

NWIFCA Authority Meeting
21st September 2023: 10:00 a.m.

**Agenda
Item
10**

SCIENCE REPORT FOR INFORMATION
22ND OF JUNE – 21ST OF SEPTEMBER 2023

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

Recommendation: Report for information, Receive the report

This quarter, the main priorities of the science team have been to complete the cockle and seed mussel surveys with associated reports, initiate the summer whelk sampling program, complete drone theory training, liaise with partner organisations regarding the national fisheries management plans and undertake the mussel MLS work.

Key achievements since the previous TSB meeting:

- 1) Completed analysis of additional pearl samples for the mussel MLS study.
- 2) Completed HRA for the seed mussel fishery.
- 3) Contributed to the development of the Coastal Resilience research bid.
- 4) Carried out seven cockle surveys and seven mussel bed inspections with associated reports and data analysis.
- 5) Nine consultation requests and two dispensation requests provided.

ONGOING WORK STREAM UPDATES:

1. POTTING PERMIT BYELAW

a) Permit database

The science team have been working to set up a database for the suitable logging and analysis of returns data. It is now agreed that a new database will be introduced in 2023, science officers will feed into the returns section to improve recording returns and new ways of analysing the data to help management. Science officers met with members of North Eastern IFCA team to share ideas on lessons learned and recommendations from their experience with developing and rolling out the database to stakeholders.

2. COCKLES AND MUSSELS

a) Natural Resources Wales - Dee cockle fishery order

The SS attended the Dee Estuary Cockle Fishery Meeting on the 11th of May. Members of NRW presented their survey results and total allowable catch estimates for the year. They also discussed potential avenues for the fishery regulating order (RO), with the Bury inlet becoming a public fishery, and the potential options for the renewal of the Dee cockle fishery order. This is still in a very early stage with many options still on the table. They also discussed increasing license fees and other potential fisheries. The SS will continue to keep updated on the progress of the RO.

b) Survey drone procurement

Officers have completed the theory training and will be arranging for the practical and purchasing of the drone in October.

c) Survey and inspections

Survey and inspection reports are provided in Annex 1 of this report.

Between 22nd of June and the 21st of September, NWIFCA science officers carried out seven mussel inspections and seven cockle surveys across NWIFCA District. Full inspection reports are provided in Annex 1 of this report and available on the website here: <https://www.nw-ifca.gov.uk/survey-and-inspection-reports/>. The location and extent of the beds inspected are provided in Figures 1 to 3.

Table 1. Mussel survey and inspections this quarter.

Surveys and inspections this quarter	Date
Mussels	
Morecambe Bay (Figure 1): Heysham inspection Fleetwood x 3	02-08-23 11-07-23, 03-08-23 & 29-08-23*
South America x 3	07-07-23, 04-08-23 & 01-09-23*
Cockles	
Morecambe Bay (Figure 2): Flookburgh Pilling Newbiggin and Aldingham Leven Middleton	04-07-23 & 05-07-23 10-07-23 11-07-23 17-07-23 25-07-23
Wirral Coast (Figure 3): Leasowe	24-07-23

