

NWIFCA Technical, Science and Byelaw Committee

1st February 2022: 10:00 a.m.

**Agenda Item
6**

SURVEY AND INSPECTION REPORT

Purpose: To report survey and inspections in the last quarter.

Recommendation: Approve the following:

- a) Receive the report
- b) To agree to the proposed survey schedule for 2022

1. MUSSELS

No further surveys or inspections have taken place since the last report

a) Duddon Estuary Mussel Fishery HRA

NWIFCA, Natural England and the National Trust had a site visit to discuss access to the fishery and potential for damage to Natterjack Toads. Natterjack toads are listed as a protected species in the SSSI and Ramsar designations and therefore were considered in the HRA.

The byway and access onto the beach has changed considerably since the last fishery a large shingle bank has formed on the top of the shore, creating large pools of water which are used by Natterjack toads in the spring and early summer during breeding, and in the early part of life cycle of the species. In discussion with local agencies, it was proposed Lowsey Point be the only access during the Natterjack breeding season. Access from Sandscale Haws would be possible outside of the breeding season (March to July). The HRA was submitted and found the fishery to be HRA compliant under these conditions.

2. COCKLES

a) Leasowe

In the TSB meeting on the 2nd of November 2021, it was proposed that the Leasowe cockle bed be re-surveyed to identify whether stocks had grown on to size in the 4 months since the previous survey in July. The Leasowe cockle beds were re-surveyed 10th of November 2021, the results of which are presented in both the 'Survey note' and 'Leasowe Cockle bed Update Report' provided in the Annex1 to this report. These documents were disseminated to TSB members on the 2nd of December 2021.

In summary, there was no increase in the biomass and density of sizeable cockles in the November surveys in comparison to the July surveys. The information and assumptions used to determine whether the fishery was HRA compliant in August had not changed. Due to the low levels of sizeable stock in comparison to previous years, the fishery was not considered HRA compliant.

b) 2022 Survey schedule

NWIFCA will shortly be determining the cockle survey schedule for 2022. The early survey schedule undertaken in 2021 caused intensive and concentrated survey timings, interaction with mussel survey scheduling and lead to subsequent re-surveying requests in the autumn.

NWIFCA propose that the survey schedule for 2022 reflect the longstanding survey schedule in place prior to 2021 and ask for the committee's agreement.

c) Newbiggin and Pilling Sands HRA review

At the TSB meeting held on the 2nd of November it was proposed that NWIFCA should review the HRA to take into consideration the predictions from industry that a limited number of individuals will take part in activities, and, under these circumstances, identify whether a fishery at both Newbiggin and Pilling Sands would be HRA compliant.

A review was conducted and submitted to Natural England on the 20th of December 2021. The review letter is provided in Annex 2. In summary, the review concluded that the concerns over low cockle stock biomass, density requirements for protected bird species, and availability of undersized cockles for knot had not changed from the previous HRA submitted on July 5th. Therefore, opening Pilling Sands and Newbiggin was not HRA compliant. Newbiggin was to remain closed, and Pilling Sands to remain open. Natural England responded on the 6th of January to state they agreed with our findings. The response letter is also included in Annex 2.

NWIFCA, 19th January 2022

Annex 1

Leasowe Cockle Survey 10-11-21

Officers present: MC, JH, AB, MB

Tides: LW 09:14 2.5m (Liverpool tides)

Survey method - Jumbo and 0.5m²

63 survey stations were sampled overall, 60 from a 250m grid with an additional 3 stations added for coverage. Two of these additional stations were surveyed to include a small area identified by IFCOs in 2020 known to hold a high density of cockles near Leasowe lighthouse. Due to the location of the tide at low water several of the survey stations from the grid could not be sampled. The density of size cockle across the main bed area had decreased slightly since the bed was last surveyed in July 2021, and was situated in a similar area high up the beach in a band running along the bed on the upper shore. A small patch (approximately 1.898 hectares) in the area near the lighthouse held a high density of undersize cockles, and two sites were visited during this survey. Size cockle in the lighthouse area had decreased in density since July 2021.

