

Southern Inshore Fisheries and Conservation Authority

Pia Bateman – Chief Executive Officer



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29th October 2024

Dear Member,

ANNUAL GENERAL MEETING OF THE TECHNICAL ADVISORY COMMITTEE – 7th November 2024

The Annual General Meeting (AGM) of the Technical Advisory Committee (TAC) will be held in the meeting room at Unit 3 on **Thursday 7th November at 14:00** to discuss the business on the under mentioned Agenda. Parking is limited, please consider other forms of transport, or share lifts.

Parking is available at the Premier Inn, Holes Bay Hotel. In order to pay for the parking, you are now required to download the Horizon Parking App, once on the App it will select Premier Inn Poole, then follow the instructions for parking. Poole railway station is approximately a 15-minute walk from the office.

Members of the public can request a guest telephone dial-in code from enquiries@southern-ifca.gov.uk.

Yours sincerely,

Maria Chaplin
Office Manager

AGENDA

1. Election of Chairman and Vice Chairman for 2024-2025

To appoint a Chairman and Vice Chairman of the Technical Advisory Sub-Committee.

- **Nominations for Chairman are to be received via email by 12:00 midday on Monday 4th November via enquiries@southern-ifca.gov.uk.**
- **Nominations for Vice Chairman will be invited by the Chairman at the meeting.**

2. Apologies

To receive apologies for absence.

3. Declaration of Interest

All Members are to declare any interests in line with paragraphs (16) and (17) of the Southern IFCA Code of Conduct for Non-Council Members.

4. Minutes – 22nd August 2024

To confirm the Minutes of the Technical Advisory Committee meeting held on 22nd August 2024 (Marked A) and consideration of the following matters outstanding:

- a. **Recommendation 90:** That Southern IFCA communicates with Permit Holders in the PHDP fishery on the catch data for the 2024/2025 season to date, as presented to the TAC, and the intended course of action by the IFCA on how the fishery will be monitored and managed going forward.

PROGRESS REPORTS

5. To consider the following:

- a) **Chief Executive Officer updates** – To receive an update from the CEO on any matters of relevance.
- b) **Emergent Updates** – to receive an update on any matters of relevance which have emerged since the publication of this agenda.
- c) **Solent Dredge Permit Fishery 2024/2025** – to receive an update from DCO Birchenough (Marked B)
- d) **Black Seabream management development** – to receive a verbal update from Senior IFCO Condie and IFCO Mullen.
- e) **REM/AI Project** – to receive a report from DCO Dell (Marked C)

ITEMS FOR DECISION

6. **Shore Gathering Byelaw and Fishing for Cockles (Amendment) Byelaw – Formal Consultation** – to consider a report from Senior IFCO Condie (Marked D)

ITEMS FOR INFORMATION

7. **Poole Harbour Dredge Permit Fishery** – to receive a report from IFCO Mullen (Marked E)

8. **Solent Scallop Survey Report 2024** – to receive a report from IFCO Churchouse (Marked F)

9. **Whelk CPUE Pilot Project** – to receive an update from IFCO Mullen and PO Wright (Marked G)

10. **Whelk Population Survey Report 2024** – to receive a report from IFCO Mullen (Marked H)

11. **Fisheries Management Plans** – to receive an update report from PO Wright (Marked I)

12. **The Poole Harbour Aquatic Management Plan: 2024 revision** – to receive a report from DCO Birchenough (Marked J)

13. Date of Next Meeting

To confirm the date of the next meeting of the Technical Advisory Committee on the 6th February 2025 at Southern IFCA, Unit 3 Holes Bay Park, Sterte Avenue West, Poole Dorset BH15 2AA.

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Minutes of the Technical Advisory Committee (TAC), held in the meeting room at the Southern IFCA office in Poole at **14:00 on 22nd August 2024**.

Present

Dr Antony Jensen	Chairman, MMO Appointee
Mr Richard Stride	Vice Chairman, MMO Appointee
Ms Elisabeth Bussey-Jones	MMO Appointee
Mr Gary Wordsworth	MMO Appointee
Ms Louise MacCallum	MMO Appointee
Ms Pia Bateman	Chief Executive Officer (CEO)

Principal Deputy Chief Officer (PDCO) Sam Dell, Deputy Chief Officer (DCO) Dr Sarah Birchenough, Senior Inshore Fisheries and Conservation Officer (SIFCO) Ms Emily Condie, IFCO's Ms Celie Mullen and Ms Hester Churchouse, Project Officers Ms Imogen Wright, Mr William Meredith-Davies, Ms Chelsea Perrins and Office Manager Ms Maria Chaplin were also present. Cllr Paul Fuller, Chairman of the Authority, also attended.

Mr T Ferrero (Hampshire and Isle of Wight Wildlife Trust) joined the meeting from the virtual public gallery.

Apologies

78 Apologies for absence were received from Mr N Hornby (MMO Appointee), Mr C Brock (MMO Appointee), Dr S Cripps (MMO Appointee), Dr R Morgan (NE), Mr S Kingston-Turner (EA) and Mr J Morgan (MMO Representative).

Declarations of interest

79. The following pecuniary interests were declared: Mr G Wordsworth (Agenda Item 8). The following non-pecuniary interests were declared: Ms L MacCallum (Agenda Item 7).

Minutes

80. Members considered the Minutes of the meeting held on the 9th May 2024, these were confirmed and signed.

PROGRESS REPORTS

81. Chief Executive Officer Updates

The CEO advised Members of Ministerial changes following the election of the new Government, namely The Rt Hon Steve Reed OBE MP, as the Secretary of State for Environment, Food and Rural Affairs and the Minister of State for Food, Farming and Fisheries, namely Daniel Zeichner, formally the shadow minister for Defra from 2020 to 2024.

Following the change in Government, the CEO advised Members that it is likely there will be future changes in inshore fisheries and conservation management, but that any changes were unlikely to be instant, as a status quo will likely be maintained in the short term.

The CEO advised Members on an increase in the Government's Offshore wind budget. At this time, it is not known how any developments in the offshore wind program will impact the Southern IFCA District or within the 6nm boundary, but it demonstrates directional intentions of the new Government.

The CEO informed Members that the Crown Estate had confirmed in recent weeks the opening of a formal tender for the development of three offshore wind farms in South Wales & Southwest England. The newly established Government company, Great British Energy

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will work with the Crown Estate to support the delivery of required infrastructure. It is anticipated that collectively the three sites will deliver c.4GW of energy which equates to around 4 million homes. The CEO discussed that this could be complex matter, with early suggestions that the loss of biodiversity as a result of installing a windfarm may require an equitable area which match the windfarm's spatial footprint protected for conservation/biodiversity purposes. The CEO informed Members that those bidding to deliver the new wind farms will be required to consider how their proposals will consider wider social and economic benefits for coastal communities. This is in early stages and at present not of direct relevance to Southern IFCA however we maintain awareness of progress in this area.

The CEO informed Members that a Private Members Bill to regulate and limit bottom trawling in MPAs, introduced by Baroness Ritchie of Downpatrick has had its first reading in the House of Lords. As currently drafted it states that the regulations must be introduced to prohibit bottom trawling in MPAs. MPAs are defined as including MCZs, Nature Conservation MPAs, HPAs, SACs, SPAs, SSSIs, and an Area of Special Scientific Interest in a marine environment, or a marine Ramsar Site. The draft Bill also allows for any such regulations to make associated provisions on licensing and enforcement as well as conferring power on the Marine Management Organisation and Inshore Fisheries Conservation Authorities.

The CEO advised Members that the Private Members Bill was not a product of Government Policy and that it was at the first of 6 stages, with the second reading in the House of Lords scheduled for 6th September. The CEO informed Members that it was important to be aware of this Bill given its traction and building of social interest. The draft Bill uses loose definitions of both bottom trawling and bottom towed fishing gear, recognising it is still in its initial form, but despite this, it does suggest some of the first indications towards whole site rather than feature-based management within MPAs. It was outlined that such a move would present conflict with the IFCA legal duties in their current form and the Habitats Directive, in addition there would be large scale implications for inshore fisheries. The CEO advised Members that the RPT is compiling a status report to understand what the implications of such a Bill would be on District fisheries. The CEO outlined that this matter has been raised with all IFCO CEOs with a view to seeking input and updates from Defra through MAFCO meetings and the AIFCA.

