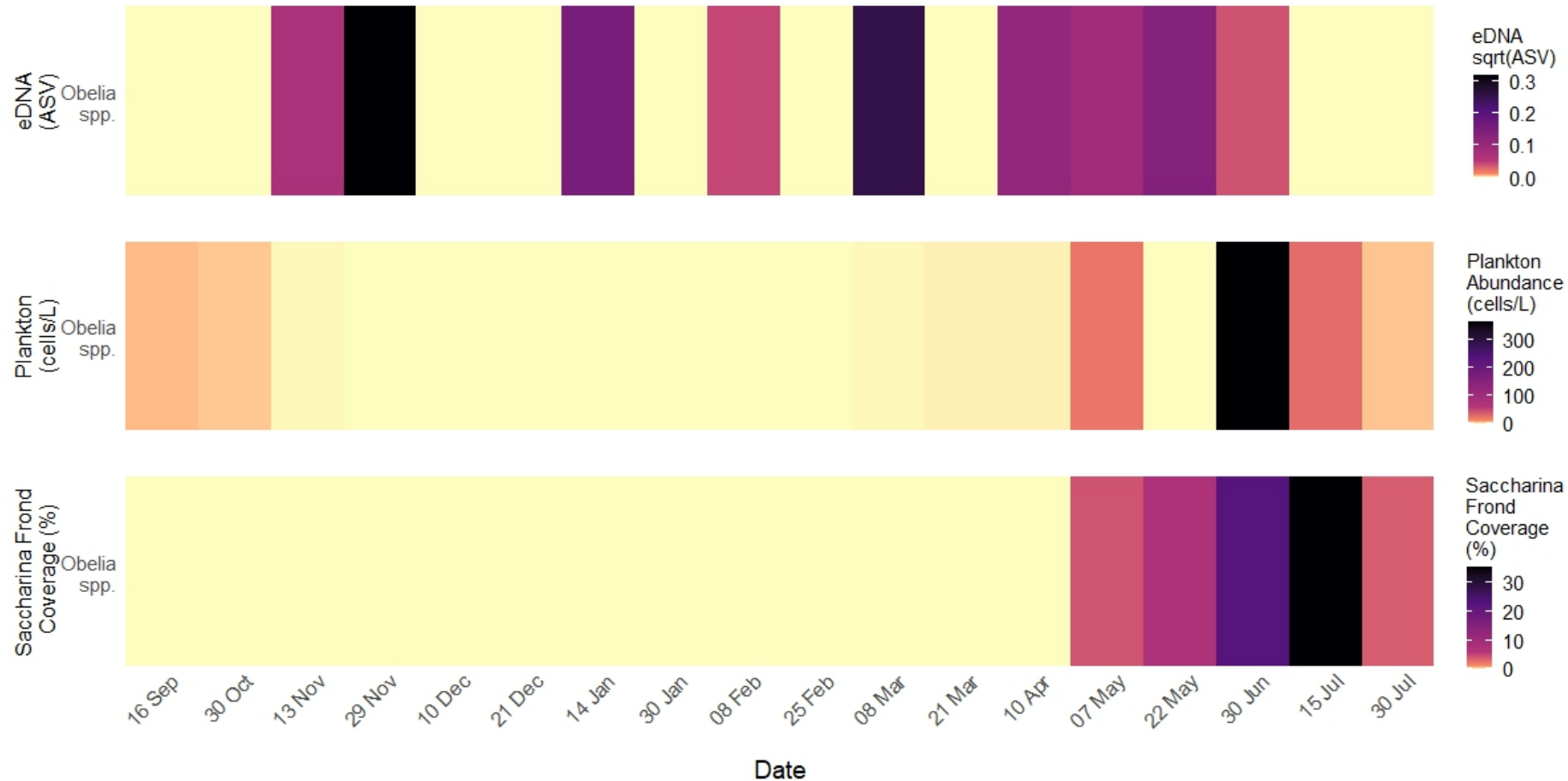
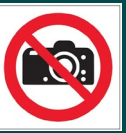
Pi μM : January to March 2025



