

# **North Western Inshore Fisheries and Conservation Authority**

**Quarterly Meeting: 6 December 2011**

**Morecambe Town Hall: 10.30 a.m.**

**Agenda Item: 12**

## **Dee Mussel Fishery**

### **Purpose of Report**

To provide the Authority with an up-to-date picture of the Dee Mussel Fishery and the management issues facing the NWIFCA.

### **Recommendations**

1. That the report be received.
2. That the actions of Officers are endorsed by the Authority.

### **Background**

1. The Dee Estuary is a European Marine Site designated as a Special Area of Conservation (SAC) for habitats and species (Directive 92/43/EEC), and a Special Area of Protection (SPA) for birds (Directive 79/409/EEC). It also has the international designation of Ramsar wetland site.
2. Up until 1st April 2011 the Environment Agency was the regulatory body for all the fisheries within the Dee Estuary. Cockles have been managed under the Dee Estuary Cockle Fishery Order 2008, which allows for 50 licence holders. Other fisheries were regulated under various byelaws including the 1895 River Dee Sea Fishery Byelaws (Dee Conservancy Byelaws), Sea Fisheries Byelaws from 1992 with supplementary guidelines issued by the EA Wales in 2006. Migratory fish (salmon and sea trout) were regulated under the Salmon and Freshwater Fisheries Act 1975.
3. Since 1<sup>st</sup> April 2011 responsibility for the salmon and migratory fish remained with the Environment Agency. The cockle fishery, on both the English and the Welsh side of the estuary continues to be regulated by the Environment Agency under the Dee Cockle Fishery Order.
4. Since 1<sup>st</sup> April 2011 responsibility for all other fisheries on the English side, including the mussel fishery, has fallen to the NWIFCA which has inherited the Environment Agency and Dee Conservancy byelaws under the establishment order.
5. The Dee Conservancy byelaws for the mussel fishery set a minimum landing size (MLS) of 2.25 inches (57mm) and required fishing from a boat with a rake no wider than 3 foot and with 4 foot of water above the bed. There is a seasonal closure from 1<sup>st</sup> May to 31<sup>st</sup> August. The NWIFCA has already made but not yet brought into force a new district wide byelaw establishing a single MLS for mussels of 45mm. The EA had sought to bring in a 45mm landing size for mussels but this was put on hold during the transfer of powers to the NWIFCA.

6. There is a mussel bed within the area just off West Kirby which is open under byelaw but for which there is a temporary prohibition imposed by the FSA because of a pollution incident. This fishery will become active very soon as the FSA may be ready to remove the temporary prohibition in a week or so. It has a C classification, meaning that mussels can go for human consumption only: a) after relaying for at least two months in an approved relaying area followed, where necessary, by treatment in a purification centre; **or** b) after an EC approved heat treatment process.
7. The Dee Estuary falls outside of the NWIFCA Byelaw 5 area and therefore there is nothing in place to restrict numbers – it is a public fishery.

### **Issues for Consideration**

8. There is no question that at some point it will be necessary for the NWIFCA to make a new byelaw for the Dee mussel fishery to ensure consistency and improve enforcement capability. There currently appears to be some interest from the industry to harvest these mussels,
9. This particular bed has been described as ‘historically a cockle bed.’ Although there have been mussel settlements here in the past, they are generally considered to be ephemeral.

This most recent change from cockle to mussel is reported to have begun in 2008 due to a die off of cockle. The dead cockle shell created an ideal substrate for mussel spat settlement.

