NWIFCA Technical, Science and Byelaw Committee

5th of August 2025: 10:00 a.m.

Agenda Item

5

SURVEY AND INSPECTION REPORT
29TH OF MAY – 24TH OF JULY 2025

Purpose:

a) **To report on the results of the mussel surveys and inspections in the last quarter.**
b) **To report on the results of the July 2025 District cockle surveys and inspections**

Recommendation: **Approve the following:**

a) **Receive the report and related survey and inspection notes**
b) **NWIFCA propose a seed mussel fishery in the specified area of Perch and Black Scar (Figure 1.4) subject to HRA and expressions of interest from industry**
c) **Flookburgh cockle bed is opened 5 days a week, one tide a day, with an 800 tonne TAC, under Byelaw 3 Flexible Permit Conditions and subject to HRA.**
d) **All other District cockle beds, including, Middleton, Leven, Aldingham and Newbiggin, Leasowe, and Southport, remain closed for the rest of the closed season, and from September 1st 2025 under paragraph 15 of Byelaw 3.**

BACKGROUND

Every year NWIFCA officers undertake extensive surveys and inspections of the cockle and mussel beds across the NWIFCA District. The aim of the surveys is to conduct stock assessments on each bed. The aim of inspections is to gather information in areas that either; a) do not have enough stock to warrant a survey, and/or b) conditions of the bed preclude surveying – for example, large channels or short exposure times which limit the time officers can safely access. Inspections may also take place to see if a full stock assessment is needed.

Mussel bed surveys and inspections

Large, accessible mussel beds that are stable (large areas are not frequently washed away) are typically surveyed by the Dutch Wand method. This method allows officers to calculate an overall biomass of stock on the bed, identify the proportion of the population that is size, and map a perimeter. Beds that are typically surveyed by Dutch Wand include: Foulney mussel bed, Low Bottom, and Walney Channel. Mussel beds which are exposed for short amounts of time or are typically fished for seed mussel and are therefore liable to large changes over short periods are inspected visually, with reports presenting pictures and a description of the stock. Beds that are typically inspected using this approach include: Fleetwood, South America, Falklands, and Heysham.

Mussel inspection methodology overview

Inspections of mussel beds are undertaken by officers who will walk the perimeter of the mussel bed with GPS to map the location and extent. Officers will then access the middle of the bed and as much as can reasonably be accessed, taking notes on this size, coverage, presence of any important features (presence of sabellaria, exposed cobble and boulder substrate, depth of mud, indications of scour, looseness of mussel), and mussel size composition. Full inspection criteria is detailed in the agreed in Agenda Item 10 at the February 6th 2024 TSB meeting (https://www.nw-ifca.gov.uk/app/uploads/Agenda-Item-10-Seed-mussel-definition-of-ephemerality-TSB-February-2024.pdf). Typically these surveys are limited by tides and can only be conducted on spring tides. Inspections are undertaken to assess the suitability of a bed for either a seed or size fishery.

Cockle bed surveys

The purpose of cockle surveying is to establish data regarding the abundance, density and location of cockle stocks to inform fisheries management. Most cockle beds in the district are surveyed using the methodology outlined below.

Cockle survey methodology overview

Cockle surveys are undertaken by splitting each bed extent into a grid of sample points spaced between 250 to 500 m apart. Typically, each bed has between 40 and 150 sample points depending on its size. Each year, officers survey a minimum of approximately 750 sample points across the main beds from Morecambe Bay, the Ribble Estuary and Leasowe.

Sample locations are mapped on a GPS to ensure each year the same locations are surveyed. Officers access each sample location by quad, jumbo the sand to fluidise the sediment to cause cockles to rise to the surface and lay down a 0.5 m2 quadrat. Officers pick and rake the cockles within the quadrat and collect them for analysis in the lab. In the lab, cockles are separated into size cohorts (0.1-<5mm, 5-<15mm, 15-<20mm, 20-<25mm, 25-<35mm, +35mm) and record the number in each. A total of 200 cockles (100 undersize, 100 size) are taken from the bed as a whole, for analysis of weight and length. From this data, the overall proportion of size and undersize and total stock biomass is estimated.

1. MUSSELS

Between May 29th and July 24th, NWIFCA science officers carried out three mussel inspections across NWIFCA District. Full inspection reports are provided in Annex 1 of this report. The location and extent of the beds inspected are provided in Figures below.

Please note West Kirby, Thurstaston and South America mussel beds will be surveyed after the deadline date for paper submission to the Authority, but before the August 5th meeting date. Therefore, an update on these beds will be provided verbally at the meeting.

Table 1. Mussel survey and inspections this quarter.

Surveys and inspections this quarter	Date
Mussels	
Morecambe Bay (Figure 1.1)**:**	
Heysham inspection	30-05-25
Fleetwood inspection x 2	26-06-25 & 16-07-25

a) Morecambe Bay Seed mussel fishery

Mussel beds are assessed each year to see if they can be opened as hand gathered or seed dredge fisheries. Typically these beds are located within Morecambe Bay. The conditions which we look for to allow a seed fishery to take place are:

- loose mussel,
- a single size class of seed (<1yr old) of dense settlement, (not mixed)
- a large amount of mussel mud underneath with little exposed cobble/boulder substrate, and
- a high probability of washing away (evidence of scour or loose mussel and historical trends).

The criteria that should be met in order for a fishery to be considered for opening is detailed in the definition of 'ephemerality' and the 'process for determining ephemerality' agreed at the February 6th 2024 TSB meeting (https://www.nw-ifca.gov.uk/app/uploads/Agenda-Item-10-Seed-mussel-definition-of-ephemerality-TSB-February-2024.pdf). This information is gathered through inspections and presented to the Authority.

This year, have seen seed mussel during surveys and inspections of most beds. The South America mussel bed has become accessible by foot and ATV again due to large changes in the Leven channel and much movement of sediment over the area.

1.1 Morecambe Bay mussel beds overview

The location and extent of mussel beds surveyed in Morecambe Bay from May 29th to July 24th 2025 is provided in Figure 1.1. An overview of the status of the bed is provided in the following section. Full inspection reports with images are provided in Annex 1.

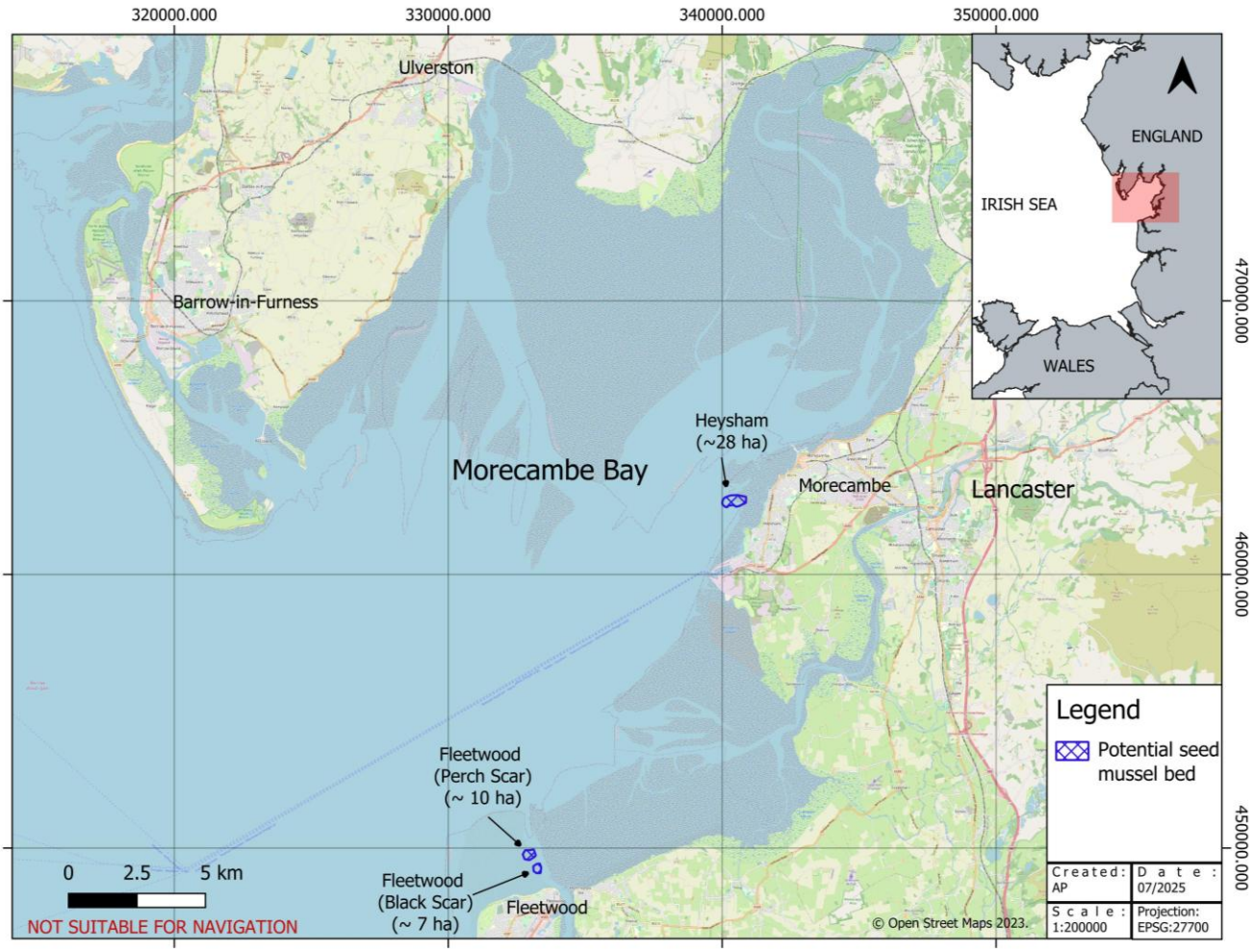


Figure 1.1 Surveyed and inspected mussel beds in Morecambe Bay from May to July 2025.

