NWIFCA TSB Quarterly Meeting: 5th November 2025

REPORT NO. 1

SURVEY AND INSPECTION REPORT
5TH AUGUST – 22ND OCTOBER 2025

Purpose: **To report on cockle and mussel surveys and inspections in the last quarter, and update members on the mussel and cockle fisheries in the district.**

Recommendation: **Receive the report and related survey and inspection notes.**

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, and the aim of the inspections is to gather information in areas that either; a) do not have enough stock to warrant 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 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 140 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 5th of August and the 22nd of October, NWIFCA science officers carried out three mussel surveys and one mussel inspection across NWIFCA District. Full survey reports are provided in Annex 1 of this report. The location and extent of the beds inspected are provided in Figure 1.

Table 1. Mussel survey and inspections this quarter.

Surveys and inspections this quarter	Date
Mussels	
Morecambe Bay (Figure 1)**:**	
Wyre End	10-08-2025
Duddon	11-08-2025
Fleetwood (Kings, Rossal, Perch and Black scar)	12-08-2025
Low Bottom (Dutch Wand survey)	26-08-2025
Walney Channel (Dutch Wand survey)	09-09-2025
Foulney (Dutch Wand survey)	10-09-2025
Black Scar Inspection	23-09-2025

a) Morecambe Bay mussel beds overview:

The location and extent of mussel beds surveyed in Morecambe Bay from 5th of August and the 22nd of October is provided in Figure 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.

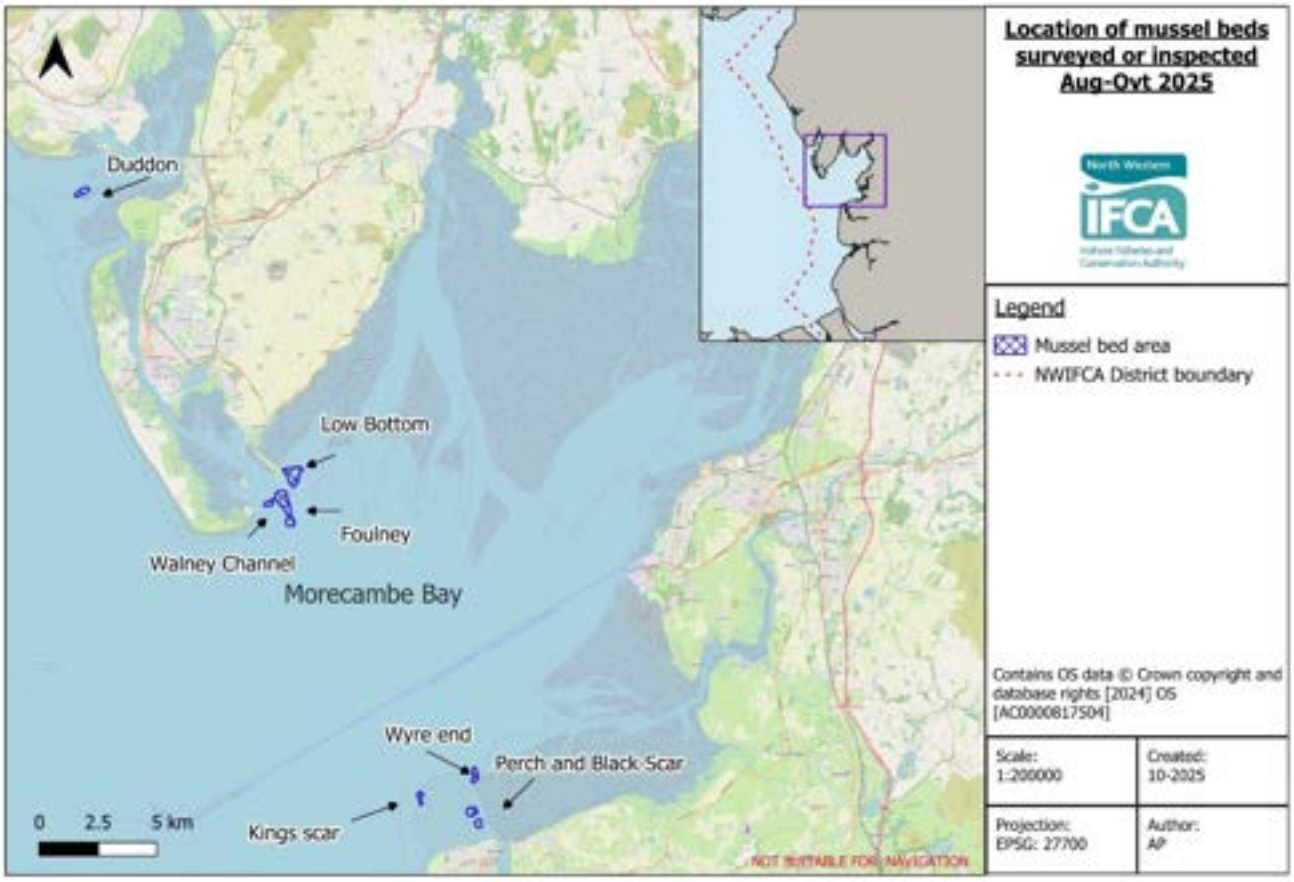

Figure 1. The location of surveyed mussel beds in Morecambe Bay from 5th of August to 22nd October 2025.

OVERVIEW:

1) Foulney main (Dutch wand survey)

From the transect and sample data the total mussel bed surveyed was 39 hectares. There was a large scoured area with no mussel separating the main Foulney bed and Foulney Island. There is approximately 1424 tonnes size mussel and 1670 tonnes undersize mussel currently on the bed. This is a decrease in the biomass of mussel on the bed from the same time last year, which typically has remained consistent over at least the past four years.

From the length frequency data the majority of mussel present on Foulney Skear is currently a mix of size and undersize with a wide spread of mussel from 5mm to 73mm but mainly between 17mm and 29mm. Size mussel (>45 mm) is predominantly on the island, but this is low density and has started washing off. There was evidence that the seed settlement identified higher up the bed in the spring has grown on.

2) Low Bottom (Dutch wand survey)

The total mussel bed surveyed was 31.4 hectares. There is approximately 1258 tonnes size mussel and 177 tonnes undersize mussel. From the length frequency data, a significant proportion of mussel present on Low Bottom bed is currently size, with the majority ranging between 45mm – 50mm.

3) Walney Channel (Dutch wand survey)

The total mussel bed area was 7.2 hectares, with 190 tonnes size mussel and 3 tonnes undersize mussel. The majority of mussel surveyed was between 52 mm and 63 mm. Size mussel was present across most of the bed, and very little undersize observed.

4) Fleetwood (Kings, Rossal, Perch and Black Scar)

Rossall Scar

The mussel on Rossall Scar was patchy and interspersed with cobble and small patches of dead *Sabellaria alveolata*. The mussel was all from a settlement in 2025, and 15-20mm in length.

Neckings Scar

No scar was observed at Neckings Scar, this is possible due to the time before low water.

Kings Scar

The mussel on Kings Scar was patchy and varied across the bed in density, ranging from 20% coverage to 80-90%, most of the scar has had a 2025 mussel settlement, the mussel was 10-20mm and made up most of the mussel on the bed.

Perch Scar

The bed has had significant scouring since the inspection in July, likely due to storm Floris. The coverage of the remaining mussel was approximately 10% with large area of bare mussel mud.

Most recent Black Scar survey provided below.

5) Fleetwood (Black Scar) Inspection

Black Scar was inspected on September 23rd following reports of significant scouring post recent storms. Officers noted large areas of scour and a significant reduction in the coverage of mussel over much of the area, though deep mud remained and little cobble boulder was exposed during that time. The proposed hand gathered mussel fishery was deemed non-HRA compliant post this survey.

6) Wyre end inspection

On the main area, there has been a 2025 settlement of seed mussel, which was of high density coverage over the majority of the raised area. Mussel was 10-20mm in size and between 90-100% coverage. Towards the end of the bed in the North, there was a large area of exposed cobble and evidence along the western edge of significant scouring.

7) Duddon inspection

There is an area of mussel present in the channel. Half of the bed area was exposed on the Northern boundary, however a large proportion of the bed remained underwater during the inspection. Mussel size across the bed was uniform at 15-20mm in length from a 2025 settlement. Across the

whole bed there were patches of bare sand among the mussel. In the central area of the bed the mussel was patchy and less dense. Areas of bare cobble were present on the outer edges of the bed.

2. COCKLES

a) Solway grab survey

The historical cockle bed known as Middlebank had not be surveyed since 2015. In 2014 and 2015 the area was surveyed from an industry vessel using a suction dredge. Prior to this grab samples were completed by CSFC.

Officers surveyed the area from NWP using a day grab. Due to tide and depth constraints, 36 stations were sampled from a 500m grid. Five of the grabs contained cockle, with a total of 7 cockles being present in all the grab samples.

Future surveys are under consideration. The difficulties with tide, depths of water and use of the grab mean that an on-foot survey may be preferrable in this area, the feasibility of which is being investigated.

3. BIVALVE SURVEYS

b) Leasowe clam survey

Officers reinitiated the large bivalve mollusc survey of the North Wirral foreshore this summer. The purpose of the survey was to identify the location, extent, and prevalence of Otter clams (*Lutraria lutraria*), and Sand gaper (*Mya arenaria*) species.

These species are protected under Byelaw 2 which prohibits the removal of all shellfish from the foreshore. This byelaw was introduced in 2022 in response to large quantities of shellfish being removed by recreational fishing. Surveying the site allows us to identify any changes in the location and extent of the species post the introduction of the byelaw.

The full survey report is not publicly available due to sensitivities regarding poaching and the location of the shellfish. A second survey is scheduled for spring 2026, and will contribute to the Byelaw 2 review evidence.

Annabel Plumeridge, North Western IFCA Head of Science, 22nd October 2025

Annex 1

Mussel Inspections and surveys:

Foulney Dutch Wand Mussel Survey

09&10-09-2025 (Main bed)

10-10-2025 (Island)

Officers present: AP, GG, JH, ID, RL, CT

Low water: 09/09 06:57 1.1m (Liverpool Tides)
10/09 07.30 0.8m
10/10 08:27 1.0m

Survey method: Dutch Wand

Line transects were completed across the mussel bed using a Dutch Wand. Transects start and finish at the edge of the bed as shown in Figure 2. The number of hits and misses of live mussel were recorded to give percentage cover. The bed area was calculated from the start and end of transects and from observations of officers whilst surveying. It was not possible to walk the perimeter of the bed due to time and tide restraints.

A mussel sample was taken every 25 hits using a 10 cm diameter corer. 12 transects were completed and 40 samples collected. The total weight of live undersize and size mussel was recorded as well as the size frequency of each sample.

Note, not all size mussel is fishable due to the presence of fouling species on slower growing individuals or the mixing of undersize and size in close proximity that prevents the removal of sizeable mussel without removing undersize. Algae growth was present across a portion of the mussel bed.

From the transect and sample data the total mussel bed surveyed was **39 hectares**. A separation was made between the main Foulney bed and Foulney Island. Transect ten was ommited because no mussel was present.

Biomass

1424 tonnes size mussel and **1670 tonnes undersize mussel.**

Length Frequencies

The total length frequency for the surveyed bed is provided in Figure 3. From the length frequency data the majority of mussel present on Foulney Skear is currently a mix of size and undersize with a wide spread of mussel from 5mm to 73mm but mainly between 17mm and 29mm.

Maps

The frequency of each size class of mussels per sample has been mapped in Figure 4 with the size of the pie adjusted for sample weight standardised to kg/m^2. The weight of the size and undersize mussel has been mapped and represented in Figure 5.

It can be seen in Figures 4 and 5 that the size mussel >45 mm is predominantly on the lower half of the main skear and on the island. Undersize mussels were mainly congregated higher up the main skear with some mixed in with size mussel in the middle of the skear.

