

**NWIFCA Technical, Science and Byelaw  
Committee**

**7th February 2017: 10:00 a.m.**

**AGENDA  
ITEM NO.**

**8**

**COCKLE AND MUSSEL REPORT**

**Purpose: To provide an update to members on the District cockle and mussel fisheries**

**Recommendations:**

**That members approve the issuing of annual scientific dispensations to named fishing vessels to provide information to science team on the state of stocks:**

- i. three vessels for use of a dredge in the Solway;**
- ii. one vessel for use of a suction dredge in the Solway;**
- iii. two vessels for use of a dredge in Morecambe Bay.**

**SOLWAY FISHERIES**

**1. Solway Sub-tidal Mussels**

Officers convened a multi-sectoral meeting in Silloth to discuss the sub-tidal mussel in the Solway. The meeting - dubbed BMWG2 - was attended by eight Solway fishermen, three seed mussel dredge fishermen from Wales and Northern Ireland, NWIFCA representatives from Natural England and the RSPB, and NWIFCA science and enforcement officers.

The Senior Scientist chaired the meeting, and a frank and open discussion ensued. The scene was set by clarifying that there are existing vessel length and engine capacity restrictions in the Solway under CSFC Byelaws 3 and 5, with no history of derogating for seed mussel dredgers as there is in Morecambe Bay. Although no agreement on allowing larger vessels to fish could be reached it was accepted by all that this status quo would remain.

NWIFCA surveys in the autumn had resulted in an estimate of undersize mussel with 3000 tonnes biomass. Solway fishermen feel this was a huge over-estimate. Prior to the meeting the science team had issued a scientific dispensation to one vessel to carry out a search with a 0.5m<sup>2</sup> dredge in a specified area to provide information to the meeting of whether the stock had persisted. A minimal amount of mussel was found suggesting the majority of the stock had gone. It was agreed that as the mussel does not embay and sits very loosely on the substrate, it may not have washed out of the estuary but could be re-settled elsewhere, and that it was important to be able to search for it. Solway fishermen offered to scout for it by putting a dredge down while shrimping, and provide information to the NWIFCA science team to enable a full survey to be planned should any be found.

This approach was agreed as sensible to use for 2017 and future years and to be brought to TSB for approval. The Senior Scientist has encouraged this approach in the intertidal fisheries – particularly cockles - where industry notify IFCOs if they are going looking for stock, nothing can be taken from the bed and information is then provided on the positions of the cockles on which the science team will base a survey. To repeat this for sub-tidal mussel would be helpful to all. Information, including absence of mussels, will also be provided to Natural England. In this way both agencies can be assisted in building up a picture of how the estuary

and the shellfish beds are functioning. This kind of evidence improves understanding and can then be used for a number of different purposes.

The use of a dredge requires a scientific dispensation. Naturally conditions would need to be attached, such as maximum size of dredge, number of times it could be used, requirement to notify NWIFCA prior to using it, openness to having IFCA presence on-board, and no stock to be removed from the fishery. An example dispensation is attached at Annex C.

**Recommendation: Officers seek approval to issue an annual scientific dispensation to three vessels for use of a dredge to search for sub-tidal mussel.**

2. **Solway Cockles – Middle Bank**

During the BMWG 2 Silloth meeting, fishers requested dispensation to search for cockles on Middle Bank using a suction dredge. Middle Bank is a drying bank in the middle of the Solway, with the Scottish border running through it. There are deep channels on either side of it and it needs a boat to access it. In the past it has been opened to suction dredge fishing, and both IFCOs and fishermen agree the sand is too hard to jumbo. It would be useful to the NWIFCA, in line with recommendations above for mussels, for industry to scout for stock, provide the information and positions to NWIFCA, who can then target specific survey and report back to Members.

**Recommendation: Officers seek approval to issue an annual scientific dispensation to one vessel for use of a suction dredge to search for cockle in the Solway.**

## **MORECAMBE BAY FISHERIES**

1. **Morecambe Bay Mussels**

Officers will begin to inspect and survey mussel beds throughout the District once the daylight and tides return, focusing initially on Morecambe Bay beds.