* inspection notes currently in draft

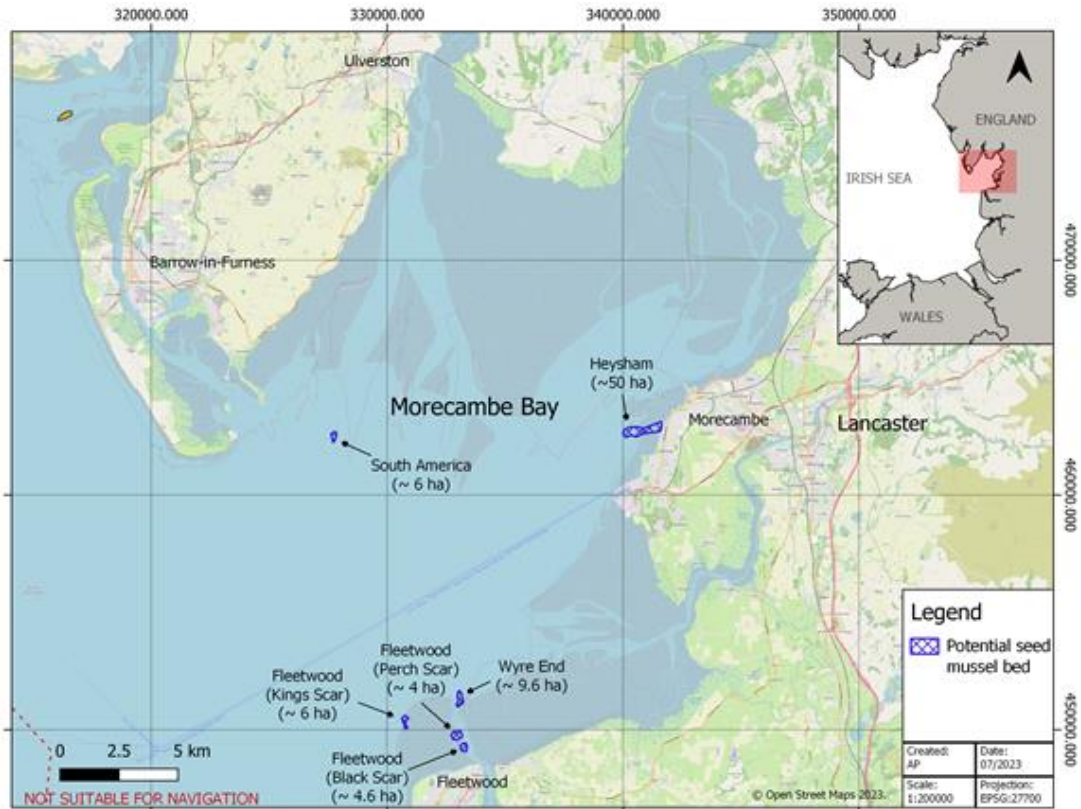


Figure 1. Surveyed and inspected mussel beds in Morecambe Bay from 22nd of June to the 21st of September 2023.

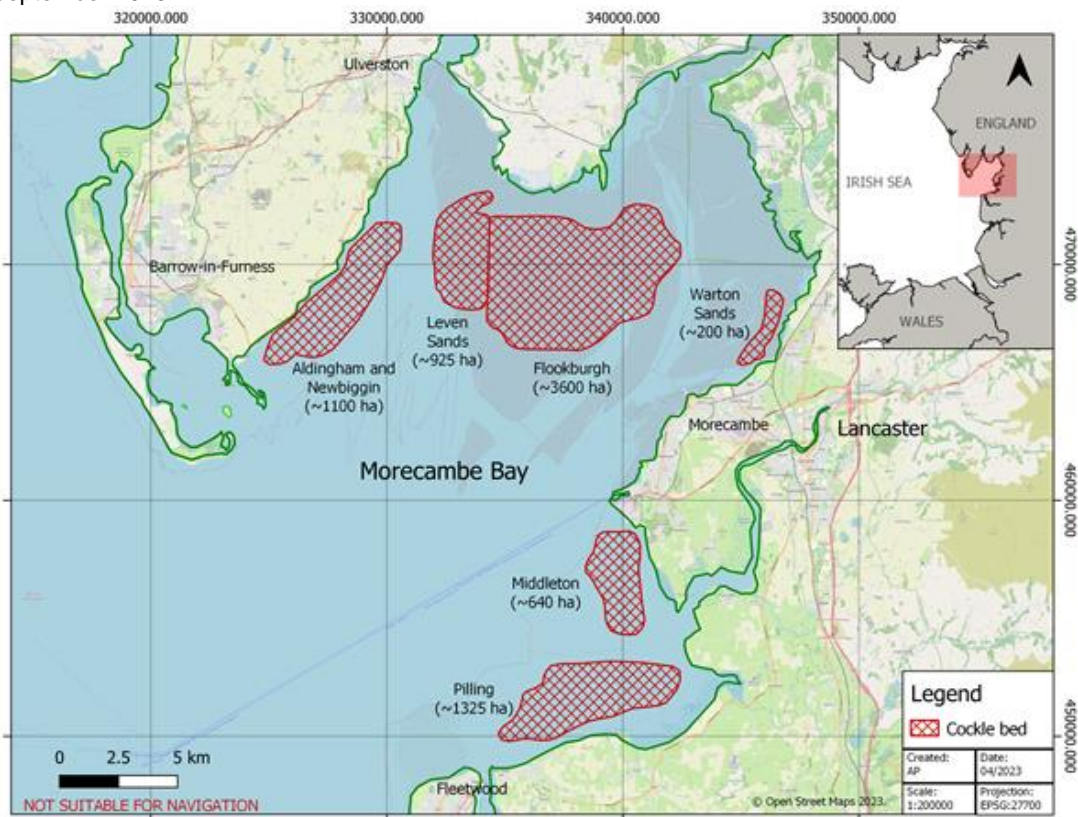


Figure 2. Surveyed and inspected cockle beds in Morecambe Bay from 22nd of June to the 21st of September 2023.