Undersize cockle was distributed across the main bed area on the upper shore in higher densities than July 2021, but no 0-5mm cockle spat was present. The majority of undersize stock has grown on and was in the 15-20mm size class.

Means

Means were calculated from all stations with zero counts on the edge of the bed removed. Less than 5mm cockle was not used in the undersize figures due to the high variable survivability of cockle at this small size but has been included as a separate figure. Due to the distance from the main bed, the area by the lighthouse is presented separately.

Main bed area

Mean number of size cockle	4 per m ²	(min 0, max 32)
Mean number of undersize cockle	53 per m ²	(min 0, max 466)
Mean number of 0-5mm cockle	0 per m ²	(min 0, max 0)

Lighthouse area*

Mean number of size cockle	9 per m ²
Mean number of undersize cockle	507 per m ²
Mean number of 0-5mm cockle	0 per m ²

*2 survey stations.

Maps

Maps were created showing the overall survey area, density of size cockle, density of undersize cockle (excluding cockles in the 0-5mm size range), and the frequency of size classes (pie charts show the frequency of different size classes, the size of the pie chart indicates the total density of cockles present). No map was created for density of 0-5mm size class as none were found on this survey.

Biomass

Biomass was calculated for each of the areas as identified by the means calculations.

Biomass	Area (ha)	Size Cockle (tonnes) ¹	Undersize Cockle (tonnes) ²
Main Bed Area	254.9 ha	~200-225	~215-240
Lighthouse Area	1.898 ha	~2-4	~12-16
Totals	256.798 ha	~229	~256

¹In regards to biomass size cockle defined as cockle which will not pass through a square gauge 20 x 20mm in size.