The CEO reminded Members of the Government's Environmental Improvement Plan published in January 2023, aiming to build on the 25-Year Environment Plan and key legal frameworks, of which relevant to SIFCA are the Environment Act 2021, and the Fisheries Act 2020. The overall aim being to create a "comprehensive delivery plan" to halt and reverse the decline in nature in the UK via delivery of 10 goals, each with specific targets and commitments that contribute to legally binding targets set out under the Environment Act 2021. The CEO advised Members that she has covered the EIP23 at a number of meetings and that the delivery of the Plan has had an impact on MPA work, requiring Southern IFCA to reprioritise to meet 2024 deadlines for Bottom Towed Fishing Gear, Shore Gathering and Black Seabream workstreams. The CEO informed Members that on 31st July 2024 the Labour Government launched a 'Rapid Review of the EIP' to be completed by the end of the year.

The CEO advised Members that the announcement followed the publication of a progress report on the EIP for 2023-2024. With regard to marine and coastal environments, the report discusses the MMO MPA BTFG byelaw which was introduced in March 2024 across 13 offshore MPAs. There is no information on the work that the IFCAs are doing collectively to help achieve the EIP targets, this is a matter that has been raised at a recent COG and will again be raised at the next AIFCA meeting. This is to ensure that the work of the IFCAs is filtering through to Defra at a National level. As collective, IFCAs are providing regular updates to the MMO and Defra on these matters, but this appears to not be filtering through to the end

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stages. From a Southern IFCA perspective, the work we are doing on BTFG, SG and BSB hasn't reached completion, but a high-level progress update as a minimum should be contained within the report which recognises that the BTFG Byelaw 2023 has been made by Southern and is undergoing QA with the MMO.

The CEO informed Members that under the Conservative Government Local Nature Recovery Strategies (LNRS) were required to be developed by councils in order to address declines in nature and coordinate recovery. Relevant to the Southern IFCA district, Dorset (to include BCP) and Hampshire & the Isle of Wight had both been developing LNRS including an optional extension from low water into the marine environment. In May 2024, this optional extension was removed, so the LNRS are now being prepared to low water only.

The CEO spoke to Members about a Sea Angling Report which was published by CEFAS in late July. A link to the report has been put on the Southern IFCA website and advertised across social media channels. The publication highlights the importance of sea angling, socially and economically as well as providing an understanding on the impact of this activity on fish stocks and how the sector was impacted by the Covid-19 Pandemic. The report will help IFCAs to better inform wider policy development via provision of information needed to support well-informed decision-making processes.

The CEO spoke to members about recreational fishing for Blue Fin Tuna. Following a return of this species into UK waters after many years of absence, the MMO has allocated 66 tonnes of quota for 2024 (16t to recreational fishers under a permit scheme and 39 tonnes for a commercial bycatch and tagging programme running July-Dec). Since the last TAC meeting, 89 recreational permits have been granted across English waters for catch and release via rod and line (administered and managed by the MMO and Defra).

82. Research and Policy Team updates

DCO Birchenough informed Members that the BTFG Byelaw 2023 had been subject to a further round of QA, following a review by the senior team at the MMO, with all comments addressed and re-submitted to the MMO on 22nd August. There were no material changes to the Byelaw or Impact Assessment. The indication from the MMO is that following this QA they would be looking to send the Byelaw package to Defra for consideration by the Secretary of State.

DCO Birchenough explained to Members some of the complexity that can lead to the process of QA taking an extended period of time. In the case of the BTFG Byelaw 2023 there had been issues which Southern IFCA had flagged with the MMO including version control with comments through QA being made on an older version of the Byelaw rather than the most recent version and inconsistencies in the advice provided between different rounds of QA which had resulted in further updates being required in subsequent rounds of QA.

DCO Birchenough informed Members that both of those points had been highlighted when submitting the Byelaw through the most recent round of QA. The MMO have been asked to provide an update on anticipated next steps and timelines so that we can be appropriately informed when the Byelaw package is sent to the Secretary of State for confirmation.

Mr R Stride asked DCO Birchenough if that process is likely to be interrupted by the passage of the private Members Bill? DCO Birchenough informed Members that the private Members Bill is in very earlier stages and may not progress therefore it is unlikely to impact the progress of any BTFG byelaws currently in the QA process.

PO Meredith Davies gave Members an update on the lease program for 2025-2030 under The Poole Fishery Order 2015. He outlined that leases under The Order are issued for a five-year

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period with the current lease commencing on the 1st July 2020 and set to expire on the 1st July 2025. There will therefore be a new lease period commencing from the 1st July 2025. The process of gathering background information to inform the development of the lease program has started, and communications will be made with Lease Holders to provide information on the process as it progresses. The Authority will be kept up to date with this workstream through TAC meetings. Any decisions required as part of the process would be presented for consideration at the appropriate TAC meetings.

ITEMS FOR DECISION

83. Shore Gathering Byelaw

DCO Birchenough outlined to Members the steps involved in developing the Shore Gathering Byelaw, stating that the Shore Gathering review was one of Southern IFCA's key MPA workstreams contributing to the 2024 deadline for MPA management within IFCA Districts. The Shore Gathering Review commenced in 2022 and was then further refined in 2023 following the publication of the EIP 2023 to focus on management within National Site Network Sites, namely Marine Conservation Zones (MCZs), Special Areas of Conservation (SACs) and Special Protection Areas (SPAs). DCO Birchenough outlined that management principles had been developed for the Review through a series of Member Working Groups and agreed by the TAC at the meeting in May 2024 along with a set of draft management measures based on these principles and initial drafts of the Conservation Assessment Package, Site Specific Evidence Package and Literature Review as supporting documents. The draft management measures were then used to create the Shore Gathering Byelaw and a Seaweed Harvesting Code of Conduct.

DCO Birchenough outlined that the management measures in the Shore Gathering Byelaw were based around spatial management through the definition of three types of prohibited areas, year-round, winter closure areas (1st November to 31st March) and summer closure areas (1st March to 31st August). During the relevant periods, all shore gathering activities would be prohibited (covering bait digging/collection, shellfish gathering, crab tiling/collection, mechanical harvesting [by hand], push netting and seaweed harvesting), with some exceptions for certain hand worked gear types which are listed in the Byelaw. DCO Birchenough informed Members that the provisions in the Shore Gathering Byelaw ensured that all relevant activities were covered and addressed the potential impact to designated features in a proportionate way.

DCO Birchenough outlined that the Seaweed Harvesting Code of Conduct had been developed in line with other Codes of Conduct in place around the UK, primarily one which was developed by Natural England. The determination to progress with a CoC was based on the fact that the levels of activity for this particular form of shore gathering are very low in the District and therefore a CoC is the most appropriate management step that will allow the IFCA's legal duties to be met whilst being proportionate to the potential impact of the activity. DCO Birchenough informed Members that in drafting the Shore Gathering Byelaw it was identified that there are 5 existing Southern IFCA Byelaws which can be revoked. This is to avoid duplication of regulation and to reduce some of the complexity that currently exists around regulations for shore gathering activities. DCO Birchenough outlined that the proposed Shore Gathering Byelaw ensures that the legal duties of Southern IFCA can be satisfied whilst ensuring that measures can be condensed into a single byelaw.

DCO Birchenough informed Members that the Shore Gathering Byelaw requires an amendment to an existing byelaw, the Fishing for Cockles Byelaw, to create the Fishing for Cockles (Amendment) Byelaw which is included in the Byelaw package to be 'made' along with the Shore Gathering Byelaw. The original Fishing for Cockles Byelaw contains provisions related to shore gathering and to dredging, the former would be managed under the new Shore Gathering Byelaw, the latter are already managed under relevant permit byelaws. The

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amendment byelaw is required to ensure that other provisions including an MCRS for cockle and a closed season remain in place.

DCO Birchenough informed Members that the Shore Gathering Byelaw would also require a cessation of the Memorandum of Agreement for Bait Digging in Poole Harbour, a voluntary agreement in place since 2013. DCO Birchenough explained that there has been documented non-compliance with the MoA in certain areas which has supported the decision to bring the spatial provisions of the MoA into a regulatory mechanism. DCO Birchenough outlined that there are other provisions, in addition to spatial management, contained within the MoA, such as backfilling and the requirement for landowner permission for commercial harvesting, however there are other nationwide codes of conduct for bait digging in place which list these provisions, therefore there is no further need for a specific agreement for Poole Harbour in the event that the Shore Gathering Byelaw is ratified.

