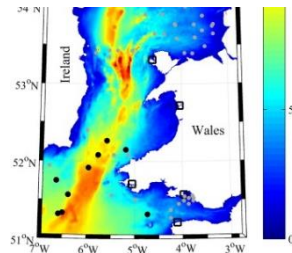
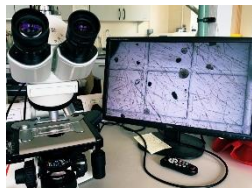
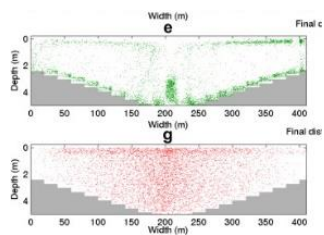


SC-05: Validating particle tracking models using bivalve larvae distribution data

The sourcing of juvenile shellfish or 'seed' is one of the main barriers to growth in the shellfish sector. Particle tracking models which simulate larval dispersal can give an indication of potential seed settlement locations but currently larvae in models are treated as passive particles homogeneously distributed in the water column and this influences their dispersal potential. Larval distribution data in relation to physical (e.g. larvae being 'trapped' at the thermocline due to ambient velocities) and bio-physical drivers (e.g. larvae being attracted to a food source, or avoiding predation) can be used to validate particle tracking algorithms and reduce model uncertainty derived from species behaviour.



Impact

Improved observational data of the horizontal and vertical distribution of larvae in the Irish Sea will be analysed in relation to physical and bio-physical drivers. Simulations with 3D hydrodynamic models and particle tracking models will be carried out, with the dispersal of 'larvae' particles governed by ocean advection together with different behavioural migration traits. Hence, the data on larval distributions will help validate the particle tracking algorithm and reduce model uncertainty derived from species behaviour.

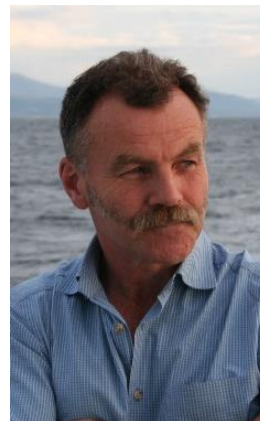


Project Officer

Jenna Alexander is the lead researcher for SC-05

Project Partner

Extramussel Ltd



The Shellfish Centre is a research and innovation initiative supporting development of the shellfish sector in Wales. The Centre will collaborate with businesses to deliver science to support growth. The main focus of the project is shellfish aquaculture and the related supply chain, with scope also for research to support new/ underexploited shellfisheries and aquaculture of non-shellfish species that are compatible with shellfish production

A Research & Innovation Initiative: Supporting the development of the Shellfish Sector in Wales

www.shellfish.wales / [@shellfishcentre](https://twitter.com/shellfishcentre)