1) Heysham:

Heysham mussel bed was inspected on the May 30th 2025. Officers inspected the mussel on Heysham Flat to assess for any settlement and growth since the previous inspection (03/03/2025).

A large, highly dense settlement of seed (10-15mm) was observed west of Conger Rock (around 80% coverage), extending towards Dallam Dyke, which was not present during the previous inspection. The mussel here was showing signs of clumping, and loosening from the mud beneath.

Live Sabellaria avleolata reef was present along the North and South of the skear. With a dense patch of mixed size mussel classes along the northern edge adjacent to the reef.

At this time, Heysham Flat will not be recommended for opening for hand gathered seed, this is based on the following factors:

1. Dense areas of seed are located over Sabellaria reef which is a protected feature under the Morecambe Bay SAC.
2. Further inspection will take place later in July.

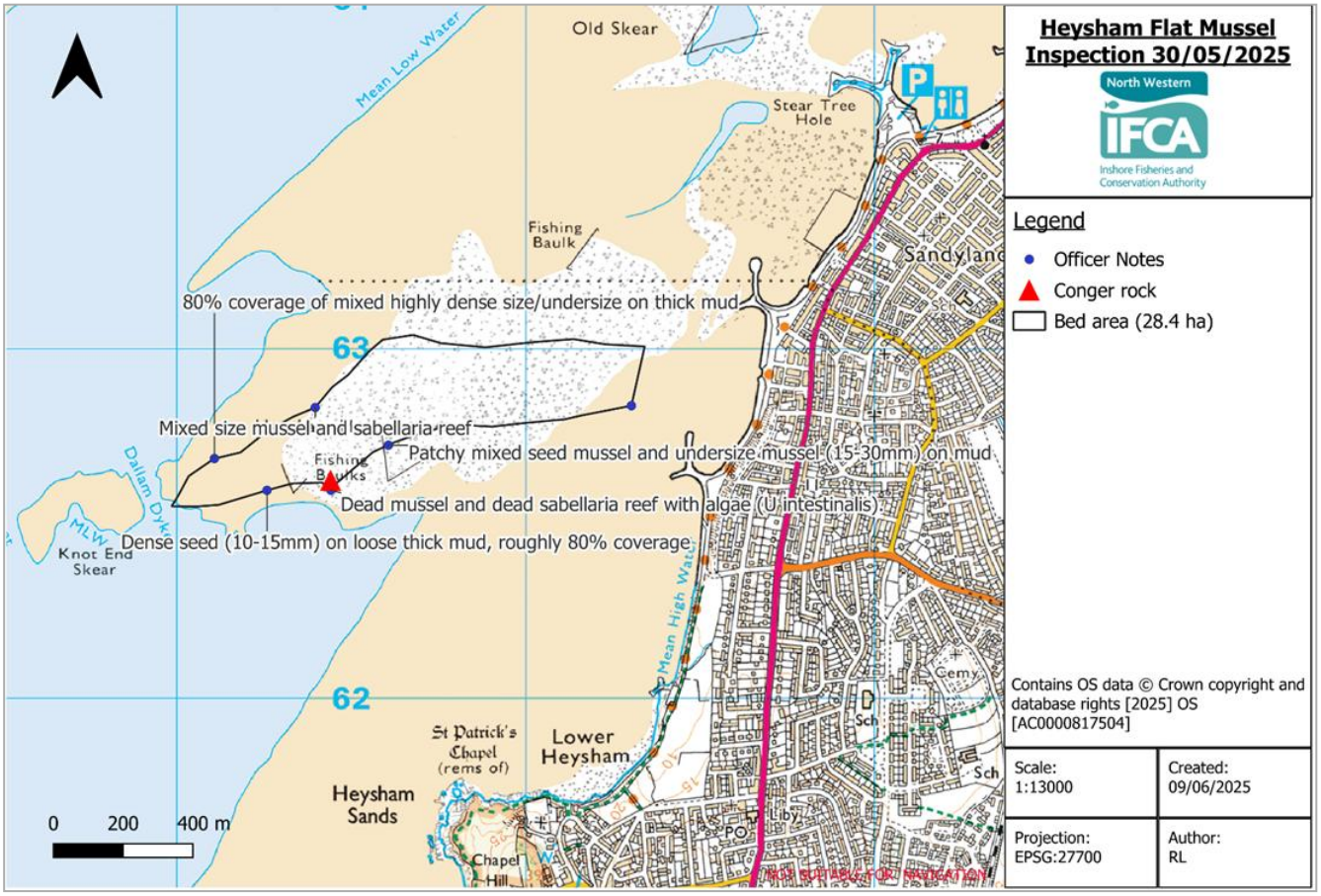


Figure 1.2. Approximate Heysham mussel bed area with officer observation notes 30-05-25

2) Fleetwood (Perch and Black Scar)

Officers inspected Fleetwood mussel beds on June 26th and again on July 16th. Black and Perch Scar beds are typically considered for commercial mussel (either hand or dredge fishing). Rossal, Neckings and Kings are not typically commercial beds and are surveyed to monitor additional food availability for birds – these beds were unable to be surveyed at these times due to tide constraints.

This year there has been good coverage of seed mussel at high densities that have put gown a thick layer of mud. On Black scar these mussel are now clumping, and on Perch Scar there is evidence of scouring already taking place.

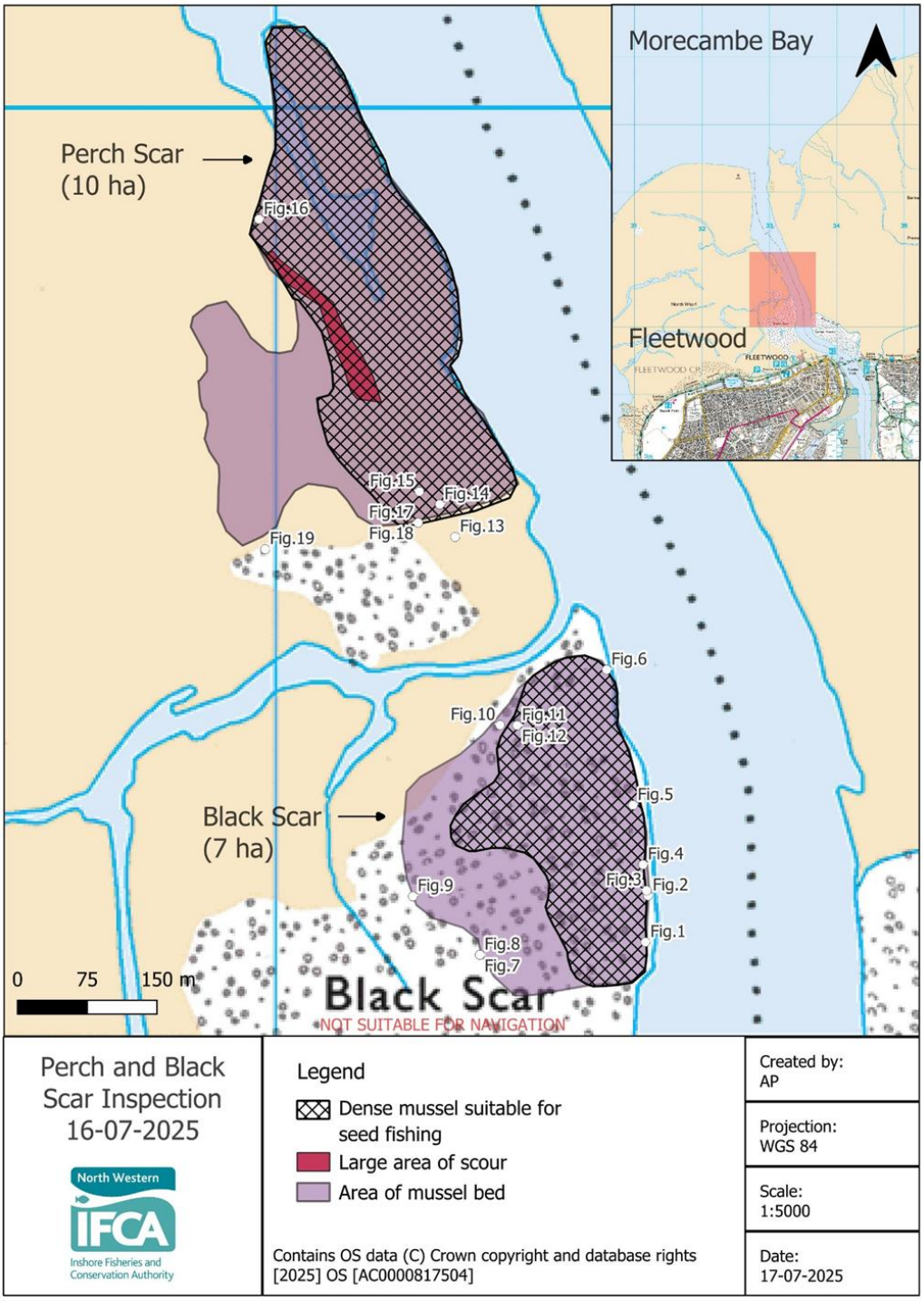


Figure 1.3. Approximate Fleetwood beds area boundary and officer notes 16-07-2025

Black Scar

There was a 80-90% coverage of seed mussel extending from the channel edge inwards towards the centre of the . Mussel was on a thick layer of mud (>30cm), with few patches of dead shell or cobble. Mussel was uniform in size, and between 15-20 mm. On the channel side of the bed, there was a strip of bare cobble and dead mussel shell with very few size mussel (>45mm) present running the extent of the bed. To the west, the mussel was slightly less dense (60-70%) and on top of mud (15-20 cm deep). Small patches of cobble were present, and algae had begun to form in some areas. No size mussel was observed across the extent of the bed.