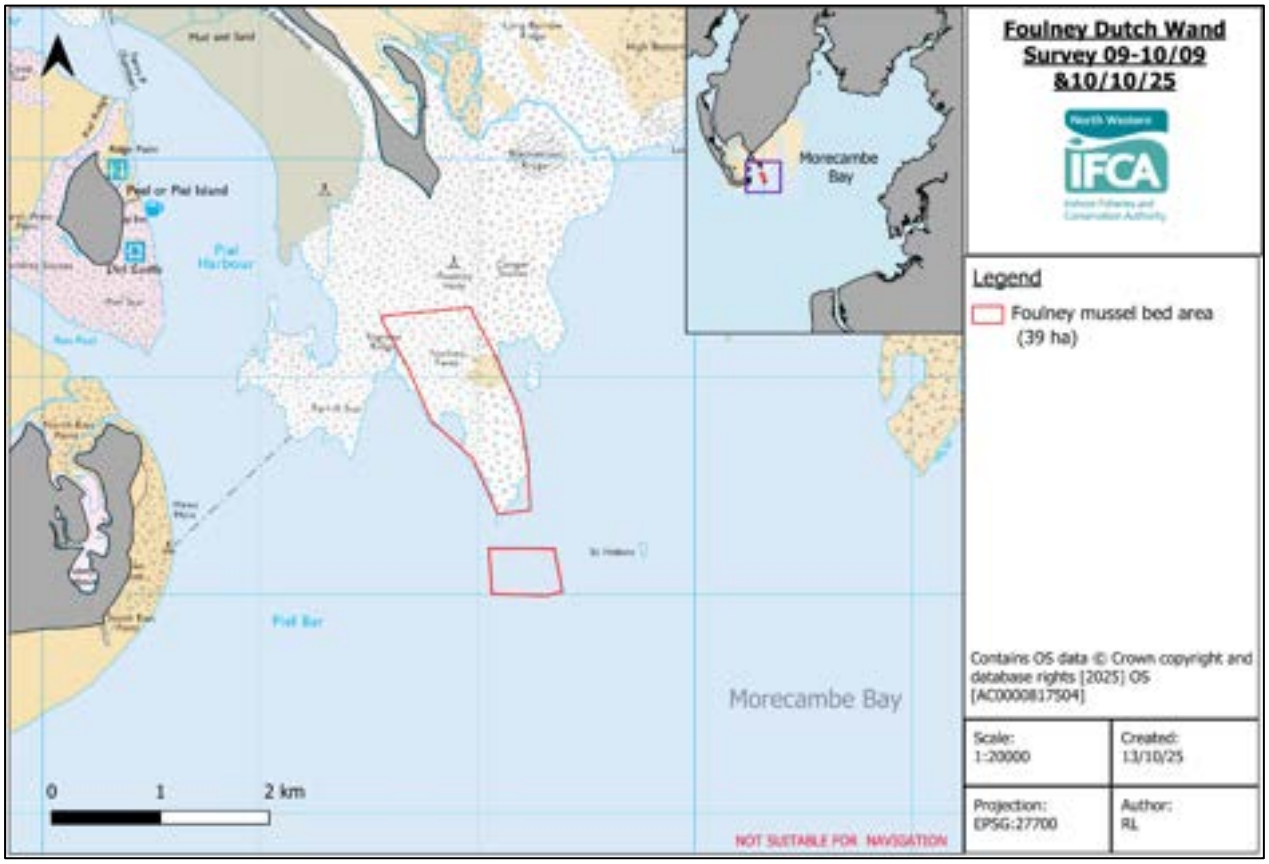

Figure 1: Location of Foulney mussel bed

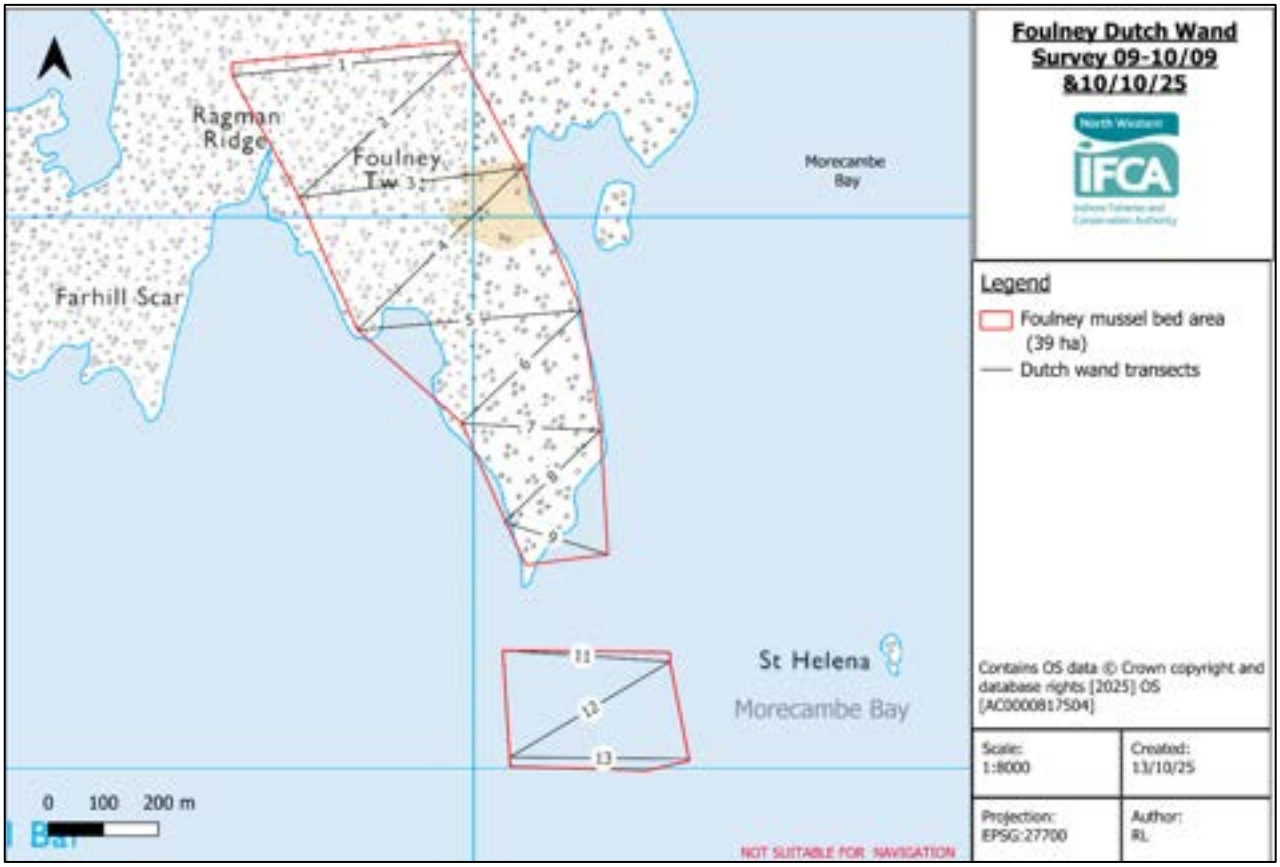

Figure 2: Foulney Dutch Wand survey transects and estimated bed area

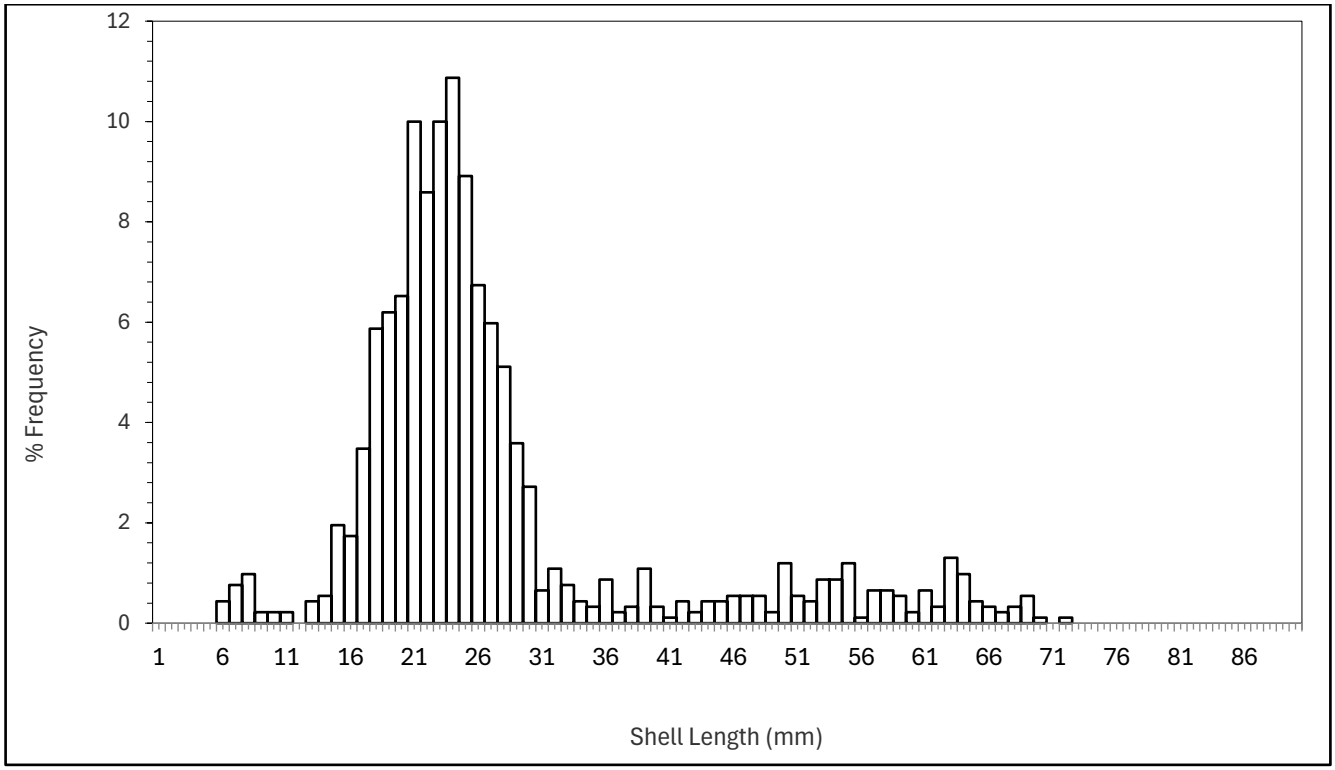

Figure 3: Histogram showing size frequency of mussels from all samples on Foulney

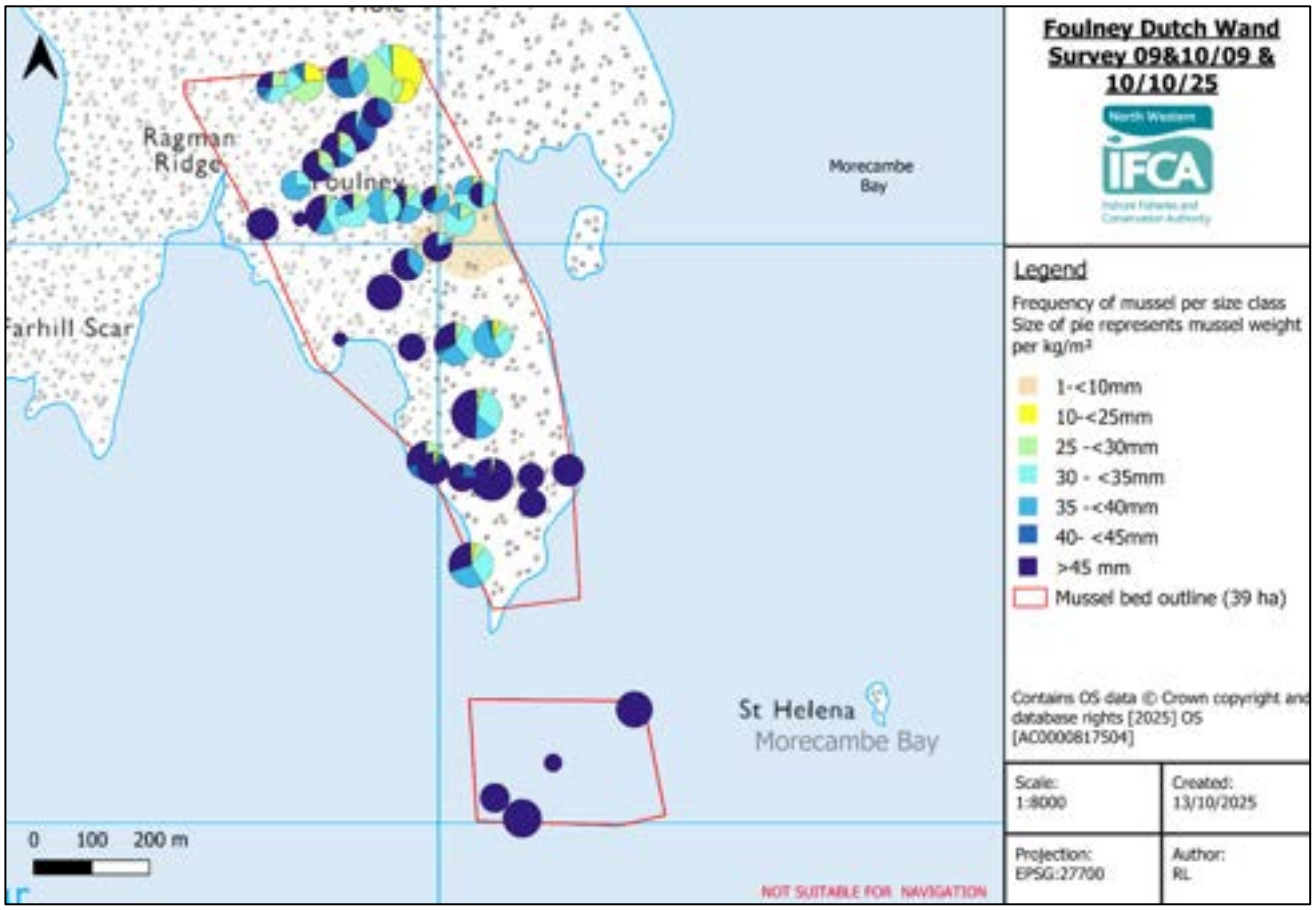

Figure 4: Frequency of mussel by size class

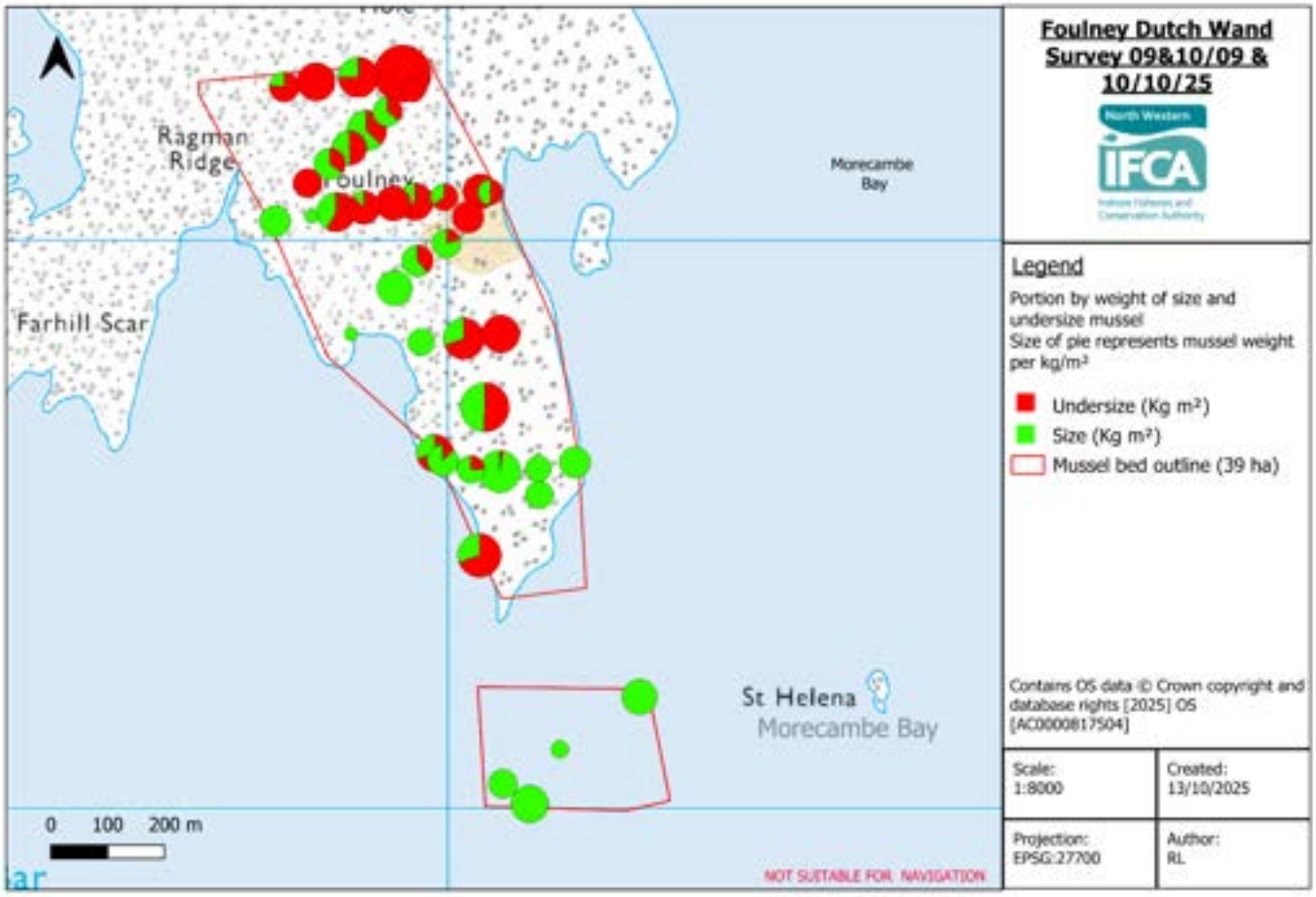

Figure 5: Proportion of size and undersize mussel by weight represented as kg/m^2

Low Bottom Dutch Wand Mussel Survey 26-08-25

Officers present: AP, RL

Low water: 08:36 1.3m (Liverpool Tides)

Survey method: Dutch Wand

Line transects were completed across the mussel bed using a Dutch Wand, transects start and finish at the edge of the bed as shown in Figure 2. The number of hits and misses of live mussel were recorded to give percentage cover. The bed area was calculated from the start and end of transects and from observations of officers whilst surveying. It was not possible to walk the perimeter of the bed due to time and tide restraints. A mussel sample was taken every 25 hits using a 10 cm diameter corer. 6 transects were completed and 23 samples collected. The total weight of live undersize and size mussel was recorded as well as the weight for each size category of each sample. Note, not all size mussel is fishable due to the presence of fouling species on slower growing individuals or the mixing of undersize and size in close proximity that prevents the removal of sizeable mussel without removing undersize. Some size mussel on this bed were fouled with barnacle.

From the transect and sample data the total mussel bed surveyed was **31.4 hectares**.

Biomass

1258 tonnes size mussel and **177 tonnes undersize mussel**.

Length Frequencies

The total length frequency for the surveyed bed is provided in Figure 3. From the length frequency data the majority of mussel present on the Low Bottom bed is currently a mix of size and undersize mussel ranging from 7mm to 66mm with the majority size between 47mm and 56mm.

Maps

The proportion by weight of each size class of mussels per sample has been mapped in figure 4 with the size of pie representing mussel weight standardised to kg/m^2. The weight of the size and undersize mussel has been mapped and represented in figure 5.

It can be seen in figure 4 and figure 5 that size mussel >45mm mussel is found across the entire survey area. In the north part of the bed 40-45mm mussel can be found. A small amount of 10-25mm mussel is located in the north east area of the bed.

