Morecambe Bay Cockle Fisheries Habitats Regulations Assessment 8th October - 30th April 2019

Introduction

There is a long history of management of hand-gathered cockle fisheries in Morecambe Bay and specifically on Flookburgh / Leven Sands and Pilling cockle beds. The NWIFCA has carried out Habitats Regulations Assessments for this fishery each time it has been opened since 2016. The most recent HRAs are available on the NWIFCA website: https://www.nw-ifca.gov.uk/marine-protected-areas/hra/ These contain lengthy detail about the nature of the fisheries, the variability of the stock, the conservation features for which the site is designated, their conservation status, the potential risks fishing activity could pose to the features, along with detail on potential impacts, vulnerability, and features' exposure to pressures. Finally the HRAs contain detail of the management (byelaws, and specific measures for each year depending on circumstances of the management and the stock) to ensure no risk to the integrity of the European Site.

Considering the history of these fisheries there seems little point in producing a lengthy document which repeats the information contained in previous versions. The NWIFCA has taken the approach to summarise the factors that have changed for September 2018, and carry out an Appropriate Assessment on these. This is provided in concise format below.

Please refer to the HRA for these cockle fisheries carried out for 2017 for the most up-to-date detailed information on other factors that are not covered in this document: **NWIFCA-MB-EMS-2017.**

1. Change to Site Information

Addition of Wyre – Lune recommended Marine Conservation Zone (MCZ). The site is designated for smelt (*Osmerus eperlanus*). The Pilling cockle bed is within the rMCZ but due to the nature of the activity (intertidal hand-gathered cockle fisheries) it is extremely unlikely that there will be any impact on smelt from the fishery.

Updated conservation advice for Morecambe Bay and Duddon Estuary SPA. Changes specific to the HRA;-

• Grey plover, dunlin, sanderling and turnstone have a restore target for population due to declines in population exceeding regional and national trends.

2. Information about the fishing activity within the site

Regulation of Hand-gathering – change in number of permit holders

There are currently 106 NWIFCA Byelaw 3 permit holders with a possible eleven still to renew, giving a maximum 127 permit holders for 2018/2019 (correct 17-09-18). This is a reduction from the maximum 131 permit holders in 2017/2018.

3. Current Status of Cockle Stocks to be Fished

For all survey results below:

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.

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), the density of the 0-5mm size class 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).

In regards to biomass size cockle is defined as cockle which will not pass through a square gauge 20 x 20mm in size. The 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 although there are large areas of with this size class on the bed.

Newbiggin Cockle Survey 17-04-18

31 stations were sampled from the 500m grid with an extra station added between points where a high density of cockles was reported to officers. Size cockle were located throughout the bed, excluding 5 stations with no presence of sized cockle, with 16 stations containing cockles in the size category of >35mm indicating these are old cockles.

Mean number of size cockle:	23 per m ² (min. 0, max 60)
Mean number of undersize cockle:	13 per m ² (min 0, max 42)

	Area (ha)	Size Cockle (tonnes) ¹	Undersize Cockle (tonnes)
Newbiggin	295	~700	~100







Flookburgh Cockle Survey 13-08-18 & 12-09-18

156 stations were sampled from a grid 500m apart. One additional station was added to ensure full coverage. A further seven points were added within the grid to include specific areas which were highlighted by industry as having large cockle present.

The density of size cockle across the bed is relatively low with small areas with a higher density of size cockle. The bed has received a good settlement of spat, which varies from 5mm shell length at the top of the bed to 15-17mm at the bottom of the bed.

Mean number of size cockle	7 per m²	(min 0 <i>,</i> max 70)
Mean number of undersize cockle	267 per m²	(min 0, max 3600)
Mean number of 0-5mm cockle	50 per m²	(min 0, max 600)

	Area (ha)	Size Cockle (tonnes) ¹	Undersize Cockle (tonnes)
Flookburgh	3614	~2700	~9600





Flookburgh Cockle Survey	13-08-18 & 12-	09-18 Viat 4						10	
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Contains Ordinance Survey data ©	Crown Copyright a	nd database rights 20	18						Bed Area 3614 ha



Leven cockle Survey 17-07-18

74 stations were sampled from a grid 500m apart. Six additional stations were added to assess the extent of observed spat.