The offer from the seed mussel dredge boats previously reported to assist the NWIFCA in data collection of seed mussel in the Bay through use of Acoustic Ground Discrimination Equipment is accepted. As with the Solway issue above, scientific dispensation with conditions included is required for these vessels to be able to use a dredge to ground-truth the data.

**Recommendation: Officers seek approval to issue an annual NWSFC Byelaw 1 scientific dispensation to two vessels for use of a dredge to ground-truth AGDS data.**

2. **Morecambe Bay Cockle Fisheries**

Two cockle beds in Morecambe Bay, at Leven Sands and Pilling, were opened to Byelaw 3 permit holders on 7<sup>th</sup> November. These have been worked by low levels of gatherers, with Leven Sands proving more active, as was predicted from survey results. A request from gatherers in December to amend the boundaries of the authorised area on Leven Sands to the south and south east was acted on by Science Officers, as it was apparent that cockles on the bed had moved.

## **POTENTIAL FURTHER COMMERCIAL FISHERIES**

As stated above mussel surveys and inspections are being scheduled once daylight and tides allow, along with further surveys focusing on cockles at Flookburgh (north Morecambe Bay adjoining Leven

Sands) and North Penfold (Ribbe Estuary, Southport) to provide data on size and abundance and survival of what was abundant but undersize stock following the winter. The dense new settlement at Leasowe (Wirral) will also be surveyed in the spring.

## **BIVALVE MOLLUSC WORKING GROUP**

The Senior Scientist will convene a BMWG meeting once data from inspections and surveys have been compiled, to discuss results and the 2017 fisheries.

## **SPA BIRD FEEDING REQUIREMENTS AND BIRD MODEL**

Officers held a day-long meeting with colleagues from Natural England, NRW and the RSPB to discuss the use of the 'Bird Model' to assess SPA bird feeding requirements (mainly oystercatcher and knot) in order to ensure cockle and mussel fisheries are Habitats Regulations compliant. As Members will be aware this is an issue that has been discussed many times over the years, and is of concern to all regulators and statutory nature conservation advisors wherever these fisheries occur within EMS.

The shorthand term 'Bird Model' refers to the original work of Richard Stillman et al from Bournemouth University who produced a behaviour based model<sup>1</sup> in 2000. The NW&NWSFC was involved in trialling this model in Morecambe Bay in around 2009, and it was ascertained then that the SFC did not have the capacity or resources to collect the data needed to have any confidence in running it.

The model has recently been adapted to provide an 'ecological model' using various parameters collated from a range of research, with the aim of simplifying its use. It is understood that there is an inconsistent use of the models around the UK by other regulators, mainly IFCA and NRW. The science team provided a detailed presentation on why neither model is suitable for use in the NWIFCA fisheries. There are questions around the level of confidence in the parameters in the ecological model. The nature of the NWIFCA fisheries that have the potential for significant change in stock levels from one month to the next render the collection of meaningful data to enter into the model highly improbable to achieve, when also considering the total of 36 cockle and 36 mussel beds.

Officers propose that in order to move this issue forward and be able to finalise the Management Plans for both cockles and mussels in Morecambe Bay that a pragmatic approach previously put forward by NE's Chris Lumb and discussed again in December should be adopted. This approach is to monitor the stocks and keep a running table, made available to all, of the state of each bed, and providing that the overall stock level in the Bay does not drop below an agreed level, that no risk of adverse effect on SPA birds could be agreed.

Officers will be pro-active in working to agree the monthly levels and move to get agreement of this approach.

**Science Officers**  
**24<sup>th</sup> January 2017**

<sup>1</sup> Stillman, R.A., Goss-Custard, J.D., West, A.D., Le V. Dit Durell, S.E.A., Caldow, R.W.G., McGroarty, S. And Clarke, R.T. (2000). 'Predicting mortality in novel environments: tests and sensitivity of a behaviour-based model.' Journal of Applied Ecology. Vol. 37 pp. 564 – 588