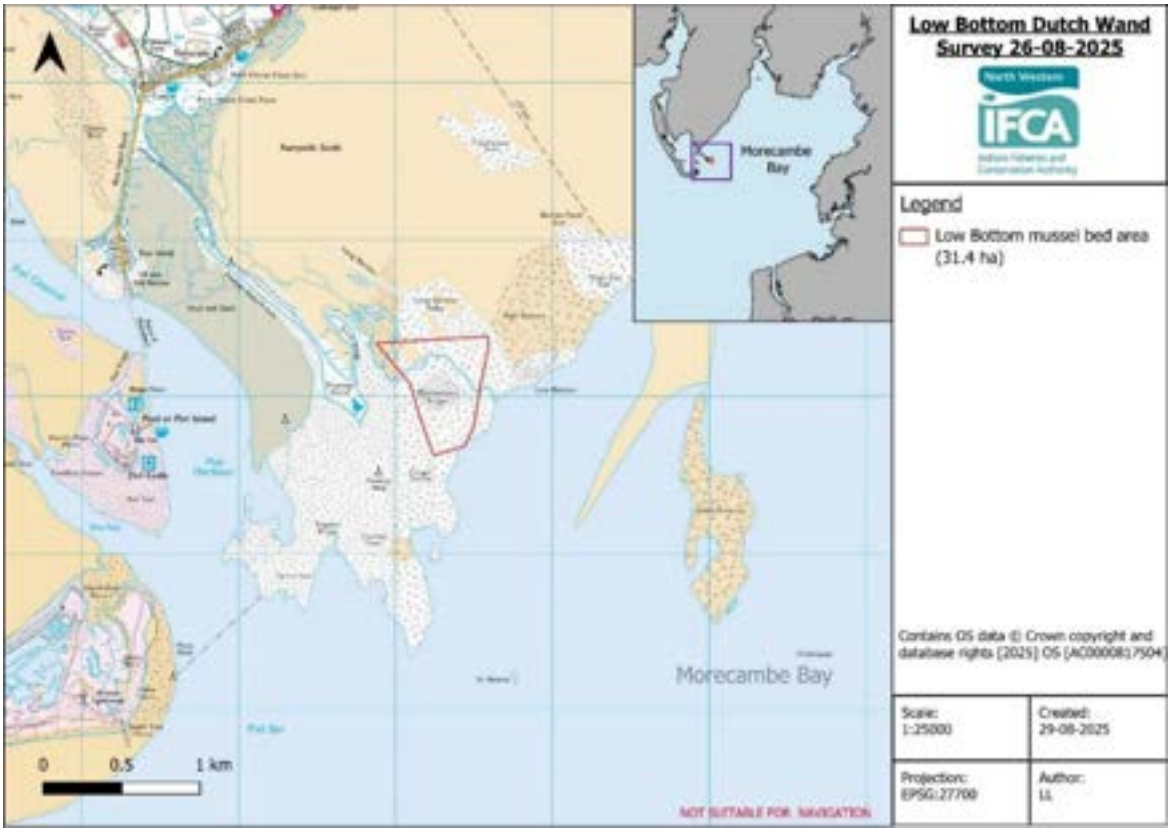

Figure 1: Location of Low Bottom Mussel Bed surveyed 26-08-2025

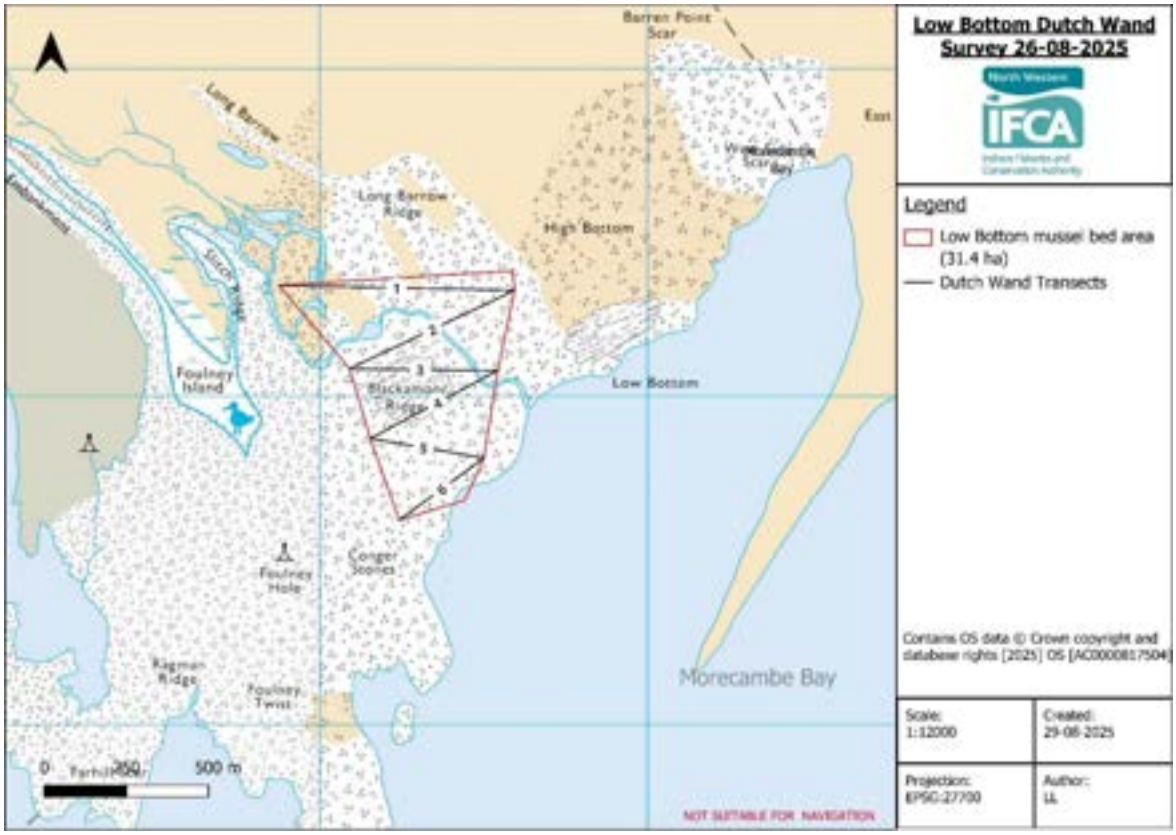

Figure 2: Low Bottom Dutch Wand survey transects 26-08-2025

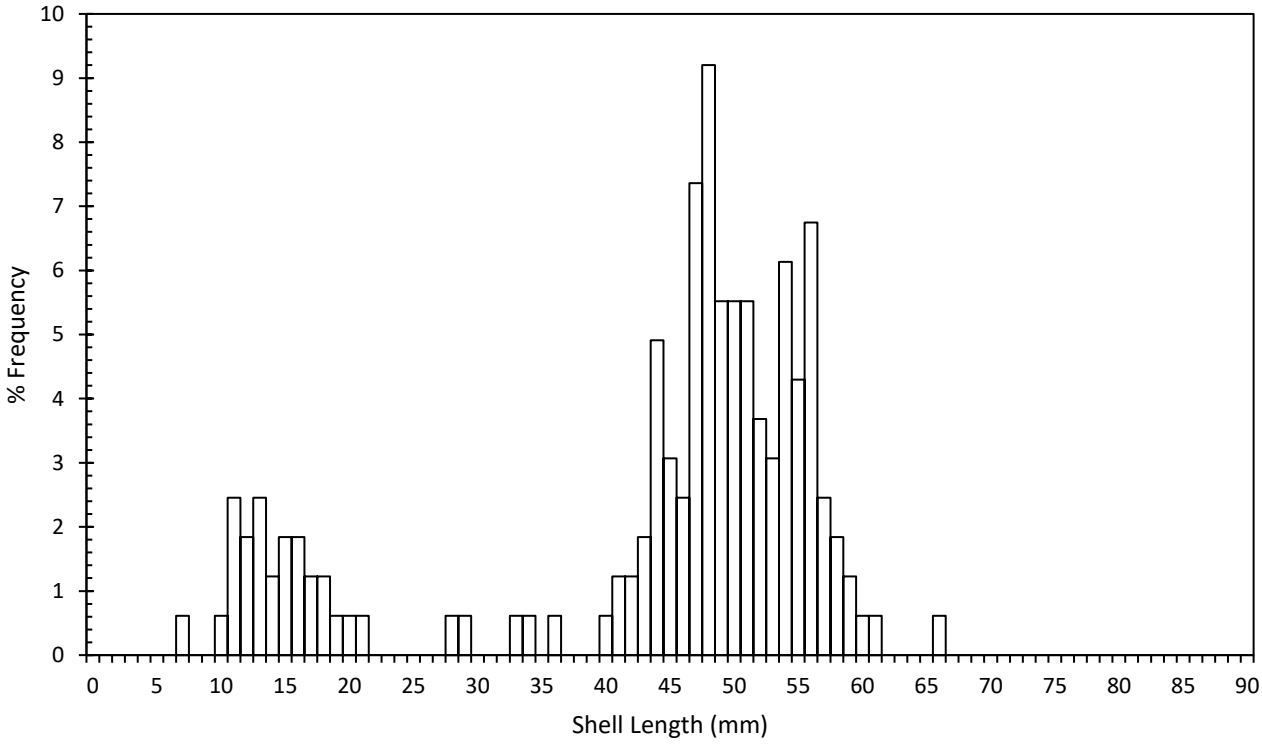

Figure 3: Histogram showing size frequency of mussels from all samples on Low Bottom 26-08-2025

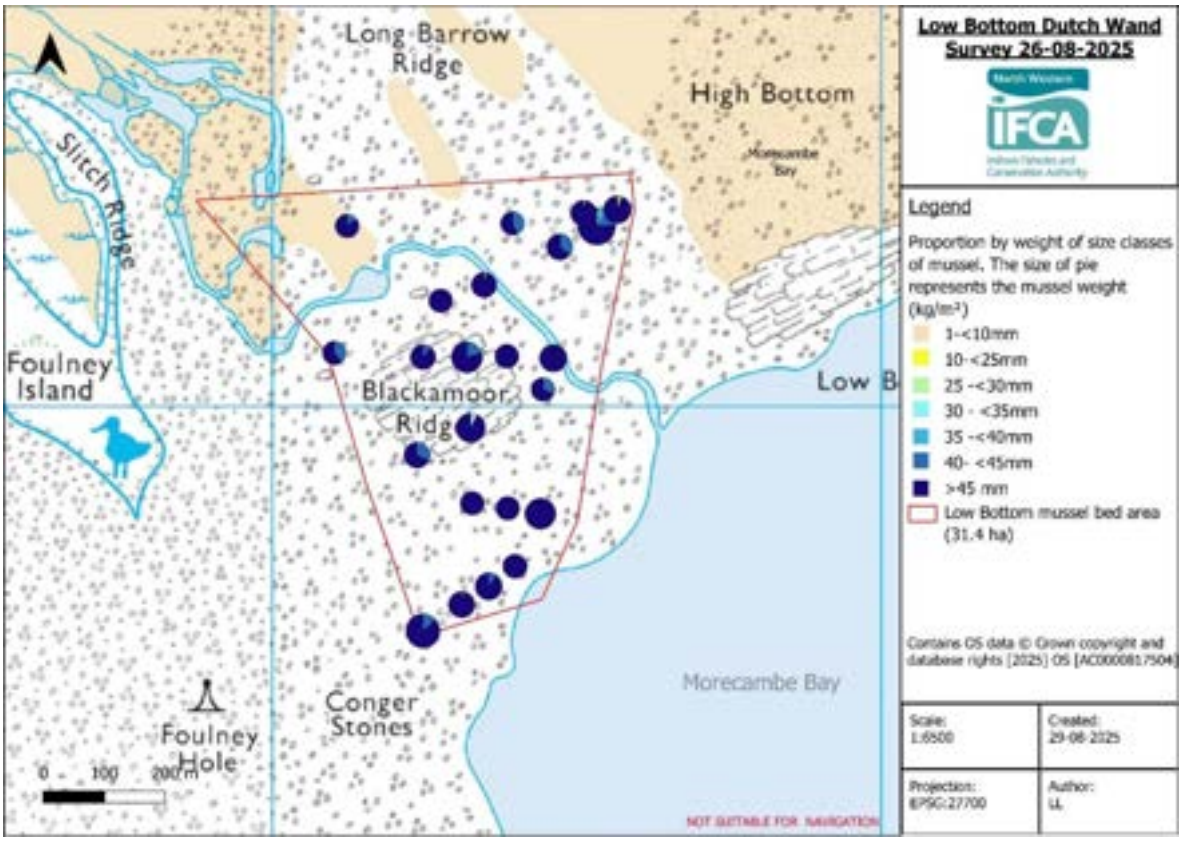

Figure 4: Proportion by weight of size classes of mussel

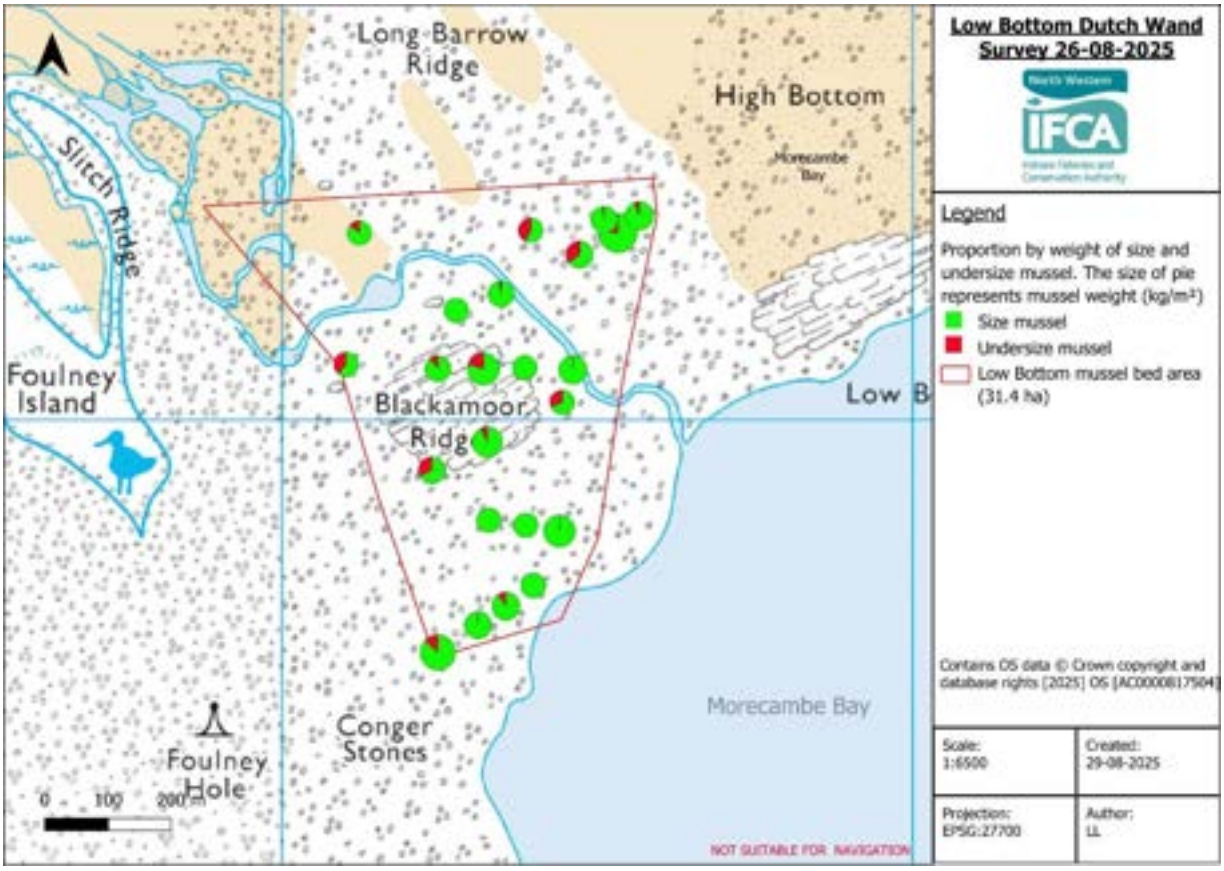

Figure 5: Proportion by weight of size and undersize mussel represented as kg/m^2

Walney Channel Dutch Wand Mussel Survey Note 09-09-25

Officers present: JH, GG

Low water: 07:37 0.8m (Liverpool Tides)

Survey method: Dutch Wand

Line transects were completed across the mussel bed using a Dutch Wand. Transects start and finish at the edge of the bed as shown in Figure 2. The number of hits and misses of live mussel were recorded to give percentage cover. The bed area was calculated from the start and end of transects and from observations of officers whilst surveying. It was not possible to walk the perimeter of the bed due to time and tide restraints.

A mussel sample was taken every 25 hits using a 10 cm diameter corer. Five transects were completed and 13 samples collected. The 6th transect surveyed in previous years was not completed due to lack of mussel on the Southern edge of the bed. The total weight of live undersize and size mussel was recorded as well as the weight for each size category of each sample. Note, not all size mussel is fishable due to the presence of fouling species on slower growing individuals or the mixing of undersize and size in close proximity that prevents the removal of sizeable mussel without removing undersize. Some size mussel on this bed were fouled with barnacle.

