# NWIFCA Technical, Science and Byelaw Committee

# 5th February 2019: 10:00 a.m.

# AGENDA ITEM NO. 9

## RAZOR CLAM FISHERIES: POTENTIAL RESEARCH PROPOSAL

**Purpose: to report developments in a collaborative approach to razor clam research.**

**Recommendations:**

**i. approve the development of the research proposal;**
**ii. approve an application to MMO for dispensation to use electro-fishing;**
**iii. approve a derogation to Deepdock against the NWIFCA Dredge Byelaw for theproject.**

1. In order to progress collaborative razor clam research advice was sought from Officers Knott and Hartley had a lengthy phone discussion with Eastern IFCA's scientist Stephen Thompson who had been heavily involved in a project in 2011 researching the 'Effects of electrofishing for *Ensis* spp. on benthic macrofauna, epifauna and fish species' in South Wales.

2. The results from that research indicated that the equipment used created little impact on benthic macrofauna, epifauna and fish species and that recoverability following initial stunning from the electro-dredge was rapid and complete.

3. Stephen Thompson would be willing to provide further assistance to NWIFCA should it be required.

4. A further meeting was held in January by request with James Wilson from Deepdock who had previously expressed interest in the NWIFCA call for collaborative research.

5. The discussion centered around the potential resource within the newly established Shellfish Centre at Bangor University which has a £3.8M research budget through European Regional Development Funding.

6. There are two main aims for research under this funding:

    i. Increase production for aquaculture
    ii. Investigating new species for exploitation

7. Researchers involved with the Shellfish Centre are Professor Lewis le Vay (Director of the Centre for Applied Marine Sciences) and Dr Shelagh Malham (Senior Research Fellow) who some Members will be familiar with.

8. To be eligible for the funding projects must benefit a Welsh company but do not need to be conducted in Welsh waters.

9. Deepdock would provide in-kind funding through use of the vessel, Stil Ostrea, and the electro-dredge gear.

10. Officers discussed with Mr Wilson:

i. that NWIFCA would want to be a strong collaborator with influence on the project, taking an active role alongside Bangor researchers in the development of the research methodology;

ii. recognising that the funding requirement is for Welsh companies to be involved in this project, and that the methodology developed and tested would provide opportunity to other interested parties to collaborate with NWIFCA throughout the District.

11. The research project would use electro-fishing dredge and would require both dispensation from MMO against the EU prohibition (EU Regs 850/98), and NWIFCA derogation against NWIFCA Dredge Byelaw to proceed.

12. The CEO and HOE were asked for their views and agreed that the funding opportunity was key and the proposal should be put to TSB.

13. A number of actions were agreed for both parties to follow up.

14. Science Officers have drafted an outline proposal based on the knowledge gaps and issues identified in the Razor Clam Report approved by the Authority in 2018, which Mr Wilson will take to the Shellfish Centre. The outline proposal is provided as Annex A below:

**Mandy Knott**
**Senior Scientist**
**15th January 2019**

# ANNEX A

**Investigating the use of electrofishing techniques for the assessment and prosecution of a sustainable and commercially viable Razor Clam fishery in the NWIFCA District**

Razor clams are benthic marine bivalves of which several species (primarily Ensis spp.) have high commercial value for markets in Europe and more recently SE Asia. These species inhabit the intertidal to shallow subtidal zone, and are found in a range of muddy sand substrates in mainly sheltered areas, from muddy sand and clean sand to coarse sand and fine gravel, depending on individual species preference.

Razor clam resources are known to occur within the NWIFCA District, many of which lie within areas protected under international and EU designations for habitats and species (particularly migratory bird species of international importance) some of which rely on subtidal bivalves for prey. Regulators are charged with ensuring management of all fishing activity results in no or minimal risk to protected features and is sustainable.

There has been strong interest to commercially exploit subtidal razor clams. However the knowledge gaps surrounding the biology and ecology of target species and the potential impact of fishing techniques on benthic habitats and communities has inhibited the development of a commercial fishery.

Advances in electrofishing techniques may offer a low impact harvesting method that may overcome challenges with stock assessment and allow fulfilment of knowledge gaps, potentially allowing the development of a sustainable and commercially viable fishery.

The issues to be resolved before a fishery can be realised fall into the following main areas:

i. Biology and Ecology - an understanding of target and non-target species ecology and behaviours, recruitment, survivability and size at sexual maturity.

ii. Gear impacts - The impact of the electrofishing gear on target and non-target species and surrounding ecosystem.

iii. Stock assessment - an understanding of the population structure of commercially viable species.

iv. Impacts of fishing –

- Direct - an understanding of the overall effects of fishing activity at different intensities on biological, physical and chemical features within the area of the fishery, and the risk to protected features.

- Indirect - impacts of fisheries on prey availability for fish and bird species, and disturbance to protected SPA species.

**Senior Scientist Mandy Knott**
**Science Officer Dr Melanie Hartley**
**NWIFCA**
**14TH January 2019**