NO₃ μM : January to March 2025

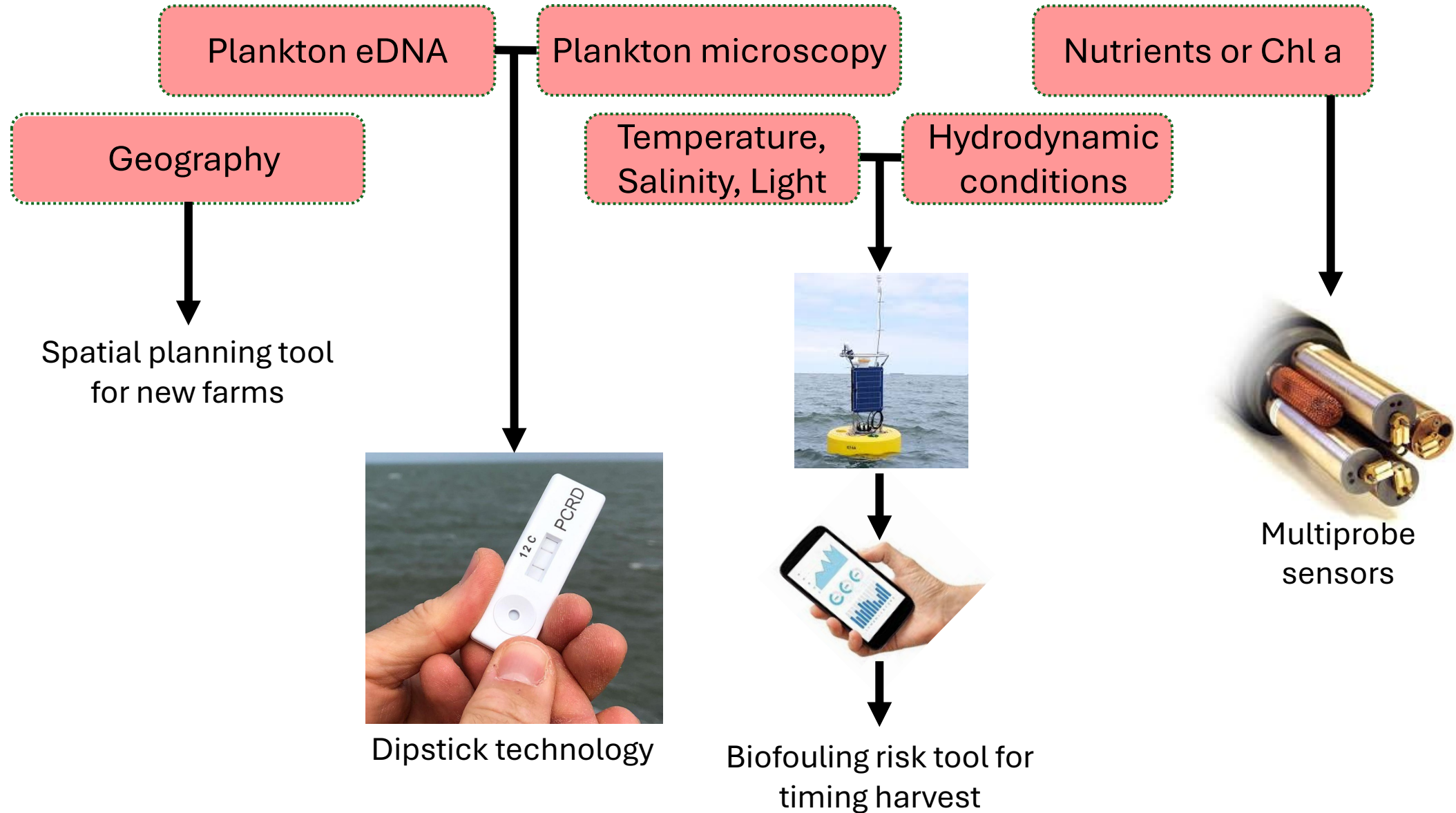


Pilot eDNA findings



Young et al, in prep

Innovations for the industry



Thank you!



Lydia Morrison
Jurassic Seafarms



Tim Van Berkel
Cornish Seaweed



Adrian MacLeod
Atlantic Mariculture



Ana Borrero
Seaweed Solutions



Joss Carnegie
Atlantic Mariculture



Marnik Van Cauter
Kilchoan Melfort Trust



Leigh Eisler
SWMID



Jemima Cooper
Kaly Group



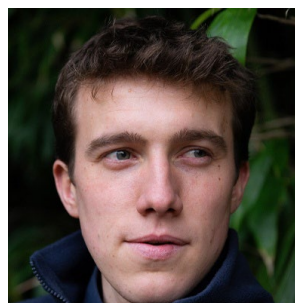
Annachiara Pagnotta
Seaweed Solutions



Andy McQueen
Jurassic Seafarms



Josh Madeley
Kilchoan Melfort Trust



Samuel Amant
KOASTAL



Luke Ansell
Algapelago



Oliver Hicks
Algapelago



Stephan Hagerling
KOASTAL

Thank you!



Martin Llewellyn
UoGlasgow



Simon Babayan
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Claire Dagen
UoGlasgow



Brendan Robertson
UoGlasgow



Joseph Humble
UoGlasgow



Calum Young
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Konstantin Chekanov
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Glauca Frago
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Kati Michalek
SAMS