From the transect and sample data the total mussel bed surveyed was **7.25 hectares**.

Biomass

190 tonnes size mussel and **3 tonnes undersize mussel**

Length Frequencies

The total length frequency for the surveyed bed is provided in Figure 3. From the length frequency data the mussel present on the Walney Channel bed ranges from 21mm to 67mm, with the majority of mussel present size mussel between 52mm to 67mm.

Maps

The proportion by weight of each size class of mussels per sample has been mapped in Figure 4 with the size of the pie representing mussel weight standardised to kg/m². The weight of the size and undersize mussel has been mapped and represented in Figure 5.

It can be seen in Figure 4 and Figure 5 that the size mussel >45mm is present across the entire bed and there are only two sample areas where <45mm mussel is found. Very little undersize mussel was present in the survey area.

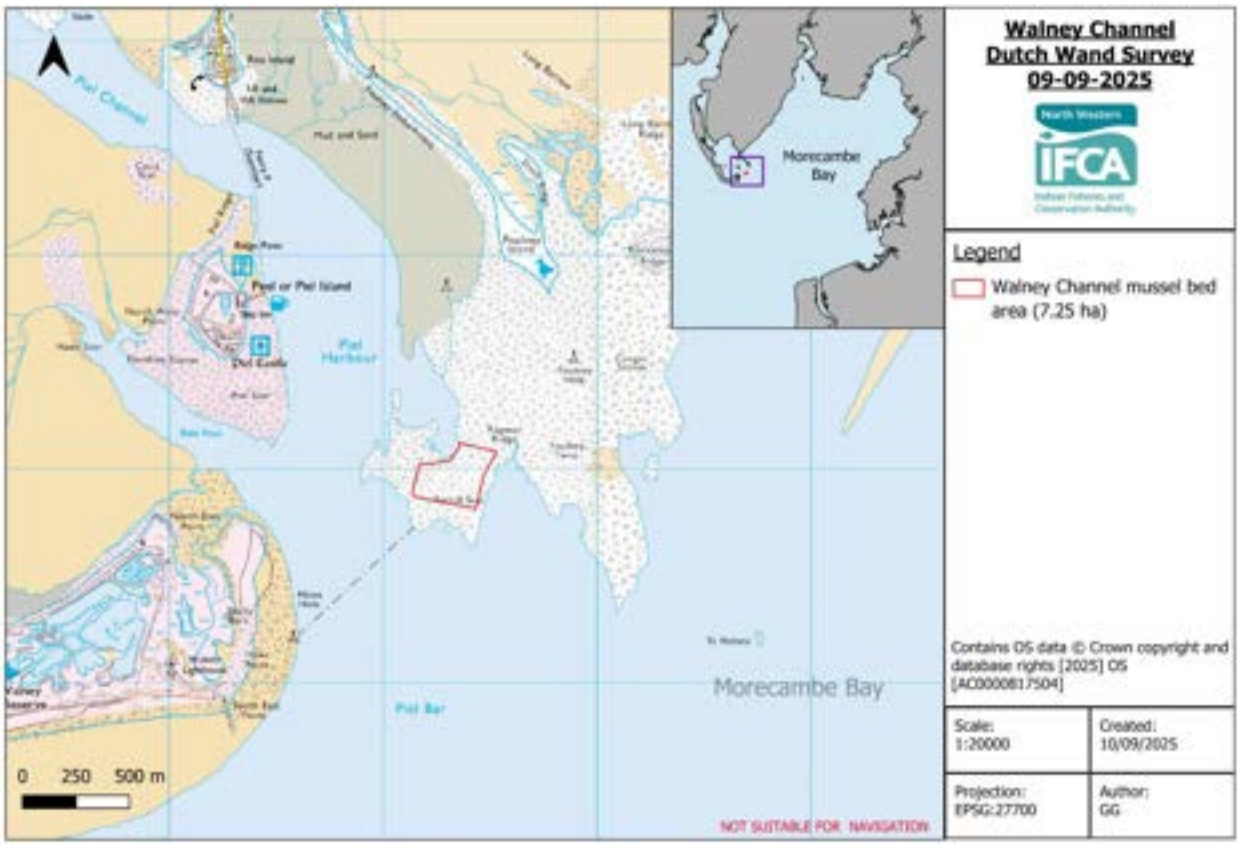

Figure 1 - Location of Walney Channel mussel bed 09-09-2025.

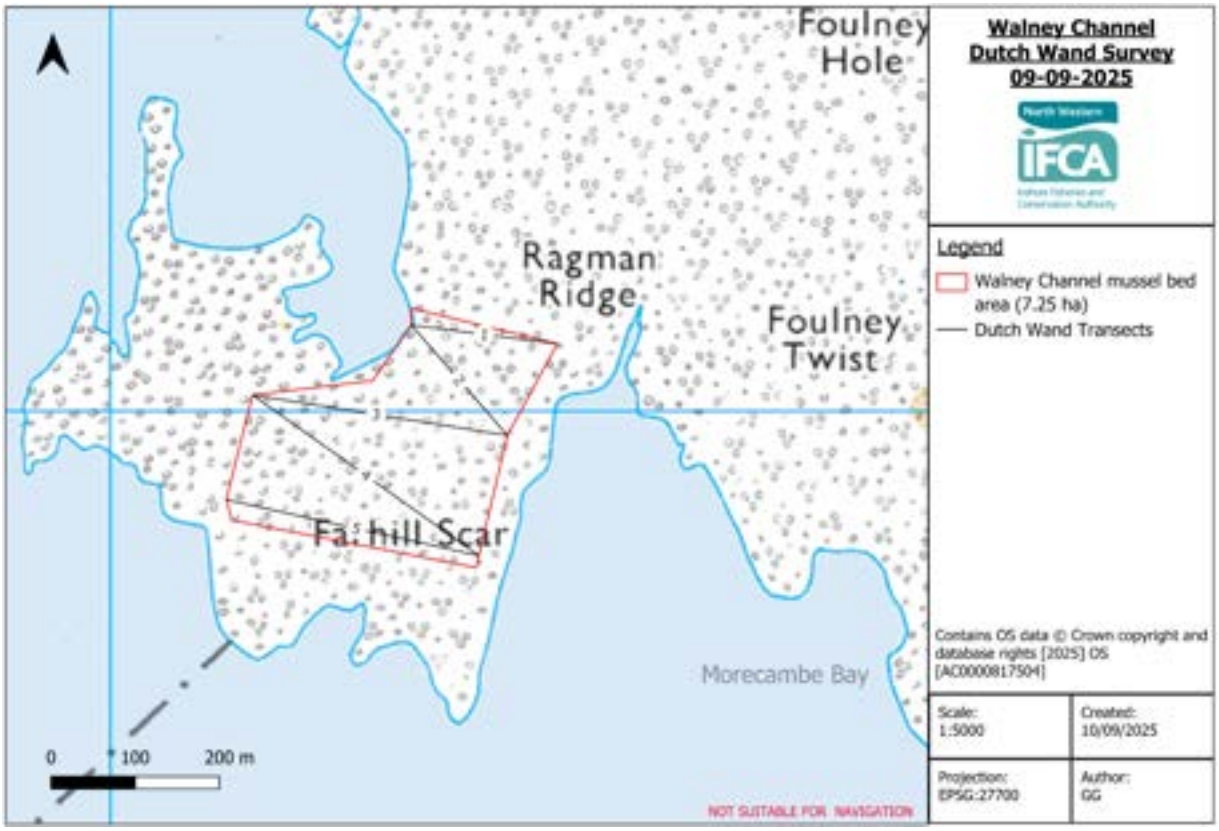

Figure 2 - Walney Channel Dutch wand survey transects and estimated bed area 09-09-2025.

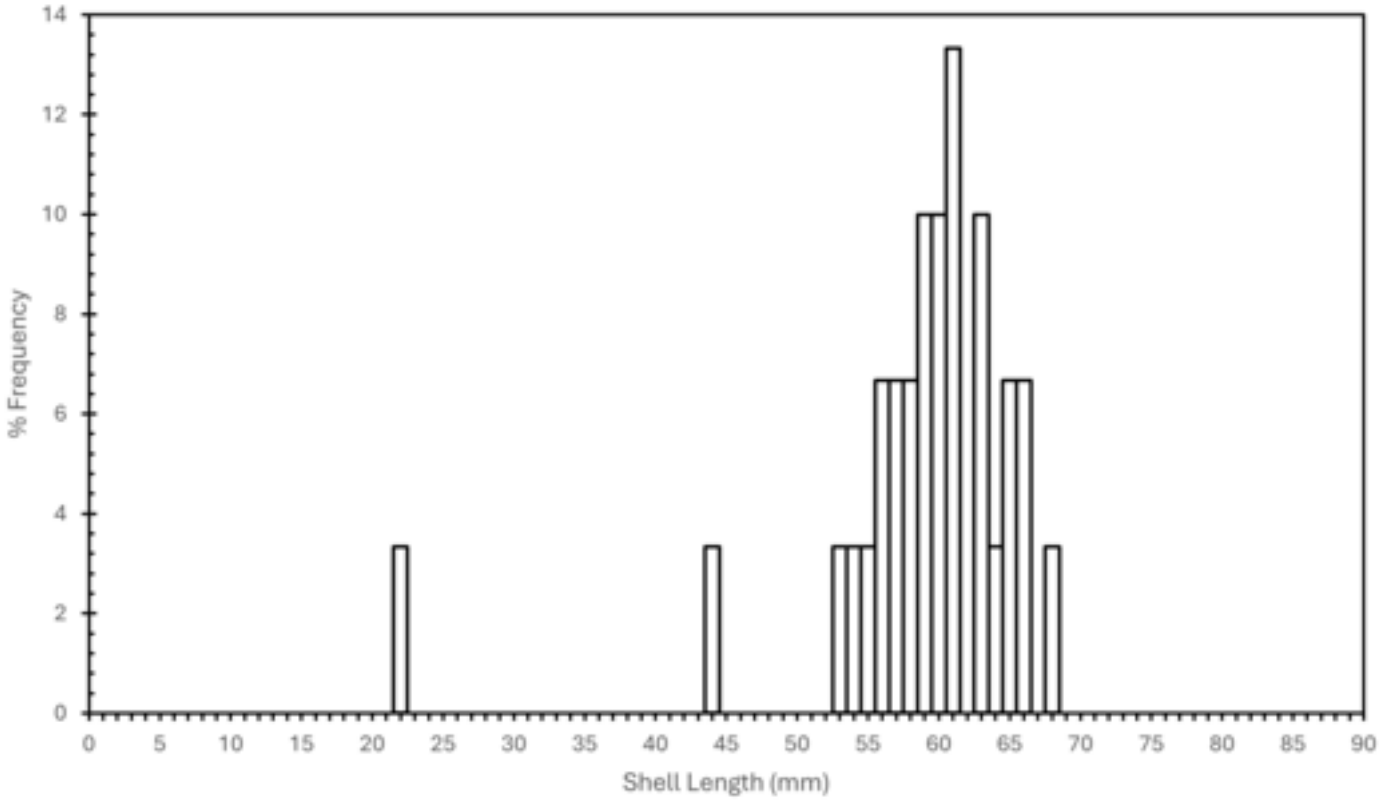

Figure 3 - Histogram showing size frequency of mussels from all samples on Walney Channel mussel bed 09-09-2025.

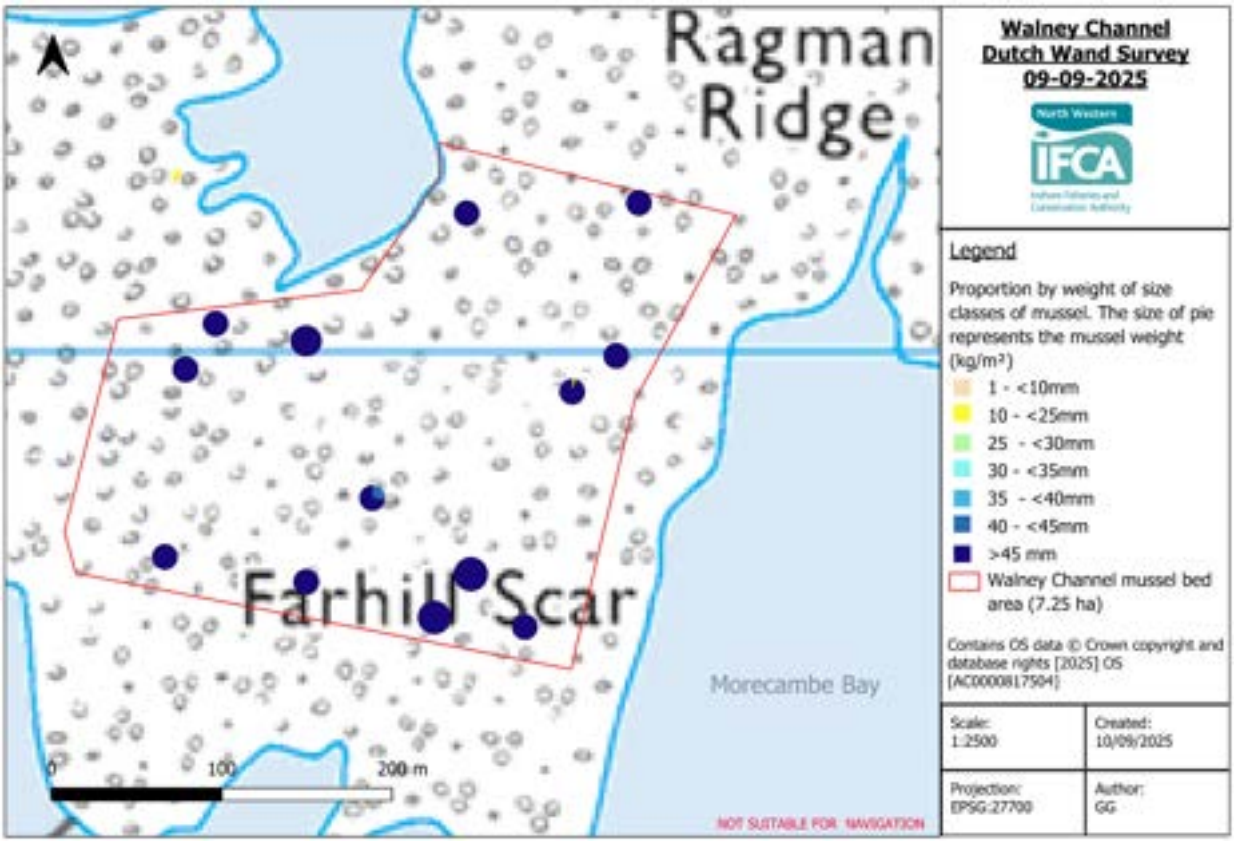

Figure 4 – Proportion by weight of size classes of mussel 09-09-2025.