DCO Birchenough outlined that an Impact Assessment has been drafted to support the Byelaw and, in order to understand the potential economic cost of the Byelaw, Senior IFCO Condie undertook targeted engagement with specific stakeholders. The economic cost identified through this exercise is represented in the IA and has been determined to be relatively low. The nature of the Review, focusing on National Site Network Sites and feature-based management means that the IFCA has not gone beyond the achievement of its legal duties in this regard, therefore the socio-economic impact of measures is not a factor which can be taken into consideration when making decisions on management, but that the cost has been identified through the IA as a requirement of the byelaw making process. The proportionate approach to the development of this management will enable the Southern IFCA to meet duties under the Marine and Coastal Access Act 2009 for MCZs and the Conservation Regulations for SACs and SPAs, whilst minimizing impact on the industry where possible.

Senior IFCO Condie informed Members that following comment from NE at the May TAC meeting and following the provision of Formal Advice by NE on the Conservation Assessment package, two changes had been made to the draft management measures. One in Langstone Harbour to increase prohibited areas to year-round to provide appropriate protection for tern species and an extension of the year-round prohibited area in The Fleet to fully cover areas already subject to exclusions/management by local conservation managers. Senior IFCO Condie outlined that there had also been some minor wording updates to the Seaweed Harvesting Code of Conduct and inconsequential updates to the Conservation Assessment Package. Members were informed that the Formal Advice received from NE had been annexed to the report along with a table outlining how each point raised by NE had been responded to by Southern IFCA.

Dr A Jensen thanked DCO Birchenough and officers for a detailed set of documents. Dr Jensen informed Members that they had been asked to provide comments on the Shore Gathering Byelaw, Fishing for Cockles (Amendment) Byelaw, Seaweed Harvesting Code of Conduct and supporting documents. Dr Jensen outlined that if Members agreed the recommendations, then the Authority would be formally notified of the intention to Make the Byelaws at the September meeting along with the MMO and Secretary of State.

Ms L MacCallum queried how enforceable the regulations under the new Shore Gathering Byelaw are. PDCO Dell informed Members that the Byelaw has been reviewed by members of the Compliance and Enforcement Team and he is confident that the Byelaw is enforceable. Dr A Jensen informed Members that any comments received during the Formal Consultation on the Byelaws would help understand any potential issues.

Mr R Stride asked for areas which are prohibited either year-round or seasonally, where these are expressed as a percentage of the Southern IFCA District, did this relate to the whole

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District or the intertidal area. Senior IFCO Condie outlined that it was applicable to the whole District.

Mr R Stride stated that the Seaweed Harvesting Code of Conduct states to obtain relevant permissions and that NE should be consulted before harvesting takes place in a protected site. Mr R Stride queried whether anyone undertaking this activity should be consulting NE and what it is that the consultation is for, i.e., is it related to permissions to undertake the activity and how is this granted. DCO Birchenough replied that Southern IFCA have not prescribed processes for this in the CoC as it is a determination for NE as to the most appropriate processes through which any consultation is undertaken or any permissions sought for activities as per their own requirements. DCO Birchenough emphasised that the wording in the CoC is taken directly from NE's own CoC and that while appropriate protections have been provided in the Shore Gathering Byelaw where prohibitions for this activity are required and through the CoC, there is overlap with other designations such as SSSIs where NE consent is required for certain activities. DCO Birchenough explained that it would be for NE to regulate whether those permissions have been obtained rather than Southern IFCA.

DCO Birchenough informed Members that this is the first set of Byelaws that the current Research & Policy Team have developed in their entirety and all members of the RPT have had input into the process. DCO Birchenough expressed her thanks to the RPT for their input.

The recommendations were proposed by Mr R Stride and seconded by Mr G Wordsworth; all Members voted in favour.

Resolved

84. That Members:

- a. Provide comment on the draft Shore Gathering Byelaw and supporting documentation.
- b. Provide comment on the draft Seaweed Harvesting Code of Conduct.
- c. Provide comment on the draft Fishing for Cockles (Amendment Byelaw)

85. That, in accordance with IFCA Byelaw Guidance, Members agree to formally notify Authority Members and the Secretary of State of the intention to make the Shore Gathering Byelaw and the Fishing for Cockles (Amendment) Byelaw at the Authority meeting on 19th September 2024.

86. Solent Oyster Survey Report 2024 & Solent Dredge Permit Category B Permits

IFCO Churchouse presented the survey report from the 2024 Solent Oyster Survey to Members. The survey was run for three days from the 22nd to 24th July, during which 72 tows were completed in 16 beds over all of the six Bivalve Management Areas defined in the Solent Dredge Permit Byelaw.

IFCO Churchouse informed Members that this survey was last carried out in 2022, with a decision being made following that survey to move to surveying every two years due to low stock levels which showed minimal change each year. In total across those 72 tows, 42 oysters were sampled which were above or equal to the 70 mm, Minimum Conservation Reference Size (MCRS), 56 oysters were sampled that were under 70 mm.

IFCO Churchouse outlined that The Solent Dredge Permit Byelaw Management Intentions Document sets out CPUE threshold levels for both individual oyster beds and at the level of a BMA, the CPUE relates to oysters at or above the MCRS. These thresholds are designed to inform the management of the fishery. For individual beds the threshold is set at 15 kilograms per meter per hour, and for a BMA the threshold is set at 5 kilograms per meter hour. For the 2024 survey, two BMAs had seen CPUE values above the threshold, BMA 3 - Eastern Solent

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with an average CPUE of 5.63 kilograms per meter per hour, which corresponded to 13 oysters above 70 mm over 9 tows, and BMA 2 – Northern Solent, which had an average CPUE of 5.48 kilograms per meter per hour which corresponded to 20 oysters over 70mm over 18 tows. There was only one individual bed, the North Channel in BMA 2 where the CPUE exceeded the threshold, with an average CPUE of 17.55 kilograms per meter per hour, which corresponded to six oysters over three tows. IFCO Churchouse reminded Members that although the threshold levels had been reached in those cases, it was important to reflect on the number of oysters that these values corresponded to which are still very low.

IFOC Churchouse informed Members in comparison to 2022, seven of the beds sampled in 2024 saw an increase in CPUE, 6 sites saw a decreased CPUE to a value of 0 and three sites maintained a CPUE of 0. The results of the survey show that oyster stocks still remain low across the Solent and in consideration of the number of oysters represented by the CPUE values and the decrease in areas of CPUE to 0 it was recommended that Members maintain a closure of all BMAs for the harvesting of native oyster for the 2024/2025 and 2025/2026 fishing seasons, the next survey taking place in July 2026.

The recommendations were proposed by Ms E Bussey-Jones and seconded by Ms L MacCallum; all Members were in favour.

Resolved

87. That members approve The Solent Native Oyster Survey 2024 report.

88. That Members maintain a closure of all BMAs for harvesting of native oysters for the 2024/2025 and 2025/2026 seasons.

ITEMS FOR INFORMATION

89. Poole Bivalve Survey Report 2024

IFCO Mullen presented the survey report for the 2024 Poole Harbour Bivalve Survey, informing Members that the survey is conducted annually prior to the opening of the Poole Harbour Dredge Permit fishery in May. For 2024 the survey was completed between 8th – 11th April.

The report shows analysed Catch Per Unit Effort (CPUE) and size frequency data from the survey and catch data from the fishery for 2023 across the 11 catch reporting zones, comparisons are made to data from the last three years. The CPUE data shows that higher CPUE values reflect environmental stimuli which drives the distribution of different species across the Harbour, Manila clam favouring finer grained muddy sediments whereas cockles favour coarser, sandier sediments.

IFCO Mullen outlined that over the last three years there have been fluctuations in catch data and also CPUE survey data but there have been no statistically significant differences, indicating that, according to the survey results, the population of Manila clam appears stable. Results for common cockle have shown either no significant difference in catches or CPUE data from the survey in the last three years or an increase in CPUE which has been seen in the last two years. It was noted that CPUE data from Zone 3 for common cockle was higher in previous years but not significantly so.

IFCO Mullen outlined that catch data for Manila clam peaked in October 2023, consistent with previous years, whereas there was a peak in landings for common cockle also in October 2023 which has not been consistently seen over the past three years. For size frequency data from the survey, the length distribution of Manila clam showed smaller lengths than in 2023, but these were not statistically significant, and lengths of common cockle were seen to fluctuate between zones as has been the case in previous years.