Figure 3. Surveyed and inspected cockle beds along the Wirral coast from 22nd of June and the 21st of September 2023

d) Morecambe Bay cockle fisheries

All cockle beds in Morecambe Bay were surveyed and reports completed by the 26th of July. The results were presented in Agenda item 7 Annex – Morecambe Bay cockle fishery report (<https://www.nw-ifca.gov.uk/app/uploads/Agenda-Item-7-Annex-Morecambe-Bay-cockle-fishery.pdf>) at the 15th of August TSB.

This year the levels of size cockle biomass and density of cockle across the bay were at comparably low levels to the previous year. However, there has been an increased in the biomass and density of juvenile stock, indicative of a good recruitment year and growth.

At the meeting, the composition of undersize cockles identified on the Flookburgh bed were discussed. Industry representation was made regarding the possibility that a portion of stock in the 20-25 mm category could grow on to size in the final summer months. It was, therefore, proposed by the Authority that officers re-survey Flookburgh to identify if this size cohort had reached size by the following TSB meeting in November.

Due to the low biomass of sizeable stock, it was recommended that Morecambe Bay cockle beds remain closed at the end of the closed season in 2023 until next year under Byelaw 3 para. 15.

e) Southport cockle fishery

The Southport cockle bed was surveyed on the 9th of July. The results were presented in Agenda Item 7 – survey and inspection report (<https://www.nw->

[ifca.gov.uk/app/uploads/Agenda-Item-7-Survey-and-Inspection-Report-August-2023.pdf](https://www.nw-ifca.gov.uk/app/uploads/Agenda-Item-7-Survey-and-Inspection-Report-August-2023.pdf)) at the 15th of August TSB.

This year the biomass of size cockle has decreased by a third, and the biomass of undersize decreased tenfold, with limited juvenile stock present to grow into the fishery. Members discussed possible management measures to open the fishery subject to HRA and the proposal of a Total Allowable Catch (TAC). It was proposed by the committee that the fishery be opened subject to HRA and partner agency agreements.

f) Leasowe cockle fishery

The Southport cockle bed was surveyed on the 24th of July. The results were presented in Agenda Item 7 – survey and inspection report (<https://www.nw-ifca.gov.uk/app/uploads/Agenda-Item-7-Survey-and-Inspection-Report-August-2023.pdf>) at the 15th of August TSB.

The biomass of size cockle on Leasowe this year is low, and total biomass falls below the wet biomass limits set for birds. Therefore, it was proposed that Leasowe cockle bed remain closed for the duration of the closed season and until next year under Byelaw 3 para. 15.

g) 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.

This year, between May and July, there were no spring tides suitable to allow surveying of the South America and Falkland mussel beds which are situated further out in Morecambe Bay and often only become exposed on spring tides. The earliest officers were able to access the beds was the 3rd and 4th of August.

A HRA was submitted to Natural England on the 20th of June 2023 in preparation for the beds potentially being opened and incorporating a 'worst case scenario' of all beds being opened. Natural England provided a response on the 11th of July 2023.

After final inspection on the 3rd and 4th of August, conditions were deemed suitable for a dredge seed fishery on Perch Scar and Black Scar at Fleetwood. This year, there has been good seed mussel settlement at Fleetwood, Heysham and South America. South America has increased significantly in extent and mussel coverage in comparison to the previous year. Officers were unable to access the Falklands due to vessel availability.

After survey on the 4th of August, officers completed the survey reports which were provided to the TSB and made available on the website. The fishery at Fleetwood was approved for opening on the 7th of August.

South America was re-inspected on the 1st of September to see if the seed mussel met the HRA criteria for a fishery. The results of this inspection are in draft at the time of this report.