Perch Scar

There was a 60-70% coverage of seed mussel from the centre of the bed towards the channel, with mud hilllocks forming beneath the mussel greater than 30 cm deep. Evidence of scour was showing across much of the bed, with a large proportion in the central section having been removed. However, some mussel remained embyssed and was not obviously loose. Westward, the coverage of mussel declined, as the sediment become predominantly sandy.

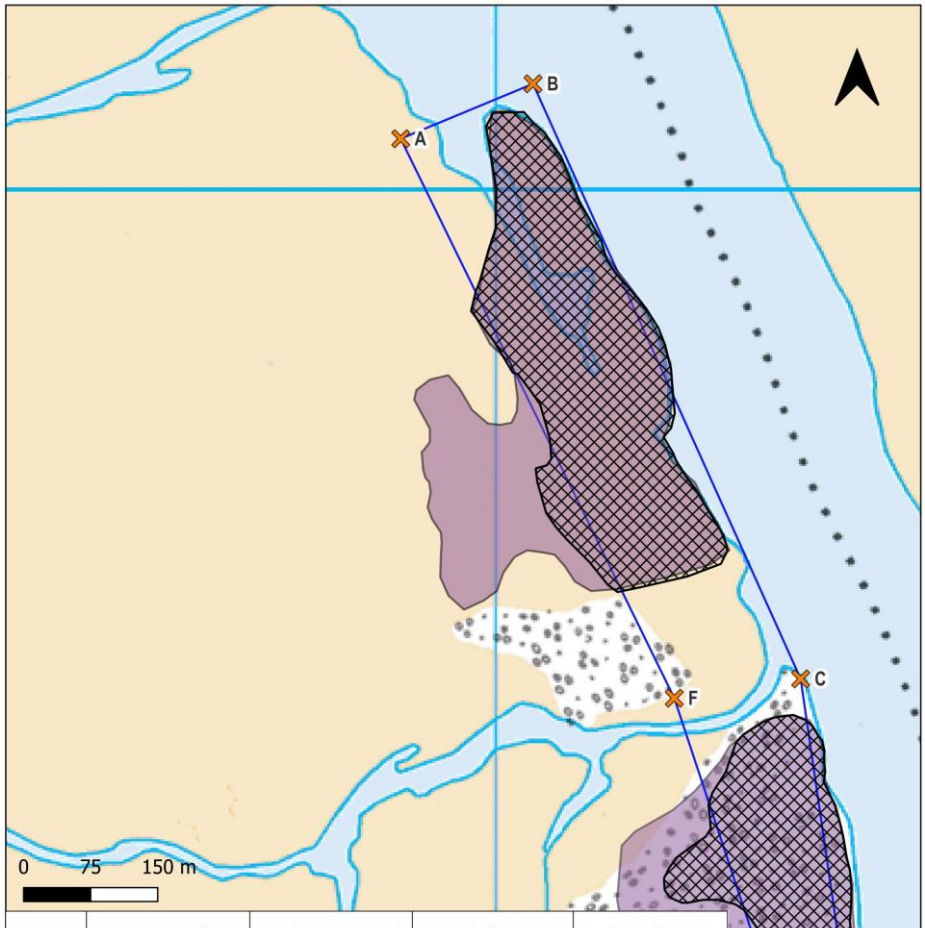
Officers were unable to walk the perimeter of the bed on the western side due to tide constraints and difficult terrain, however, the conditions appeared to be similar (60% coverage, with evidence of mud and scour) towards the furthest part of the bed from the shore. Perimeters from previous years were used to estimate the boundary. The north end of the bed extended into the channel; due to the depth of the water, officers could not access this so have estimated the area. No size mussel was observed, and very little cobble was exposed.

Recommendation: NWIFCA propose a seed mussel fishery in the area of Perch and Black Scar subject to HRA and expressions of interest from industry.

This recommendation is proposed for the following reasons:

1. The bed meets many of the criteria for a seed fishery (Agenda Item 10 at the February 6th 2024 TSB) to be recommended open such as;
    a. Uniform seed of this year class
    b. Little to no observed presence of size mussel
    c. Thick mud
    d. Limited cobble exposure
    e. Evidence of scouring
    f. No interaction with Sabellaria
2. NWIFCA need to identify which stakeholders may be interested, and how to balance the needs of both hand gatherers and dredge fishermen.

The area proposed for opening is provided in figure 1.4. Please note this may be subject to change based on HRA assessment.



Point	Latitude (decimal degrees)	Longitude (decimal degrees)	Latitude (degrees, decimal minutes)	Longitude (degrees, decimal minutes)
A	53.9422646245	-3.0237890527	53° 56.535" N	3° 1.427" W
B	53.9428367576	-3.0215482495	53° 56.57" N	3° 1.292" W
C	53.9368830733	-3.0168429669	53° 56.212" N	3° 1.01" W
D	53.9332891419	-3.0158689556	53° 55.997" N	3° 0.952" W
E	53.9331159696	-3.0169032500	53° 55.986" N	3° 1.014" W
F	53.9366705440	-3.0189909688	53° 56.2" N	3° 1.139" W

Perch and Black Scar
Inspection 16-07-2025

North Western IFCA
Inshore Fisheries and Conservation Authority

Legend

Permitted area corrdinates

Permitted area

Created by: AP

Projection: WGS 84

Scale: 1:5000

Date: 17-07-2025

Figure 1.4 Proposed seed mussel fishery area on Perch and Black Scar 2025

2. COCKLES

Between June 16th and July 16th, NWIFCA science officers carried out seven cockle surveys, and two inspections across NWIFCA District. On July 22nd, officers returned to Newbiggin cockle bed to survey additional points, as it was thought the bed may extend further to the west than identified on the initial survey. Full survey reports are provided in Annex 2 of this report. The location and extent of the beds inspected are provided in Figures in the relevant section.

Table 2.1 Cockle survey and inspections this quarter.

Surveys and inspections this quarter	**Date**
Cockles	
Morecambe Bay (Figure 1)**:**	
Flookburgh	15-07-25 & 16-07-25
Pilling	24-06-25
Newbiggin and Aldingham	02-07-25 & 22-07-2
Leven	09-07-25
Middleton	08-07-25
Warton (inspection)	19-06-25
Ribble (Figure 2)**:**	
Southport	23-06-25
Lytham (inspection)	16-06-25
Wirral Coast (Figure 3**):**	30-06-25
Leasowe	

When analysing results, NWIFCA look to answer the following questions which may assist in determining the stock levels, stock trends and HRA requirements.

1) What is the **biomass of size and undersize cockle** on individual beds and across the Bay as a whole,
2) What is the **density of size and undersize cockle** on individual beds and across the Bay, and
3) What is the **composition of size classes** on individual beds and across the Bay as a whole,

Additional considerations:

As has been previously discussed, there are several additional considerations when proposing the opening or closing of a fishery, which as yet do not have established parameters:

1) Bird food requirements for SPA designated species
2) Minimum cockle density spawning requirements
3) Location of cockle brood stock for re-seeding
4) An agreed threshold limit beyond which the fishery will remain closed
5) Criteria for selecting which beds should open in the event of low stock numbers.

Undersize cockle is typically important for; contributing to the following years fisheries, and as a food source for knot. Size cockle is important for oyster catcher, potentially contributing to spawning stock, and for the main fishery.

NWIFCA does not have an agreed minimum total cockle biomass for Morecambe Bay from which to recommend the opening or closing of a fishery. There are outstanding questions on the requirements of birds for food, location of potential sources of cockle brood stock for Morecambe Bay and cockle survivability of juvenile cockle is highly reliant on environmental factors.

2.1 Morecambe Bay June-July 2025 Cockle Results

Morecambe Bay cockle surveys were conducted for the second time this year, between June 24th and July 22nd.

Survey reports for all Morecambe Bay cockle beds were finalised on July 23rd and are provided in Annex 2 of this report. Please note, as of April 2024, officers have standardised the survey note figures. The size of the pie charts corresponds to set values, making them comparable between beds and future surveys.

Officers collected and analysed 9,808 cockles from 500 sample points across approximately 7,700 ha of Morecambe Bay. Figure 2.1.1 shows the location and extent of sample points for the respective beds. This year we added additional points to Flookburgh to incorporate areas identified by industry in the 2024/25 fishing season. Additional points were added to the west of Newbiggin to capture the full extent of the bed beyond the oyster frames.