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

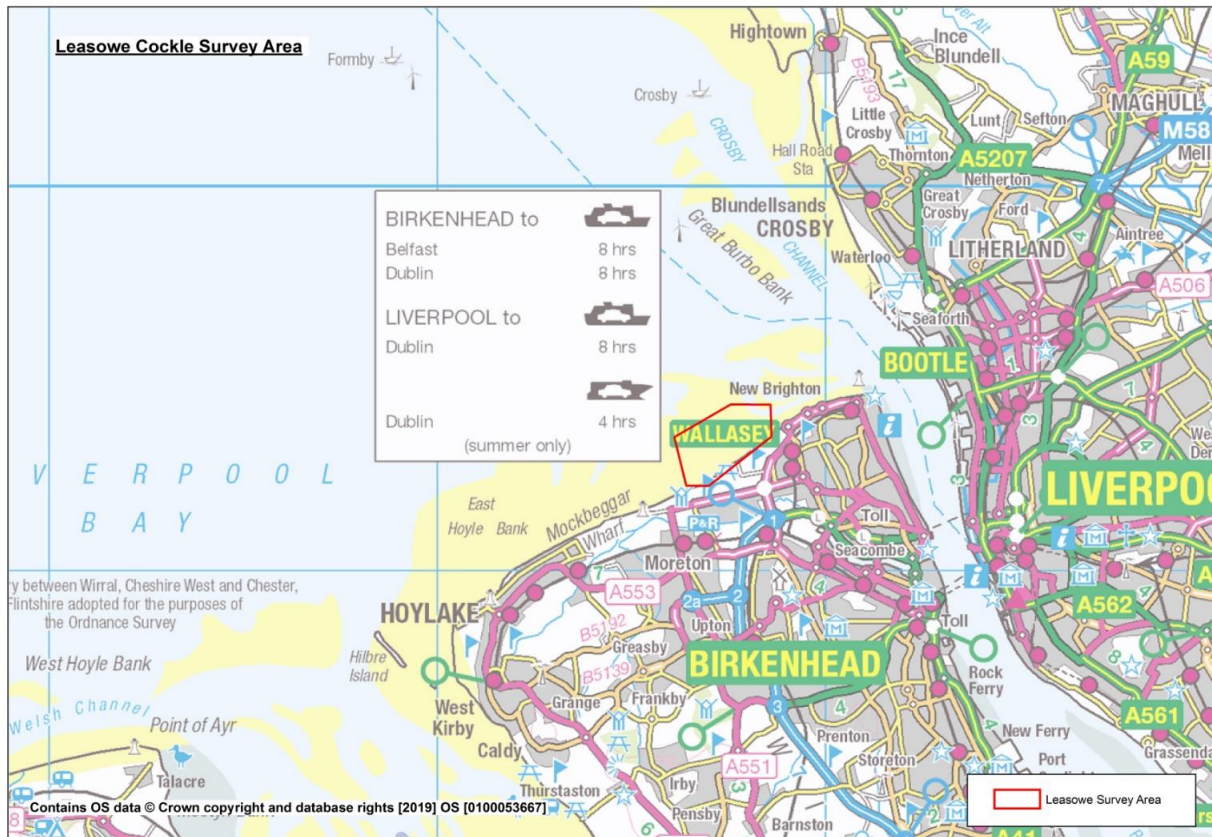
