

MORECAMBE BAY COCKLE AND MUSSEL FISHERY REPORT JUNE 2021

Purpose: To report results of the byelaw 3 consultation on delaying the start of the cockle close season and preparation for possible change to the 2021 cockle close season.

To report on cockle survey and inspections to inform a decision on cockle fisheries in Morecambe Bay 2021.

To report on Mussel survey and inspections to inform a decision on seed mussel fisheries in Morecambe Bay 2021.

To provide a verbal report on the Bivalve Mollusc Working Group consultation via email on potential 2021 seed fisheries.

Recommendation: Approve that the cockle beds in Morecambe Bay remain closed for the rest of NWIFCA Byelaw 3 cockle close season and that on the 1st September 2021, implement NWSFC 16 closure on all cockle beds in Morecambe Bay.

Approve the following fisheries subject to the stock being assessed as ephemeral and subject to HRA:

- a) Open Perch and Black Scar as a permitted dredge seed mussel fishery
- b) Open Heysham Flat as a Byelaw 3 hand gathered seed mussel fishery with the *Sabellaria alveolata* reef outside of the authorised fishing and transiting area.
- c) Open South America as a permitted dredge seed mussel fishery or a permitted dredge seed mussel fishery and Byelaw 3 hand gathered seed mussel fishery.
- d) Open Falklands as a permitted dredge seed mussel fishery if further data requirements have been met on the depth of mud for the fishery to be HRA compliant.

Cockle

1. 2021 Cockle Close Season and Consultation with Byelaw 3 Permit Holders (April)

At the NWIFCA March Authority meeting members discussed the 2021 close season in the context of the EU post Brexit ban on undepurated live bivalve exports from class B shellfish beds to EU countries. As agreed by the Authority a consultation with Byelaw 3 permit holders was carried out asking opinions on a delay to the start of the cockle close season until the end of May.

The consultation from 1st to 9th April 2021 was advertised via the byelaw 3 permit holder's text message service and posted on the website. 13 responses were received with 12 stating the beds should close on 1st May as usual. 1 stating it could be of benefit for the beds to remain open but they would rather see an early opening to the 2021-2 season. After reviewing the responses, the beds closed on 1st May 2021 through the Byelaw 3 close season as usual. Responses also included mixed opinions on opening cockle beds early after the close season.

Any further decisions on the opening of cockle beds in 2021 is dependent on stock surveys of both mussel and cockle, HRA considerations, changes in allowing live bivalve exports to EU countries and changes to bivalve hygiene classifications. The following approach was proposed:

- All Morecambe Bay cockle beds are surveyed in May / early June. Although this is earlier than most years, it will give an indication of adequate stock present to consider an early opening and the potential for fisheries on 1st September should there be insufficient stock to open early.
- All other cockle beds within the district are surveyed in July as normal as there has been no indication of significant cockle stock on these beds to date.
- Any mussel bed data required for the HRA is collected for Morecambe Bay prior to any decision on management.
- Further consultation with byelaw 3 permit holders on any potential changes in management should stocks allow.
- Information on cockle and mussel stocks be provided to TSB with management options, HRA consideration and the current situation with live bivalve exports.

Due to the cancellation of the TSB meeting and therefore no agreement on the recommendation, officers continue to collect the data necessary for a decision to be taken on the potential opening of cockle beds early, with surveys taking place in May and early June.

2. Morecambe Bay Cockle 2021

Full survey results for all surveyed cockle beds within Morecambe Bay are provided in Annex A. A summary of the survey results are provided below in Table 1. There is an estimated 6005-6460 tonnes of size cockle and 710-955 tonnes of undersize cockle over an area of 7089 hectares across the surveyed areas of Morecambe Bay.

Table 2 provided the total estimated biomass of size and undersize cockle within the surveyed areas of Morecambe Bay since 2017. There have been cockle fisheries in Morecambe Bay since 2016. Table 2 indicated which beds were open each year. There is limited data on biomass figures for Morecambe Bay in 2016 when there was a Craam fishery at Leven as the fishery was opened on the likelihood that the cockle was towards the end of its life and would die over the winter.

Table 3 contains mussel data from the two main areas of mussel in Morecambe Bay which has stock present throughout the year and where regular surveys including calculation of biomass have been carried out. Mussel stock on Foulney Skear and the Walney Channel side of Foulney are within the normal variation with mussel beds known to vary in biomass significantly throughout the year due to growth, new settlement and wash out.

