

**NWIFCA Technical, Science and Byelaw
Committee**

15th May 2018: 10:00 a.m.

**AGENDA
ITEM NO.
13**

COCKLE AND MUSSEL REPORT

Purpose: to provide a report to members on the District's cockle and mussel fisheries.

Recommendation: i. that Members approve the report;
ii. that Members approve the recommendation to maintain the seasonal closure on the Penfold North cockle bed.

1. The first meeting in 2018 of BMWG will take place on Thursday 3rd May at which these fisheries will be discussed. Depending on the outcome of those discussions there may be further information to provide to TSB verbally.

Update on Stocks

2. A full update on cockle and mussel survey and inspections is provided at Annex A.

Leasowe cockles

3. A very low level of fishing activity continued until the seasonal closure came into force on 1st May. A survey undertaken on 27th April to assess stock post fishing provides an estimate of remaining biomass of around 700 tonnes (680 – 725 depending on method of calculating means), with a maximum of 10 tonnes undersize. There is no evidence of spat settlement to date and therefore it is unlikely that a fishery will occur this autumn.

Penfold North cockles

4. The cockle bed which covers an area of around 38ha in total, has undergone change over the winter period and the central main area (29ha) has hardened up somewhat. The density of cockles has reduced in this area, probably from natural mortality and wash out and also bird predation, as there is clear evidence now of birds feeding on the stock. Within this is an area of around 7ha holding predominantly size cockle.

5. The outer areas (~9ha) are still muddy and do hold dense cockle, with a mix of sizes, and a large proportion of undersize. It is almost impossible to survey it due to risk of getting stuck in the mud and therefore a full description of the size of cockles and estimate of biomass are not possible.

6. Officers do not consider this to be a viable fishery at the present time. A summer opening had been considered for a specific time period to thin the stock. However there are considerable concerns regarding nesting bird disturbance on the saltmarsh area. This is the area that would have to be utilised by gatherers for parking, access and tonning up.

7. Officers would recommend maintaining the seasonal closure on this bed which would allow the cockles to spawn.

Recommendation: maintain seasonal closure on Penfold North cockle bed.

Pilling Sands cockles

8. The fishery has been prosecuted by varying numbers of gatherers as effort has switched between Flookburgh and Pilling. In general the fishery has been compliant (HoE to provide more information). However there have been numerous complaints from members of the public and questions raised via the local authority from the local MP about litter in the car parking area on Fluke Hall Lane. Officers have attended each time a complaint has come into the office to inspect and report back on the situation. What appears to have been happening is during the times of fishing there is some rubbish left by the fishery around the parking area, but that this is cleaned up before everyone leaves. On the face of it this may seem acceptable. However there are two issues evident – how much gets blown around on to the beach on windy days, and also the reputation of the fishery. It would be preferable if no litter was left at any time and it was put into the backs of vans rather than deposited on the ground.

Flookburgh / Leven Sands cockles

9. Fishing activity has continued right through to the seasonal closure. There is no evidence of 2017 settlement.

Dee mussels

10. The fishery has seen a low level of effort from hand-gatherers. Science officers have inspected the bed for Chinese Mitten Crab and found none. Officers also attended a meeting on management of cockle and mussel fisheries on the Dee with NRW, EA, Welsh Government fisheries and Natural England in January. A further inspection of the remaining mussel will be carried out in due course.

Heysham Flat mussels and *Sabellaria alveolata*.

11. Officers inspect Heysham Flat regularly. There has been a dense spat settlement so the possibilities of a seed mussel fishery this autumn look likely. A full HRA will be carried out nearer the time in consultation with Natural England to assess the state and condition of the honeycomb worm reef and whether any exclusion zone is necessary.

South America / Falklands mussels

12. Much of the 2017 settlement has persisted through the winter despite the fact it was being scoured out in August. The last report from Officers stated:
13. “Officers accessed the bed by quad bike on a 0.7m tide on 22nd August (2017). The seed had looked consistent across the bed which covered around 3ha in July. It is now down to around 30% cover, with seed looking healthy at around 25mm shell length, mainly sitting on sand of around 10cm depth. There is evidence that some of it has scoured out. Where the seed is sitting on mud the mud is around 30 cm deep. There are cobbles and stone around between the mussel. The mussel remaining appears very loose, not embysed and likely to also wash out. There were small clumps of *Sabellaria alveolata* around the eastern edge of the bed, the first time it has been seen in the north of the Bay.
14. Officers considered that the bed was not suited to fishing by dredge. If there was interest from hand-gatherers it could be considered for a low level of hand-gathering with no perceived risk to any conservation features”.
15. Byelaw 3 permit holders desisted from fishing it for seed as they wanted to see if it reached size. It is fair to say that the long-standing disagreement over whether dredging seed mussel affects the area and the ability of mussel to reach size still continues.
16. Officers were sent georeferenced photographs and a description of the bed by permit holders in March (included in Annex A report) and accessed the South America area on 18th April.

Attempts to reach Falklands were thwarted as the tide was held in by a strong southerly wind but will be attempted again with the RIB in May.