The density of size cockle across the bed is relatively low with a slight increase of size cockle present in an area at the southern end of the bed. Spat was observed across approximately half of the bed at varying densities from less than 10 per m² to approximately 400 per m².

Mean number of size cockle:	11 per m ²	(min 0, max 38)
Mean number of undersize cockle:	5 per m ²	(min 0, max 13)

	Area (ha)	Size Cockle (tonnes) ¹	Undersize Cockle (tonnes)
Leven	923.5	~1200	~60-90







Pilling cockle survey 28-08-2018

61 survey stations were sampled from a 500m grid. Five additional points were added to explore the northern and western extent of the bed. Ground conditions were too soft for officers to further explore the bed edge on the eastern side. An area of more dense size cockle was identified towards the north eastern area of the bed but overall the density of size cockle was low. There was good amount of spat across the bed, both in the 0-5mm and 5-15mm size classes. Oystercatchers and gulls were observed feeding on the bed.

Mean number of size cockle:	21 per m²	(min 0, max 192)
Mean number of undersize cockle:	112 per m²	(min 0, max 762)

	Area (ha)	Size Cockle (tonnes) ¹	Undersize Cockle (tonnes)
Pilling	1256	~2200	~500-1000







4. Proposal

The proposal is to authorise the removal of size cockles in a hand-gathered cockle fishery at Newbiggin, Leven, Flookburgh and Pilling cockle beds within Morecambe Bay, to open 8th October 2018 until the closed season starts on 30th April 2018 unless closed by NWIFCA prior to this date for management reasons. The fishery can operate on all days and on any tide due to the size of the beds and the location of the stock. Due to the mix of 2018 spat and size cockle in some areas the proposal is for a craam only fishery with the use of a restricted sized jumbo / tamp, is to protect the juvenile stock. Within the authorisation there are specific access, parking and tonning up restrictions for the Leven, Flookburgh and Pilling cockle beds. The full authorisation can be found in Annex A. All other cockle beds in the Bay and District-wide will be closed under Byelaw 13a.

5. Test for Likely Significant Effect (LSE)

- No change to table within 2017 HRA.

6. Appropriate Assessment

a) Removal of target species - Intertidal sand and muddy sand, mixed and coarse sediments only

Surveys have been carried out on cockle and mussel beds across Morecambe Bay and a summary of results are provided below in the table. Detailed results in regards to all four beds are above in section 3.

			SACFOR	SACFOR Size	SACFOR	Average Undersize Cockle	Average Size Cockle	Estimated Undersize Cockle	Estimated Size Cockle
Bed Name	Month	Area (ha)	Size class <10mm	class 10 - 30mm	Size class >30mm	Density (m²)	Density (m²)	Biomass (tonnes) ¹	Biomass (tonnes) ²
Middleton Sands (main bed)	Jul	639	Common	Frequent	Common	3	7	Not calculated	Not calculated
Middleton Sands (dense area of cockle)	Jul	4	Rare	Rare	Super abundant	5	473	Not calculated	Not calculated
Pilling Sands	Aug	1256	Frequent	Common	Common	112	21	~500- 1000	~2200
Flookburgh	Aug- Sep	3614	Frequent	Common	Common	267	7	~9600	~2700
Leven Sands	Jul	923	Common	Frequent	Common	5	11	~60-90	~1200
Duddon Estuary		Limited Stock Present							
Warton Sands		Limited Stock Present							
Newbiggin	Apr	295	Rare	Abundant	Abundant	13	23	~100	~700
Aldingham				Li	imited Stock	Present			

¹In regards to biomass size cockle defined as a cockle which can pass through a 20x20mm square gauge.