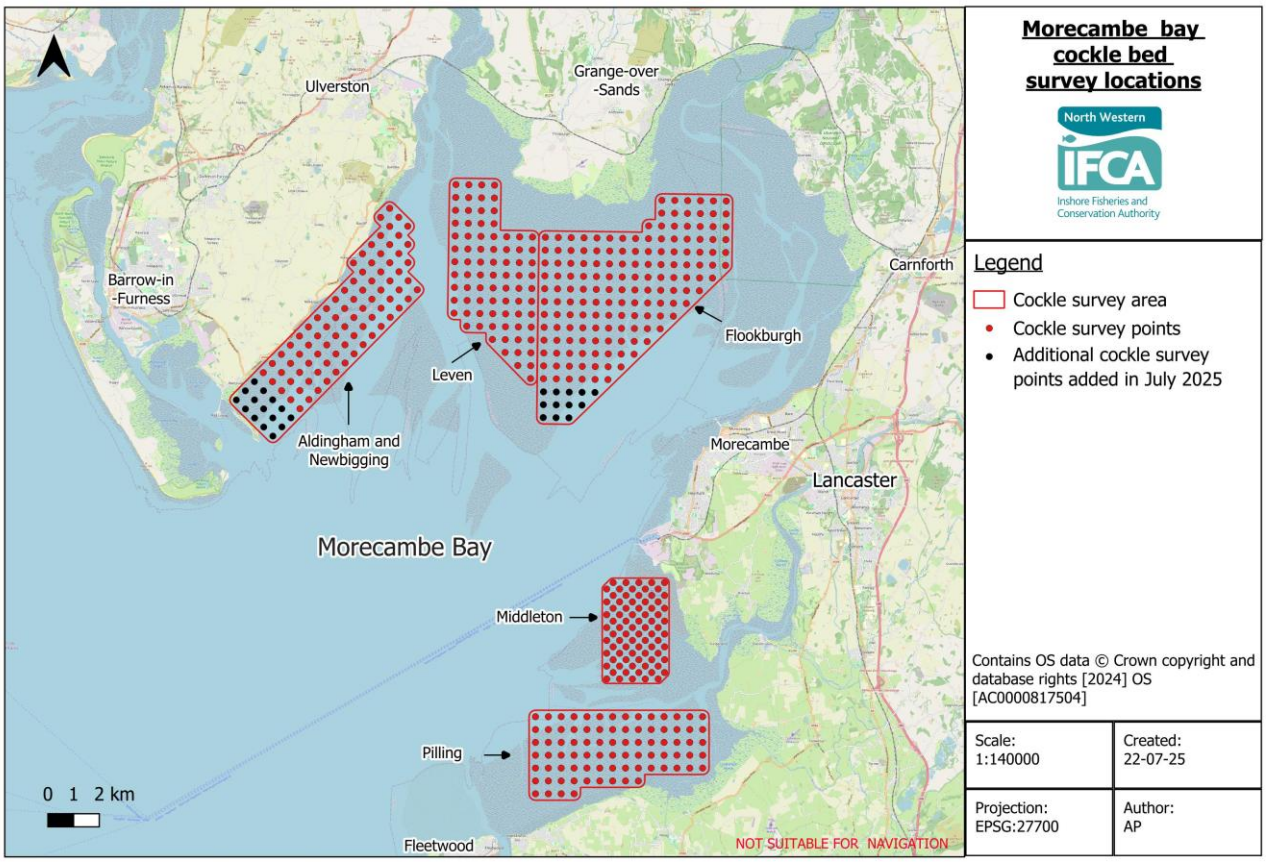


Figure 2.1.1 The location of sample points across Morecambe Bay cockle beds 2025

A summary of the July survey results is provided in table 2.1.1.

Table 2.1.1. Biomass calculations of size, undersize and combined biomass of cockles on Morecambe Bay cockle beds June-July 2025. *figures represent the max cockle biomass

Cockle bed	Date surveyed	Area of cockle present (ha)	Size cockle (tonnes)	Undersize cockle (tonnes)	Total cockle biomass (tonnes)
Aldingham and Newbiggin	July 2nd and 22nd 2025	1275	1432	670	2102
Leven	July 9th 2025	1050	470	287	757
Flookburgh	July 14s & 17th 2025	3050	2609	1147	3756
Warton Sands	na	na	na	na	Na
Middleton	July 8th 2025	698	589	115	704
Pilling	June 24th 2025	1525	3143	838	3981

a. Biomass of size and undersize cockle across Morecambe Bay

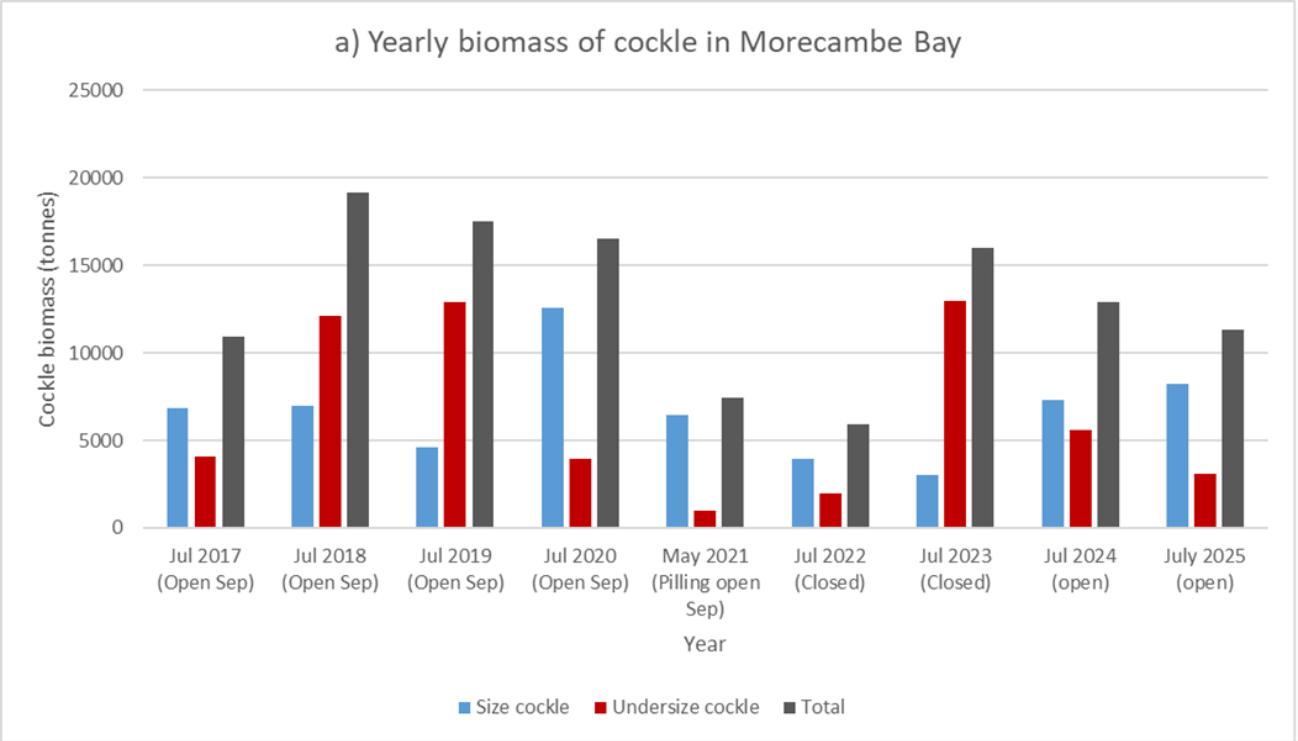
Table 2.1.2 provides yearly maximum cockle biomass figures from 2017 to 2025. All surveys presented here were undertaken between June/July each year and are therefore comparable.

In July this year, there is an estimated and 11,300 tonnes of cockle across 7,598 hectares surveyed in Morecambe Bay. Of this, 8,243 tonnes is size cockle, and 3,057 is undersize cockle.

Table 2.1.2. The yearly biomass of figures for size, undersize and total biomass of cockles on Morecambe Bay cockle beds from Jun/July 2017 to 2025. *figures represent the max cockle biomass

Year	All surveyed Morecambe Bay cockle beds				Beds opened
	Area (ha)	**Size cockle (tonne)**	**Undersize cockle (tonne)**	**Total cockle (tonne)**	
2017	5177	6980	4230	11210	Flookburgh Leven Pilling
2018	6088	7000	12140	19140	Flookburgh Leven Pilling Newbiggin
2019	6705	4635	12900	17535	Flookburgh Leven Pilling Newbiggin
2020	8085	12580	3975	16555	Flookburgh Leven Pilling Newbiggin
2021	7089	6450	955	7415	Pilling
2022	6582	3950	1990	5940	None
2023	7730	3035	12975	16010	None
2024	7247	7308	5586	12894	Flookburgh Leven Pilling
2025	7598	8,243	3,057	11,300	TBC

Figure 2.1.2 shows the data from table 2.1.2 in graphical form to demonstrate the trends in cockle biomass across Morecambe Bay since 2017 (a and b), and the composition of this year's size and undersize cockle (c).



