

<p style="text-align: center;">NWIFCA Authority Meeting 25th September 2025: 10:00 a.m.</p>	<p style="text-align: center;">Report no. 3</p>
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SCIENCE REPORT FOR INFORMATION
26TH OF JUNE 2024 – 25TH OF SEPTEMBER

Purpose: To provide an update on the work of the Science Team in the quarter.

Recommendation:

- a) Receive the report

UPDATE FOR THIS QUARTER

This quarter, the main priorities of the science team have been to complete the second round of cockle surveys in Morecambe Bay, and undertake the annual cockle stock assessments for the rest of the District's beds. The team have also completed two associated fishery Habitat Regulation Assessments (HRA's) to facilitate the opening of the fisheries, a consultation with stakeholders, and presented the results at the TSB Authority on August 5th.

In addition to this work, the team have also undertaken the annual mussel surveys, and an initial cockle grab survey of the Middle Bank cockle bed in the Solway Firth. Development of drone methodology for mussel surveys is still underway, alongside a review of the Byelaw 4 Flexible Permit Conditions, investigations into shrimp decline, and the development of Mergin Map work to improve the organisations ability to effectively monitor and record fishing activity across the District. Officers have also liaised with partner organisations regarding the ongoing marine natural capital work, and presented work at numerous conferences.

Key achievements since the previous TSB meeting:

- 1) Completed seven cockle surveys, two cockle inspections, and four mussel surveys including a grab survey of historical cockle points in the Solway Firth
- 2) Two HRAs completed and signed off
- 3) Undertook an informal consultation with stakeholders regarding the survey results and proposed recommendations for TSB
- 4) Responded to three consultation requests and three dispensation requests.
- 5) Presented our research work at the 2025 IFCA TAG conference, Salford University Community partnerships conference, and the North West Marine Coastal Forum
- 6) Developed and begun a PhD project with Bangor University looking at cockle dispersal and connectivity across the District which is now underway.
- 7) Two officers completed training in Day Skipper Theory

ONGOING WORK STREAM UPDATES:

1. COCKLES AND MUSSELS

- a) Survey and inspections

Between June 24th and September 10th, NWIFCA science officers carried out five mussel inspections, three mussel surveys, seven cockle surveys, two cockle inspections across the NWIFCA District, and a cockle grab sample survey from North Western Protector on Middle Bank in the Solway Firth. Full inspection reports for those surveys undertaken prior to August 5th are provided in Annex 1 and 2 of the August 5th TSB reports and are available on the website here: <https://www.nw-ifca.gov.uk/events/technical-science-and-byelaws-sub-committee-meeting-6/>. Survey and inspection reports post August 5th will be presented at the following TSB meeting on November 2nd.

Table 1. Mussel and cockle survey and inspections this quarter.

Surveys and inspections this quarter	Date
Mussels	
Morecambe Bay	
Heysham inspection x 2	29-07-25 & 15-08-25
Fleetwood inspection x 2	26-06-25 & 16-07-25
Wyre End	11-08-25
Low Bottom	26-08-25
Walney Channel	09-09-25
Foulney (partial)	10-09-25
Cockles	
Morecambe Bay	
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	
Southport	23-06-25
Lytham (inspection)	16-06-25
Wirral Coast	
Leasowe	30-06-25
Solway Firth	
Middle Bank	05-09-25

b) Morecambe Bay cockle fisheries

Commercial beds: Flookburgh, Leven, Pilling, Middleton, Aldingham and Newbiggin

All cockle beds in Morecambe Bay were surveyed and reports completed by mid July. The results were presented in Agenda item 7 (<https://www.nw-ifca.gov.uk/events/technical-science-and-byelaws-sub-committee-meeting-6/>) at the August 5th TSB.

This year the levels of size cockle biomass are the highest they have been since standardised sampling was introduced in 2017. However, the total cockle biomass is comparatively low at only 11,300 tonnes across the Bay. This is important as the total volume of cockle is what is available to both fishers and birds.