² The average number of undersize and the biomass of undersize cockle does not include cockle of less than 5mm due to the high variability of survival of this size class although there are large areas of with this size class on the beds.

Byelaw 3 permit holders have to fill in monthly returns and submit them to NWIFCA. The returns include such detail as catch quantity and which tides were fished. A summary from the Flookburgh / Leven and Pilling cockle fisheries in 2017/2018 season. It is expect that there will be less effort and catch due to the reduced number of size cockle and it being a craam only fishery.

Fishery (Sep-Apr)	Flookburgh and Leven	Pilling
Average Landing per Month (tonnes)	140	31
Average Number of Permit Holders fishing per day	16 (min 0, max 46)	5 (min 0, max 20)

All other cockle beds in Morecambe Bay are currently closed under NWSFC 13a Cockle and Mussel - Management of the Fishery, ensuring that the other cockle beds will not be fished. This will leave cockles of varying size classes and densities on the closed beds. It is likely that there will be areas of the opened beds that will remain un-fished particularly large areas of Pilling, and the lower parts of Flookburgh and toward Humphrey Head, as operators will target areas with the greatest concentration of size cockle. Risks to conservation features are considered minimal due to the size of the beds, the number of Byelaw 3 permits holders, the predicted effort, the restrictions in fishing methods, the patchy nature of size cockles and the amount of undersize cockle on most beds around the Bay.

On Newbiggin, Leven, Flookburgh and Pilling there are approximately 10,000 tonnes of undersize stock, some of which will grow to size before the closed season in May 2018 and therefore fishable, but the majority remaining on the bed. Most of the size cockle on all of the beds is large cockle and much greater than the MLS, indicating an age of 3 years. The typical life span of cockle in Morecambe bay is three years, meaning the majority of the cockle is towards the end of its life and unlikely to survive and spawn in 2019.

The NWIFCA is confident that the removal of target species from the intertidal sand and muddy sand, mixed and coarse sediments sub features will have no risk of adverse effect on the integrity or conservation status of the site.

b) <u>Removal of target species (cockles)</u> for all shore feeding SPA features that feed on infaunal molluscs.

The table below provides information on mussel stock status in Morecambe Bay.

			Densities			Percentage	Cover		
		Area	Size Class c	Size Class	Size Class >	Size Class c	Size Class	Size Class >	Biomass
Bed Name	Month	(ha)	10mm	30mm	30mm	10mm	10 - 30mm	30mm	(tonnes)
Perch Scar			Lir	nited stock th	ne majority ha	as been washe	d away		
Black Scar					Limited sto	ock			
Kings Scar									
Neckings									
Rossall	Most y	/ears the mmer Th	Fleetwood and	Wyre musse wyed late spr	l beds get a se	ettlement, mo mer where t	st of which ge here are areas	t washed awa	y during
skear Wyro End	the su	inner. m	size	classes whicl	h have persist	ed through th	e winter.	01111033613 0	rvarynig
Knott End						-			
Spit									
	South	ern area o	of skear had ex	perienced a s	ignificant amo	ount of scour a	and loss of top	layer of mus	sel, with
Heysham	some	e areas ha	ving lost mud a	lso. Other th	an that the w	hole of main s	kear and the e	entirety of Kn	ott End
Flat &	skear	held supe	erabundant see	d mussel. The	e majority of r	t was hard in -	- the only area	a with any mu	d under
Skear	The su	the uppe	lant mussel on	the lower are	musser was o	ar and Knott F	nd skear was	of around 30r	nm shell
	THE SU	iperabulic			length.				IIIII SHEII
Hevsham	Skear	rs look to	be covered in r	nussel (obser	vation from K	nott End skea	r) and it is exp	ected that th	ere is a
Outer	sim	ilar muss	el composition	as that prese	nt on Heysha	m main skear	and Knott End	skear. There	were
Skears			numerous	oystercatche	ers and gulls o	bserved on th	e outer skears	5.	
Low Bottom -	The ar	ea betwe	en the main Fo	ulney Skear a	and the oyste	r frames typica	ally gets a sett	lement of see	d which
Foulney	SCO	urs out th	rough the wint	er. There is a	large area on	more stable r	nussel bed fro	om mid shore	down
Ditch		to	wards low tide	near the ma	In Fourney ske	ear that persis	ts through the	winter.	1
Foulney	Son	55		Abundant	Common	n/a	n/a	n/a	6570
Skear	sep		Occasional	Abunuant	Common	II/d	II/ d	II/d	0570
Foulney	Sep	8.2	Rare	Abundant	Rare	n/a	n/a	n/a	2176
Island Foulney	-								
Green	Apr	34	Rare	Abundant	Abundant	n/a	n/a	n/a	4822
Buoy									
Falklands	Sep	t 2018 – A	area looks to be	e covered in n black with t	nussel (observ he presence c	/ation from Fo of numerous ខ	ulney Island), ulls.	the area look	s very
South					No stock kn	0wn			
America					INU SLUCK KI				