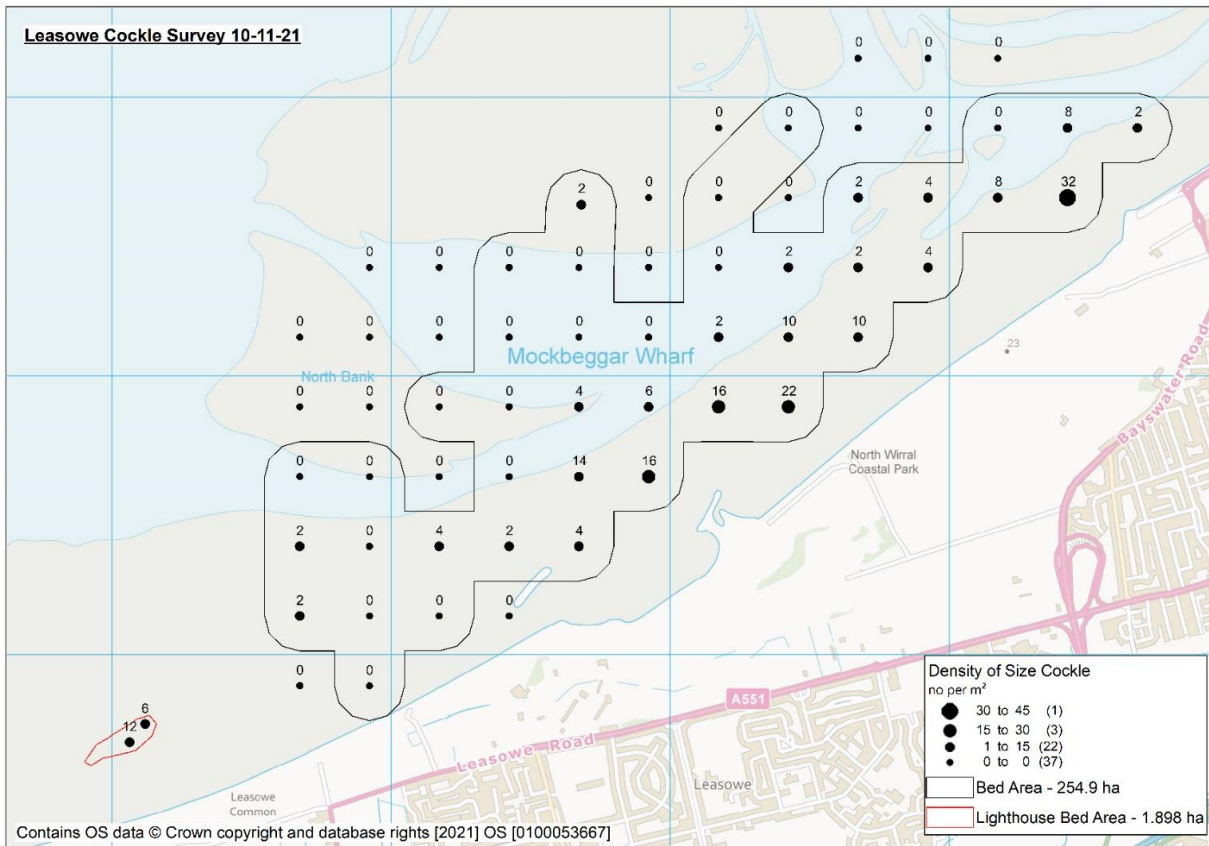
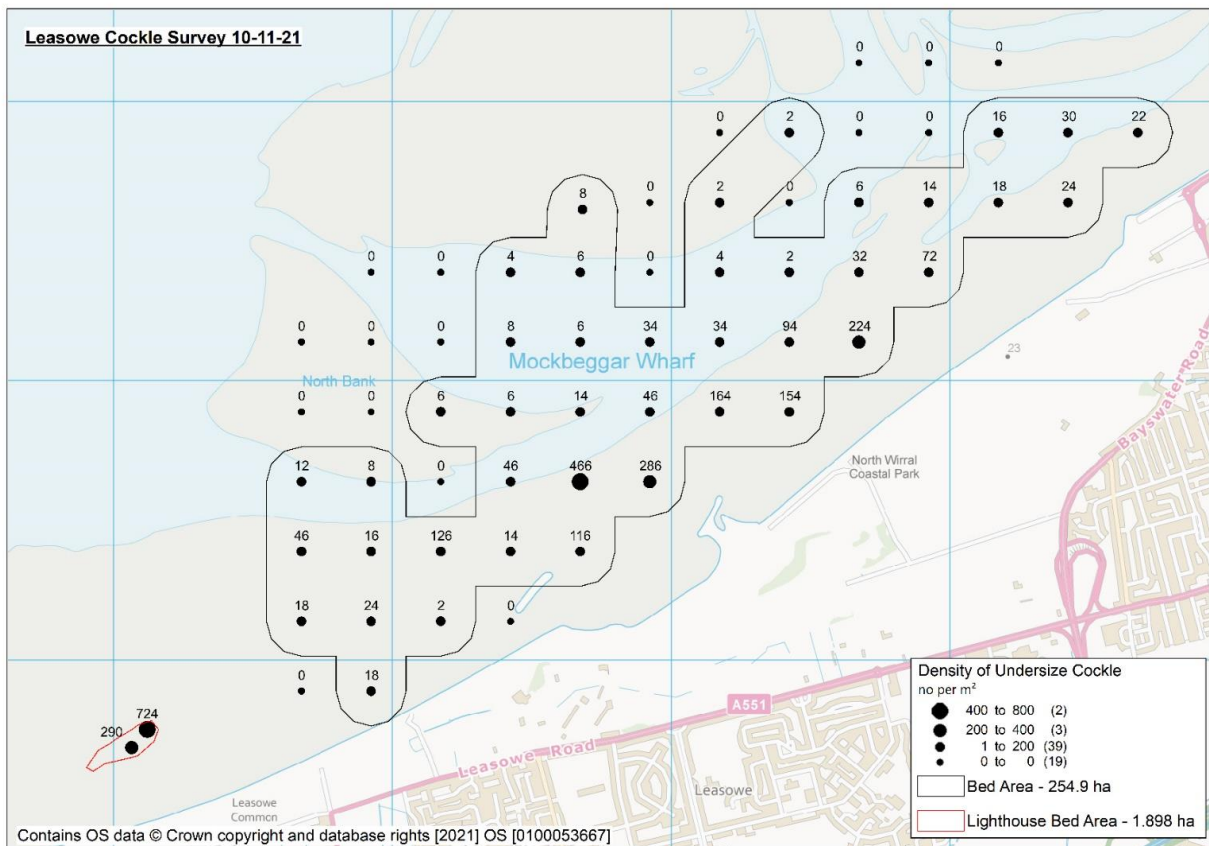