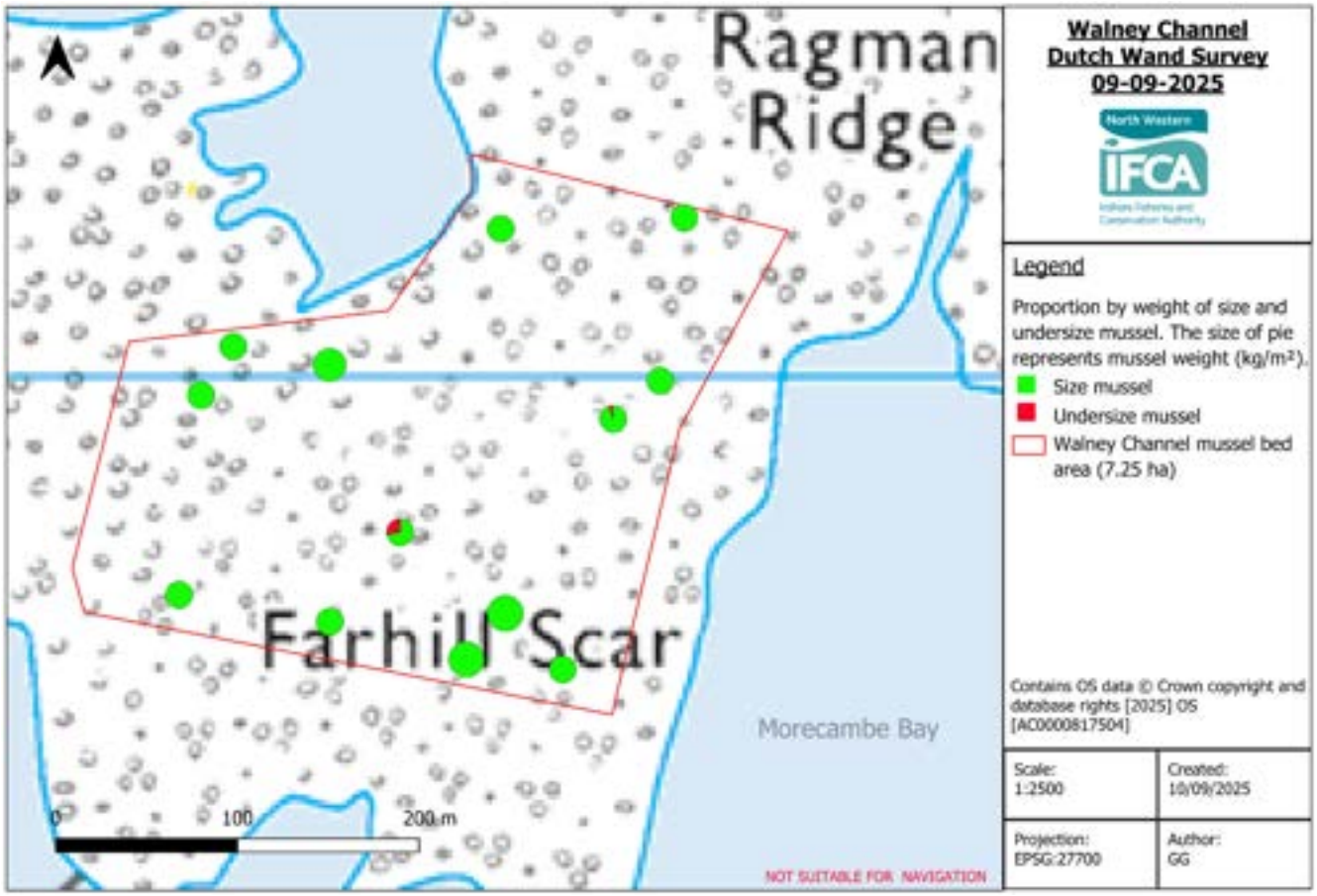

Figure 5: Proportion by weight of size and undersize mussel represented as kg/m^2 09-09-2025.

Black Scar Mussel Inspection 23-09-2025

Officers: AB AP

LW: 07:30 1.4m (Liverpool Tides)

Black Scar

There was 20-30% coverage of seed across the majority of the bed (Image 3 & 4), from the channel towards the centre. There was still thick mud present, but large areas of scour (Image 1), with little cobble showing through (Image 2). Towards the landward edges of the bed, the mud and sand thinned, and mussel became less dense. Mussel was uniformly undersize (<45mm). The areas of algae were no longer obviously present. The extent of the bed had also reduced in size, and it was now possible for officers to access the centre of the bed.

Perch Scar

Not inspected due to tide constraints

Figure 1: Map of Black scar September 2025

Image 1. Evidence of scour on Black scar

Image 2. Presence of deep mud on Black Scar

Image 3. Low density mussel left on landward edge of bed

Image 4. Presence of loose mussel on centre of Black Scar

Wyre End Mussel Inspection 10-08-2025

Officers present: JH, AP

Tides: LW 08:00 (1.4m) (Liverpool tides)

An inspection of Wyre End and channel areas of mussel was completed. The area of the main skear was mapped to determine the area shown in Figure 1. The total area of the bed was 14 hectares, with two small areas along the channel edge. The patches of mud on the channel edge had been heavily scoured, leaving very patchy seed mussel of low coverage.

On the main area, there has been a 2025 settlement of seed mussel, varying in density across the main skear. The raised portion of the bed had high density coverage over the majority of the area, at 90-100% coverage of seed 10-20mm in size (Image 5,6, and 7). Towards the end of the bed in the North, there was a large area of exposed cobble (Image 10). There was evidence along the western edge of significant scouring. Along the south west of the bed (Images 12,13,and 14) and south east (Images 1,2,3,and 4), mud was deep and had formed hillocks, however mussel was patchy and of lower density (50-60%) in comparison to the higher areas of the bed.

Eiders and gulls were present on the bed.