In addition to the 2017 HRA (NWIFCA-MB-EMS-2017) grey plover, dunlin, sanderling and turnstone have been highlighted as having a restore objective for the population target and because they are known to feed on mulloscs including cockle as part of a wide variety of prey items.

Although no specific figures have been given for the bird food requirements for bivalve eating birds, the summary of the cockle and mussel beds provided shows that there is a significant biomass of cockle and mussel in Morecambe Bay.

NWIFCA is confident that the bird food requirements are met for the site and that the removal of target species from the intertidal sand and muddy sand, mixed and coarse sediments supporting habitats will have no risk of adverse effect on the SPA features, which utilise cockle as a prey source and therefore have no risk of adverse effect on integrity or conservation status of the site.

Note:- Approximately 1000 oystercatchers were observed at low water feeding on the abundance of 14-17mm cockle at Flookburgh in September.

7. Conclusion

The management and mitigation measures incorporated into this fishery, and the use of an effective enforcement team of NWIFCA Officers with multi-agency support, allows the NWIFCA to conclude that the hand-gathered cockle fishery at Leven, Flookburgh and Pilling will no risk of adverse effect on the integrity of the European Site.

8. In-combination assessment

a) Other ongoing and authorised fisheries:

Heysham Flat Seed Fishery – fishing has stopped due to a change on the ground and difficulty on fishing. It is very unlikely to restart whilst the cockle fisheries are open. The nature of the ground indicates that the majority of the stock may well persist through the winter.

Size mussel fisheries – there is a low level of activity on the size mussel fishery on Foulney near the Walney Channel side of the skear. Typically, effort on these fisheries is low (around 6 gatherers) when cockle fisheries are not open. It is therefore predicted that effort will be less than normal as efforts will be concentrated on cockles.

Tractor shrimp fishery – currently the shrimp fishing is poor, so there is currently a reduced amount of effort. Effort is likely to be concentrated on the cockle fishery with some fishing for shrimps and cockle fishing on the same tide.

b) Assessment

Due to the low levels of mussel harvesting impacts on habitats and disturbance levels to birds are considered to have No Likely Significant Effect on the conservation features. Removal of the mussel resource is minimal with large reserves remaining as bird prey resource at a time of year when over-wintering birds are returning. Mussel at Heysham is likely to persist through the winter. *For these reasons NWIFCA is confident that the cockle fishery will have No Likely Significant Effect on any conservation features.*

The shrimp fishery in Morecambe Bay has undergone a separate HRA which assessed travel to and from the fishery. This HRA concluded No Risk of Adverse Effect on the Integrity of the European Site. Cockle fishing between September to December (main shrimp fishery concurrent with cockle fishery), is likely to reduce the amount of shrimp fishing as nearly all shrimp fishers are Byelaw 3 permit holders and cockle fishing will be more lucrative. *Combined with the current reduced effort in the shrimp fishery NWIFCA can conclude No Likely Significant Effect from the cockle fishery on any conservation features.*

Considering in combination effects of the mussel, shrimp and cockle fisheries in the Bay, the NWIFCA can conclude No Risk of Adverse Effect on the Integrity of the European Site.