On individual beds in the Bay; 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. 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 records and is likely due to the protection of juvenile stock through flexible permit conditions introduced in 2024. 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. Leven and Middleton have remained consistently low, with only marginal changes. The biomass of undersize is low across all beds, with limited stocks available to grow on for the following years fisheries.

Pilling cockle bed was opened as of July 1st under the new trial cockle open season. Any further recommendations for cockle beds to be opened needed to consider the current activity at Pilling, and keep the total biomass of cockle in the Bay within acceptable conservation limits. Therefore, Flookburgh was proposed open with a 800 tonne TAC in order to limit effort, with other beds closed. A consultation was held with Industry members regarding the proposed recommendations, and 17 responses were received out of the 150 total permit holder list. These results were presented to the Authority, and in discussion with members it was approved that Flookburgh cockle fishery be opened with an 800 tonne TAC, and Newbiggin also be opened, with a TAC of 300 tonnes.

c) Ribble cockle fisheries

Commercial bed: Penfold (Southport)

The Penfold cockle bed was surveyed on the 23rd of June. The results were presented in Agenda item 7 (<https://www.nw-ifca.gov.uk/events/technical-science-and-byelaws-sub-committee-meeting-6/>) at the August 5th TSB.

For the fourth year in a row, the total biomass of cockle had significantly reduced, with only 137 tonnes of cockle present on the bed. The minimal undersize present also indicates there is unlikely to be a fishery the following year. Therefore, it was recommended by officers that the bed remain closed as of September 1st under paragraph 15 of Byelaw 3. Members voted to approve this recommendation.

d) Wirral coast fisheries

Commercial bed: Leasowe cockle fishery

The Leasow cockle bed was surveyed on June 30th. The results were presented in Agenda item 7 (<https://www.nw-ifca.gov.uk/events/technical-science-and-byelaws-sub-committee-meeting-6/>) at the August 5th TSB.

The total biomass of cockle on Leasowe this year has decreased from 1720 tonnes in 2024 to 713 tonnes in 2025. 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. As a result, officers did not recommend Leasowe cockle fishery be opened in 2025, which was approved by the Authority.

e) Seed mussel fisheries

The mussel beds in Morecambe Bay (Heysham, Fleetwood, South America) were inspected a number of times over the past 3 months to determine the suitability of seed mussel fisheries on these beds. A definition of seed mussel ephemerality and criteria for inspection was agreed at the February 6th TSB meeting and is available here: <https://www.nw-ifca.gov.uk/events/technical-science-and-byelaws-sub-committee-4/>

This year, a good seed settlement was observed on Fleetwood and Heysham in July, which were taken to the Authority in August with the recommendation for them to open to seed fishing. A HRA was submitted and returned, however, strong weather lead to these resources being scoured before the Authority was able to open them to fishers. Heysham still has large areas of historical Sabellaria reef structure which is a protected feature of the site, and therefore, not suitable for fishing.

South America was accessible this year by quadbike again, however, significant changes in the area and composition of the bed were observed, with the density of mussel reducing, and being predominantly mixed in size classes making it unsuitable for seed fishing. South America was not proposed open for seed fishing this year.

2. NWIFCA RESEARCH PROJECTS

a) Mergin – maps (officer sightings data)

A new project looking into streamlining and consolidating officer stats for use in science reporting is progressing with the development of QGIS, and PostgreSQL databases. This project has been led by Officer Robin Love, with the assistance of an external partner from the company Maptastic, and aims to improve both the officers accuracy in

reporting and monitoring fishing activities in the District. The working app will provide a simple user interface for officers, reducing duplication and reporting times, while updating our databases in real-time, so this information is more readily available to Science officers for analysis and use in assessments.

b) Whelk Fisheries in the North West

Following on the the MCRS work undertaken in 2024, this year work is being undertaken to review the Flexible Permit Conditions of Byelaw 4, specifically in relation to pot limitations. Officer Gemma Grose is leading on this project and currently looking into the historical data we have on the fishery. This work is integral to building up an understanding of the relatively new whelk fishery in the District, and determining its effective management going forward.

