The Irish Sea Portal Project – collaborative research in Ireland and Wales to enable shellfish sector to access the best science available

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Technology is central to modern life, and the development of smartphones, internet resources and mobile data networks makes it possible to access data, both on land and at sea that would have been impossible in the not so distant past.

However, the requirements of the fisheries and aquaculture sectors are complex, and trying to find all the information relevant to skippers, crew and businesses can be laborious, time-consuming and frustrating.

The Irish Sea Portal Pilot (ISPP)* is a project aiming to meet the demand for easily accessible data across the Irish Sea in the bottom grown (BG) mussel sector. As part of the project, Bangor University (BU) and Bord Iascaigh Mhara (BIM) are developing a web portal to make relevant information to the BG sector readily available in a "one-stop shop". As this is a pilot study to test the feasibility of a wider Irish Sea portal, the ISPP is focussing solely on the BG mussel sector.

Project Synopsis

The primary aim of the ISPP is to pilot the feasibility and principles of a larger Irish Sea Portal for use by all within fisheries and aquaculture. Using the BG mussel sector as the select pilot industry partners in the project means we can tailor the portal to their needs and explore targeted case studies, such as juvenile shellfish settlement. Using case studies means we can take information that is not readily available and make it widely accessible to growers in both Irish and Welsh waters.

Young mussel seed growing on ropes

Through the ISPP, BU and BIM will bring together the Irish and Welsh shellfish sectors, aiming to generate growth with a study focussing on juvenile shellfish settlement, the key basis for the bottom grown mussel sector.

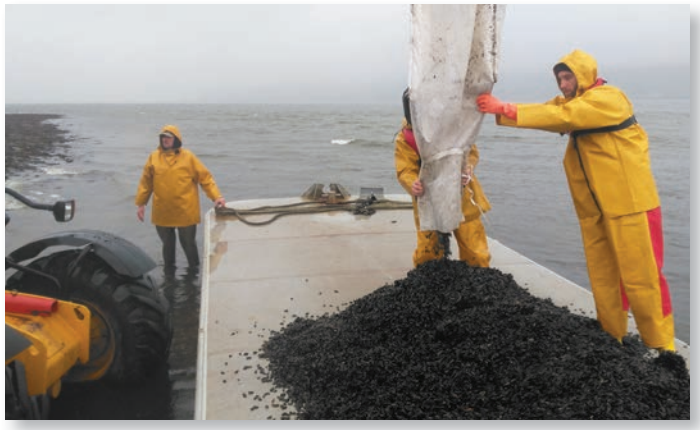
The project has several workpackages and deliverables to achieve these objectives. These include engaging with industry stakeholders and small to medium-sized enterprises (SMEs), development of a computer larval tracking model, an assessment of shellfish sustainability and case studies in seed collector systems and seed resilience.

Case Study: Castlemaine Harbour

The final aspect described above is one of the most exciting aspects of the project and on both sides of the Irish Sea BU and BIM have developed case studies specific to the BG mussel sector. In Ireland, we have run trials using rope grown seed as an alternative to wild sourced seed for BG culture. The use of rope grown seed has been demonstrated in continental Europe as a reliable, cost effective source for bottom culture and given the variable and unpredictable nature of wild seed, especially in recent years, this may prove to be an important feedstock for the industry.

Our case study is focussed on two bays in the southwest: Bantry Bay, Co Cork where seed was collected, and Castlemaine harbour, Co Kerry where the seed was transferred to bottom culture. Similar trials are underway in Wales.

BIM leased a traditional mussel longline in Bantry and from the existing 110m of headrope, deployed 1500m of three different rope types to investigate the best type for collecting seed. During the six month deployment, we saw extensive seed settlement on all rope types, growing to an average of 23mm before harvest in early October 2017. The harvest from the full line yielded nearly 12 tonnes of seed. The



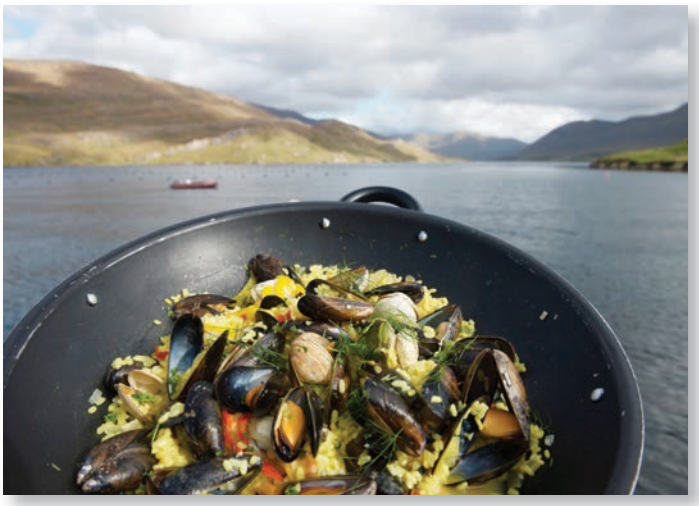
Mussel seed being collected for seabed culture

successful relay of this seed to intertidal and subtidal plots in Castlemaine has shown the technical feasibility of relaying rope grown seed to BG culture in Ireland.

However, subsequent monitoring of the sites has revealed mixed results including loss from extreme weather, predation and the apparent clumping of seed around existing mature mussels within the project area. This raises questions about the size of relayed seed, timing, substrate suitability and predator control which BIM hopes to address with additional trials in 2018.

Portal Development

In addition to the case studies, the development of a web portal is a key aspect of the ISPP. The



aim of the portal is to provide a no-nonsense, straightforward tool for the bottom mussel industry to get the information that is relevant to them. Using the opinions of industry representatives from across the study area we have distilled the most important information for growers to use, whether at sea, at home or in the office. The portal will focus on information such as weather, tides, biotoxin data, safety and historic seed distributions in a straightforward, user-friendly interface. The portal will draw information from a wide range of sources including the Marine Institute, SFPA, BIM, seafood markets and government agencies on both sides of the Irish Sea as well as project-specific case study data. We have engaged with members of the bottom grown industry on what information does and does not matter to them through both questionnaires and face-to-face meetings to ensure the web portal is targeted to the end users. The web portal is due to 'go live' in August 2018.

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http://www.bim.ie/our-work/projects/bim,collaborative,in,the,irish,sea,portal,pilot/