9. Integrity test

The NWIFCA concludes No Risk of Adverse Effect on the Integrity of the European Site providing the management measures of the Leven, Flookburgh, Pilling and Newbiggin cockle fisheries are implemented and upheld.

Annex A: NWIFCA Morecambe Bay Cockle Fishery Authorisation 2018



NWIFCA BYELAW 3 AND NWSFC BYELAW 13A

AUTHORISATION TO REMOVE COCKLES

FROM FLOOKBURGH AND LEVEN SANDS COCKLE BEDS, MORECAMBE BAY 2018-2019

Issue Date: Expiry Date: 8th October 2018 30th April 2019

All Current Byelaw 3 Permit Holders

All current Byelaw 3 permit holders are hereby authorised to remove size cockle from Flookburgh and Leven cockle beds in accordance with this authorisation and are responsible for complying with the conditions given below at Paragraphs 1 and 2.

1. Conditions of Authorisation to Remove Cockle

This authorisation is issued subject to the following conditions.

- a) The authorisation is valid only for current Byelaw 3 permit holders.
- b) Removal of size cockle is permitted only during the period 8th October to 30th April 2019.
- c) That size cockle is only gathered from Flookburgh and Leven cockle beds.
- d) That cockles are only gathered using a craam as defined in Annex A, and jumbo no more than 182cm (6 foot) in length and 35cm (14 inches) as measured from its extremities including any extensions.
- e) The use of any rake is prohibited, including cut down rakes.
- f) Access to and from the Leven Sands and Flookburgh fishery will be via the hard core track off Moor Lane (West Plain) (SD 36892 74153) only, as defined in Paragraph 2.
- g) Access to and from the fishery is permitted for ATV and tractors only.
- h) There shall be no parking of any vehicle or tonning up carried out on the beach, saltmarsh or hard core track at any of the Flookburgh and Leven Fisheries.
- Care must be taken while driving to ensure the safety of livestock, pedestrians and other people using the road, track or beach.
- j) All gatherers must be in possession of a valid NWIFCA Byelaw 3 permit, which must be carried at all times whilst accessing the fishery. Permits must be shown to warranted NWIFCA Enforcement Officers on request, or any other person acting under the supervision or direction of an Enforcement Officer (MACAA. s.260(2)).
- NWIFCA Byelaw 3 permit holders must not obstruct an IFCO pursuant to MACCA s292(4) carrying out a relevant function pursuant to MACCA s287.
- All Byelaw 3 permit holders must submit returns to NWIFCA on a weekly basis including nil returns.



- m) The fishery may be closed with immediate effect by the NWIFCA, or appropriate management action taken if in the opinion of NWIFCA Officers or Scientists, there is a failure to comply with these conditions or there is damage to the beds or the saltmarsh through access or over-fishing, or there are high levels of disturbance to the birds and a risk of adverse effect identified to the European Site.
- p) Any damage to conservation features could lead to prosecution by Natural England;
- q) NWIFCA may close the fishery during periods of cold weather following an assessment undertaken by officers and with advice from Natural England of the risk to SPA features if cold weather is predicted to be below zero for more than 12 hours a day for 5 consecutive days.
- r) This authorisation does not exonerate the holder from other sea fisheries legislation, nor does it prejudice any other consents the holder may need to obtain, nor does it override or provide permission to go over private land.

2. Definition of Access Point

Flookburgh and Leven Sands Access Point

Access only via the hard core track off Moor Lane (West Plain) - Grid reference SD 36892 74153). No parking or tonning up on this track the beach or the saltmarsh.