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IFCO Mullen outlined that, although analysis of survey data indicated that stocks are stable, Southern IFCA have received reports from permit holders following the start of the fishing season in May that there has been an observable decline in catches of Manila clam compared to the previous few seasons. On the basis of this information Southern IFCA have been monitoring the catch data supplied monthly by permit holders and have, to date, analysed data from May, June and July comparing data from 2024 to 2016-2023. IFCO Mullen provided a graph to Members, outlining that data for May and June had been provided as part of the TAC report and data from July had been added, and presented verbally, due to catch data for July not being received prior to the TAC agenda being published. IFCO Mullen outlined that the data is provided as CPUE values, representing kg of Manila clam per hour per fisher, this removes any influence of changes in the number of permit holders fishing, or the number of hours fished.

IFCO Mullen informed Members that for May 2024, the CPUE was 0.7kg per hour per fisher, a decrease of 39.1% compared to 2023 (1.15 kg per hour per fisher). Comparing to catch data from May 2016-2019, the CPUE for 2024 was between a 29.6% increase (2017) and a 48.9% increase (2016) on levels seen during those years for that month, therefore catch levels remain higher in 2024 for May than they did in the 2016-2019 period.

For June 2024, the CPUE was 0.45kg per hour per fisher, a decrease from 2023 of 31.8% (0.66 kg per hour per fisher). Comparing to catch data from June 2016-2019, the CPUE for 2024 was between a 2% decrease (2017) and a 12.5% increase (2016).

For July 2024, the CPUE was 0.37kg per hour per fisher, a decrease from 2023 of 51.3% (0.76 kg per hour per fisher). Comparing to catch data from July 2016-2019, the CPUE for 2024 was between a 24.5% decrease (2017) and a 10.4% increase (2016). Looking at the data for 2016-2024, there was a relatively consistent catch rate for 2016-2019 followed by a large increase in 2020, a slight decline through to 2022 and then a slight increase in 2023 prior to the pattern being seen for the 2024 season. IFCO Mullen outlined that whilst the 2024 data reflects a decline in landings from the previous 4 years, at present levels are not inconsistent with those seen during the 2016-2019 period.

Members were informed that the reason for the decline in catch levels during the 2024 season is currently unknown. Officers have engaged with key stakeholders and experts in the fishery and there has been a suggestion, although not confirmed, that a spring mortality may have potentially occurred in late April, after the Poole Harbour Bivalve Survey was carried out, due to warmer temperatures over winter. IFCO Mullen outlined that catch data would continue to be reviewed on a monthly basis and analysed in relation to previous seasons.

Ms E Bussey-Jones asked whether there was anything significant that occurred between 2016-2017 to see an increase in catch rates. IFCO Mullen responded that there was no significant change that the IFCA are aware of, the stocks remained relatively stable between 2016-2019, however there was a large increase in catch levels in 2020, the reason for this is also not known. Ms E Bussey-Jones asked whether the 2020 catch data was as a result of the Covid-19 pandemic. DCO Birchenough responded that fishing practice remained largely unchanged during the pandemic for the majority of permit holders as most operate single handed.

Dr A Jensen informed Members that the Manila clam is not native to temperate areas and therefore do not have some of the physiological coping mechanisms that native bivalve species exhibit. Primarily this is related to not having the same reduction in metabolic rate in response to temperature, for example oysters and common cockle will noticeably reduce the filtrations rates during colder weather, however in a winter where there are relatively warm

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temperatures, Manila clam will continue to pump water expending energy, as the light levels increase in spring there is then an increase in phytoplankton which increases this energy expenditure further, this can result in a spring mortality if energy has not been sufficiently conserved during the winter period.

The CEO outlined to Members that an action will be taken to communicate with Permit Holders as soon as possible on the data presented to the TAC and the intended course of action by the IFCA on how the fishery will be monitored and managed going forward. This will hopefully allay concerns and emphasise to permit holders that the situation is being taken seriously. Officers will also explore the possibility of a proactive agreement on further action, agreed by permit holders ahead of time so if action is required, it can be taken with the agreement of those involved.

Recommendation

90. It is recommended that the Southern IFCA communicates with Permit Holders in the PHDP fishery on the catch data for the 2024/2025 season to, as presented to the TAC, and the intended course of action by the IFCA on how the fishery will be monitored and managed going forward.

91. Fisheries Management Plans Update

PO Wright updated Members on the FMP program. Due to the General Election, the majority of work on the FMP program had been paused. IFCO Wright informed Members that she and DCO Birchenough had attended a workshop run by Seafish in relation to the Whelk FMP, to discuss draft reports produced by Seafish on proposed management and evidence gathering based on the objectives highlighted in the published FMP. Southern IFCA also attended a Whelk Management Science Group meeting and have subsequently been asked to comment on a draft paper related to whelk MCRS. PO Wright informed Members that she had also attended an initial scoping meeting for the Celtic Sea and Western Channel demersal FMP and has been working with DCO Birchenough to respond to a data request from MRAG, who are supporting the MMO as the Delivery Partner, in relation to the Wrasses Complex and Black seabream FMPs.

The CEO informed Members that there had also been meetings held between the IFCAs and the MMO, arranged by AIFCA and KEIFCA where each relevant IFCA presented on the work that they currently do in relation to the published FMPS. The MMO were receptive to this and indicated the importance of continuing to work with IFCAs in this process. The intention of the meetings was to ensure that IFCAs are involved in the implementation process, something which is also being raised with the AIFCA. There are multiple groups and a complex picture regarding FMP implementation, and it is important that IFCAs can feed their work and information into this process. The advantage provided by AIFCA is having a member of staff, Mr Tim Smith, who is coordinating IFCA work related to the FMP program and providing a channel for IFCAs to other organisations. There do however remain challenges in also independently reminding lead organisations on FMP implementation that IFCAs have management and research programs in place that could be beneficial to this delivery.

92. Marine Licencing Update

IFCO Churchouse presented Members with the Marine Licencing update. Between May and July of this year, Southern IFCA have been consulted on 28 applications through the MMO licencing portal (MCMS), 12 of which have required a response. Each application requires a review to determine any potential comments which may need to be provided, therefore even the applications which are deemed not to require a response require an investment of time to make this determination. IFCO Churchouse outlined that the detail of applications which required a response can be found in the table accompanying the report, in summary the

SOUTHERN INSHORE FISHERIES & CONSERVATION AUTHORITY

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majority of the responses have been for dredging applications, the majority of which have been within the Solent. In addition, there have been environmental impact assessments and construction work applications which have also required comment.

Responses for dredging works have focused mainly on the impact of dredging disposal on local fisheries in the Solent, as well as providing information on fishing activity and species in the vicinity of proposed works and the potential impact of increased suspended sediment concentration. It is frequently noted that whilst consideration is given to the dredging site, less assessment is carried out for impacts at disposal sites which Southern IFCA feel is important to highlight.

IFCO Churchouse outlined that Members have also been provided with a copy of the response sent to the application for the IFA 2 Cable works. This response focuses on the location of key fisheries in the area of the proposed works, reiterates points raised under the initial application for this project (the current application being for a required additional works) and referenced points raised by the fishing industry in an industry response which the Southern IFCA was given permission to reference. Following the submission of the Southern IFCA response a meeting was held with the applicant, and it was reinforced that further engagement with industry was required which the applicant stated would take place.

IFCO Churchouse outlined that since the TAC agenda was published a further 11 applications have been received for consultation. These are also mainly related to dredging works and are being reviewed. IFCO Churchouse informed Members that in total, the number of applications received to date in 2024 was a 30% increase on the total number received for the 2023-2024 financial year.

Ms L MacCallum asked IFCO Churchouse about the Lymington Harbour maintenance dredge application, and whether fishers are concerned about the impact of dredge disposal where that is being used to regenerate saltmarsh areas or whether it is the disposal at sea.

IFCO Churchouse informed Ms L MacCallum that it is commonly the disposal at sea which raises concerns in the fishing industry. The disposal sites used are at the NAB tower and at Hurst spit, with anecdotal evidence received from the fishing industry that this is having an impact on stocks of crab and lobster in these areas and the wider Solent. In responding to applications which reference these disposal sites this point is emphasised and the corresponding need for assessment of impacts at these sites as well as the primary dredging site.

93. Date of Next Meeting

To confirm the date of the next meeting of the Technical Advisory Committee on the 7th November 2024 at Southern IFCA, Unit 3 Holes Bay Park, Sterte Avenue West, Poole Dorset BH15 2AA.