Tables 1 and 2 show that although the biomass of size cockle is within the range of biomass figures since 2017 there is a distinct lack of juvenile stock. When comparing the total biomass for the surveyed areas of Morecambe Bay the figure is down 10,000 tonnes compared to

2018-2020 and down 4,000 tonnes compared to 2017. This is seen in the densities of undersize across all of the surveyed cockle beds in Morecambe Bay.

As the surveys were completed in May rather than July it is expected that biomass figures would be lower as the cockles are likely to be in poor condition and have yet to grow through the summer months. The early timing of the surveys means it is unlikely that the survey would assess any 2021 cockle spat. Although if present, any 2021 cockle would not change the total biomass figures significantly as less than 5mm cockle are not used in the undersize density or biomass figures due to the highly variable nature of survivability. The concern is that there is no juvenile stock in any density on any of the beds. It would be expected to see cockle in the 10-20mm size class from a 2020 settlement.

NWIFCA does not have figures for minimum thresholds of total cockle biomass for Morecambe Bay to allow fisheries to open, there are outstanding questions on the location of potential sources of cockle brood stock for Morecambe Bay and cockle survivability of juvenile cockle is highly reliant on environmental factors. Even taking into consideration the above it is recommended due to the lack of juvenile stock across Morecambe Bay, the lack of total cockle biomass compared to previous years, and that there are very few areas with high densities of adult cockle stock, that cockle beds remain closed for the remainder of the closed season and that they do not open on 1st September 2021. This would allow adult cockles to spawn in 2022 should it survive the winter and allow officers to assess if any juvenile stock has survived from any new 2021 cockle settlement.

Table 1: summary of Morecambe Bay cockle stocks May 2021

Cockle Bed	Date of Survey	Area (ha)	Size Cockle (tonnes)¹	Undersize Cockle (tonnes)²
Aldingham and Newbiggin	20th May 2021	1305	1800-1900	200-300
Leven	12th May 2021	1319	600-700	125-150
Flookburgh	11th and 12th May 2021	2240	900-1000	175-225
Warton Sands Main Area	1st June 2021	181.8	55	15-20
Dense Area		8.4	50-55	>5
Middleton Sands	21st May 2021	601	400-450	40-55
Pilling Sands	19th June 2021	1434	2200-2300	150-200
Total		7089	6005-6460	710-955

¹ figures are an estimated biomass based on samples collected by officers, size cockle is defined as cockle which will not pass through a square gauge 20 x 20mm in size

² figures are an estimated biomass based on samples collected by officers, undersize cockle does not include any estimates of cockle less than 5mm due to the high variability of survival of this size class.

Table 2: summary of Morecambe Bay cockle stocks 2017-2021

Year	Beds Opened	All Surveyed Morecambe Bay Cockle Beds			
		Area (ha)	Size Cockle (tonnes) ¹	Undersize Cockle (tonnes) ²	Total Cockle (tonnes)
2021		7089	6005-6460	710-955	6715-7415
2020	Flookburgh, Leven, Pilling and Newbiggin	8085	12580	3975	16555
2019	Flookburgh, Leven, Pilling and Newbiggin	6705	4435	11690	16125
2018 ³	Flookburgh, Leven, Pilling and Newbiggin	6088	6800	10260-10790	17060-17590
2017	Flookburgh, Leven and Pilling	5177	4230	6980	11210

¹ size cockle is defined as cockle which will not pass through a square gauge 20 x 20mm in size

² undersize cockle² does not include any estimates of cockle less than 5mm due to the high variability of survival of this size class.

³ Figure doesn't include stock on Middleton as no biomass figure were produced in 2018 for Middleton

Table 3: summary of Morecambe Bay mussel stocks 2018-2021

Year	Beds Included in Calculations	Month Surveyed	Area (ha)	Size Mussel (tonnes)	Undersize Mussel (tonnes)	Total Mussel (tonnes)
2021	Foulney / Walney Channel	April	75.5	9003	2329	11332
2020	Foulney / Walney Channel	May	72.1	7602	792	8394
2019	Foulney / Walney Channel	March	71	4369	4354	8723
2018	Foulney / Walney Channel	May and September	88.3	1047	12521	13568

* 2017 biomass data incomplete as only the main skear on Foulney was surveyed via this method.

3. Cockle Beds outside of Morecambe Bay

Officers will continue to survey the rest of the district cockle beds but there has been no early indication of significant stock present elsewhere within the district.