2

This authorisation may be revoked by the NWIFCA at any time and any breach of the terms or conditions of this authorisation shall make it null and void.

By Order of the Authority

STEPHEN ATKINS Chief Executive

Annex A

Definition of a craam:

A short handled three pronged fork, as illustrated in the photograph below. The use of a cut down three pronged rake used to rake the cockles is prohibited.





Annex B: Natural England's Consultation Advice

Date: 05 October 2018 Our ref: 260420 Your ref:

North Western Inshore Fisheries and Conservation Authority (NWIFCA) Preston Street Carnforth Lancashire LA5 9BY



Hornbeam House Electra Way Crewe Business Park Crewe Cheshire CW1 6GJ

BY EMAIL ONLY

Dear Jon,

Morecambe Bay Cockle Fisheries Habitats Regulations Assessment 8th October 2018 – 30th April 2019

Thank you for your email dated 20 September 2018 on the above Habitats Regulations Assessment (HRA) for the opening of the Flookburgh and Leven Sands beds with the possible opening of Pilling and Newbiggin later in the season, if requirements are met. The following constitutes Natural England's formal statutory response to the updated HRA provided on 01 October 2018.

Internationally and nationally designated sites

The application site is within a European designated site (also commonly referred to as Natura 2000 sites), and therefore has the potential to affect its interest features. European sites are afforded protection under the Conservation of Habitats and Species Regulations 2010, as amended (the 'Habitats Regulations'). The application site is within Morecambe Bay Special Area of Conservation (SAC) and Morecambe Bay and Duddon Estuary Special Protection Area (SPA), which are European sites. The site is also listed as Morecambe Bay Ramsar site⁴ and also notified at a national level Morecambe Bay Site of Special Scientific Interest (SSSI) and Lune SSSI.

No objection

Natural England notes that your authority, as competent authority under the provisions of the Habitats Regulations, has undertaken an Appropriate Assessment of the proposal in accordance with Regulation 61 of the Regulations. Natural England is a statutory consultee on the Appropriate Assessment stage of the Habitats Regulations Assessment process.

Your appropriate assessment concludes that your authority is able to ascertain that the proposal will not result in adverse effects on the integrity (AEOI) of any of the sites in question. Natural England advises that the Appropriate Assessment considers the relevant in-combination plans and projects, in this case other intertidal

¹ Listed or proposed Wetlands of International Importance under the Ramsar Convention (Ramsar) sites are protected as a matter of Government policy. Paragraph 118 of the National Planning Policy Framework applies the same protection measures as those in place for European sites.

shellfisheries in Morecambe Bay. Having considered the assessment, and the measures proposed to mitigate for all identified adverse effects that could potentially occur as a result of the proposal, Natural England advises that we concur with the assessment conclusions, providing that all mitigation measures are appropriately secured in any permission given. See Annex A for further details.

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

Yours sincerely,

16 Nisbet

Katherine Nisbet Marine Lead Adviser – Cumbria Area Team

Email: Katherine.Nisbet@naturalengland.org.uk Tel: 07917474331

Annex A

Natural England agree with the conclusion in the HRA of No Adverse Effect on Site Integrity, based on the following principles:

- Only size cockle is taken with the majority of cockles on the beds undersize, which is the feeding target for SPA birds. These small cockles are preserved and kept on the beds retaining the feeding resource for the birds
- There are other cockle beds which have significant amounts of undersize cockle in the Bay, these will
 remain unfished and act as alternative feeding areas where disturbance is an issue on the fished beds.
- Cockles represent only a portion of the diet of SPA birds, other food resources (e.g. Macoma, Polychaetes, Hydrobia) remain unaffected.
- Observations show that birds show only temporary disturbance to the movement of fishers and return
 quickly to feeding on areas of the cockle beds around the fishermen.

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