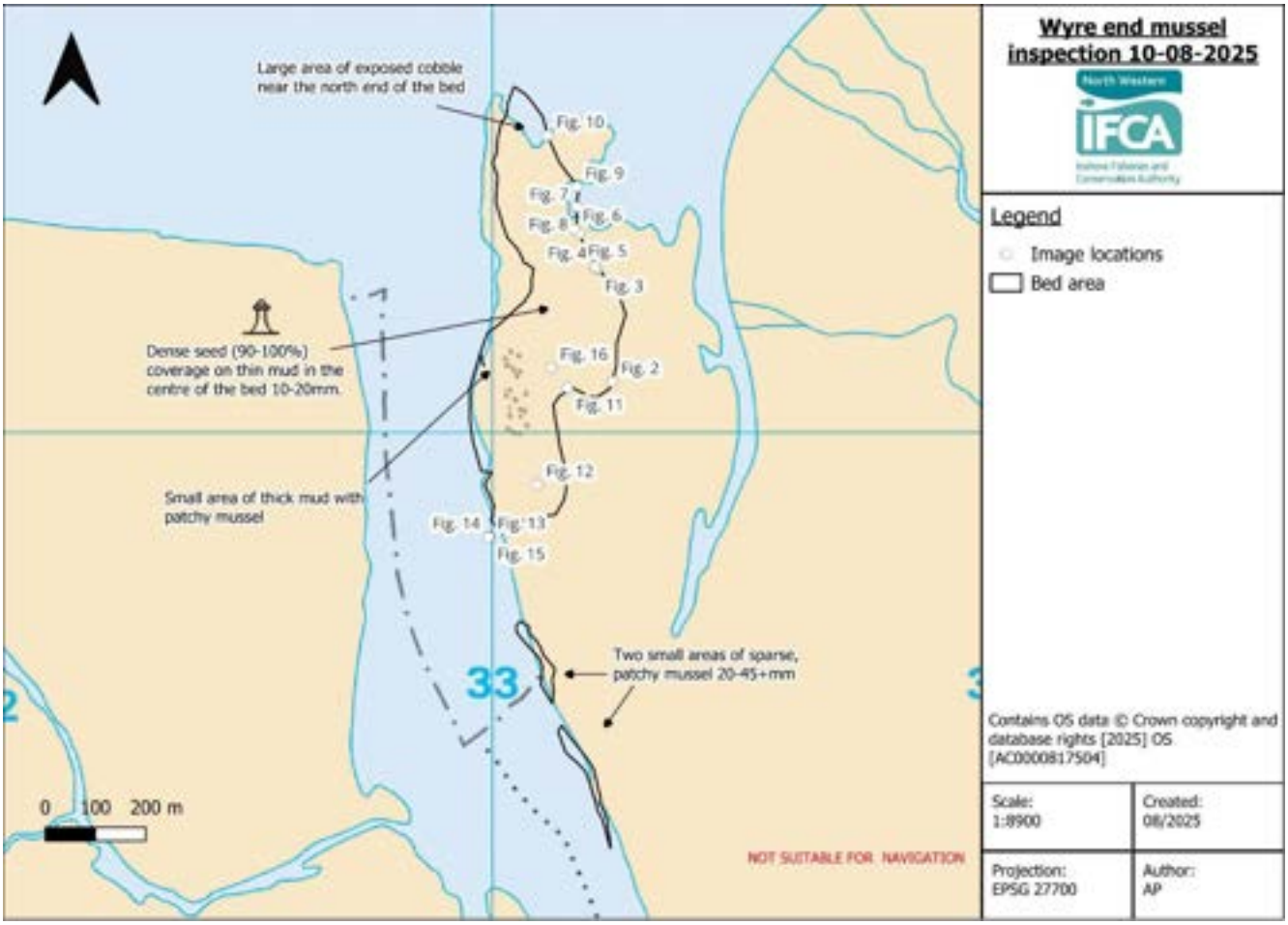

Figure 1: Approximate Wyre End bed area boundary and officer notes 11-08-2025

Image 1. Patchy mussel on mud hillocks on the eastern side of Wyre end

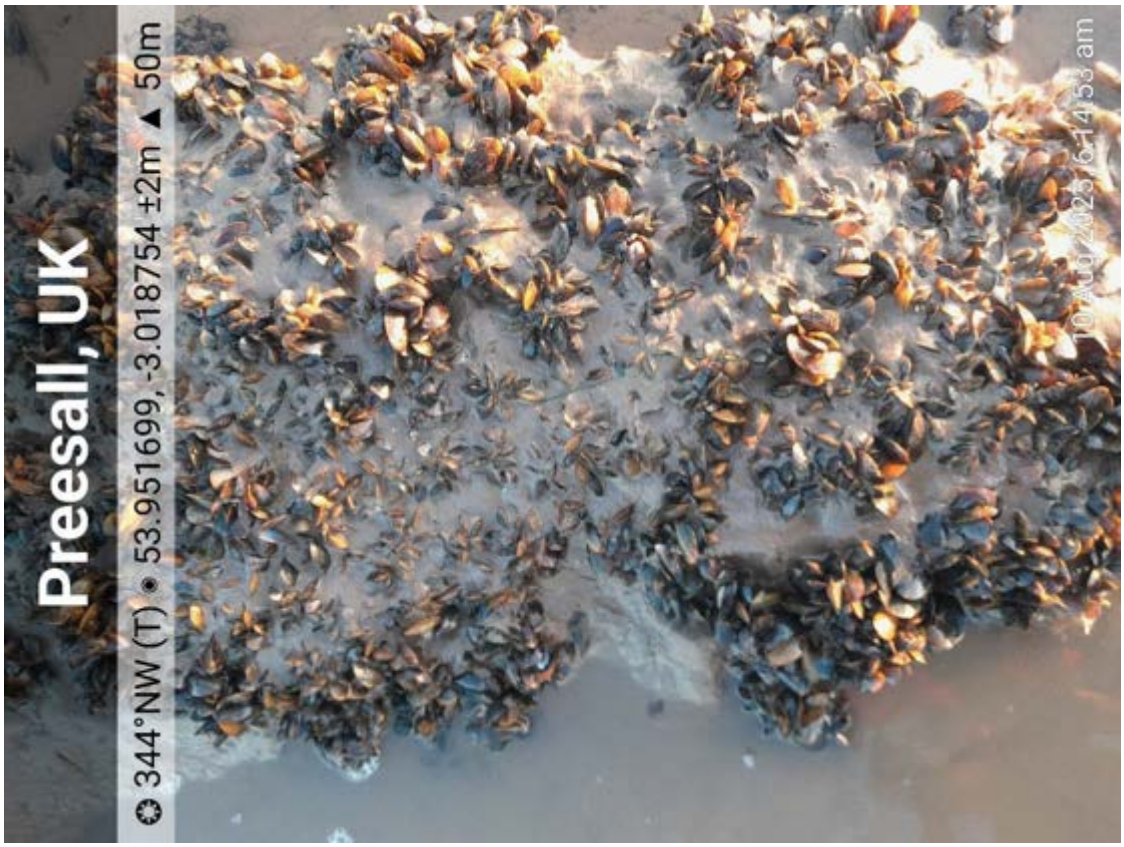

Image 2. Seed mussel present on hillocks on the eastern side of the bed

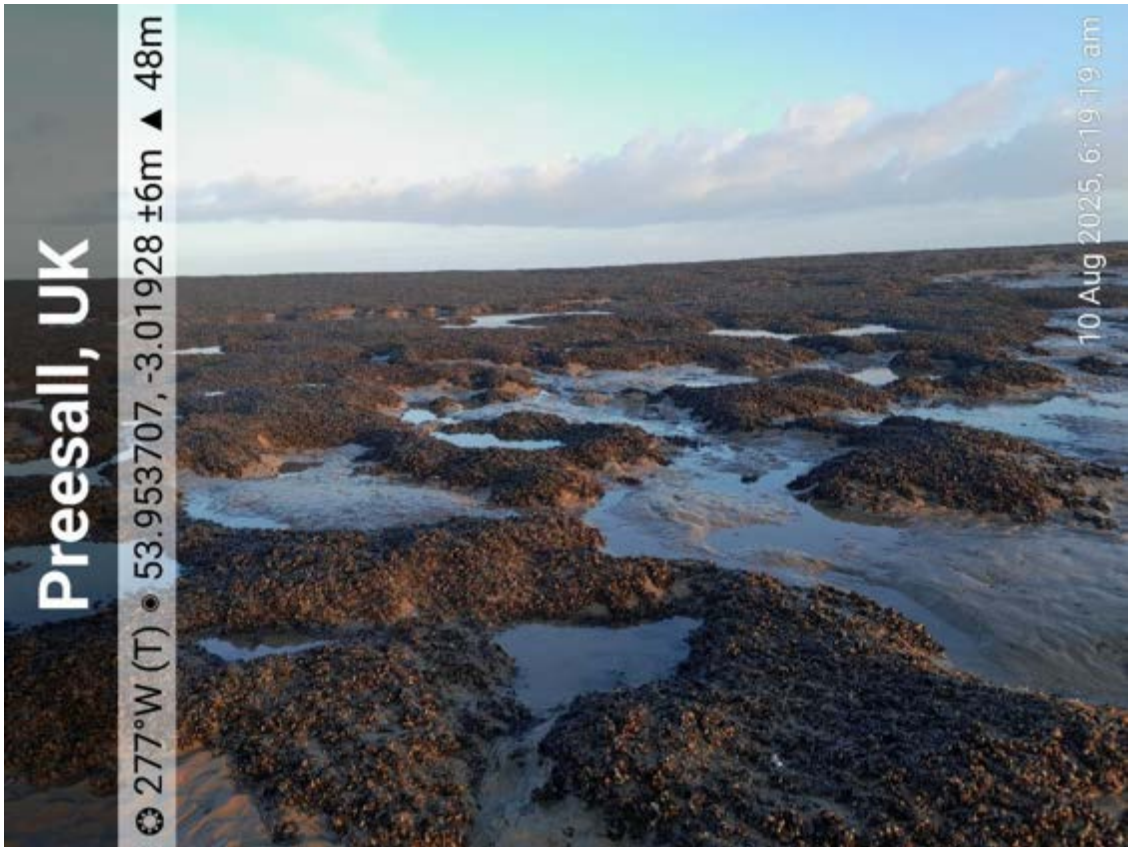

Image 3. Patchy mussel on mud hillocks on the eastern side of Wyre end

Image 4. Seed mussel at 60-80% coverage on the edge of the bed

Image 5. 90-100% coverage of seed mussel on the top of bed, above thin mud

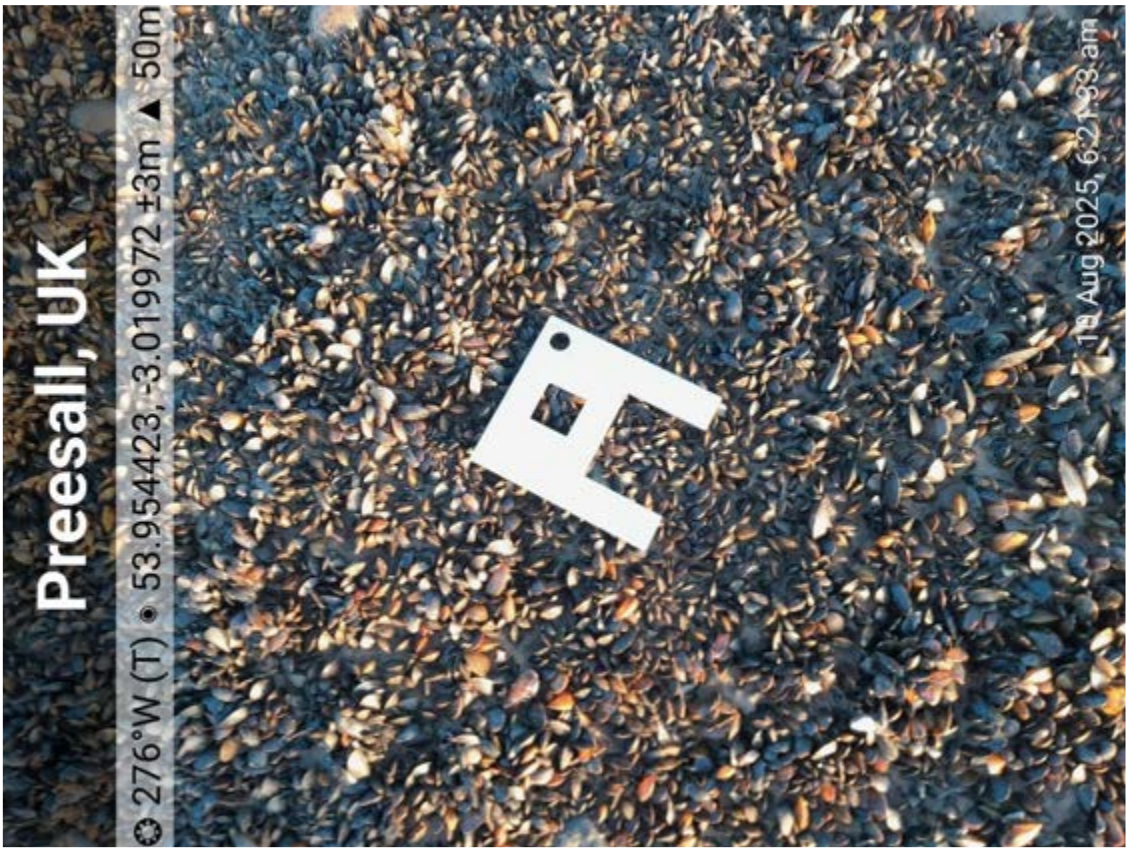

Image 6. Dense seed on top of bed

Image 7. Small area of dense seed on thick mud

Image 8. Areas of dense seed facing North running onto cobble

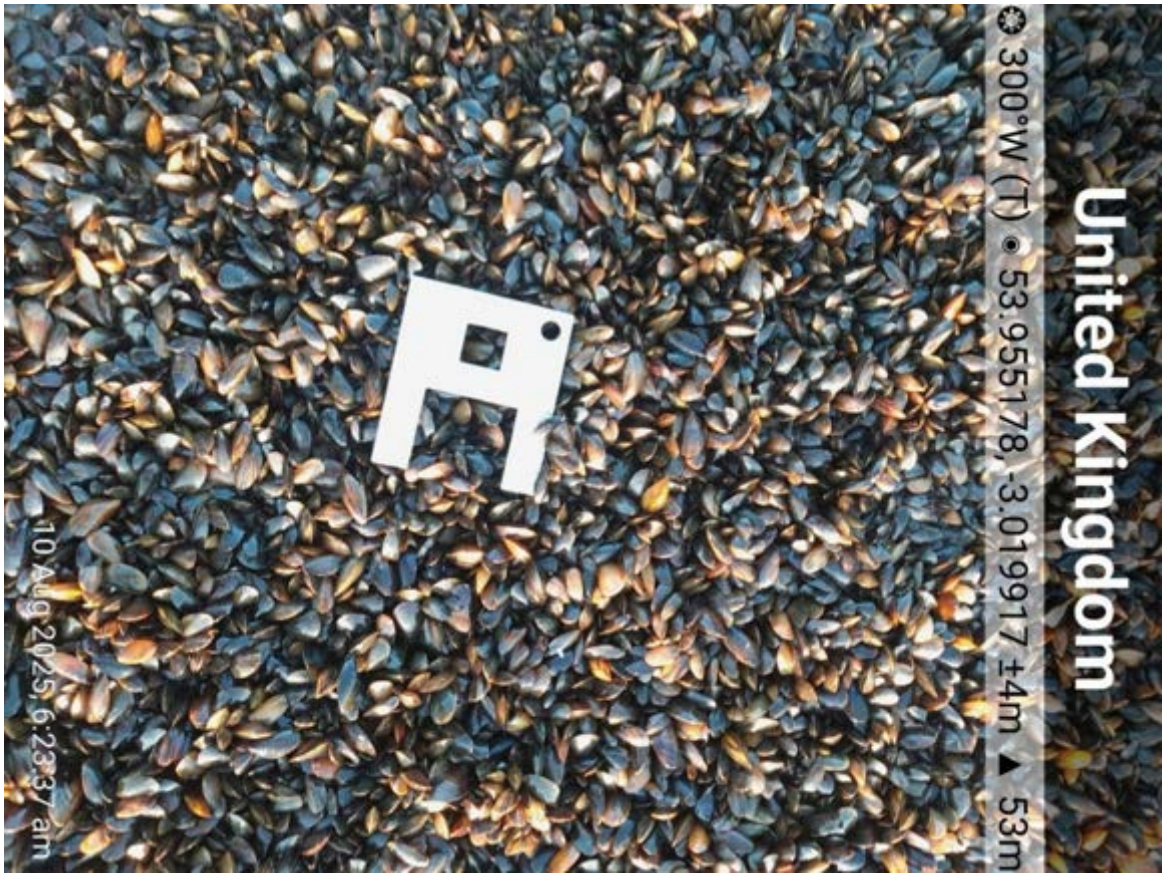

Image 9. Loose seed

Image 10. Large area of cobble at the end of the bed.

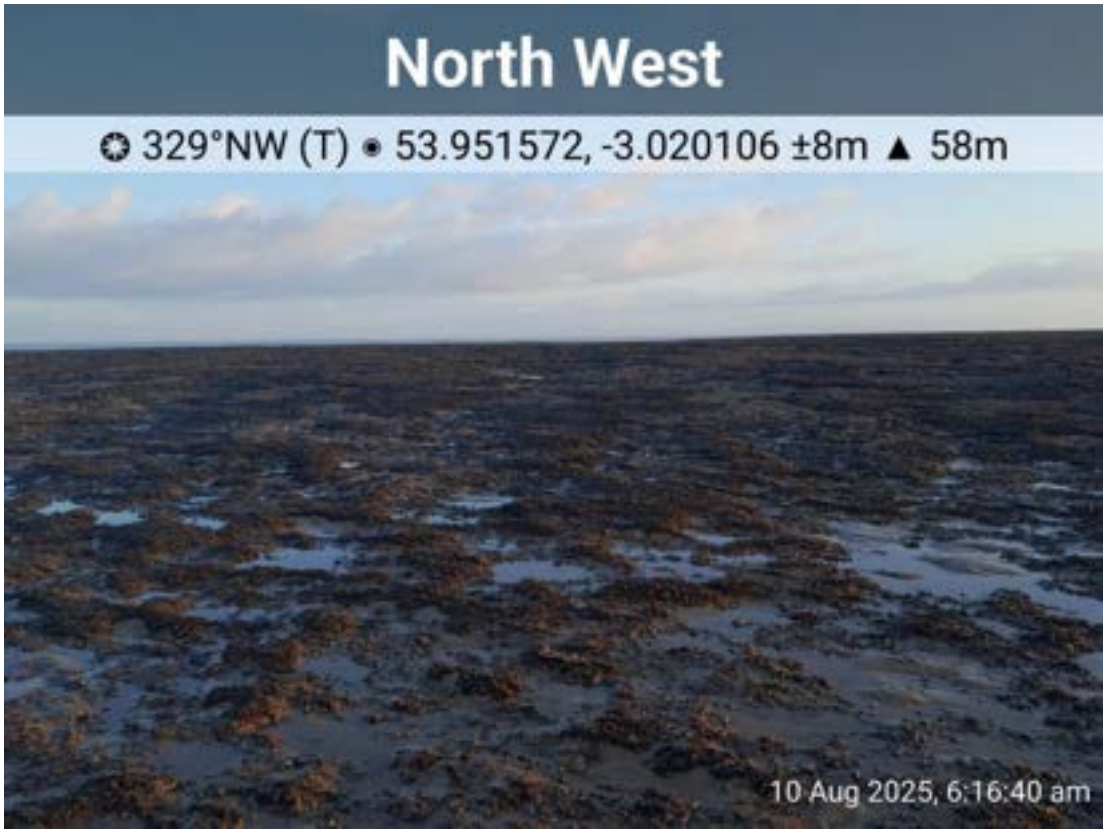

Image 11. Patchy mussel at the edge of the bed running onto sand

Image 12. Patchy mussel on thick mud

Image 13. Evidence of scour

Image 14. Patchy mussel near the edge of the bed

Image 16. Dense seed mussel

Fleetwood Mussel Inspection 12-08-25

Officers: JH, GG

LW: 08:39 1.1m (Liverpool Tides)

The Fleetwood mussel beds were inspected starting at Rossall Scar, then proceeding to Neckings, Kings and finishing on Perch and Black Scar as shown in Figure 1.

Rossall Scar

The mussel on Rossall Scar was patchy and interspersed with cobble and small patches of dead *Sabellaria alveolata* (Figure 2). The mussel was all from a settlement in 2025, and 15-20mm in length. The full extent of the mussel was not mapped due to inspecting Rossall Scar first to ensure Perch and Black Scar were inspected at low water.

Neckings Scar

No scar was observed at Neckings Scar, this is possible due to the time before low water the area was inspected or that the scar has sanded over.

Kings Scar

The mussel on Kings Scar was patchy and varied across the bed in density, ranging from 20% coverage to 80-90%, most of the scar has had a 2025 mussel settlement, the mussel was 10-20mm and made up most of the mussel on the bed, where the mussel was at higher density it was on a layer of mud, and the areas where the mussel was at low density, it was on bare cobble (Figure 3 and 5). Kings Scar has a number of

structures such as wrecks which have larger mussel which has persisted through the winter (Figure 4). The approximate area of the mussel bed was 8.7 hectares.

Perch Scar

The bed has had significant scouring since the inspection in July, likely due to storm Floris (Figures 6 to 9). The coverage of the remaining mussel is approximately 10% with large area of bare mussel mud. On the western edge of the bed the mussel persists in higher densities. The mussel is 20-30mm in length. The area of the bed is the same as previously mapped in July, approximately 10 hectares.

Black Scar

Black Scar has not had the same level of scour as Perch scar with more of the 2025 mussel persisting. The mussel density has reduced to 50-60% coverage (Figure 10) and is smaller in size at 10-20mm (Figure 12). The mussel has formed small hillocks where the mussel in on 30-40cm of mud, in between the hillocks there is exposed stoney substrate or a thin layer of soft mud, less than 5cm (Figure 11). The area of mussel is the same as when previously mapped in July, approximately 7 hectares. As previously reported there is a strip of bare cobble on the channel edge.

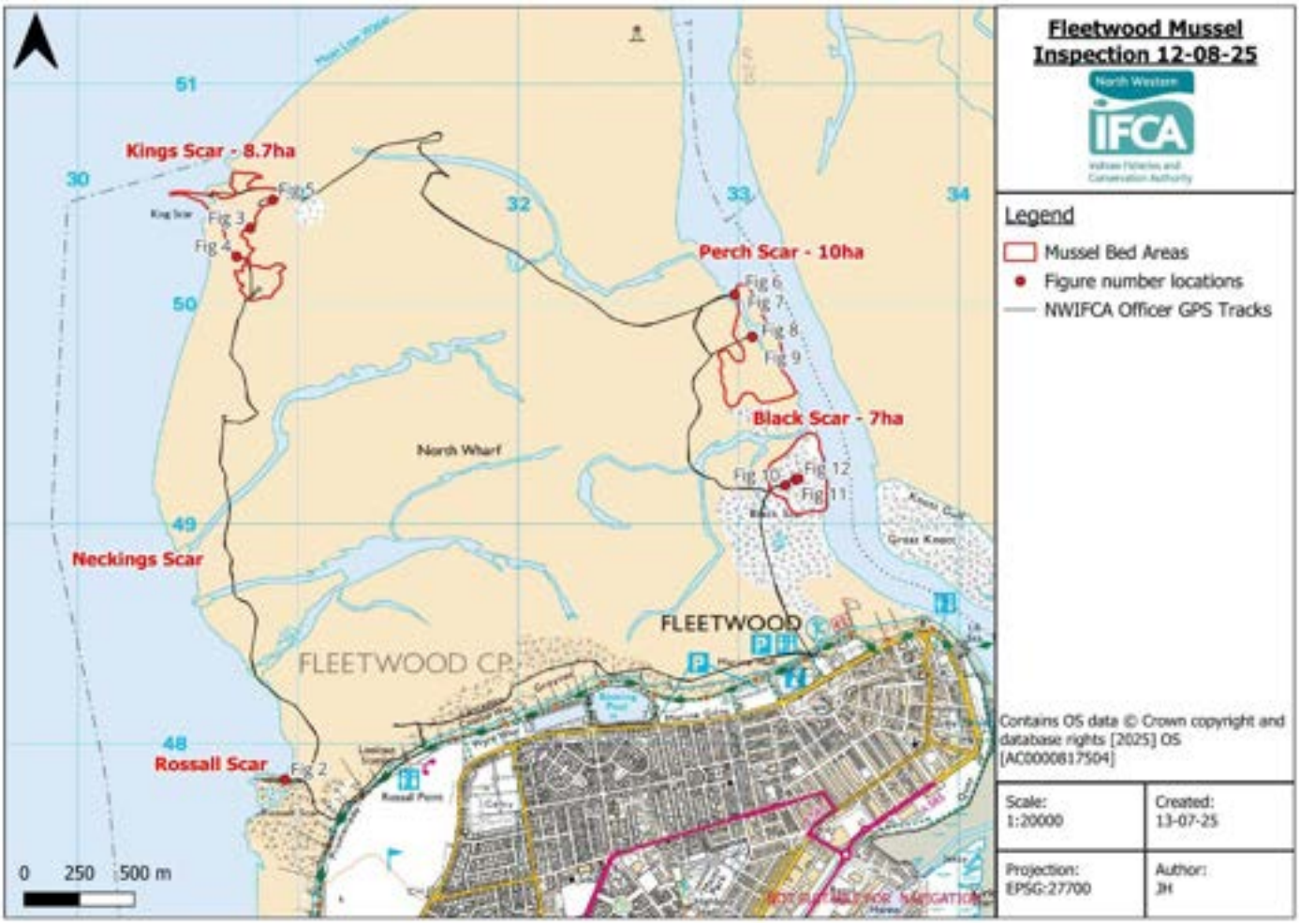

Figure 1. Overview of the mussel inspection 12-08-25.

Figure 2. Rossall Scar mussel interspersed with cobble 12-08-25.