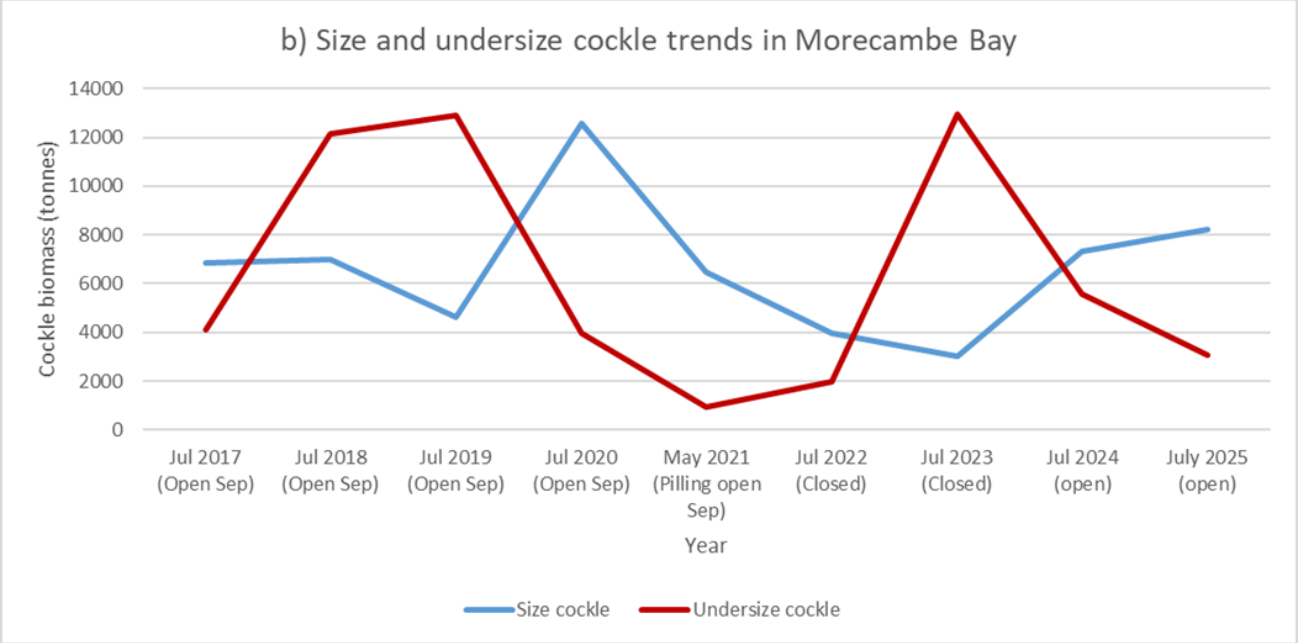


Figure 2.1.2. Summary of Morecambe Bay cockle survey results from July 2017-2025. a) shows the yearly biomass of size, undersize and total cockle in Morecambe Bay from 2017 to 2025, and b) the relational trend in size and undersize cockle from 2017 to 2025.

As of July 2025, the total biomass of cockle has decreased slightly across Morecambe Bay from approximately 12,895 tonnes in July 2024, to 11,300 tonnes (Figure 2.1.2 a).

The total biomass of size cockle has increased from 7308 tonnes in July 2024, to 8,243 tonnes in July 2025 (Figure 2.1.2.a). This is above the minimum threshold a fishery in Morecambe Bay has previously been recommended open, and the second highest biomass since 2017.

Figure 2.1.2.b indicates the trend in the biomass of size (blue) and undersize (orange) cockle for Morecambe Bay as a whole since 2017. High levels of undersize cockle in 2018 and 2019 preceded an increase in the biomass of size cockle, one to two years later. In 2023, there was a significant increase in the biomass of undersize cockle, which would be expected to grow on in 2024 to support an increased biomass of size cockle. An increase in size biomass has occurred again this year, likely the result of the previous year's undersize growing to size over the summer months.

There has also been a decrease in the proportion of undersize cockle across the Bay, possibly due to the 2024 cohort growing on to size this summer, and also natural mortality. This year, there was also a spat settlement observed during July surveys which had grown quickly to between 5-15mm in size.

b. Individual beds

An analysis of survey data for each of the main cockle beds in Morecambe Bay is presented below.

Morecambe Bay is considered in its entirety due to the overarching SPA and SAC designation of the site, however, individual beds may be **opened if they meet the HRA requirements for the site as a whole**. Survey results for each cockle bed are provided in Annex 2. It is also important to consider all information provided when building a recommendation for a fishery, and not any one piece in isolation. For example, understanding the composition of size and undersize on a bed, distribution of cockle, and total overall biomass can help with determining an appropriate recommendation.

c. Biomass of size and undersize cockle for individual beds

Figure 2.1.3 shows the biomass of size cockle for each surveyed Morecambe Bay cockle bed from 2017 to July 2025, and which beds were opened for fishing that same year.

This year:

1. Flookburgh has seen a decrease in the biomass of size cockle from 3,629 tonnes in July 2024, to 2,609 tonnes in July 2025.
2. Pilling has increased in the biomass of size cockle from 1,742 tonnes in July 2024, to 3,143 tonnes in June 2025. This is the highest biomass of size cockle seen on Pilling since 2017.
3. Newbiggin has increased in biomass of size cockle from 846 tonnes in July 2024 to 1,432 tonnes, however total biomass remains relatively low as there is limited undersize cockle present.
4. Leven and Middleton have remained consistently low, with only marginal changes.
5. Biomass of undersize is low across all beds, with limited stocks available to grow on for the following years fisheries.

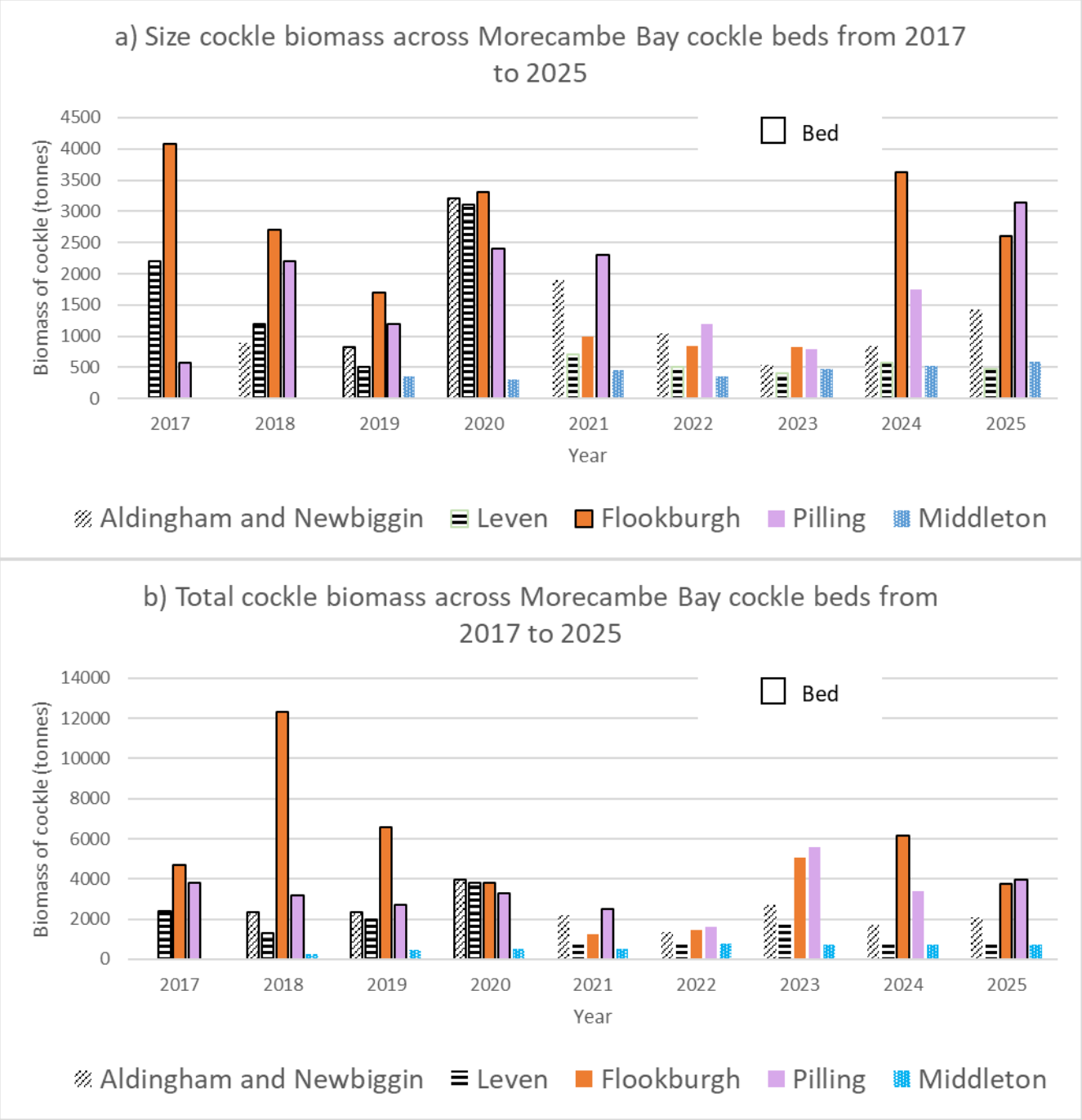


Figure 2.1.3 Biomass of cockles on the individual Morecambe Bay cockle beds from 2017 to 2025. Bars outlined in black were opened that same year. a) biomass of size cockle per bed each year, and b) total biomass of cockle per bed each year.

d. Biomass of cockle size classes on each bed

Figure 2.1.4 shows the biomass of cockles in each size class (0-5 mm, 15-20mm, 20-25mm 25-35mm and 35+mm) for the main Morecambe Bay cockle beds in July 2025.

For Pilling, and Flookburgh beds, cockles in the 20-25 mm size classes made up a large proportion of their total biomass in July 2024. On Pilling, this size class was protected by the closure of half the bed, and has grown on to contribute to the increase in the 25+mm category seen in 2025 (Figure 2.1.4.a).

In comparison, Flookburgh has decreased slightly in size cockle biomass but still remains above the minimum threshold it has previously been opened.

The biomass of all size categories remains low across Leven and Middleton, however, there has been a slight increase in size cockle on Newbiggin.

Figure 2.1.4. The biomass of different size classes of cockle for each of the Morecambe Bay cockle beds. 3.a demonstrates this for 2024, and figure 3.b for 2025 for comparison.

e. Composition of size classes on individual beds

The composition of size classes across a bed is important to consider as it has implications for fisheries management, and fishing highly mixed stock may have an impact on juvenile cockles survivability.

Size composition and distribution figures for each be are provided in Annex 1. This year, the main beds of Flookburgh and Pilling have discrete areas of size and undersize. Size cockle is in the 25+mm category, significantly larger than the majority of undersize which is within the 5-15mm category. It is therefore, less likely that fishers will target undersize areas. In addition, the large difference in size means it is likely small can be easily riddled out.