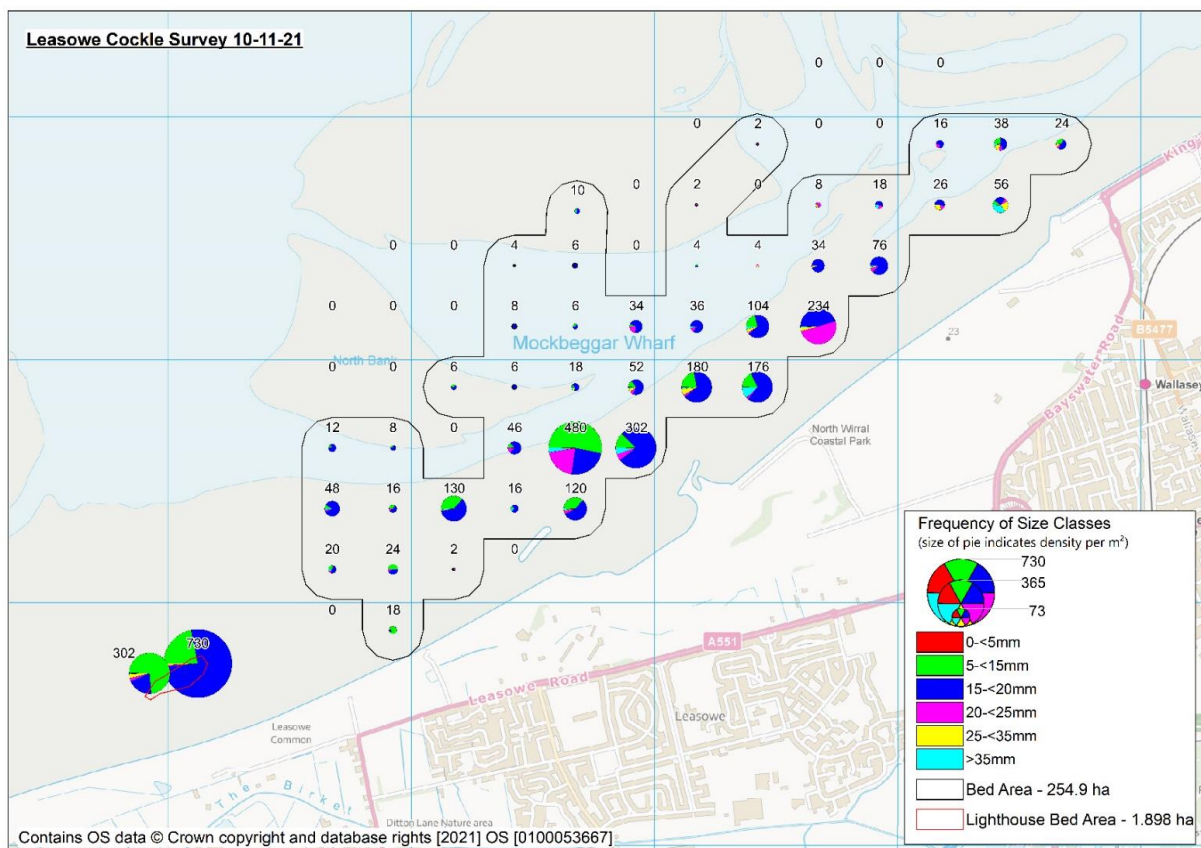
Illustration of position of Leasowe cockle bed.