Figure 3. Seed mussel on Kings Scar 12-08-25

Figure 4. Larger mussels with barnacles on wreckage 12-08-25

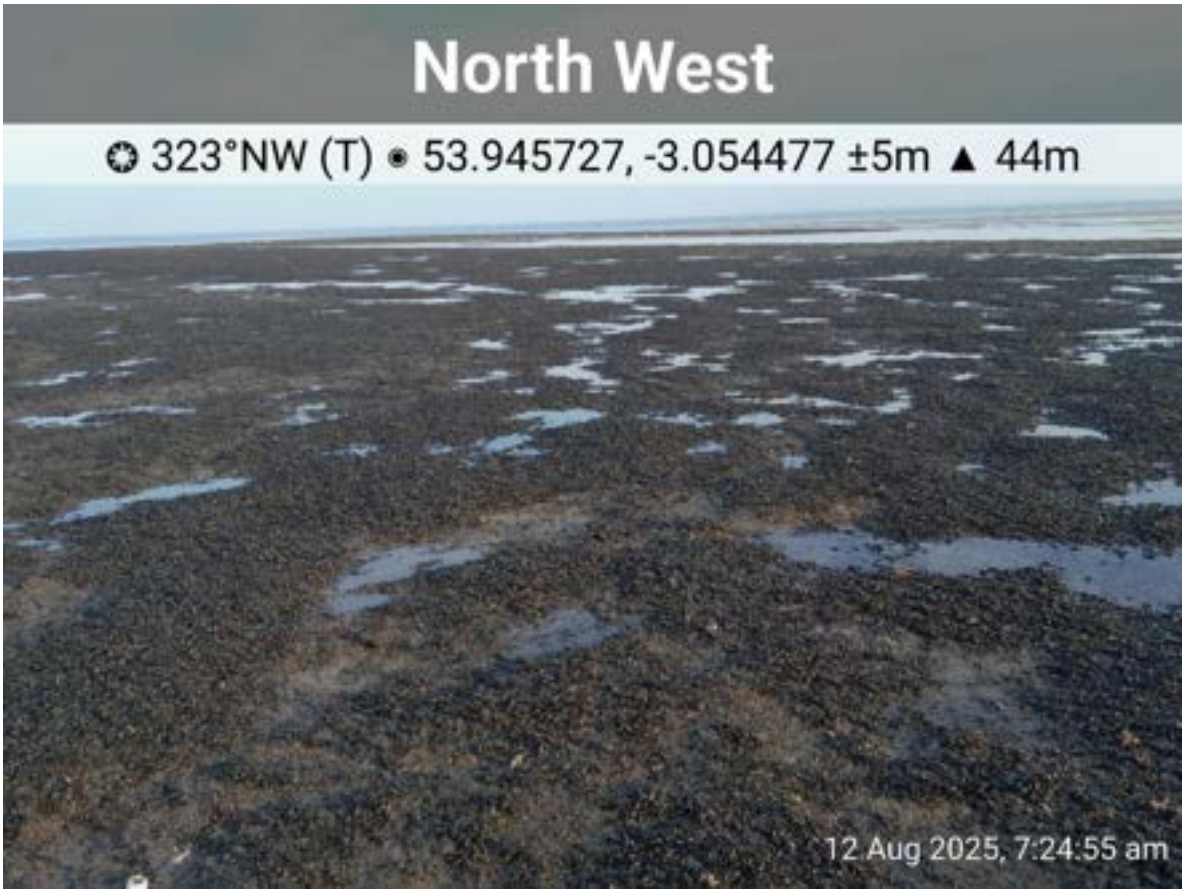

Figure 5. Seed mussel on Kings Scar 12-08-25

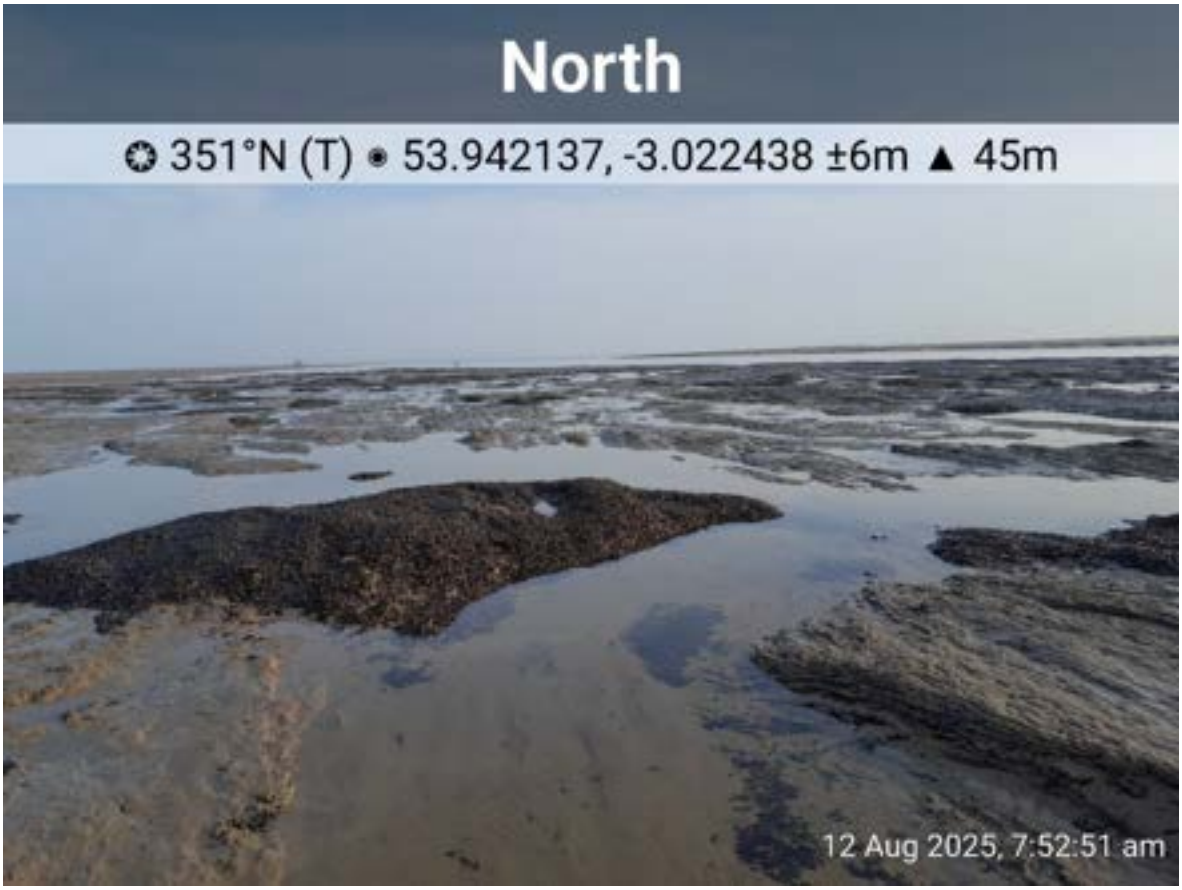

Figure 6. Scoured mussel mud and remaining mussel on Perch Scar 12-08-25

Figure 7. Scoured mussel mud and remaining mussel on Perch Scar 12-08-25

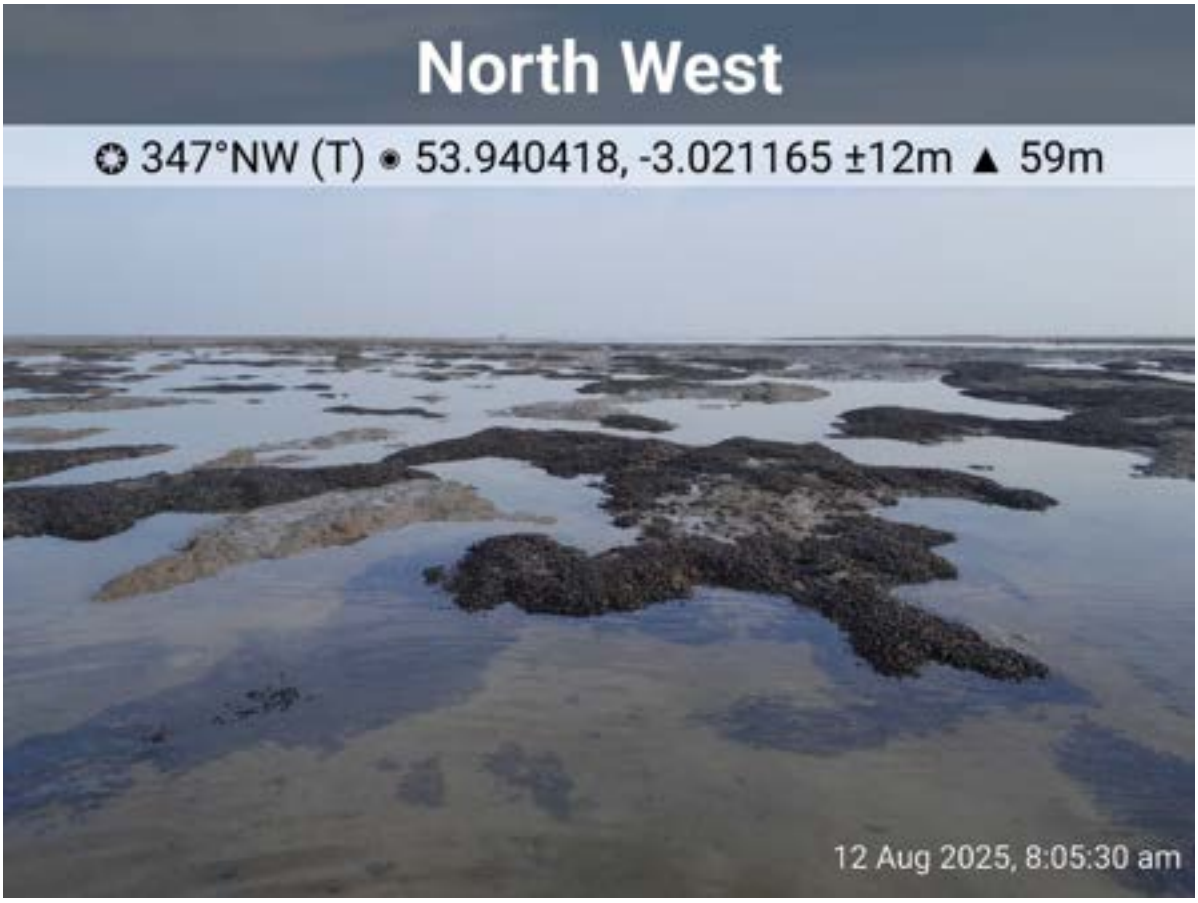

Figure 8. Scoured mussel mud and remaining mussel on Perch Scar 12-08-25

Figure 9. Scoured mussel mud and remaining mussel on Perch Scar 12-08-25

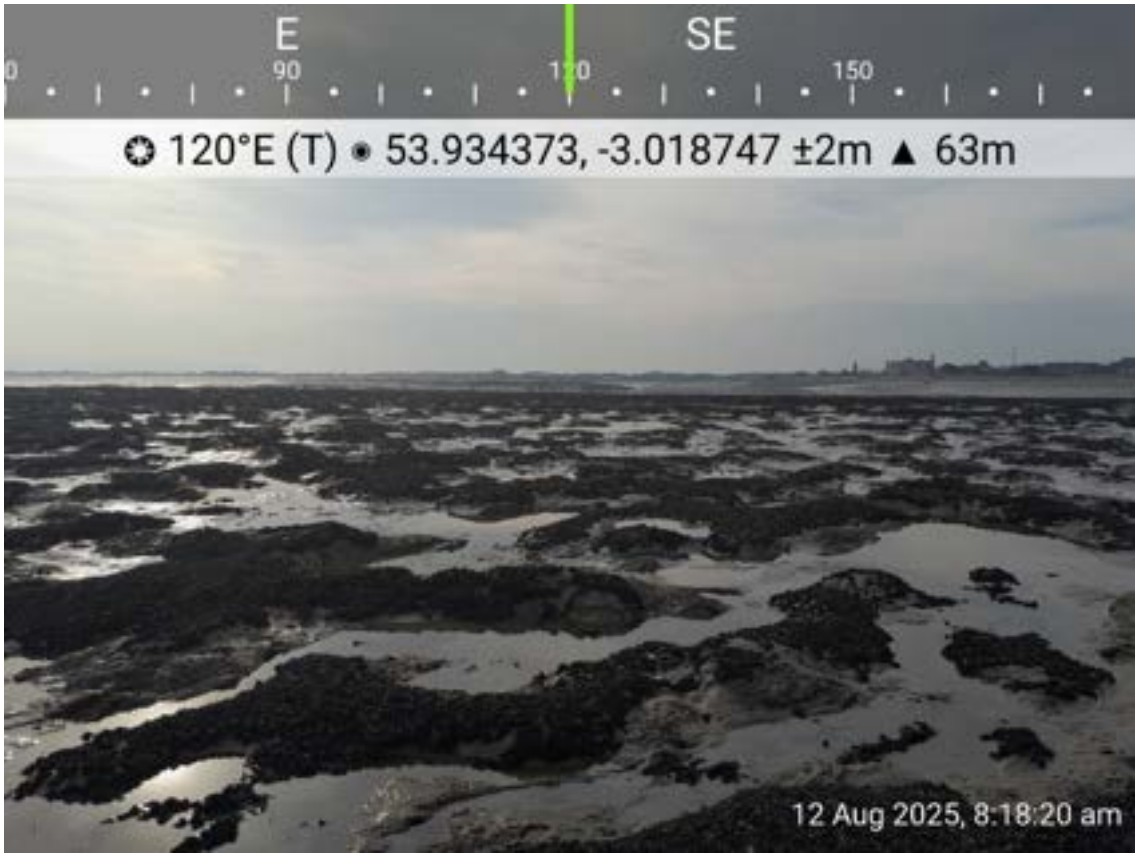

Figure 10. Seed mussel hillocks on Black Scar 12-08-25

Figure 11. Thin layer of mud with stony substrate visible on Black Scar 12-08-25

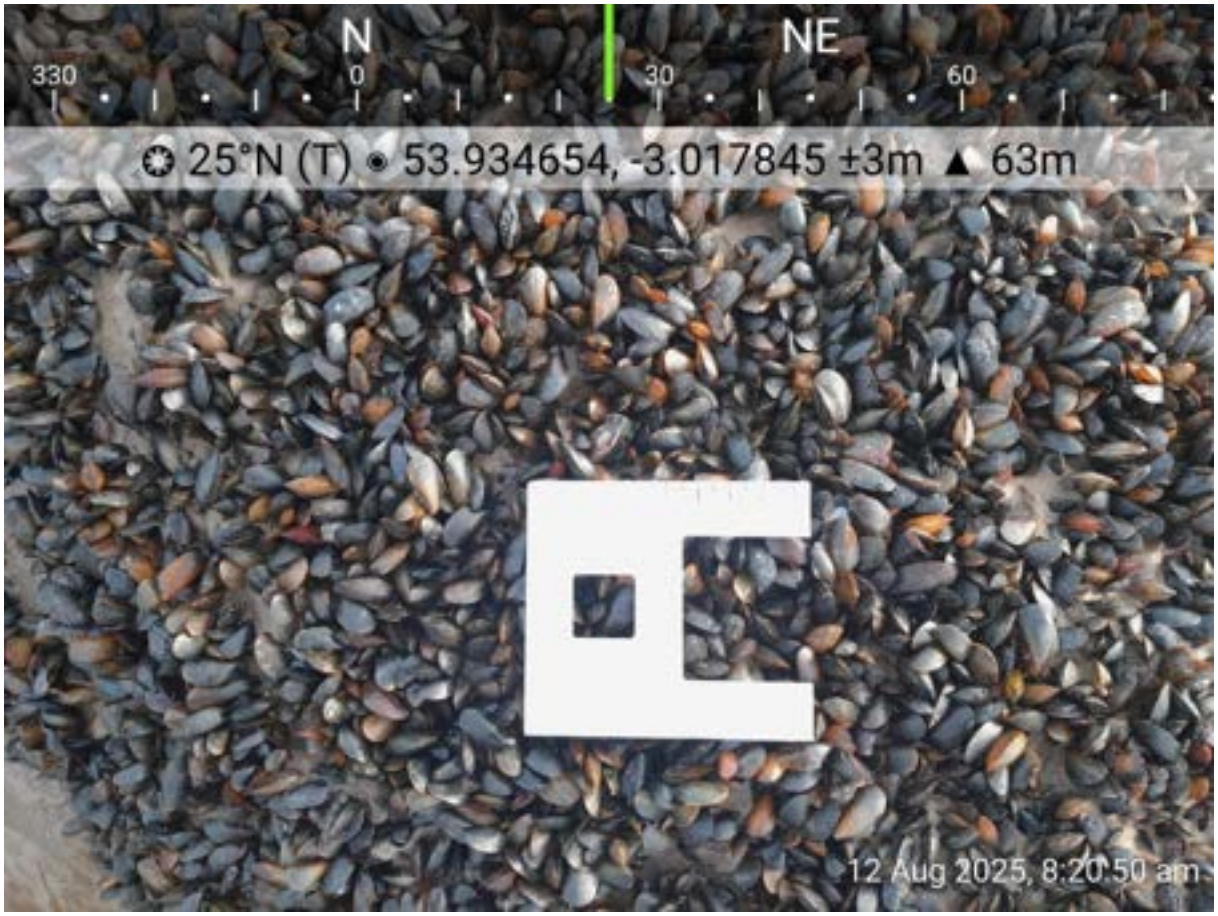

Figure 12. Black Scar 2025 mussel settlement 12-08-25.

Duddon Mussel Inspection 11-08-25

Officers: ID, GG
LW: 08:00 1.1m (Liverpool tides)

Officers inspected Hard Acre mussel bed in the Duddon Estuary to assess if mussel was present and to assess the growth, condition and coverage of the mussel. The area was accessed by quadbike, and an inspection was carried out on foot. The mussel bed is in a main channel and even on a low water spring tide some of the area remains underwater. Officer tracks have been mapped in Figure 1.

There was an area of mussel present in the channel. Half of the bed area was exposed on the Northern boundary, however a large proportion of the bed remained underwater during the inspection (Figure 4). An area on the South Western boundary could not be mapped due to the depth of the water in the channel and the amount of time available to survey. Officers were unable to map the whole bed area, however, as the water was very clear officers made a minimum estimate of the bed area from what they could access and see.