10. The mussel bed lies within the Dee Estuary Cockle Fishery Order area and is surrounded by cockle beds consisting of young well-growing cockles. However within the Dee Estuary Cockle Fishery Order management plan there is nothing about the management of the mussel fishery. The Dee Cockle Order Licence holders and the Environment Agency would like to see the mussels fished to provide the opportunity for the cockles to return as has happened in the past.
11. The NWIFCA has received a request for authorisation to remove undersize mussel by hand for relaying in Northern Ireland. Hand-gatherers would access the fishery by boat much in the same way as cockles are gathered under the Dee Cockle Fishery Order. Harvesting would occur subject to review in January to February 2012.
12. A rapid visual assessment of the bed was made by Science and Fishery Officers on 1<sup>st</sup> December. A very crude estimate of the size of the bed is around 0.173 km<sup>2</sup> (17.25 hectares or around 26.5 football pitches). Figure 1 shows a map of the position and extent of the bed as mapped by officers using handheld GPS units.
13. The bed consists of mussels of mixed sizes with a dense layer of soft mussel mud below and between clumping masses, making walking on the bed quite difficult (Fig. 2). There was evidence that erosion of the mussels by tide and wind had already begun as had been reported verbally to officers by two independent local fishermen (29<sup>th</sup> & 30<sup>th</sup> Nov. 2011), with areas of mud scoured of mussel. This supports the reports (EA. verbal. 28.11.11) that this mussel bed is ephemeral and likely to be eroded by natural events over the winter. There were also scattered piles of dead cockle shell.

A crude estimate of the percentage cover of the mussels over the whole bed taking into consideration the scoured out areas was given as 50 - 60%.

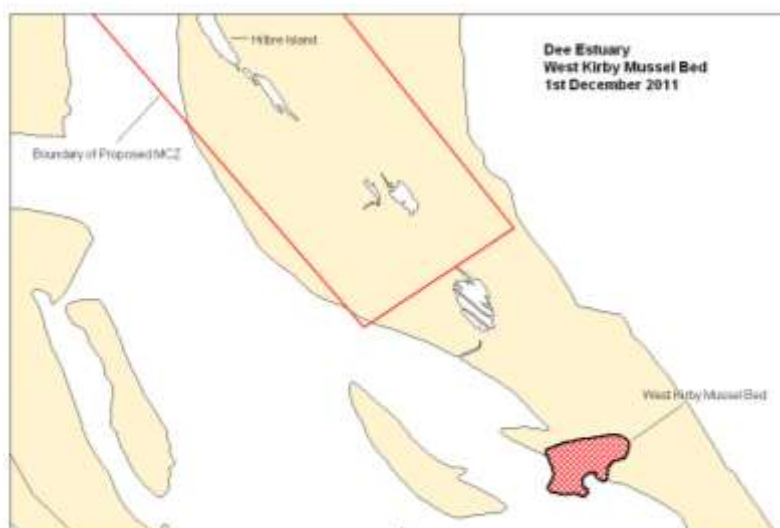


Fig. 1. GIS mapping to show the position and extent of the West Kirby Mussel bed. 1<sup>st</sup> December 2011.

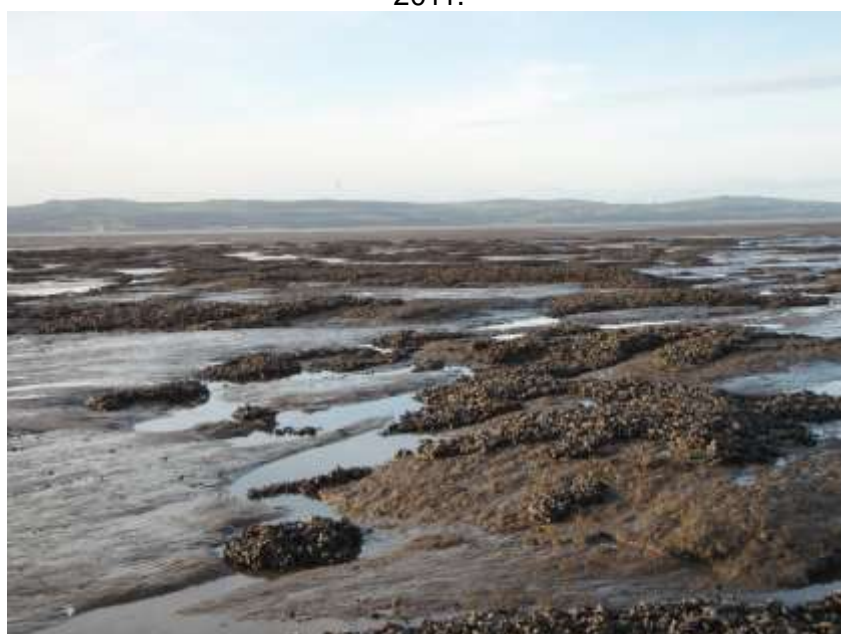


Fig. 2. Photograph of West Kirby mussel bed showing clumping mussel with scoured out areas between. 1<sup>st</sup> December 2011.

