

**NWIFCA Technical, Science and Byelaw
Committee**

6th February 2018: 10:00 a.m.

**AGENDA
ITEM NO.**

8

COCKLE AND MUSSEL REPORT

Purpose: to provide a report to members on the Districts cockle and mussel fisheries.

Recommendation: that Members approve the report.

Cold Weather Closures for Intertidal Shellfish Fisheries

1. In line with Natural England advice which is included in the NWIFCA HRAs for cockle and mussel fisheries, the NWIFCA undertakes to close intertidal fisheries during periods of severe cold weather in order to minimise disturbance to wading birds, whose energy requirements and therefore feeding requirements increase.
2. Members will be aware that there have been cold snaps this winter. Periods of below 0°C were experienced in the District during November and December 2017 and officers were posed with the question of whether NWIFCA should close intertidal cockle and mussel fisheries in order to minimise disturbance to feeding and roosting SPA birds within the areas of the fisheries. The low temperatures followed a period of unseasonably mild weather.
3. This also raised questions of when should a decision be taken. Defra runs a voluntary scheme with wildfowling which runs from 9 November to 20 February, and is designed to help with conservation of waterfowl (ducks, geese, and waders) by reducing disturbance to them during periods of prolonged cold weather. Shooting organisations co-operate closely with voluntary and statutory nature conservation organisations to minimise disturbance to birds during such severe weather. <http://jncc.defra.gov.uk/page-2894>
4. Officers discussed the issue with NE colleagues and agreed that if possible good practice would ensure that closures occur prior to the cold weather setting in, not after, as it is during the cold weather that disturbance could pose the highest risk, and that a period of 5 days below 0°C had previously been the norm to use, which differs from the wildfowling scheme. It was not clear whether this was if the temperature dropped below 0°C at all, whether it averaged at below 0°C, or was below 0°C over low water times etc.
5. For 2017, a decision was taken not to close any of the fisheries as the risk from fisheries was deemed extremely low or non-existent. NWIFCA scientists conferred with Natural England representatives on 12th December 2017, who agreed with this approach. The justifications for each fishery are given below.
6. In future during winter fisheries, if cold weather is predicted to be below zero for more than 12 hours a day for 5 consecutive days then an assessment of the risk to SPA features would be completed taking into account the fishing activity, and a decision made on whether to close any individual fisheries. Considering the significantly lower numbers of gatherers from previous years, and generally milder winters, it is thought that requirements to close will be rare.

Justifications:

Flookburgh / Leven Cockle Fishery:

7. Low levels of activity spread out over a wide area. Cockles abundant across large part of upper bed and available to birds on most tides. Officers inspected the fishery on 30th November and very low numbers of oystercatchers and gulls observed on the bed. Those that were present were feeding very close to fishers and possibly benefitting from cockles left on the surface of the sand. One small flock of knot observed feeding on smaller cockle nearby to 2 gatherers, flushed when approached but continued feeding while fishers worked. Parking and tonning up taking place on airfield not near the cockle bed – therefore disturbance low.

Pilling Sands Cockle Fishery:

8. Low if any fishing activity – 2 – 4 max. fishers. Disturbance negligible.

Leasowe Cockle Fishery:

9. Low if any fishing activity – 2 – 4 max. fishers. Disturbance negligible.

Dee Estuary Mussel Fishery:

10. Most of mussel stock below MLS and therefore not yet being fished. Any activity would not be additional to existing cockle fishery (NRW management). Cockle and mussel stocks spread over large area and activity from low level of mussel gatherers negligible in terms of bird disturbance.

Cockle length/weight calculations for assessing biomass

11. Work carried out by Bill Cook in the past resulted in a 'Ready Biomass Calculator' for cockles, whereby a proxy weight can be assumed from cockles of certain shell length. It is not clear whether data used for this calculator were solely from Morecambe Bay; neither is it clear from what months (and varying cockle conditions) these samples were taken. Officers have been sampling from all cockle beds visited all year in order to check the calculator, and to provide different biomass calculators for different seasons and different beds if necessary. This work will continue throughout 2018 to give a longer time-series of data, and add confidence.

Update on Stocks:

Leasowe cockles

12. Fishing activity reduced to minimal levels during October and November after the densest area had been fished and effort moved to the Morecambe Bay beds. The need to review a closure as discussed at the last TSB was subsequently no longer required.

Penfold North cockles

13. The bed was surveyed again on 8th November. It remains extremely muddy and, although it had hardened slightly since the last survey, it was not accessible by quadbike and remained difficult to access on foot. The main part of the bed is within a muddy hollow with firmer, higher sandy ground around it. Sample stations were input randomly across the bed. The main size class present is 20-30 mm with the majority of cockles in the 20-25 mm range, therefore not yet size. There remains a large abundance of dense cockle (2015 year class) in the extremely muddy patch in the centre of the bed. However the majority of this is undersize.
14. Mean number of size cockle = 70 per m²(min. 0, max 310)
Mean number of undersize cockle = 910 per m² (min. 0, max 1900)
15. The bed will be surveyed again in early spring to see whether abundance has persisted and whether or not this extremely slow growing cockle has yet reached size.

16. Oystercatcher (around 150 individuals) were observed feeding on the edges of the bed where the ground was firmer. Here there were shells left in piles with bird faeces and feathers. There was no sign of oystercatcher feeding in the extremely muddy patch where the dense cockle could be found. Oystercatcher could also be feeding at the low water line although this was not visible during the survey and officers plan to return and observe their behaviour on an ebbing tide uncovers the bed. There were low levels of gull feeding activity.

Pilling Sands cockles

17. No further surveys have been carried out. Spring surveys will give an indication of biomass remaining, and whether there is an early indication of an autumn fishery this year.

Flookburgh / Leven Sands cockles

18. No further surveys have been carried out but as discussed above Officers inspected the fishery on 30th November and had the opportunity to discuss how the fishery was progressing with gatherers. Cockles are still abundant across a large part of upper bed. Spring surveys will give an indication of biomass remaining, and whether there is an early indication of an autumn fishery this year.

Dee mussels

19. No further surveys have been carried out due to daylight and tidal restrictions. The plan is to re-survey once conditions allow and continue to take samples for monitoring for the presence of the invasive non-native species Chinese Mitten Crab which is known to have populated the upper reaches of the Dee Estuary.

Heysham Flat mussels and *Sabellaria alveolata*.

20. An inspection was carried out on 5th January of Heysham Flat skear and Knott End skear. The area is very flat with mussel mud now removed. Some mussel of mixed sizes but mainly undersize remains on the lower reaches of the main skear and Knott End skear. This is very hard in to the bottom substrate. There are areas of live *Sabellaria alveolata* on the northern side of Knott End skear which looks newly settled, and on the southern side of the main skear again newly settled. On the northern side of the main skear there is newly settled worm, with some older and live structures. It will remain to be seen whether both the remaining mussel and the worms become buried under this year's mussel settlement which would be expected to be seen from April onwards. Monthly inspections will be carried out.

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