Density of size cockle per m² Leasowe November 2021.



Density of undersize cockle per m² Leasowe November 2021.



Frequency of size classes of cockle per m² Leasowe November 2021.

Leasowe Cockle Bed Update November 2021

Reason for Survey:

The Leasowe cockle bed survey was undertaken on the 15th of July 2021. The results were presented to Technical Science and Byelaw (TSB) at the committee meeting of the 17th of August 2021. The recommendation at the time was for the bed to be closed on 1st of September following the closed season. This recommendation was based on the survey results and previous year's data on stock levels. The decision to close the bed was agreed by members at the August TSB meeting and detailed in the meeting minutes.

Subsequently, in the TSB meeting on the 2nd of November 2021, it was proposed that the Leasowe cockle bed be re-surveyed to identify whether stocks had grown on to size in the 4 months since the previous survey. The Leasowe cockle beds were re-surveyed 10th of November 2021, the results of which are presented in the survey note provided. The information presented in this report provides a comparison between the cockle stocks identified in July and November surveys to fulfil the motion for officers to re-survey Leasowe cockle beds and identify whether stocks have grown on since the summer.

Comparison of survey data from July 2021 and November 2021:

Size cockles

Table 1 provides a summary of the cockle data (bed area, biomass and density) of the main cockle bed at Leasowe, as well as a small area near the lighthouse, which in recent years has received a dense settlement. The main bed area has increased in size by 50 hectares since the July survey, the additional area consists mainly of undersize cockle. The estimated biomass of size cockle has decreased by 125-150 tonnes from 350 tonnes in July to 200-225 tonnes in November. This is due to a reduction in the average density of size cockles from 9 per m² to 4 per m². There were no differences between the minimum density, and a slight decrease in maximum density from 34 per m² to 32 per m² of sizeable cockle between the July and November survey.

Undersize cockles

The estimated biomass for undersize cockle increased by approximately 200 to 225 tonnes. This is due to the increase in the length of undersize cockle from growth since July 2021. In July, the majority of the undersize cockle was split between the 0-5mm and 5-15mm size category, with the 0-5mm not being included in biomass calculation due to the high variability of survival.

The November survey shows there has been growth of the undersized cockle biomass from 16 to 215-240 tonnes. There has also been an increase in both the average and maximum number of undersize cockle per m² within the survey, with the average density increasing from 34 to 53 and the maximum density increasing from 242 to 466. The number of 0-5mm cockle has decreased to 0, as expected with the growth of cockle. No further comparison of the lighthouse area other than the data provided in table 1 has been provided due to the low biomass figures.

Table 1: summary of survey data of Leasowe cockle bed from July and November 2021

	Main Bed		Lighthouse Area	
	July 2021	Nov 2021	July 2021	Nov 2021
Bed Area	205	255	1.2	1.9
Size Cockle Biomass	350	200-225	17	>5
Undersize Cockle Biomass	16	215-240	0.5	12-16

Size Cockle per m²	Min	0	0	78	9
	Average	9	4		
	Max	34	32		
Undersize Cockle per m²	Min	0	0	54	507
	Average	34	53		
	Max	242	466		
0-5mm Cockle per m²	Min	0	0	40	0
	Average	32	0		
	Max	400	0		

Recent history of fishery including stock left as bird food mitigation in years when a fishery has been opened at Leasowe:

Below is a brief overview of the historical stock levels of Leasowe cockle bed from past annual surveys. Rationale is provided for whether the fishery was opened or closed based on these stock levels and TAC calculations to ensure bird food requirements where met.

2017 Fishery Opened: NWIFCA biomass figures, 3523 tonnes of size cockle and 293 tonnes of undersize, TAC of 2632 tonnes. Biomass left for bird food requirements based on calculations by NWIFCA and NE - 891 tonnes of size and 293 tonnes of undersize.

2018 No Fishery: Survey carried out in April 2018 to check TAC figures for 2017/18 fishery. The survey was followed up by an inspection later in the year, where a dense settlement was reported. No biomass figures for the inspection were calculated.

2019 Fishery Opened: NWIFCA biomass figures, 1200 tonnes of size and 500 tonnes of undersize, TAC of 400 tonnes. Biomass left for bird food requirements based on calculations by NWIFCA and NE - 800 tonnes of size with the basis that the majority of undersize cockle would remain on the bed for the bird species feeding on smaller cockle (knot) of 500 tonnes.

2020 No Fishery: NWIFCA biomass 607 tonnes of size and 20 tonnes of undersize. The officers recommendation was that the bed closed on 1st September due to insufficient stock for a fishery to be HRA compliant. TSB committee resolved to close the bed.

2021 No Fishery: NWIFCA biomass 350 tonnes of size cockle and 16 tonnes of undersize. Officers recommendation was to close the bed on 1st of September due to insufficient stock for a fishery to be HRA compliant. TSB committee resolved to close the bed on 1st of September. TSB voted to re-survey the beds based on possible growing on of undersize cockles to sizeable. November surveys identified the biomass of size cockles to be 200-225 tonnes and undersize to be 215-240 tonnes.

Conclusion:

There is no increase in the biomass and density of sizeable cockles in the November surveys in comparison to the July surveys.

The information and assumptions used to determine whether the fishery was HRA compliant in August have not changed.

Due to the low levels of sizeable stock in comparison to previous years the fishery is not considered HRA compliant.