There being no further business the meeting closed at 15.51

Chairman:

Date:

Solent Dredge Permit Fishery 2024-2025 Progress Report

Report by DCO Birchenough

A. Purpose

For Members to receive a progress report on the Solent scallop fishery, as managed under the Solent Dredge Permit Byelaw (SDPB), prior to the start of the 2024/2025 season on the 1st November 2024.

B. Annexes

Annex 1: 2024 Solent Scallop Survey report - Marked F, November 2024 TAC Agenda.

1.0 Background

- The SDPB manages the harvesting of bivalves using a dredge within the Solent. The SDPB has been in place since 2021 and permits are issued on an annual basis; a Category A Permit authorises the use of a dredge to fish for or take bivalves of any species except native oyster (*Ostrea edulis*).
- One of the species that can be harvested under a Category A Permit is King scallop (*Pecten maximus*). This fishery first emerged in the Solent in 2013 and, subject to developments in management is now managed through specific Category A Permit Conditions.
- Additional Category A Permit Conditions were introduced in this fishery prior to the start of the 23/24 season, following the Authority's consideration of best available evidence, which suggested a decline in stock levels.

2.0 Summary of Key Points

- The Solent King scallop fishery is subject to a plethora of effort management controls which collectively seek to support sustainable stocks and a viable fishing industry.
- Following the implementation of additional effort controls at the beginning of the 23/24 season (Nov 23), data suggests that stock has generally shown improvement supporting the commercial fishery via provision of increased catch levels during the 23/24 season, which has not led to a stock decline.
- With consideration of the best available evidence, in combination with Southern IFCA's legislative function; in addition to the resolve to conduct higher level in-season analysis, it has been concluded that no changes were required to the Category A Permit Conditions prior to the start of the 24/25 season on the 1st November 2024. These conclusions were discussed with the Chair of the TAC.
- 47 Category A Permits have subsequently been issued to applicants who met the eligibility requirements as specified under the SDPB Access Policy and are entitled to fish for scallops, either as an <10m vessel or under an MMO Licence Entitlement.

3.0 Key Considerations in the Decision Making Process

In considering whether additional management intervention (either via permit conditions or via introduction of a cap on the number of permits issued) was required for the 24-25 fishing season in relation to King scallop, the following aspects were considered:

(a) Data from the Solent Scallop Survey Program 2024:

Surveys were carried out in January¹ (mid-season), April (post-season) and September (pre-season) 2024. Subsequent data analysis was carried out in September in order to identify any changes in stock health over key periods including:

- when the fishing season was active (Sept 23 survey to Apr 24 survey),

¹ The January survey was added to the survey programme in 2024 in order to provide greater understandings of mid-season stock status.

- when the fishery was closed (Apr 24 survey to Sept 24 survey)
- time series comparisons between spring and autumn surveys to date (22-24)

Data Analysis summary:

- The pattern in the King scallop stock from the 2024 surveys was as would be expected based on fishing activity, a decrease in Catch Per Unit Effort (CPUE) during the season and an increase in CPUE when the fishery is closed.
- The data from the 2024 surveys for the period when the fishery was closed shows an improvement in CPUE compared to the results for this period from 2023.
- There has been an increase in Total CPUE for autumn 2024 compared to autumn 2023.
- There is a mixed picture when looking at individual sites, not all sites have shown an increase in CPUE during the closed season, however the number of sites where an increase has been seen is greater than for 2023.
- The increases in CPUE for autumn 2024 and during the closed period for 2024 have been seen despite increased catch levels during the 2023/24 fishing season suggesting that, at this stage, the increased catch levels have not led to a decline in stock.
- It is known that there are areas of the Solent which are targeted for King scallop which are not covered by the current survey methodology and there are also reports from industry that the sites which have shown lower stock levels in the 2024 survey are those which were not fished extensively during the 2023/24 season².

(b) Existing effort controls & industry compliance:

The Solent scallop fishery is subject to numerous controls, which collectively seek to support sustainable stocks and a viable fishing industry, these include:

Controls under the Category A Permit under the SDPB:

- The efforts controls introduced for the 23/24 season were:
 - A reduced fishing season between 1st November and 31st March (a decrease in season length of 1 month)
 - No fishing on a Saturday or a Sunday (a decrease in days from 7 to 5)
 - A daily fishing limit to between 0800 and 1600 (a reduction in daily hours by 4 hours)
- The 23/24 effort controls introduced more precautionary measures when compared to the previous seasons seasonal and temporal measures.
- The fishery is also subject to gear restrictions (2 dredge limit) as well as catch reporting, with the multitude of measures combined, designed to support a sustainable fishery.
- Compliance with the 23/24 measures (in addition to existing) was high during the 23-24 season.

Controls under the MCRS Byelaw:

- The current MCRS of 110mm which, based on the most recent scientific research³, remains conservative providing the potential for additional spawning opportunities

² improvements to survey methodology and catch reporting to ensure these points can be quantified going forward are discussed later in this report.

³ Available evidence on Size of Maturity (SoM) was reviewed for King scallop, indicating maturity at c.3 years. Relating this to a growth study of King scallop (12 sites on a latitudinal gradient), for even the fastest growing scallops (Baie de Seine), at 3 years, growth curves indicated that the size of individuals was below the 110mm MCRS which is applicable to the Solent. From this same study the closest site to the Solent is Plymouth, where, at 3 years, the size of King scallop was between 80-90mm. This corresponds to an unpublished Cefas report which indicates 50% maturity at a size of 90mm. On this basis the current MCRS applicable to the Solent of 110mm is conservative, providing the potential for additional spawning opportunities prior to capture. The degree to which this may occur for individuals 90-110mm is not known, however there is potential for multiple spawning events by an individual prior to harvesting providing additional support to the population.

prior to capture.

Controls under the Scallop Fishing Byelaw 2019:

- all dredges must be fitted with a spring-loaded tooth bar and the mouth of any dredge must not exceed 85 centimetres in overall width;
- no more than two tow bars may be used at any time;
- the maximum length of any tow bar must not exceed 5.18 metres including attachments.

(c) Understanding impact of additional effort management introduced in 23/24

- Survey outcomes suggest that the stock is robust in supporting the commercial fleet, with increased catch levels during the 23/24 season not having resulted in a decline in stock levels (total catch of has varied between seasons from 297t in 21/22 to 153t in 22/23 to 560t in 23/24).
- It takes time to understand the impact of management intervention (specifically referring to the introduction of the 2023 effort controls) on stock levels and determine relevant influencing factors on stock patterns, for example discerning potential influence of management or fishing effort compared to other environmental factors.
- Additional actions taken for the 24/25 season (discussed in sections [f] and [g] of this report) will aid in furthering understandings of how management and fishing effort relates to data from the fishery alongside building a timeseries dataset.

(d) Catch Levels

- As would be expected, higher catch rates during a season corresponded to lower CPUE values in the relevant end of season survey, however the highest overall pre-season CPUE to date has been seen after the closed period following the season with the highest catch rates indicating that the stocks can sustain the commercial fishery. This also indicates that fishing effort is potentially not the main influencing factor on stock patterns, however a longer timeseries of data and improved catch reporting is required to quantify this.

(e) Continuation of Mid-Season Survey

- Understandings of the health of the fishery will be further enhanced via the mid-season survey (piloted in 2024), providing an opportunity to assess the stock of King scallop during the 24/25 fishing season.
- In the event that data from this survey, alongside consideration of all other available evidence, indicates that management intervention is required, the Authority could make mid-season changes to management in accordance with paragraph (28) of the SDPB.

(f) Higher spatial resolution for catch reporting

- In order to improve understanding of harvesting areas for King scallop in relation to patterns in the stock, there is need to align the catch reporting provided by Permit Holders with data collected through the Solent Scallop Survey program.
- An update to the 24/25 monthly catch return will require reporting of the area fished for King scallop to a finer scale. In previous seasons this has been to the level of a Bivalve Management Area (BMA), as defined under the SDPB.
- To improve spatial resolution the main BMA used for harvesting (BMA 3 – Eastern Solent), has been divided into 6 Sub-Areas for Permit Holders. A guidance document has been provided with the 24-25 Permit Pack to aid Permit Holders in using these Sub-Areas, and Permit Holders are invited to provide feedback through the season on the applicability of these areas and the implementation of the new catch reporting requirements. On this basis, catch reporting can be further explored during future seasons to ensure that the most appropriate data is collected to inform understanding of how fishing areas relate to survey data. Figure 2 shows the 6 Sub-Areas for BMA 3.

