



THE SHELLFISH CENTRE
CANOLFAN PYSGOD CREGYN

SC-31: Hydrodynamic and biophysical modelling to support native oyster restoration.



Wales once had a prolific fishery for the European flat oyster or native oyster, *Ostrea edulis*, which provided a vital food source to the local coastal communities and contribution to the Welsh economy with native oyster shells discovered dating back to the Neolithic and the Bronze Age (about 12,000 years ago!). In its heyday in the mid- 1800's, Welsh oyster boats reported landing 8,000 oysters daily, but up to 15,000- 20,000 oysters in some areas. Sadly only a few small native oyster populations remain in Wales, but by The Shellfish Centre working together with our project partners- Conwy Marina, the Zoological Society of London and Blue Marine Foundation, we hope to help restoration efforts for this historically important species.

The Wild Oysters Project is a partnership with the Zoological Society of London (ZSL), the Blue Marine Foundation (BLUE) and British Marine, and supported by the players of the Postcode Lottery, working together to recover self-sustaining populations of native oysters in UK seas. The Welsh oyster restoration hub is based in Conwy Bay, one of the busiest estuaries in North Wales. The Wild Oysters Project work within marina sites; Conwy Marina on the western bank and Deganwy Marina located on the eastern bank of the River Conwy which flows into the Irish Sea. The marinas are placed in the scenic cruising grounds of the North Wales coast with pristine views across Wales' largest National Park, Snowdonia National Park.

One of the main obstacles to overcome in native oyster restoration is a lack of suitable habitat for native oyster larvae to settle and grow. 'Cultch' is a mix of shell which is placed on the seabed to create the preferred habitat to support self-sustaining populations of native oysters and to restore lost oyster reef habitat. Many factors need to be considered, such as the substrate, the current speeds, and geographic location in terms of proximity to the larval supply to select the best site for this activity to take place. The aim of this research project is to carry out hydrodynamic and biophysical modelling to simulate the hydrodynamic regime (water flow, currents, tides) and oyster larval behaviour to help predict where larvae may be transported to, and to highlight potential settlement areas. The information is a vital contribution to inform and aid the success of restoration efforts.



Project Officer

Maria Hayden-Hughes is the lead researcher for SC-31

Project Partners

Blue Marine Foundation
Zoological Society of London
Boatfolk Marinas 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

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