Annex 2

NORTH WESTERN INSHORE FISHERIES AND CONSERVATION AUTHORITY



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20th December 2021

BY EMAIL

Morecambe Bay Cockle Fishery Habitats Regulation Assessment Review:

Dear Laurence Browning,

The North Western Inshore Fisheries and Conservation Authority (NWIFCA) is the relevant body for the regulation of inshore sea fisheries within its District and has a range of duties including ensuring the sustainable exploitation of sea fisheries resources and protection of the marine environment from sea fishing activities.

NWIFCA submitted the Morecambe Bay cockle Habitats Regulation Assessment (HRA) on July 5th 2021. In the assessment, Piling Sands cockle bed was proposed to be opened to hand gathering once confirmed to be HRA compliant by NE, and Newbiggin to be opened on the 1st of September. The remaining cockle beds in the bay (Aldingham, Flookburgh, Leven, Middleton and Warton) have been closed due to low cockle biomass levels compared with previous years. The purpose of the Newbiggin and Pilling Sands assessment was to identify whether the activities associated with opening the cockle beds would affect the integrity of the Morecambe Bay European Marine Site's designated features.

The HRA determined that opening both beds had the potential to effect the integrity of the site by impacting non-target bird species. The rationale behind this conclusion was based on the following information:

- 1) NWIFCA annual cockle surveys identified a significant reduction in the biomass of both undersized and sizeable cockle stocks compared to the previous years; and
- 2) Without clear knowledge of the volume and density of cockles required to support overwintering birds there were concerns that removal of stocks would result in a lack of resource for bivalve eating SPA bird features.

In addition, the low spat fall and biomass of the previous year's undersize cockle that have survived the winter is of concern regarding the following year's sizeable stock availability. Though sizeable, older cockle may perish during the winter months, some will survive which will be required to contribute to the following year's recruitment cohort.

To mitigate this impact, but ensure cockle fishing could continue, it was determined that the Newbiggin cockle bed remain closed to serve as a food source for overwintering birds protected under the SPA designation.

Under these conditions, NE deemed the fishery to be HRA compliant (Ref: NE Letter 359004, 6th September 2021).

Technical, Science and Byelaw Meeting:

Subsequently, on the 2nd of November 2021, the Technical Science and Byelaw (TSB) Committee discussed the conclusion of the HRA and individual members raised the following concerns:

- 1) The assessment did not accurately represent the number of permit holders that would take part in the fishery on Newbiggin and Pilling. Their reasoning was that cockle cooking plants closed in December and the live market would only be available to those who have access to purification tanks which is a small number of permit holders;
- 2) The biomass of sizeable cockles surveyed may be higher than those identified in the 2021 surveys. The surveys were carried out by NWIFCA officers 6 to 8 weeks earlier than usual due to requests from industry to access Pilling cockle beds for live export markets. It is, therefore, possible that the number of sizeable cockles have increased during the interim period; and
- 3) The dependence of protected bird species on the sites cockle stocks is unknown. There are a variety of other bivalve species in the bay which they could utilise as an alternative food source.

It was then proposed, and voted upon, that NWIFCA should review the HRA as it pertains to point 1, taking into consideration the predictions from industry that a limited number of individuals will take part in activities, and, under these circumstances, identify whether a fishery at both Newbiggin and Pilling Sands would be HRA compliant.

The following information is provided as a review of the HRA to carry out the motion passed at TSB. We welcome NE's consideration of the additional information and recommendations regarding the fisheries interaction with the designated site's features.

Review of number of permit holder numbers accessing the site:

European Marine Sites are protected under the Conservation of Habitats and Species Regulations 2019. Under this legislation regulators are required to consider the effect of an activity on the designated features, and it is common practice to consider the realistic worst case scenario when doing so. In the HRA submitted July 5th 2021, the maximum number of 137 permit holders who have the potential to access the site was considered the worst case scenario. However, on paragraph 3, under section 6.1.2 (ii), the assessment considers 20-60 permit holders to be a more likely scenario for the season across both Newbiggin and Pilling Sands cockle beds. This number was based on officer knowledge and previous year's enforcement data.