Though the biomasses on Leven, Middleton and Aldingham and Newbiggin remain low, they similarly have a larger cohort of size cockle biomass in comparison to undersize, but are slightly more mixed. In particular, Aldingham and Newbiggin, and Middleton cockle beds seem to be remaining consistent each year, with mixed size cohorts and stable biomass. This is likely indicative of a natural cycle of regular settlements growing on to size over the course of several years.

Summary:

The results of the 2025 Morecambe Bay cockle survey show:

1. The total biomass across Morecambe Bay has decreased to 11,300 tonnes from 12,894 tonnes in the previous year.
2. The total size biomass across Morecambe Bay has increased to 8,243 tonnes from 7,308 in 2024. This is likely due to the undersize growing to size over the past year. The total undersize biomass, however, has decreased from 5,586 to 3,057.
3. Flookburgh has decreased in size cockle biomass since July 2024, and is relatively low in comparison to the past 8 years. The cockle stocks available are predominantly size, and there is limited undersize cockle available to contribute to the fishery in the following year.
4. Pilling has increased in size cockle biomass to 3,143 tonnes – the highest biomass estimated in the past 8 years. Densities are also high, and size:undersize ratio is acceptable for fishing in comparison to previous years.
5. Newbiggin has increased in size cockle biomass from 846 tonnes to 1,432 tonnes, however, its total cockle biomass remains relatively low. The bed biomass and composition has been stable at this level for the past few years. Much change has been seen in the area of the bed due to channel movements.

Development of recommendations

When developing recommendations Officers look at the following criteria:

1) The total cockle biomass (size and undersize) across Morecambe Bay
2) The biomass of size biomass across Morecambe Bay and on individual beds
3) The presence of undersize cockle

Morecambe Bay cockle fishery recommendations:

Recommendation 1: Flookburgh cockle bed is opened 5 days a week, one tide a day, with an 800 tonne TAC, under Byelaw 3 Flexible Permit Conditions and subject to HRA.

This recommendation is based on the following factors:

1. **The biomass of size cockle across Morecambe Bay is above previous thresholds a fishery has been recommended opened** and is comparatively high with previous years.
2. **Justification for TAC application –** Since 2017, the cockle beds at Flookburgh have not typically gone below 1700 tonnes of size on open fishing seasons (the exception being when there was significant undersize biomass). Last year, stakeholders removed approximately a third of the stock. To keep Flookburgh within estimated sustainable limits, and provide for a fishery, a TAC of 800 tonnes out of the available 2,609 tonnes is proposed.
3. **Size and undersize cockle are clearly separated on the bed** – meaning there is a lower probability of fishers targeting areas with juvenile cockle and disturbing them. It also reduces the risk of non-compliance.
4. **The need for effort limitation –** Given the application of a TAC, officers need the ability to monitor the rate of removal. The current byelaw does not allow for daily returns and so officers rely on monthly returns information and other available sources required to corroborate this information. Slowing the rate of removal allows for more effective monitoring of the TAC. Additionally, feedback was received from industry during the 2024 consultation on the early opening of cockle beds in support of a five day a week fishery. Data from the 2024/2025 fishery in Morecambe Bay also indicated the fishery was elongated for a longer duration by the limitation of tides.

Officers will not be recommending Aldingham and Newbiggin, Leven or Middleton open this 2024/25 season (see page 27 for recommendation).

1. **Overall biomass of Morecambe bay is low** – Across Morecambe Bay as a whole has relatively low total cockle biomass available and very little undersize cockle biomass available to support a following year's fishery. Leaving some size cockle to potentially replenish stocks is advisable.
2. **Leven and Middleton remain at low levels** as with previous years, and can provide undisturbed feeding grounds for protected bird species.
3. Aldingham and Newbiggin has seen an increase in biomass, though its **total biomass remains low.**

2.2 Ribble cockle beds July 2025 results

Southport (Penfold)

The full survey report for the Southport cockle bed is provided in Annex 2 of this report. The location and extent of the Penfold cockle bed in the Ribble Estuary is provided in Figure 3.1 below.

This year officers inspected the bed on June 23rd.

Officers collected and analysed 138 cockles from 62 sample points out of 150, across 800 ha of Penfold. Figure 2.2.1 shows the location and extent of sample points for Southport.

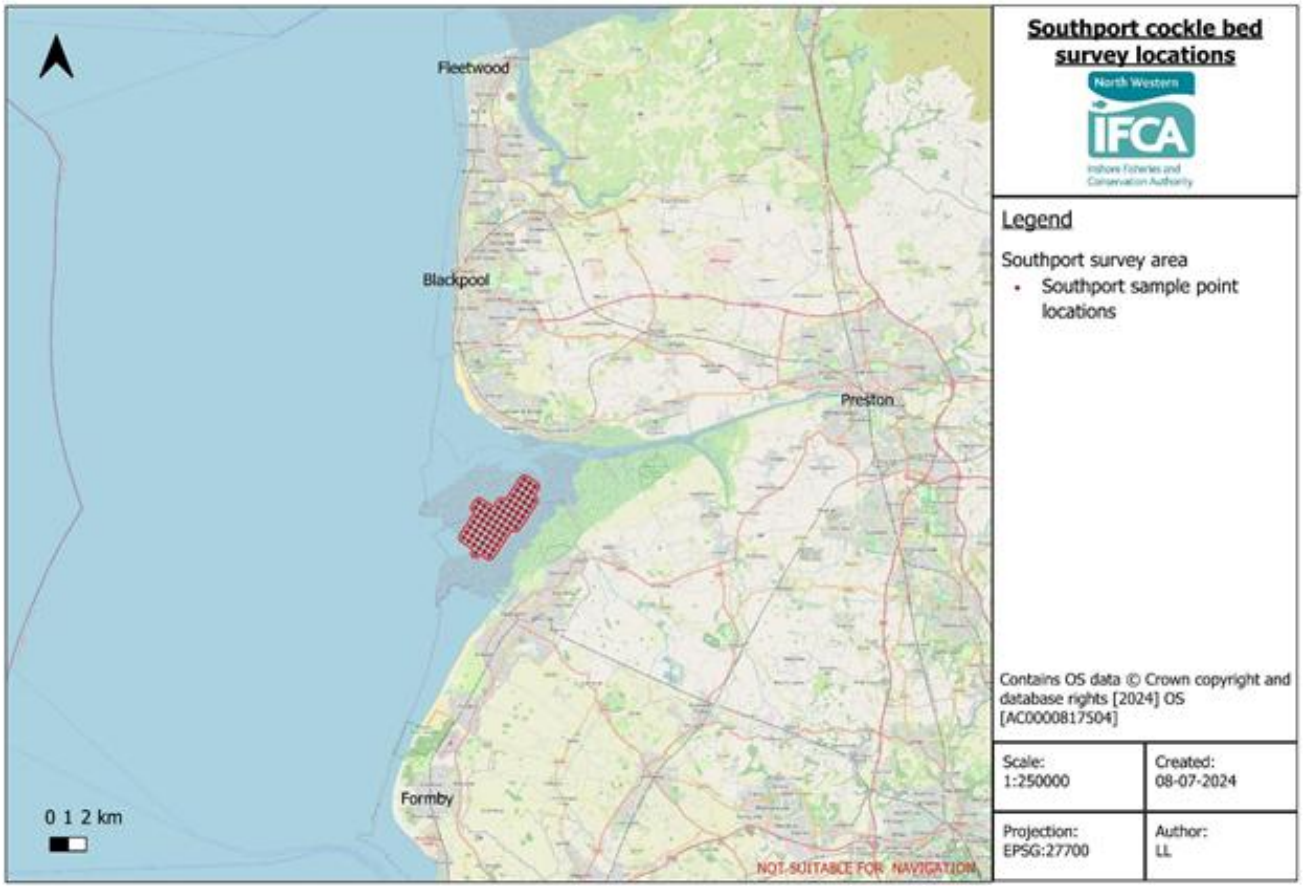


Figure 2.2.1. Surveyed cockle beds in the Ribble, June 2025.

a. Biomass of size and undersize cockle across Penfold

Table 2.2.1 provides yearly maximum cockle biomass figures from 2022 (date of earliest survey) to 2024. All surveys presented here were undertaken between June/July each year and are therefore comparable.

In June this year, there is an estimated and 113 tonnes of size cockle and 24 tonnes of undersize over 355 hectares of Southport cockle bed.

Table 2.2.1. The biomass of size, undersize and total biomass of cockles on Penfold cockle bed from 2022 to 2025. *figures represent the max cockle biomass

Year	Southport cockle bed				Bed recommended opened
	Area (ha)	Size cockle (tonne)	Undersize cockle (tonne)	Total cockle (tonne)	
2022	877	1200	1300	2500	Yes
2023	637	800	120	920	No
2024	600	380	87	467	No
2025	355	113	24	137	TBC

Figure 2.2.2 shows the data from table 2.2.1 in graphical form to demonstrate the trends in cockle biomass across Penfold since 2022.