- Southern IFCA will monitor the scallop effort over the course of the 2024/25 season via **in-month analysis of the submission of monthly catch returns**. This is at a higher frequency to the previous season.

(g) Implementation of an updated survey methodology

- During 2025, it is the intention to implement an updated methodology for the Solent Scallop Survey Programme, developed in consideration of key areas for King scallop fishing within the Solent, engagement with the fishing industry and engagement with Cefas on nationally applied methodologies.
- The updated methodology aims to provide data on smaller size classes of King scallop by using a Queen scallop dredge alongside the N-Viro dredge used by fishers and to ensure that each year the areas surveyed align with those where harvesting takes place, as is the case for the current national scallop survey methodology.
- Data collected under this new methodology also has the potential to be fed into national evidence gathering, for example as part of the implementation of the King Scallop Fisheries Management Plan (FMP).

(h) Consideration of additional permit applications when compared to previous seasons

- For the 24/25 season, 54 Category A Permit applications were received, 27 from 23/24 permit holders and 27 from new entrants. 51 of the applicants met the eligibility criteria⁴ and are eligible to fish for scallops either as an <10m vessel or under an MMO Licence Entitlement.
- There has been variation on permit uptake since 2021 (21/22 = 25, 22/23 = 34, 23/24 =32).
- To date 47 of the permits for those applicants who are eligible to fish for scallops have been issued.
- The Category A Permit applies to fishing for all bivalves except native oyster, therefore it remains unknown ahead of the season how many Permit Holders may target scallops.
- Despite permit uptake being greater than the previous seasons, the data suggests that the stock is able to support commercial fishing pressure with general increases in stock CPUE during the closed season in 2024 compared to 2023 despite a large increase in catch rates during the 23/24 season.
- Further survey data to build a timeseries and improved catch reporting is required to understand fluctuations in stock levels and potential influencing factors, at this stage data from 2024 suggests that commercial fishing effort is not causing a decline in stock levels.

(i) SDPB Review 2025

Work will be undertaken to review the management of dredge fishing in the Solent under the SDPB. This review will encompass consideration of whether the existing byelaw and permit conditions are fit for purpose (recognising that the SDPB was not designed to manage the scallop fishery, which was emergent at this time), the Management Intentions Document and Access Policy.

- Outcomes of the review may include, but is not limited to, updates to the types of permits available, permit access pathways, permit eligibility criteria, application period, use of data from associated survey programs, monitoring and control for the fishery and the collection of fishery data.
- It is the intention that the future administration of the Category A Permits will be moved to an online permit platform. This evolution will be considered in the review, to ensure that any transitions remain user friendly for the permit holders.
- Permit holders and any other stakeholders as the Authority deems fit, will be kept informed through the development of this review and made aware at the earliest opportunity of how to engage in this process and provide input.

⁴ [Access-Policy-SDPB-2021-update-FINAL-2021-11-22-110928.pdf \(toolkitfiles.co.uk\)](https://www.toolkitfiles.co.uk/Access-Policy-SDPB-2021-update-FINAL-2021-11-22-110928.pdf)

- Any changes to the management of this fishery will be made in accordance with the review procedure outlined in paragraph (28) of the SDPB and the Authority will be transparent in the intention and delivery of this workstream throughout.

4.0 Conclusions

In accordance with Section 153 of the MaCAA, Southern IFCA must ensure that fishing is carried out sustainably, seek to balance the social and economic benefits of fishing with the protection and recovery of the marine environment and seek to balance the different needs of persons engaged in fishing.

With consideration of Southern IFCA's legislative function, in combination with consideration of aspects listed a-i in this paper, it is concluded that that no changes to permit conditions, permit fees or limitations on the number of permits was required ahead of the 2024-2025 season.

PILOT PROJECT REMOTE ELECTRONIC MONITORING (REM) & ARTIFICIAL INTELLIGENCE (AI)

Paper For Information

Report by PDCO Dell & IFCO Payton.

A. Purpose

To provide Members with a status update in relation to the Southern IFCA Pilot Project for REM and AI.

B. Annex

- I. Exploration of the use of REM and AI in inshore fisheries management in the Southern IFCA District report.
-

1.0 Introduction

- As part of the 2024-25 Compliance and Enforcement Team Strategy, the Authority agreed to fund a small scale trial of REM and AI across a number of vessels in the Southern IFCA District.

2.0 Summary of Key Points

- Since the Authority meeting in March 2024 Officers have carried out preliminary project work including meeting with suppliers to obtain final costings for the equipment and discuss logistics of getting vessels fitted.
- Officers have met with other Government partners including Marine Scotland who recently carried out a comprehensive trial in an inshore creel fishery to which the outputs are yet to be published, as well engaging with other IFCAs including Devon and Severn IFCA who Southern IFCA are working closely with on the project.
- IFCOs have also furthered engagement with the fishing industry within the Southern IFCA priority fisheries which has extended to direct engagement with the NFFO (National Federation Fisherman's Organisations).
- On the 13th May 2024 Department for Food, Environment and Rural Affairs (Defra) published its response to a public consultation on the use of REM in England. [Remote electronic monitoring - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/consultations/remote-electronic-monitoring)
- Defra have indicated that their next steps with regards to REM will be to work with volunteers in five priority fisheries, these fisheries fall out of the Southern IFCA project scope however there are similarities that can be made for example the use of REM to monitor bycatch in net fisheries. Southern IFCA intends to further engage with Defra in relation to this project.
- Officers have produced **Exploration of the use of REM and AI in inshore fisheries management in the Southern IFCA District report.** (see Annex 1)
- IFCO Payton has completed a Literature Review on the use of REM and AI in Inshore Fisheries Management (see page 9 on Annex 1).

3.0 Next Steps

- Continue engagement and maintain equipment deployed in Southern IFCA priority fishery 1 including sharing analysis in Partnership with Devon and Severn IFCA.

- Engagement with the fishing industry to try and find voluntary participants by explaining benefits and addressing concerns with the project in relation to Southern IFCA priority fisheries 2 and 3.
- Install equipment within the Southern IFCA priority fisheries 2 and 3.
- Engagement with wider Government Partners on process and outcomes.
- Analysis of the data being obtained and final Project report anticipated April 2025 including staged outputs in line with all priority fisheries.

Southern Inshore Fisheries and Conservation Authority

Exploration of the use of REM and AI in inshore fisheries management in the Southern IFCA District

To be read in conjunction with Annex 1 Literature Review.

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Overview

Introduction

The Joint Fisheries Statement provides detail about how the UK authorities including IFCA will deliver on the eight objectives set out in the Fisheries Act 2020. This includes exploring the use of technologies such as **remote electronic monitoring for scientific purposes and to aid the sustainable management and control of fisheries. It also commits the fisheries policy authorities to working with the fishing industry and interested organisations to develop and implement effective fisheries management.**

Technological monitoring solutions for scientific research and fisheries management are also the international direction of travel and are part of a wider trend towards digital transformation. Southern IFCA intends to contribute to this work, leading and shaping how remote electronic monitoring and artificial intelligence is deployed and utilised in our inshore waters.

What Southern IFCA are doing

Quick view: What is remote electronic monitoring?

Remote electronic monitoring is a catch all term that refers to integrated on-board systems that may include cameras, gear sensors, video storage, and Global Positioning System (GPS) units. These systems can capture comprehensive videos and are used to monitor fishing activity with associated sensor and positional information.

Remote electronic monitoring is used in many different forms to support better inshore fisheries management around the world (See Annex 1).

Quick view: What is remote Artificial intelligence?

Artificial intelligence is an overarching term used to describe a computers ability to operate independently in various situations similar to a human. A subset of AI known as machine learning uses data to learn patterns which allows it to make predictions about new data it is presented with. The ability of AI to assess data means it can be used in applications of assessing video captures, allowing for videos to be analysed a lot faster than what a human could.

Southern IFCA Ambition for remote electronic monitoring

Southern IFCA's ambition is for the REM and AI pilot project is to inform national discussions and further the outcomes and development of the Fisheries Management Plans seeking novel low-cost initiative solutions to both evidence collation and control and enforcement, **working with and collaborating with Defra and other partners including the Fishing Industry.**

Remote electronic monitoring is a tool to help us achieve this aim but is not a complete solution in itself. **It needs to be used in a proportionate way**, with clear and achievable data objectives.

There are already many ways that we and other regulators collect data on fishing activity including permit returns, logbooks, sales notes, onboard observers, Automatic Identification Systems (AIS), Vessel Monitoring Systems (VMS), fishing industry driven data collection and science partnerships.