This year, cooking plants will close from the 17th of December until the spring, and it is, therefore, likely that only individuals with access to purification tanks will utilise the site to gather large cockles for the winter live markets. The maximum number of individuals with either direct access to purification tanks, or will sell on to tank owners is approximately six to ten individuals. Previous year's data shows the number of permit holders fishing Newbiggin from December 2020 to May 2021 was from 1 to 3. Over the same time scale the number of permit holders fishing Pilling was from 1 to 5. Newbiggin was fished an average of 4 hours a day, for 27 days out of the five months. Pilling was fished for an average of 8 hours a day for 29 days over the same period. During this time, additional cockle beds in the bay such as Flookburgh were open where significantly larger numbers of permit holders fished. It is likely that similar levels of fishing activity will be seen for both Pilling Sands and

Newbiggin, however, it is possible that permit holders that fished on other beds in previous years will access Newbiggin given they are closed this year.

Outstanding considerations:

The proposal to review the HRA based on the number of individuals targeting the site does not capture additional factors which contributed to NWIFCA's decision to propose Newbiggin cockle bed as mitigation for Pilling Sands.

NWIFCA annual cockle surveys identified a reduction in both the biomass and number of high density patches of cockles across Morecambe Bay. This information is detailed in the HRA and was been provided to NE for further analysis on the 27th of July. The closing of Newbiggin allowed for Pilling Sands to be within the envelope of previously HRA compliant fisheries with regards to; stock biomass and density for protected bird species, and availability of undersized cockles for knot (Ref: NE Letter 359004, 6th September 2021). As none of these concerns have changed, NWIFCA are not confident that opening the Newbiggin fishery in addition to Pilling Sands will sufficiently protect the Morecambe Bay SPA bird features. We ask NE to confirm where their position stands on the HRA given the new information provided here.

Further research:

A key issue in making confident management decisions regarding the Morecambe Bay cockle fishery has been the lack of information on bird food requirements. This information is critical to determining the impact of fishing activity on the designated bird features of the site.

Outstanding knowledge gaps that require further research in order to build confidence in future decision making are:

- 1) Cockle size preference of feeding birds;
- 2) The minimum cockle density required to support birds;
- 3) Minimum cockle biomass required as an energy source to support over-wintering birds;
- 4) Minimum cockle biomass required to re-populate the following years fishery;
- 5) Bird food preferences for, and diet composition of, other bivalve species; and
- 6) The potential benefits of cockle fishing activities for the bird populations.

Going forward, we ask that NE, NWIFCA and industry work jointly to address these outstanding concerns and develop agreed parameters to provide greater confidence in future decisions that both ensure the protection of designated species, and sustain viable fisheries for the local industry.

Yours sincerely,

NWIFCA

Date: 06 January 2022
Our ref: 379003
Your ref: Morecambe Bay Cockle Fishery Habitats Regulation Assessment Review



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BY EMAIL ONLY

Dear Anna Plumeridge

Morecambe Bay Cockle Fishery Habitats Regulation Assessment Review

Thank you for your consultation dated 20 December 2021. The following constitutes Natural England's formal statutory response.

The Conservation of Habitats and Species Regulations 2017 (as amended) and The Conservation of Offshore Marine Habitats and Species Regulations 2017 (as amended)

Appropriate assessment

We note that your authority, as competent authority under the provisions of the Habitats Regulations, has undertaken an Appropriate Assessment of the original proposal in accordance with Regulation 63 of the Regulations. It is this Appropriate Assessment which has been proposed for review on the basis of factors concerning the industry as outlined in your letter.

Natural England is a statutory consultee on the Appropriate Assessment stage of the Habitats Regulations Assessment process. NE provided advice (Ref: 359004, 6th September 2021) on the original appropriate assessment which confirmed that the Pilling Sands cockle bed may be fished, but that the Newbiggin cockle bed should remain closed as a mitigation measure.

Natural England concurs with the NWIFCA's view that the environmental concerns and evidence have not changed sufficiently to alter the conclusion outlined above.

Other Relevant Matters

Natural England welcomes the proposal to address outstanding research concerns and develop agreed parameters for future decision making and looks forward to further engagement on this work.

For any queries relating to the content of this letter please contact me using the details provided below.

Yours sincerely
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