3. NWIFCA RESEARCH PROJECTS

a) Coastal Resilience

NWIFCA and Salford University were unsuccessful in attaining funding for the FISP project looking into the decline of shrimp across the NWIFCA District (detailed in previous reports). However, the University of Salford has put together an expression of interest for a research bid looking into the coastal resilience of Morecambe Bay, with NWIFCA as a contributing stakeholder. This is a trans-disciplinary project pulling together researchers from ecology, geography and arts backgrounds that will share expertise and investigate the status of the main habitats and species in the Bay to understand how they shape community resilience, not just from an ecological or economic perspective but cultural as well. The project aims to implement a natural capital and ecosystem-based management framework incorporating citizen science approaches, to improve the resilience for future climate change scenarios and stakeholder needs.

b) Whelk Fisheries in the North West

A new sampling schedule for the summer of 2023 has been developed. The aim is to identify the size-at-maturity for whelks in the NWIFCA District. Previous work has not provided a consistent dataset from which to make accurate calculations on the size-at-maturity of whelks. Therefore, a 2023 summer sampling schedule has been developed. The plan is for whelk samples to be provided by fishers once per month from May to September from the main fishing grounds. Once a size-at-maturity estimate has been identified, we can assess the appropriateness of the MLS flexible permit conditions. The project aims to be completed by winter 2023.

MMO dispensation for the works and all the necessary agreements and equipment for sampling have been provided to fishers. Currently there are only a limited number of fishers targeting whelk, which has resulted in lower numbers of samples being collected by fishers than originally hoped.

c) Mussel Minimum Landing Size

NWIFCA officers have been undertaking surveys of the Foulney mussel bed following the request from Members to reduce the mussel minimum landing size of 45 mm to 40 mm. Officers have now finished analysing the final samples for pearl that were collected in addition to the original sampled and have begun drafting the final report. 11 transects were undertaken, with 83 original samples collected, and 39 additional samples with over 3600 mussels analysed.

Table 2 provides a timeline of the workstream to date and the actions of officers.

Table 2. Timeline of the mussel MLS study to date

Date	Report	Action
TSB 10 th May 2022	Agenda Item 8 Mussel MLS	Letter from Authority Members requesting a reduction in mussel MLS from 45 mm to 40 mm
29 th June 2022	n/a	NWIFCA issue a consultation to Industry to establish the consensus and obtain views on the proposal.
17 th July 2022	n/a	Deadline for Industry consultation responses
TSB 2 nd August 2022	Agenda Item 12 Mussel	Officers present the results of the consultation to TSB. Fourteen out of twenty

	MLS Consultation	to 30 mussel fishermen had responded to the consultation. The consensus from industry being a localised, temporary reduction subject to biological conditions is the desired option. Industry indicated that there are areas of 'stunted mussel' on Foulney which should be the focus of further study. Members vote for officers to put together a plan for undertaking this work.
TSB 1 st November 2022	Agenda Item 9 Mussel minimum landing size	Officers present the strategy for investigating the stunted mussel on Foulney mussel bed and the potential for a localised, temporary reduction in mussel MLS in this area.
26 th January 2023	n/a	Officers visit Foulney mussel bed to map the area and discuss with fishers their views on the area of stunted mussel. Fishers report that the 2.5m tide contour would be appropriate to map.
13 th February 2023	n/a	Officers map the 2.5m tide line on Foulney.
4 th April 2023	n/a	12 th and 14 th of March officers scheduled in surveys but are unable to complete due to the weather. On the 4 th of April officers complete a Dutch Wand survey of the upper area of Foulney mussel bed.
18 th April 2023	n/a	Officers collect samples for analysis of barnacles, pearling and age and initiate analysis.
May 2023	n/a	Officer's complete analysis of samples.
July 2023	In draft	Officers draft final analysis report to be presented at the November TSB meeting

Mussels are a protected feature of the Morecambe Bay SAC under 'Intertidal biogenic reef mussel bed' features. They are also a supporting habitat of the Morecambe Bay and Duddon Estuary SPA designated to protect specified bird species. Any activity that has the potential to impact the feature which is not directly linked to its management has to undergo a habitats regulation assessment (HRA). Therefore, we need to assess the potential impacts of the proposed reduction in MLS may have.

The next steps are to complete the final report, and determined management options.