17. Although parts of South America also did not fully uncover it was possible to see the type of mussel and the substrate. The majority has not reached size – indeed if it had, in effect the bed is open to permitted gatherers and could be fished. There is evidence of some new settlement and it will be important to monitor this over coming weeks and months to see whether there is further settlement or whether the 2017 mussel continues to put on growth and a size fishery develops. Due to problems accessing the area it may be necessary for Officers to charter a helicopter.
18. Officers responded to phone calls and emails from the two Byelaw 3 permit holders who were sending in the information to re-confirm the NWIFCA's approach to the management of this area and to let them know the work Officers had carried out to assist the fishing of size mussel should the stock grow on. As it is useful as a reminder of what has been previously agreed her response is produced below:

“...the NWIFCA considers these mussel beds to be changeable and we need to have adaptive management to them. Each year they are behaving in a slightly different way and so we need to have a flexible approach and monitor them.

In answer to the points you make:

- i. Size mussel on South America / Falklands – the 2017 settlement has persisted over winter which I have observed in one or two previous years. The NWIFCA had considered opening this last year as a hand gathered seed mussel fishery due to the amount of scour that was occurring in the summer, and the view from experience that it would all wash out. We accepted your point of view that it should be left to see if it persisted and reached size. In previous years by the time the mussel out there reached size they had either been smothered in spat and got buried under the mud, or they got eaten by starfish.
- ii. From the information I have been supplied with and the fact you are not fishing it yet I don't think it has reached size. If it does and persists through and doesn't get wiped out by the new seed settlement and/or starfish then I will propose managing it as a size mussel fishery. In fact we were active in contacting CEFAS over classification of both South America and Falklands as soon as I got the correct information on the state of the bed to ensure it could be fished as soon as it reaches size. This has been my intention since the decision not to fish it for seed last year.
- iii. If the 2017 mussel does get wiped out by new settlement or starfish, then we will monitor it to see how it is behaving this year, and discuss it at BMWG and TSB, in order to make recommendations on appropriate adaptive management this year. The input from yourselves, who I appreciate do spend a lot more time than NWIFCA officers on the beds, is important to us in this, and I would urge you to continue sending us the time, date and GPS stamped photos as you have been doing.
- iv. I do consider Foulney to operate in a different way, but again think that constant monitoring is the appropriate approach. It is much more regularly persistent than the beds further out, and if the starfish do get on to the bottom end there has generally been stock left on the upper reaches. It also doesn't generally get washed out as much as say South America or Heysham Flat does in most years.
- v. What has been occurring at Heysham Flat in recent years is similar to what has happened at South America and Falklands in terms of mussel stock, although totally the opposite in terms of amount of skear uncovered from sand. The mussel at the bottom end of the main skear and across Dallam Dyke has been sticking over winter,

but then getting smothered by new seed and mud. As you know when it did reach size, we made every effort to ensure you could gather it as size.

The nature of Morecambe Bay and the constantly shifting sand and channels means that the mussel beds are also in a constant state of change. As regulators and managers we have to be adaptive to this change, which is why I brought a definition of ephemeral to BMWG last year for agreement, to try to curtail this argument and reach a level some kind of consensus over it.

When NWIFCA science officers discuss this we do NOT say a bed is ephemeral. We say it is behaving ephemerally. The agreed approach from summer last year was:

Management of Seed Mussel Stock

19. Certain conditions need to occur for the NWIFCA to authorise fishing of seed mussel, namely that the stock has been assessed as in imminent likelihood of being lost to the fishery through natural causes, and subsequently that a high proportion of it will not grow through to reach size; and that conditions pertain to fishing being possible without risk of damage to the cobble and boulder substrate conservation features. These include:
- settlement in high abundance and density, and;
 - fast growing and high deposits of pseudofaeces (mussel mud), and;
 - the mussel mud becoming very soft and loose and at risk of being washed out, taking the mussel with it;
 - or dense settlement being heavily predated on by thousands of starfish.

The fishery is highly variable depending on the vagaries of the stock, and the changes in the dynamic environment of the north west coast and have to be assessed on a year by year basis”.

20. At the present time no action is required. As the year progresses Officers will convene BMWG meetings as necessary to discuss management of the stock, and if needed will communicate via email with Members.

Low Bottom and Foulney Ditch

21. There are two distinct areas at Low Bottom – that between the oyster frames and Foulney Ditch which has received a relatively dense settlement of 2018 spat; and the area to the west of the Ditch which holds larger mussel but which generally becomes encrusted with barnacles. The channel running along the low water line on Low Bottom has shifted again and become very shallow. Crossing this leads on to the sandbank that now covers the northern reaches of the South America bed.
22. Samples were taken from Low Bottom and shells from the larger mussel show signs of stunting in their growth. The Science Team are endeavoring to find a resource to show clearly how to identify mussels in pre-, during and post spawning condition which is proving remarkably difficult. The aim is to regularly analyse mussel from Foulney Ditch and Foulney itself to assess how mussel in this area may be contributing to spawning biomass in the Bay. Considering the lack of larger mussel generally found across the Bay it may provide evidence of its importance to the sustainability of the stock. We are awaiting a date from Bangor University to attend the videoing of such a dissection demonstration.

Foulney mussels

23. There is a mussel cover on Foulney which has not reached size. The bed will be monitored for new settlement and growth of existing mussel.

Mandy Knott, Senior Scientist, 26th April 2018