Mussel

4. Consultation with Bivalve Mollusc Working Group (BMWG)

Officers have decided this year, rather than hold a meeting to discuss options, due to Covid restrictions and because last years' meetings were relatively unproductive, all correspondence would be carried out via email. An email was sent to members of BMWG on 18th June with the most up to date information on mussel stocks provided. Officers provided recommendation of potential fisheries and the method of fishing (dredge or hand gathered). Officers stated that all recommendation are subject to the stock being assessed as ephemeral, completion of HRA with Natural England advice, and approval by TSB. BMWG members were asked to provide comment on the recommendation by 24th June so officers can provide a verbal update on the response of industry at the TSB meeting.

5. Morecambe Bay Seed Mussel

A full mussel survey and inspection report has been provided in Annex B. There are a number of potential seed mussel fisheries around Morecambe Bay. All seed mussel fisheries are dependent on the mussel being assessed as ephemeral, the agreed definition of ephemeral has been provided in Annex C. It is too early to assess the ephemerality of the stock now but the next planned meeting of TSB on 17th August will likely be too late for a decision to be taken. As experienced in previous years seed mussel fisheries can be a contentious matter and therefore requires a public meeting where members of the public can attend. To reduce the requirement for another extraordinary TSB meeting during the Covid pandemic, and to reduce the possibility of mussel resource being lost due to the time it takes to organise and hold a meeting, officers have made recommendations based on the recent history of the mussel beds. Recommendations are subject to the stock being assessed as ephemeral, and completion of a HRA with formal advice received from Natural England. If agreed, officers can provide an email update to TSB with evidence of ephemerality to show that the criteria has been met to issue permits / authorisation. This approach should allow for a quick turnaround time from assessing the stock, completing a HRA, getting Natural England advice and issuing permits / authorisations but ensuring that the authority has met the requirement for contentious issues to be discussed in a public meeting. If the condition of the mussel is assessed as not being ephemeral, no further action is required.

A summary of the potential seed mussel fisheries and recommendation to the method of fishing has been provided below:

Perch and Black Scar

Both scars have received a dense mussel settlement as in previous years. It is proposed they are opened as a permitted dredge seed mussel fishery.

Heysham Flat

A large proportion of the skear is covered with *Sabellaria alveolata* which appear not to have a mussel settlement on it. The part of the skear inshore of the *Sabellaria alveolata* has received a dense mussel settlement. It is proposed that a hand gathered seed mussel fishery is authorised excluding the area of *Sabellaria alveolata*.

South America

The area has received a number of dense mussel settlements and is or a similar size to last year. Some mussel has persisted through from 2020. In 2020 the resource was split 50/50 between dredge permit holders and byelaw 3 permit holders. Last year there was disagreement over the stock being classified as ephemeral. A consequence to this was the delay in opening the bed which coincided with bad weather that meant a large proportion of the stock was washed away. The dredge area was reduced in size before the opening of the fishery due to the mussel and mussel mud being washed away exposing hard substrate. Approximately 5 tonnes of seed was removed by dredge. The stock

which remained was never fished by byelaw 3 permit holders. Although some stock has persisted through the winter there is potential that the 2021 will grow and smother what remains as seen on other beds (Heysham). As the situation has changed significantly over the last 6 months with shellfish exports and with the NWIFCA officer recommendation that cockle beds remain closed in Morecambe Bay (decision to be taken on 30th June 2021) the demand for a hand gathered seed mussel fishery maybe higher or lower than in previous years. It is recommended that a decision be taken to either open as dredge fishery or as a dredge and hand gathered fishery depending on the outcome of the consultation with the BMWG.

Falklands

There has been a number of dense settlements with a large proportion of the mussel settled on *Sabellaria alveolata* reef. Whilst some of the *Sabellaria alveolata* may die if the mussel puts down further mussel mud, it is important that the underlying 3D reef structure is protected for future colonisation of the species. Initial discussions with Natural England indicates that a fishery may be possible, subject to HRA with further data requirement to show that there is significant mussel mud to ensure there is no damage to the underlying 3D structure. It is recommended that it is a dredge fishery due to location.

6. Duddon Estuary

There is an area of mussel in the channel in a similar location to 2014-2015 fishery with a mix of size classes thought to be from 2020 and 2021. Officers will continue to inspect the area and proceed as necessary if a size fishery looks likely.

**NWIFCA
17th June 2021**