The Southern IFCA pilot project will assess how robust remote electronic monitoring delivers information and evidence and determine the next step for enhancing data collection. Better data collected that uses remote electronic monitoring has scientific applications, for example feeding into stock assessments, and can also support reforms to fisheries management, at Southern IFCA an example maybe but not limited to a change in permit conditions. In some cases, the use of remote electronic monitoring may be essential for reforms to be successful. Similarly reforms to fisheries management approaches may also be necessary for the successful implementation of remote electronic monitoring.

There is also potential for vessels using remote electronic monitoring to fully document fishing activity to have additional options open to them such as a different approach to accounting for catches or access to flexibilities for example trawls being towed on the surface for cleaning purposes within closure areas a practice which has been prohibited.

As part of Southern IFCA's commitment to delivering world class fisheries management, we want to work together with our fishing industry and other stakeholders to explore the use of remote electronic monitoring.

What remote electronic monitoring can achieve

Fully documented fisheries achieved with remote electronic monitoring presents a wide range of opportunities and can deliver multiple benefits across fisheries and the marine environment. The use of information and data provided by remote electronic monitoring can support:

- **Improved fisheries management:** Remote electronic monitoring can provide greater confidence in catch and effort data and support better decision making in fisheries management.

- **More responsive management:** near real-time monitoring that tells us what is being caught at sea can support more responsive management.
- **Reduced regulatory burdens:** where fishing activity is fully documented there may be less requirement for complex technical regulation.
- **Compliance by design:** Remote electronic monitoring can inform better management and regulatory decisions. Well-designed regulation should result in high levels of compliance.
- **A level playing field:** requiring monitoring across all vessels engaged in fishing activity within our waters will ensure fair application of the rules.
- **Transparent monitoring of designated protected areas and better information about interactions with seabed habitats:** Remote electronic monitoring can enhance how we monitor and manage fishing activity in protected areas and could fill gaps in knowledge about wider interactions with seabed habitats.
- **Better information on stocks:** Remote electronic monitoring can fill gaps in science which, among many benefits for the marine scientific community, can lead to better informed Total Allowable Catch (TAC) setting and over time, improve the evidence base for Fisheries Management Plans.
- **Improved sensitive species bycatch monitoring:** Remote electronic monitoring can tell us more about interactions between fishing activity and sensitive species. With this information we can develop better methods for bycatch mitigation, for example to support the bycatch mitigation initiative.
- **Increased resilience:** Remote electronic monitoring can evidence where fishing activity takes place and the importance of particular grounds which may help inform spatial squeeze discussions and help to assess the impacts of future changes.
- **Enhanced traceability:** Remote electronic monitoring can provide information about where fish are caught to assist with marketing catch in an increasingly data driven supply chain.

Southern IFCA Approach: Work to date

Southern IFCA through working in partnership and collaborating with Devon and Severn IFCA and Industry have initially implemented REM devices on two vessels within the district operating in Lyme Bay, where cameras, GPS (Global Positioning System) and gear sensors have been installed as an initial phase, this is with the view to enhance our confidence within the current spatial restrictions and further Southern IFCA's understanding of fishing vessels using Bottom Towed Gear within Marine Protected Areas (MPAs).

Post this phase anticipated 2024-2025 Southern IFCA will look at a small-scale trial of REM systems across other vessels within the district.

Southern IFCA are going to explore the use of REM for vessels in the Priority Fisheries identified below.

5 Overarching Pilot Project objectives

Southern IFCA have set of objectives for this project which is as follows:

- To evaluate how technologies can improve management interventions through enhanced monitoring of fishing activities within the inshore fleet (<12m vessels)
- to demonstrate how technologies can improve access to fisheries by changing management measures
- to demonstrate how much data can be generated from on board technologies
- to demonstrate the cost and monitoring effectiveness of technologies compared to the current approach
- To demonstrate opportunities for vessel owners when their vessels are at sea.

Southern IFCA Pilot Fisheries

The fisheries that we propose for the initial stages of implementation of remote electronic monitoring within Southern IFCA's waters are:

1. **Bottom towed fishing gear (vessels under 12m).** In Partnership with Devon and Severn IFCA REM devices have been installed on two vessels operating in Lyme Bay. The devices allow detection of bottom towed gear being used within MPAs.
2. **Inshore netting (vessels under 12m)** (Harbour and Estuarine areas of Southampton and Christchurch). The monitoring and control plan within the Net Fishing Byelaw includes Salmonid management within MPAs. Netting vessels may have interactions with Salmonids and currently relies on self-reporting. The use of AI and REM has the potential to automate the process to monitor if interactions between salmonids and netting vessels are occurring.
3. **Pot fishing (vessels under 12m).** The under-proposal Pot Fishing Byelaw could introduce pot limits to this fishery. AI could count strings of pots as they are hauled onto the vessel, in which the AI analyses video of the haul and simply identifies and counts the pots one after another. This system could also be used in conjunction with sensors to help determine the start and end of a string. This process would allow for the pot limits to be enforced.

Other future opportunities for remote electronic monitoring outside of scope of pilot fisheries

There are many fisheries where remote electronic monitoring can provide useful data to support management that are not included in the list of proposed priority fisheries, but that could be considered for future remote electronic monitoring opportunities for example Southern IFCA will also consider deployment of REM on a trial basis in other fisheries such as the Poole Harbour Dredge Permit fishery and/ or the Solent Dredge Permit Fishery this will be kept under review. There is also potential to trial equipment on Authority Patrol Vessels.

Implementation considerations

In this section we discuss some key questions about how remote electronic monitoring should be implemented.

Working together with our fishing industry

Southern IFCA will not mandate the use of REM for vessels for the purpose of this project. Instead, **the project will rely on volunteers from the fishing industry to install REM on their vessels**. We will work with the industry to demonstrate the benefits to them of using this technology and be transparent about what data is collected and how it will be used to try and encourage participation in the project. Being voluntary however does make it the biggest risk to the project with the potential of few or no one signing up making the project ineffective.

Data management

Remote electronic monitoring programmes must be designed to protect private and commercially sensitive information. Onboard cameras only monitor areas of a vessel associated with fishing-related activities. Vessel owners and skippers will be involved in the installation of remote electronic monitoring systems from the beginning, to ensure the process is transparent. Remote electronic monitoring data will be encrypted and securely stored. Data generated by remote electronic monitoring systems will be managed in line with data protection rules.

Data analysis

Remote electronic monitoring data will be reviewed by the team. The team will look at GPS, gear sensor information and video capture from the vessel and determine where fishing activities are taking place and consider what parts of the video footage to analyse.

Analysis will only be completed on a sample of the fishing activity data to generate the data set out in the objectives for the fishery. These objectives, and the size of the sample monitored, will be transparent, designed, and clearly documented with input from the fishers involved. This data will then be applied to meet the agreed objectives for the project, for example to verify the and provide assurance on catches and gear deployment exploring the use of AI.

Technology procurement and delivery

For the procurement of remote electronic monitoring systems. Southern IFCA have assessed which option will best deliver as required, interoperability and value for money were key factors in the decision and a supplier has been selected,

Costs and funding

The Southern IFCA budget for this project is £10,000 to cover the three district pilot fisheries for years 2024/25.

There are broadly three types of costs to remote electronic monitoring:

- Hardware and installation
- Maintenance
- Data costs including transfer, analysis and storage

We are committed to being transparent around the known cost implications of remote electronic monitoring in order to inform future discussions.

Next Steps

- Continue engagement and maintain equipment deployed in Southern IFCA priority fishery 1 including sharing analysis in Partnership with Devon and Severn IFCA.
- Engagement with the fishing industry to try and find voluntary participants by explaining benefits and addressing concerns with the project in relation to Southern IFCA priority fisheries 2 and 3.
- Install equipment within the Southern IFCA priority fisheries 2 and 3.
- Engagement with wider Government Partners on outcomes and process.
- Analysis of the data being obtained and final Project report anticipated April 2025 including staged outputs in line with all priority fisheries.

Annex 1

Literature review of the use of REM and AI within fisheries management

Southern Inshore Fisheries and Conservation Authority



Literature Review use of REM and AI in inshore fisheries management

Supporting Document for the development of REM and AI use within Southern IFCA.

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Section A: Introduction to the Literature Review

This literature review is a supporting document for the development of the use of REM (Remote electronic monitoring) and AI (artificial intelligence) for management within the Southern IFCA district.