c) Shrimp research in the North West

Following the publication of the summary report at the March 2025 TSB meeting, lead Officer Lucy Loud has been exploring new research partnerships and projects to progress with investigating the cause of decline in shrimps in the NW. This quarter she will begin a trial, in house survey of shrimps within Morecambe Bay with the assistance of one of our Authority members. The project will look to gain data on the size composition, sex and maturity of shrimps in the Bay.

d) Drone survey work development

Senior Officer Jon Haines is leading the work on developing drone survey methodology, for surveying our District's mussel fisheries. Work to date has focussed on developing a novel method for identifying mussel using the DJI multi-spectral camera. This work has involved trialing different flight heights and speeds, to determine optimum resolution quality, and undertaking bespoke training with specialist drone trainers Heliguy, to analyse the images using DJI Terra software. Further information on this work stream can be found in a recent article published in partnership with Heliguy on their website here: <https://www.heliguy.com/blogs/posts/multispectral-drone-data-mussel-surveys/>

e) Cockle dispersal PhD project

This quarter, NWIFCA has secured a PhD with Bangor University looking into the interconnectivity between cockle stocks within the North West. Understanding the connectivity between cockle beds in the Northeast region, is essential to determining sustainable management of the cockle fisheries. Stakeholders, including fishers and members of the authority, have long debated whether Morecambe Bay's cockle beds are self-recruiting or if they rely on external larval sources for population stability. This distinction impacts management strategies significantly, as self-recruitment suggests a closed system where overharvesting could quickly reduce local populations, and harvesting restrictions would be required. The main objective of this work, is therefore, to determine what role Morecambe Bay plays in cockle recruitment, both for itself, and other beds in the District.

The PhD candidate has already begun her work on the project, and will be introduced to the Authority in due course.

3. MARINE PROTECTED AREAS IN THE NWIFCA DISTRICT:

a) Highly Protected Marine Areas (HPMAs)

No further updates.

b) Marine Conservation Zone Assessments

NWIFCA are required to assess the impacts of fishing activities in each of the MPAs designated within its District. As of 2024, there were four outstanding MCZ assessments still in progress, last quarter, two of these were completed and submitted to Natural England for Review. This quarter, the final two assessments (Cumbria Coast and Solway Firth) were completed and will be submitted to Natural England for review.

b) Marine Natural Capital – Oral Histories

NWIFCA have been assisting the Association of IFCA and Natural England with a project looking into the social values of stakeholders, and how this can be used in management decision-making. Part of this work involved the production of a film, which has now been completed and will be available to Members once published by Defra later this year.

4. FISHERIES MANAGEMENT PLANS

a) National (excl. cockle)

No further update

b) Cockle fisheries management plan

The first draft of the NWIFCA cockle fisheries management plan has been completed, and is currently being reviewed internally by officers. The overall aim of the management plan is to provide a framework for future data collection and management, a decision-making framework, a research plan and management review. The management plan will be shared with TSB members and wider stakeholders for review later this year.

5. MMO MARINE LICENCE AND OTHER CONSULTATIONS FOR THE QUARTER

a) Morecambe Bay Offshore Wind

No further update

b) Mersey Tidal Power Project

No further update

Consultations this quarter:

- Liverpool Bay Alternative Disposal Site - scoping report

- Morgan and Morecambe River Ribble Geotechnical Survey
- Beneficial Use of Dredged Sediment to Improve Fleetwood, Wyre Estuary 2025

Dispensations this quarter:

- Environment Agency - Fish surveys
- Environment Agency - Mersey Otter trawls
- CEFAS Irish Sea Beam Trawl Surveys 2025

6. WORKING GROUPS AND EXTERNAL PARTNERSHIP WORK

a) Technical Advisory Group

Officers attending the annual TAG Conference from 7th to 9th of July this year, and presented on the progress made in their drone survey work, and shrimp research. Topics of the conferenced focussed on the new use of technology for research, stakeholder engagement, and shellfish research.

b) Whelk Working Group

No Further update

15th of September 2025