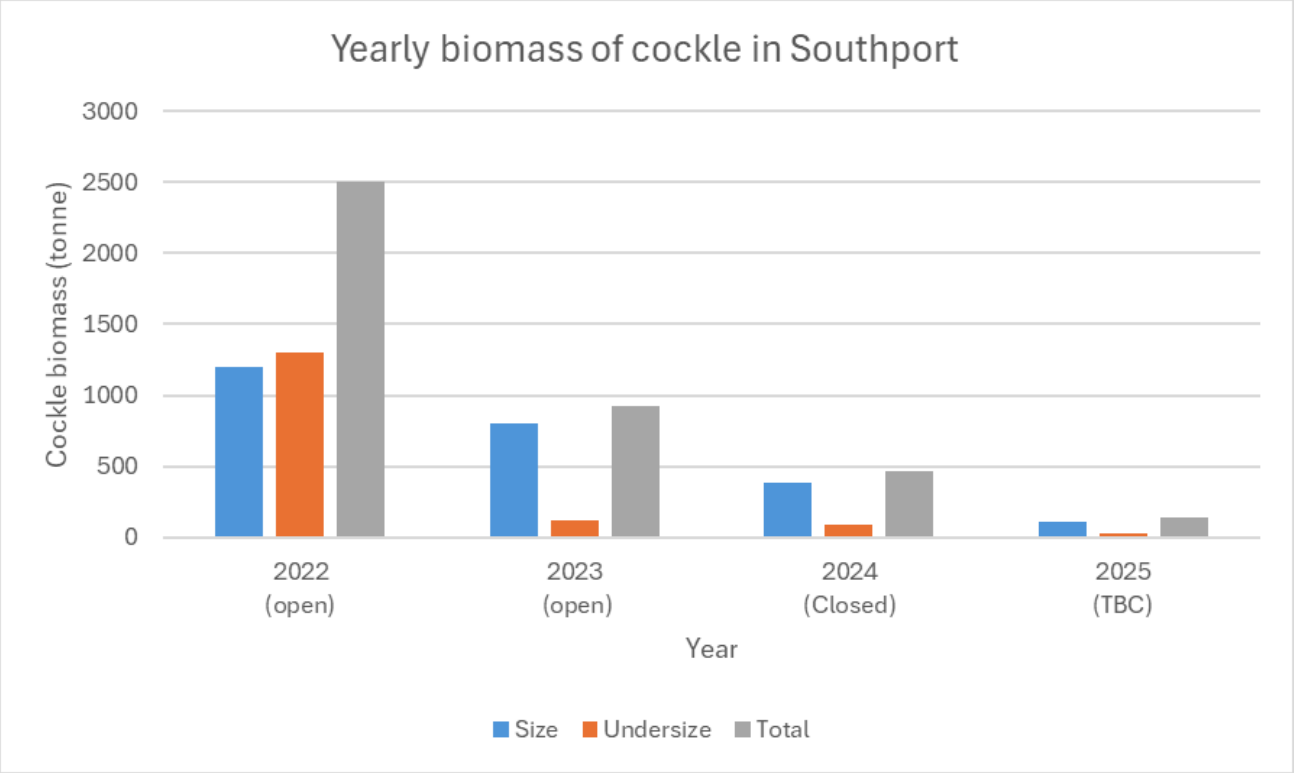


Figure 2.2.1. The yearly biomass of size, undersize and total cockle on Penfold cockle bed from 2022 to 2025

This year there has been a further decrease in the biomass of both size and undersize cockle across the bed. The bed has continued to decline since 2022, and received no obvious spat settlement that has survived to contribute to a new population. In addition, the total area where cockle has been found has also decreased.

A 2025 spat settlement has been seen this year, though this is not considered in biomass calculations due to its high variability, and survivability through the winter. With few juvenile cockles (<25mm) left on

the ground, there is not the younger cohort of cockles available to grow on to size in the coming years and sustain its population on the bed.

b. The density of size and undersize cockle on Southport

There has been a decrease in the density of cockle across the bed. Average density of size cockle on Southport is 3 cockle per m2. This is a significant decrease from 14 per m2 in July 2023.

Average density of undersize cockle at 7 cockle per m^2 also remains low.

Less than 5mm cockle are not used in the undersize density or biomass figures due to the highly variable nature of survivability.

Summary

The results of the 2025 Ribble cockle survey show:

1. The biomass of size cockle has continued to decreased by approximately 50% each year since 2022
2. The biomass of undersize cockle is significantly low at only 24 tonnes across the extent of the bed
3. The bed extent over which cockles are found has also decreased by almost half.
4. There is little to know undersize stock present to grow through next year and contribute to a following year's fishery
5. The average density, and maximum density of size cockle has decreased.

Ribble cockle fishery recommendation:

Officers will not be recommending Penfold opened this 2025/26 fishing season (see page 27 for recommendation)

This recommendation is based on the following reasons:

1. **Minimum biomass of size cockle –** There is insufficient cockle biomass to support a fishery at this time.

2. **There is insufficient undersize biomass –** There is minimal size cockle biomass present to contribute to the following year's fishery.

2.3 Wirral coast cockle beds:

Leasowe

The location and extent of the Leasowe cockle bed on the Wirral Coast is provided in Figure 2.3.1. This year officers inspected the bed on June 30th. The full survey report is detailed in Annex 2.

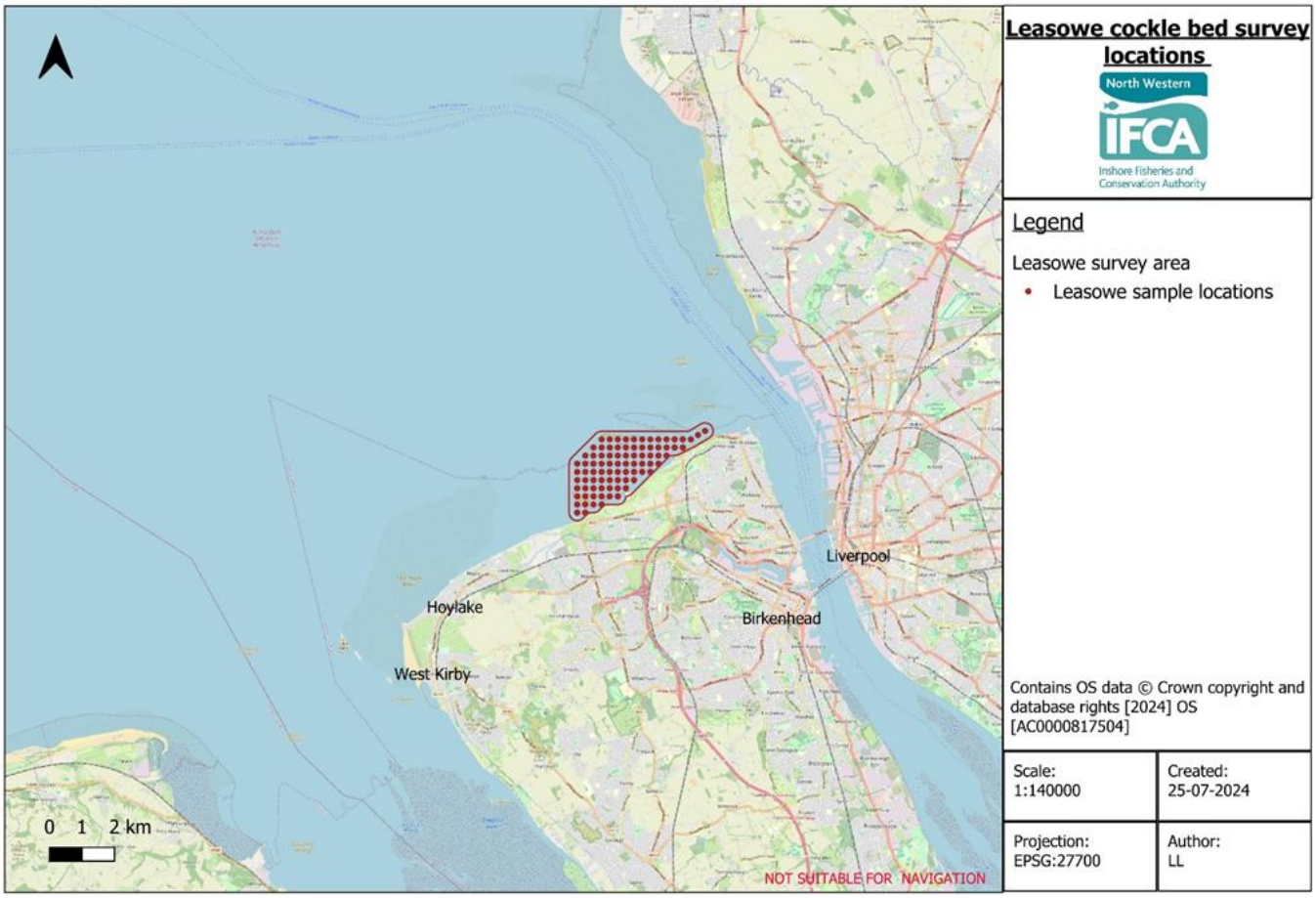


Figure 2.3.1. The location of surveyed points on the Leasowe cockle bed June 2025

a. Total biomass estimates

Estimates of undersize, size and total cockle biomass are provided in table 2.3.1 from 2017 to July 2025 for comparative purposes.