Mussel size across the bed was uniform at 15-20mm in length from a 2025 settlement (Figure 2). Across the whole bed there were patches of bare sand among the mussel (Figure 3). In the central area of the bed the mussel was patchy and less dense than any other area across the bed, with large patches of bare sand present. Some areas of mussel were loose (Figure 9) and some areas were hard into the sand substrate (Figure 5). Areas of bare cobble were present on the outer edges of the bed (Figure 7) and across the bed mussel was present on and interspersed within cobble (Figure 6). The mussel varied across the bed in density, ranging from 40% coverage in areas to 70% coverage (Figure 8).
There was significant bird activity on the mussel bed with Gulls in high numbers feeding in the area.

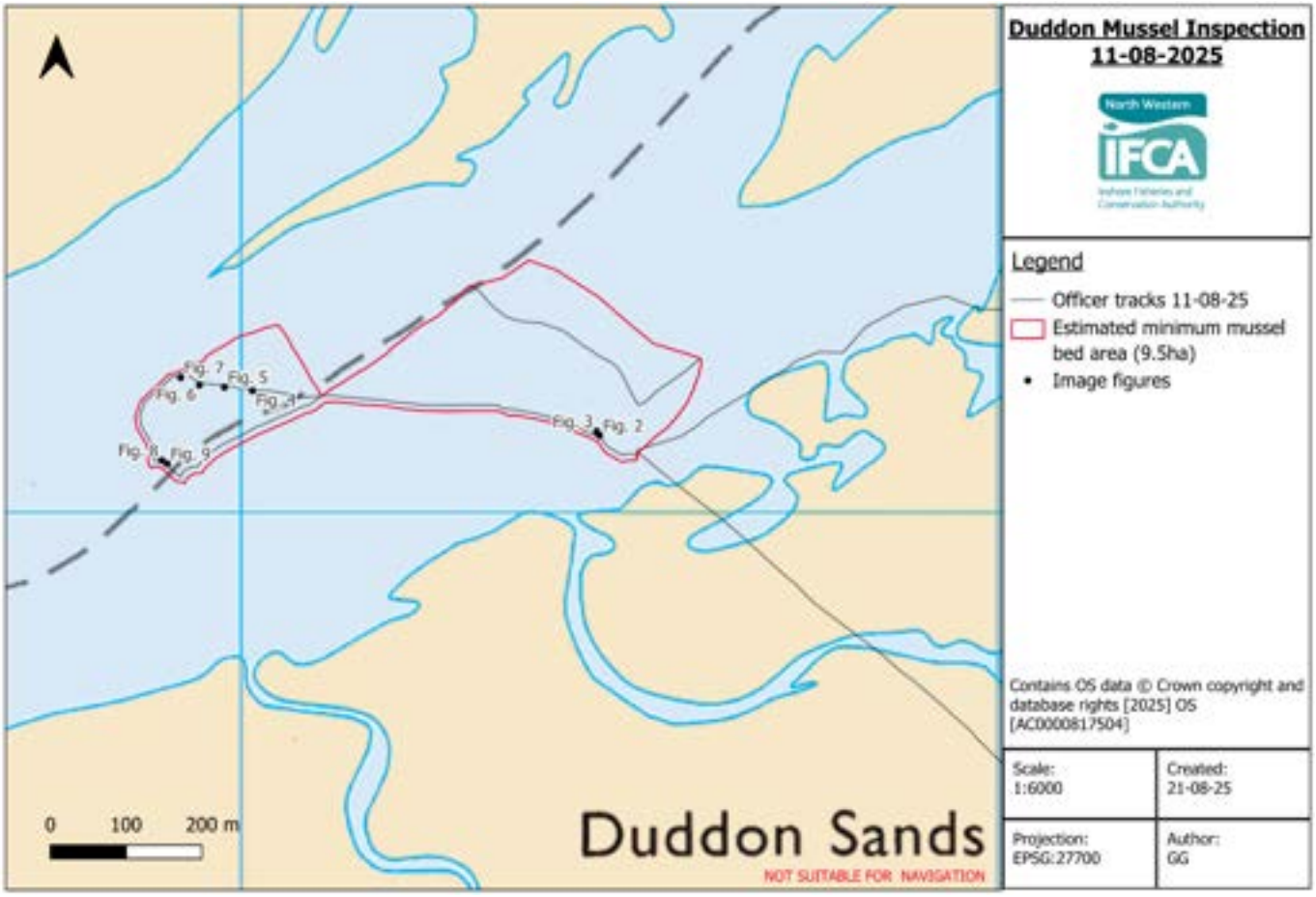

Figure 1. Map showing officer tracks and geolocations of survey photos on Duddon mussel inspection 11-08-25.

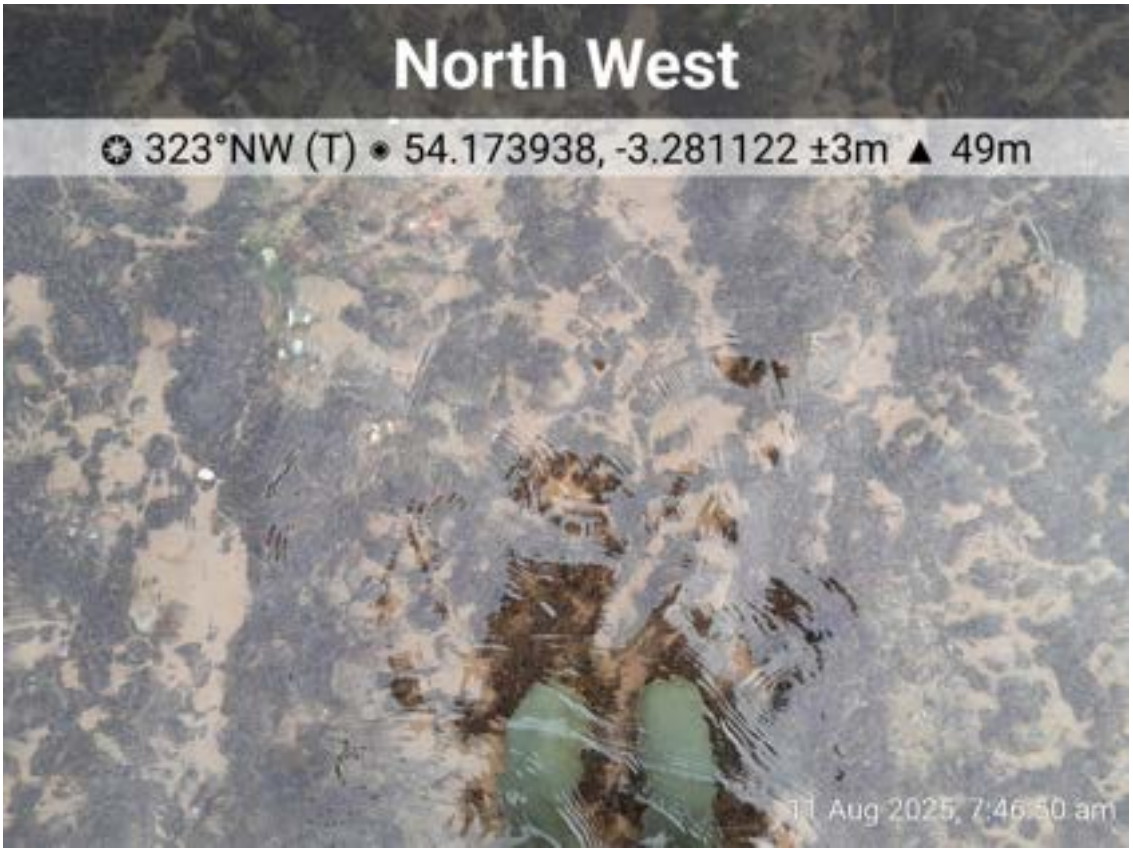

Figure 2. 15-20mm mussel from a 2025 settlement 11-08-25.

Figure 3. Patches of mussel underwater in the main channel 11-08-25.

Figure 4. Exposed Northern boundary of Hard Acre mussel bed 11-08-25.

Figure 5. Mussel in sand substrate 11-08-25

Figure 6. Mussel interspersed within and on cobble 11-08-25.

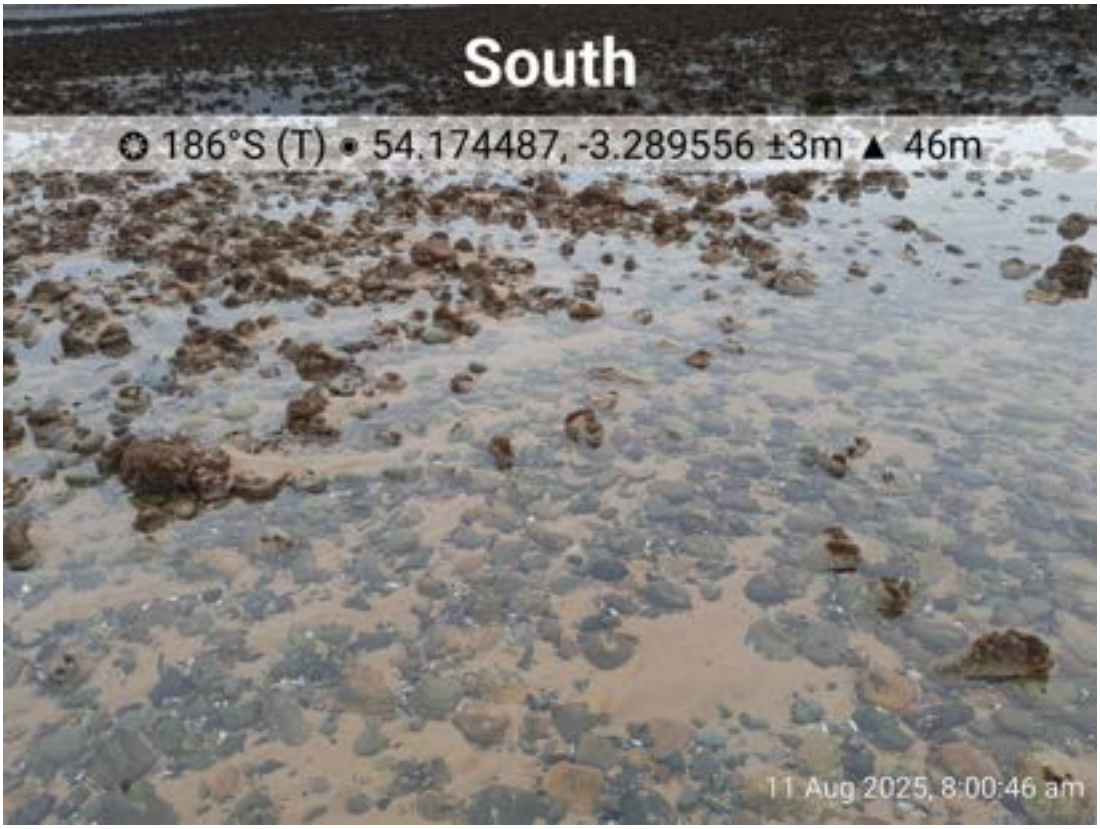

Figure 7. Bare cobble on outer perimeter of Hard Acre mussel bed 11-08-25.

Figure 8. Overview of Hard Acre mussel bed 11-08-25.

Figure 9. 15-20mm mussel on Hard Acre mussel bed 11-08-25.

Solway Middlebank Cockle Grab Survey 05-09-25

Officers present: HT, ET, LW, DH, AS, JH, RL

Tides: HW 10:43 6.7m (Whitehaven Tides)

Survey method – 0.1m^2 Day grab deployed from NWP

The historical cockle bed known as Middlebank has not been surveyed since 2015. In 2014 and 2015 the area was surveyed from an industry vessel using a suction dredge. Prior to this grab samples were completed by CSFC. Previous reports indicated that a midsize tide was preferable as on neap tides there would not be enough water to access with a vessel, and on spring tides there would be too tide leading to numerous failed grab samples.

A large area of the Solway was covered by a 500m grid based on historical data. From this a smaller target area was targeted (Figure 1). 36 stations were sampled from a 500m grid. Access to some areas were possible due to the depth of water. 5 of the grabs contained cockle as indicated below, with a total of 7 cockles being present in all the grab samples.

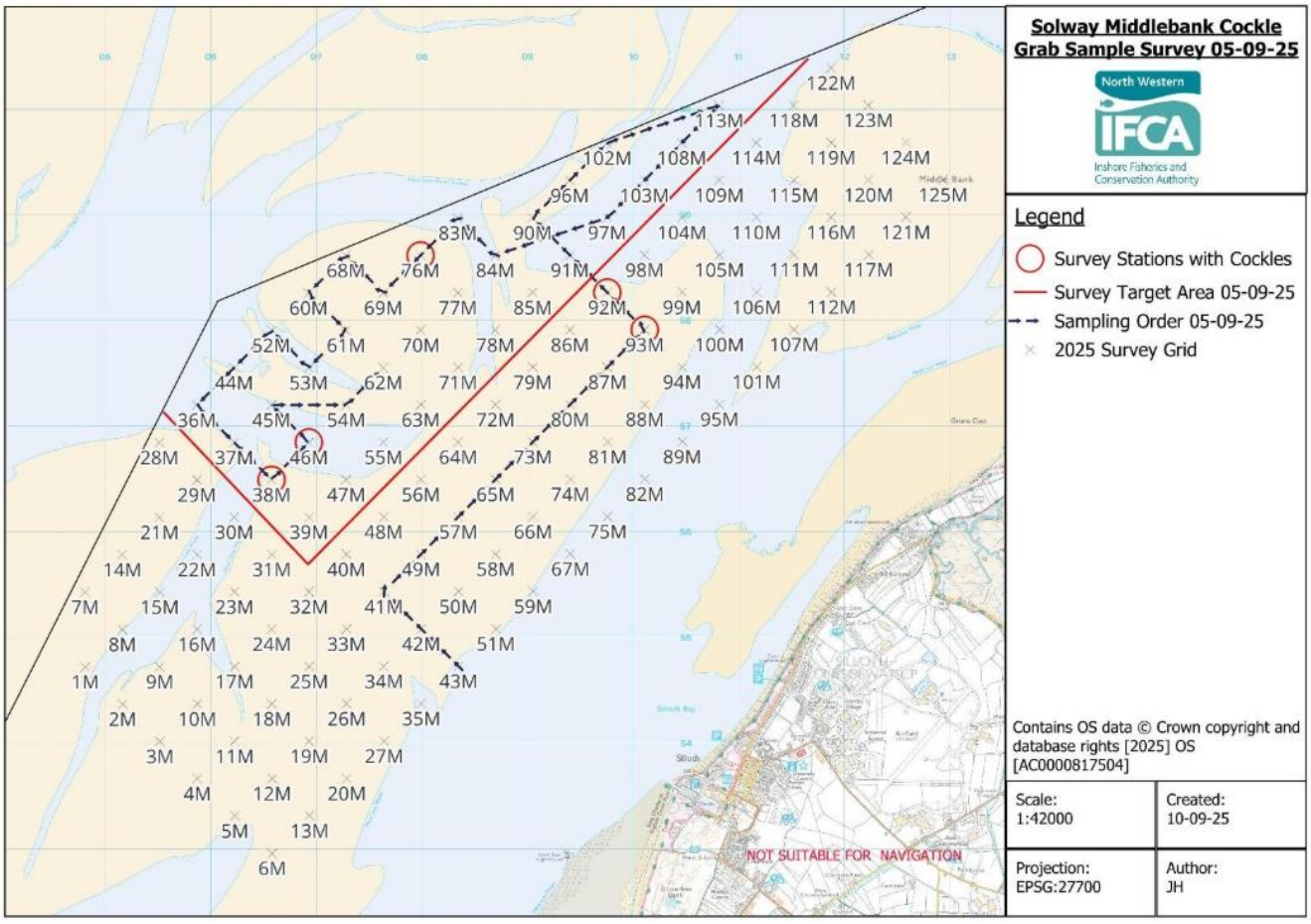

Figure 1. Overview of Cockle grab sample survey in the Solway 05-09-25

Future Surveys: Using the day grab for cockle survey in the Solway is not recommended going forward due to the limited survey time ~approx 2 hours, limited access to areas due to depth of water over high tide and the low resolution of sampling, 0.1m^2 over a 500m grid.