4. MARINE PROTECTED AREAS IN THE NWIFCA DISTRICT:

a) Highly Protected Marine Areas (HPMAs)

NWIFCA have been in discussions with Natural England regarding establishing a baseline monitoring program for assessing the changes in Allonby Bay HPMAs alongside local fishers. The research project is currently in the early stages of development, and a Memorandum of Understanding and preliminary method statement have been developed. NWIFCA will lead in collecting data from fishers and undertaking potting surveys alongside industry members to gain an understanding of

the levels of crab and lobster in the HPMA. The project will likely last for >3 years and aims to begin September. Further information on the project will be provided once methodologies and schedules are finalised.

b) Marine Natural Capital

Natural capital relates to the elements of nature that have value to society – it can include both living and non-living aspects of an ecosystem. It relates to ecosystem services, and non-use values such as the value people place on the existence of habitats or species.

Morecambe Bay is the focus of marine Natural Capital study through the Association of IFCA's and Natural England. NWIFCA has been collating information and historical data on the Bay to provide to the Association. The evidence collated will be combined with additional evidence on associated socio-economic value data to develop local placed-based natural capital assessments of fisheries and Morecambe Bay.

The project at this stage has two main aims – to identify the main indicators for monitoring commercial crab and lobster fisheries, and to identify the importance of estuary shellfisheries. The purpose of this is to initially provide recommendations on a suite of standard metrics to incorporate into a future England wide shellfish natural capital evidence gathering programme. The evidence collated will be combined with additional evidence on benthic and ornithological assets and associated socio-economic value data to develop a local placed-based natural capital assessments of shellfisheries in the North- West.

5. FISHERIES MANAGEMENT PLANS

a) National

The SS has been engaging with the national fisheries management plans over the past quarter. IFCA's have been asked to collate and information on Defra's front runner FMP's - crab and lobster, and whelk, and also review them. To do this, the Association has developed a website to store relevant reports, presentations and papers regarding the FMP's which NWIFCA will contribute to. The aim is to compile examples of best practice to show Defra the key work IFCA's play in fisheries management and contribution to FMPs.

b) Cockle fisheries management plan

NWIFCA is working alongside the Association to contribute to the development of the national cockle management plan. The early stages have involved discussions around development and structure of a plan that must consider multiple different cockle fisheries (Thames cockle fishery, Morecambe Bay, The Wash fishery etc.) and develop clear objectives.

NWIFCA are providing data on the District's fisheries and are developing their own cockle fisheries management plan applicable to the District. Both projects will complement the other with the aim of developing a framework for future data collection and management, a decision-making framework, a research plan and management review.

6. MMO MARINE LICENCE AND OTHER CONSULTATIONS FOR THE QUARTER

a) Morecambe Bay Offshore Wind

Officers responded to the most recent consultation request on the works and discussed issues of concern with local stakeholders which were submitted in our formal response.

b) Mersey Tidal Power Project

NWIFCA officers continue to be involved in meetings regarding scope of works and providing information where necessary.

c) Geological Disposal Facility (GDF)

No further update

Consultations this quarter:

- bp and EnBW Intertidal Geotechnical Survey
- St Annes Seawall Coast Protection Scheme
- Walney Extension Offshore Windfarm: Maintenance works (blade extensions)
- MaresConnect Interconnector Seabed Survey
- MOD Eskmeals Artillery Trial
- Derwent Viaduct
- Hesketh Bank Outfall Improvement Works Consultation
- Garston North Dock
- RAF Valley Tidal Valve Clearance

Dispensations this quarter:

- Environment Agency surveys
- Natural England Surveys

7. WORKING GROUPS AND EXTERNAL PARTNERSHIP WORK

a) IFCA Technical Advisory Group

No update

b) Whelk Working Group

NWIFCA attend, and contribute to, the biannual Whelk working group (WWG). The group brings together members of all IFCA's, NE, relevant stakeholders, researchers and government bodies (Welsh government, cefas etc.) from across the UK to share research and current management strategies in order to learn from one another. Next meeting TBC.

c) Lancaster University

NWIFCA have been invited to present at the Morecambe Bay 'Milieux, Aqueous Futures' event in Morecambe Bay held by Lancaster University: <https://wp.lancs.ac.uk/milieu/>. The aim of the event is to explore how different types of data and approaches are shaping environmental decision making in Morecambe Bay. The purpose is to think critically about the techniques which produce this knowledge and their effects as well as alternatives. The event will explore the

opportunities as well as the challenges of generating increasingly complex models of environmental processes and the relationship to environmental policy and decision-making alongside art and design approaches.

d) Environment Agency

NWIFCA is currently planning to assist the EA with their annual small fish surveys in the Wyre which are proposed for October 2023. The data gathered will contribute to the long-standing WFD data set.

1st of September 2023