14. A small sample (approx. 0.1m<sup>2</sup>) of mussels was taken to gain an estimate of the length frequency, illustrated in the histogram in figure 3. The mean length from a sub-sample of 150 mussels was 44.15mm (ie. almost to size for the NWIFCA MLS). 100% of the sub-sample were below the Dee Conservancy byelaw MLS of 2.25 inches (57mm).
15. There is the potential for the accidental transfer of Chinese Mitten Crab (*Eriocheir sinensis*), a non-native invasive species which is believed to be established in the Dee Estuary. The potential for harvesting and the necessary relaying of mussel to act as a vector for the larvae of this species to be introduced to Mitten Crab-free areas must be considered within any assessment of the fishery.

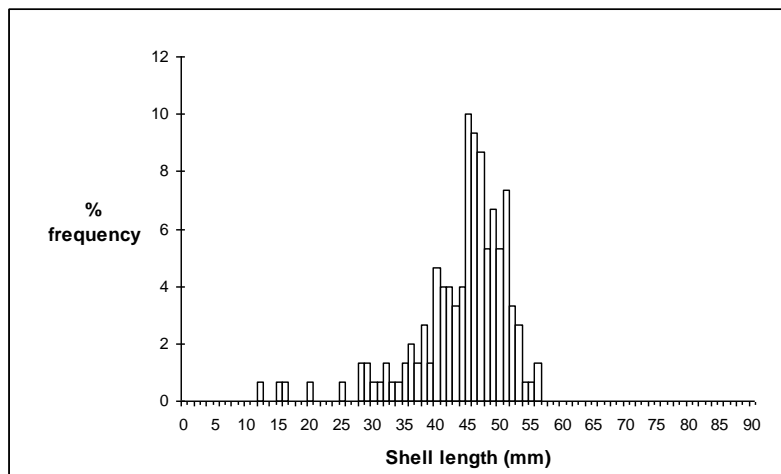


Fig. 3. Length frequency histogram for random sample of mussels taken from the West Kirby bed, Dee Estuary. 1<sup>st</sup> December 2011. n = 150. Mean length = 44.15mm (Range 12.79 to 56.70mm).

16. In August the Welsh Government authorised the harvesting by dredge of 1000 tonnes of seed mussel from the Salisbury bank, an area of intertidal cockle bed on the south bank of the river Dee near Mostyn Dock. Reports stated that investigations showed the risk of transfer of mitten crab was acceptably low, following a pre-survey where no evidence of the crab was found at the location, and that provided the timing of the work was aligned in respect to the crab's lifecycle and that adequate monitoring was put in place during the dredging and relaying operations, harvesting could proceed.
17. Officers have been investigating the means by which the Authority could authorise the harvesting of the undersize mussel. There is provision within the byelaws transferred to the NWIFCA for derogations to be issued against the byelaws. It is therefore recommended that if and when the issues around Chinese Mitten Crab can be resolved, the proposed fishery would require assessing for Likely Significant Effect on the habitats and species of conservation concern under the European Marine Site designations. The NWIFCA would take advice from Natural England in assessing the impacts, and whether any mitigations measures would be necessary.
18. Should the Authority then decide to derogate against the byelaw, applications would be invited under a permit scheme whereby applicants would be required to supply full name and address, National Insurance number and proof of identity. It would not be possible to restrict numbers of permits issued.
19. It is possible that once the temporary hygiene closure is lifted that attempts will be made to access the fishery, especially in light of the cockle bed closures. There is a large number of people now 'tooled up' for shellfish gathering who previously were not. It must be recognised that there is the potential for urgent action to be necessary and Officers seek the approval of the Authority for the recommendations proposed.

**Mandy Knott**  
**Scientific & Morecambe Bay Fishery Order Officer**  
**5th December 2011**