Table 2.3.1. The biomass of size, undersize and total biomass of cockles on Leasowe cockle bed from 2017 to 2025. *figures represent the max cockle biomass

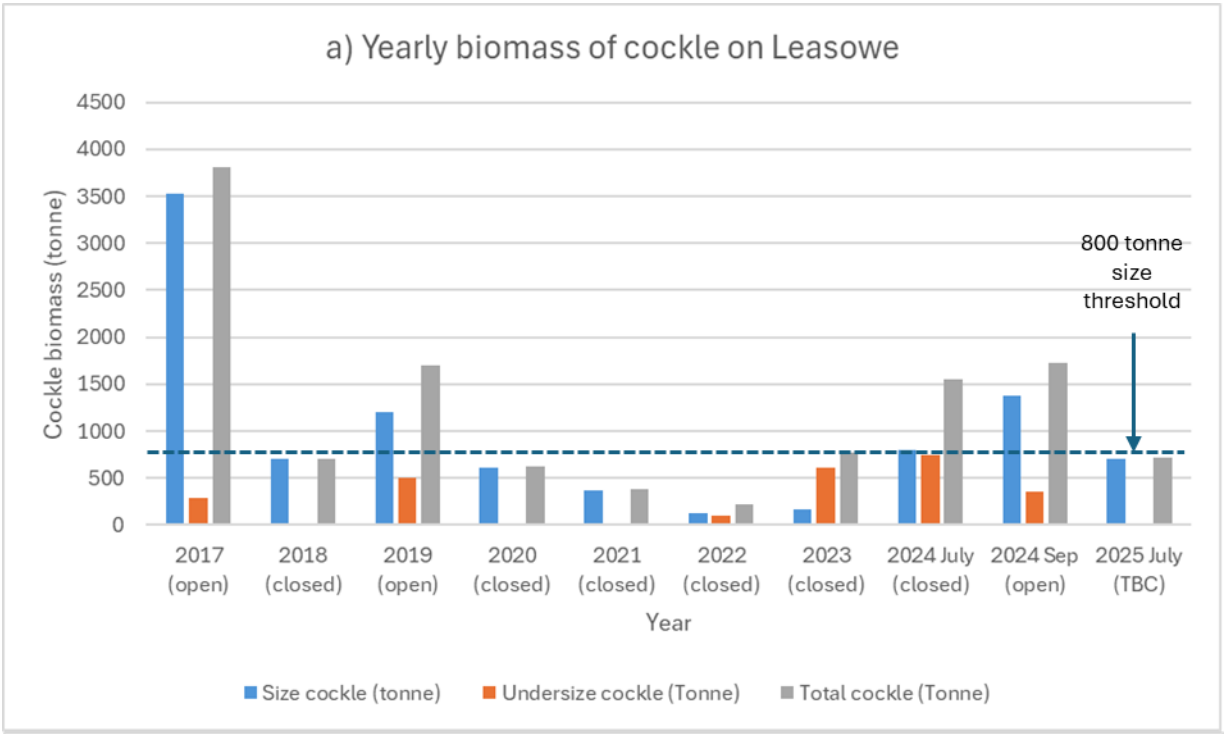
Year	Leasowe cockle bed				Bed opened
	Area (ha)	Size cockle (tonne)	Undersize cockle (tonne)	Total cockle (tonne)	
2017	212.4	3523.5	292.8	3815.8	Open
2018	238	700	10	710	Closed
2019	220	1200	500	1700	Open
2020	199.5	607	20	627	Closed
2021	206	367	16.5	383.5	Closed
2022	225	120	100	220	Closed
2023	235	171	604	775	Closed
2024 (July)	213	799	751	1550	Closed
2024 (September)	256	1370	350	1720	Open
2025 (July)	162.5	705	8	713	TBC

Figure 2.3.2 shows the data from table 2.3.1 in graphical form to demonstrate the trends in cockle biomass on Leasowe since 2017 (a and b).

The total biomass of cockle has decreased from approximately 1720 tonnes in Sep 2024, to 713 tonnes in June 2025. The total biomass of size cockle has decreased to 705 tonnes (Table 2.3.1), below the minimum size threshold of 800 tonnes required to open a fishery.

Figure 2.3.2.b indicates the trend in the biomass of size (blue) and undersize (orange) cockle for Leasowe since 2017. This year, both size and undersize cockle biomass have decreased.

The majority of stock on the bed is size, with very little (approx.8 tonnes) of juvenile stock on the bed available to grow on.



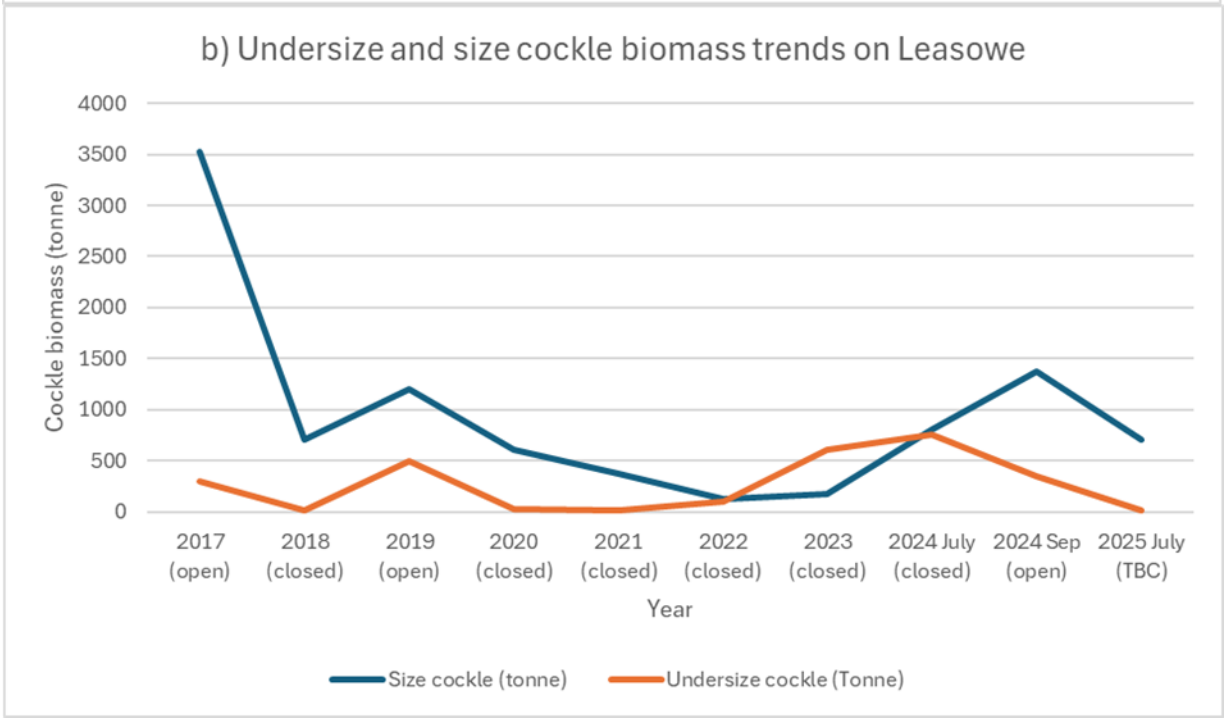


Figure 2.3.2. Summary of Leasowe cockle survey results from June 2025. a) shows the yearly biomass of size, undersize and total on Leasowe from 2017 to 2025, b) the relational trend in size and undersize cockle from 2017 to 2025. The blue line shows the 800 tonnes of size biomass required for bird food, anything surplus to this can be made available to the fishery via a TAC.

b. Density on Leasowe June 2025

The average density of size cockle in the area where cockle is present on Leasowe is 40 cockle per m^2. This is an increase from 6 per m^2 in July 2023.

Average density of undersize cockle on Leasowe down at 19 cockle per m^2 compared with 28 per m2 in 2024 and, 863 per m^2 in July 2023. Likely the result of undersize growing on, and natural mortality.

However, it is also important to note that the total area overwhich cockle is present has also decreased from 256 hectares in 2024, to 163 hectares in 2025. Indicating there is less cockle, over a smaller area.

c. Biomass and composition of cockle size classes

The composition of size classes across a bed is important to consider as it has implications for fisheries management, and fishing highly mixed stock may have an impact on juvenile cockles survivability.

This year, the composition is predominantly size (25 mm+) at 701 tonnes, 7 tonnes in the 20-25mm category and 4 tonnes in the 5-15 mm category. Leaving little size stock to grow on and contribute to size stock cohort in the coming year.

d. Historical TAC requirements on Leasowe

Previous HRA agreements (2017, 2019, 2024) for the total size biomass available for birds (dependent on bird numbers) is between 700 and 900 tonnes. This is based on food requirements for oyster catcher that target size cockle. This year the approximate size biomass on Leasowe is 705, below the minimum threshold.

Leasowe cockle is known to grow quickly in the summer months, however, the remaining 8 tonnes of undersize biomass is unlikely to grow on to support a significant increase over the 800 tonne minimum threshold of size required this year.

A threshold of 800 tonnes is required for birds, and a minimum TAC of 300 tonnes for a fishery has been set by NWIFCA, for reasons related to viability, and enforcement practicalities. Therefore, size biomass would need to reach 1100 tonnes before a fishery would be open.

Leasowe cockle fishery recommendation:

Officers will not be recommending Leasowe opened this 2025/26 fishing season (see page 27 for recommendation)

This recommendation is based on the following reasons:

3. **Minimum biomass of size cockle for bird food requirements is not met –** Historically, 800 tonnes of size cockle has been required under HRA conditions to support oyster catcher on the Leasowe cockle bed (see 2017 https://www.nw-ifca.gov.uk/app/uploads/NWIFCA-MNNWF-DE-LB-COCKLE-Leasowe-FINAL-small.pdf and 2019 HRA's https://www.nw-ifca.gov.uk/app/uploads/NWIFCA-EMS-North-Wirral-Leasowe-Cockle-Fishery-HRA-Sept-2019.pdf). Size biomass of cockle on Leasowe is currently 799 tonnes.

4. **There is insufficient undersize biomass to grow on over the summer months –** though Leasowe is know to grow quickly, it is highly unlikely the low biomass of undersize will grow on to provide the additional size biomass required to open a fishery.

Other cockle bed recommendation:

Recommendation 1: Officers recommend that all other District cockle beds, including, Middleton, Leven, Leasowe, Aldingham and Newbiggin, and Southport, remain closed for the rest of the closed season, and from September 1st 2025 under paragraph 15 of Byelaw 3.

This recommendation is based on the factors detailed in the relevant sections above.

NWIFCA, 23rd of July 2025