The literature review addresses the following areas:

- An overview of REM
- An overview AI
- Examples of the use of REM and AI within the UK fisheries
- Examples of the use of REM and AI outside the UK fisheries
- Benefits of REM and AI
- Challenges of REM and AI

This document uses the best available evidence, mainly peer reviewed paper and reports with a focus on the most recently available.

Section B: Literature review

1. Overview of key terms

1.1 Remote Electronic Monitoring

The following points relate to what REM is and how it is defined.

- REM, or sometimes referred to as just EM, is a system which consists of cameras, gear sensors, video storage and positioning units which allows the collection of fishing and positional data (Needle *et al.*, 2015; DEFRA, 2020) (Figure 1).
- The video collected can then be analysed by someone on land to extract data such as catch volumes, bycatch, discards and vessel tracks, all of which can be used to inform fisheries management and check compliance (Michelin *et al.*, 2018)
- Advances in this technology has seen gear sensors being replaced with automated systems that flag “activity of interest” and the use of cellular and satellite networks has allowed transmitting of data in near real time (Michelin *et al.*, 2018)
- The use of REM within fisheries management was debated as part of an amendment to the fisheries bill but was rejected as a more flexible enforcement approach was deemed more suitable (Kemp *et al.*, 2023)

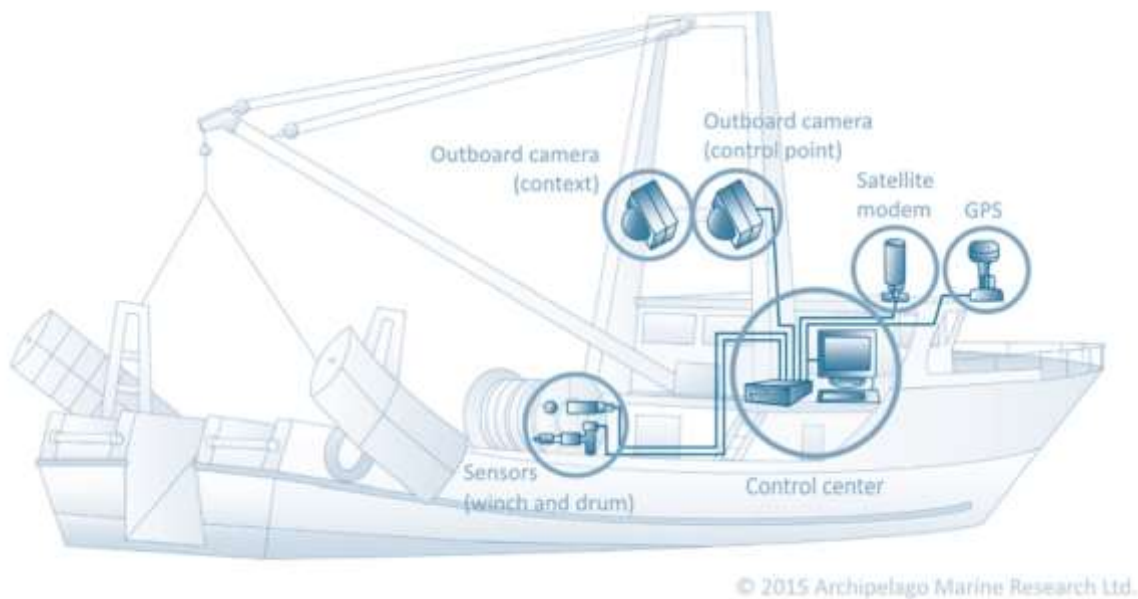


Figure 1: Diagram of an example REM system on a fishing vessel (Archipelago Marine Research, 2024)

1.2 AI, Machine Learning, Deep Learning and Neural Networks

The following points relate to defining AI and its related terms.

- AI is an overarching term used to describe a computers ability to operate independently in various situations similar to a human (Du-Harpur *et al.*, 2020)
- Machine Learning is a subset of AI in which a computer uses a data set to learn patterns in order to make predictions about new data it is presented with (Krichen, 2023)
- Deep learning is a subset of machine learning in which a neural network is used to make predictions and it can assess if its predictions are accurate. A neural network is formed up of multiple nodes organised into layers of computer code in which each layer analyses the inputted data and passes it on to the next layer (Krichen, 2023). This process allows for the AI to self-learn but requires large datasets and large computing power.
- There are many different types of neural networks that work in different ways. For example, Feedforward Neural Networks cannot pass data back across layers whereas Recurrent Neural Network feeds back the output from each layer back through the layer to help make better predictions. A commonly used network within fisheries is Convolutional Neural Networks (CNN) as they work well for video and image recognition (O'Shea and Nash, 2015). It works by organising its layers into three dimensions and the layers are only connected in small areas in which the final output are probability scores.

1.3 Summary of Key terms

- REM is a system of sensors and cameras which allow someone onshore to view what the vessel is doing and collect various fisheries data which can be used to inform management.
- AI can be used to speed up the processing of data obtained from REM, in which there are various kinds of AI with CNN being the most common for image and video related data.
- The main difference between machine learning and deep learning is that human input is needed to help refine machine learning, but deep learning is more independent.

2. Examples of using REM and AI within fisheries

2.1 Examples within the UK

- In Scotland a scanner was developed to be placed on vessels in which crustaceans could be passed through it to produce 2D and 3D images of individuals. From these images size and sex could be determined, this data could then be fed into stock assessment models (UK SIF, 2023)
- A CNN was trained to analyse sea bass lengths from images, in which it was successful in accurately measuring the bass. The accuracy decreased if the bass was rotated more than 20°. CNN could be used to process large volumes of data to extract relevant material to management (Monkman *et al.*, 2019)
- In Scotland a system called BatMap was developed for the offshore whitefish fleet in which vessels were GPS tracked and submitted catch information via an app. The system then triggered alerts if an area had a high level of unwanted bycatch allowing for fishermen to avoid such areas (Marshall *et al.*, 2021). This same system is in development for the inshore Nephrops fleet.
- REM is in use on Scottish scallop vessels in which the system helps to monitor compliance with Marine Scotland controls and regulations (James *et al.*, 2019). The government has recently voted for the system to be rolled out on all scallop dredge vessels and greater than 12m pelagic vessels.
- In Whitehaven two under 10 metre trawlers trailed REM equipment, it was successful in confirming fishing location and effort in which skipper and onshore reviewer estimates were very similar (MMO, 2012)

2.2 Examples outside of the UK

- In Peru the gillnet fishery has a high bycatch of marine mammals, turtles and sharks which is underreported. By using a REM system of cameras, it was possible to monitor the bycatch levels for continuous periods. The onshore analyst compared to the onboard observer had a detection rate of 90% for sharks, 80% for cetaceans and 50% for turtles (Bartholomew *et al.*, 2018).
- In Norway a camera system known as NepCon was used within demersal trawls which aimed to allow AI to detect how many Nephrops went by the camera. The system was able to achieve 76% accuracy of counting individuals passing the camera, in which problems occurred if individuals overlapped and were counted as one instead of two (Sokolova *et al.*, 2021).
- Similarly Norway also developed a camera system called Deep Vision which captures video of organisms just before the cod end of a trawl. The system records the exact location and depth of each individual and then an AI calculates length and identification (Rosen and Holst, 2013).
- In New Zealand REM was used to monitor the set net fishery and its interaction with Hector's dolphins. Using sharks as a proxy to compare the two different observers the REM reviewer had a detection rate of 97% compared to 95% for the human observer (McElderry, 2007; Geytenbeek *et al.*, 2014).
- REM was also used in the New Zealand Snapper (*Pagrus auratus*) Fishery. Concerns were raised with this quota fishery over wastage. Cameras were deployed on 5 vessels which viewed discard bins before they were emptied at pre-agreed points. Vessels were asked to estimate the weight of their discards which were then compared to an onshore analyst estimate, in which fishing vessels estimates were between 20 and 70% less (Pria *et al.*, 2016).

- In 2008/2009 Denmark ran trials of a REM system focussing on problems in the cod fishery of discarding, highgrading and overcatching. A system of GPS, gear sensors and cameras were used to record size composition of catch and enforce Cod quota. There was a noticeable size composition difference between participating and non-participating vessels in which participating vessels had less smaller cod. This was as the vessels were moving fishing grounds trying to find larger individuals to maximise the use of their limited quota (Kindt-Larsen *et al.*, 2011).
- In Australia REM was used to monitor the Eastern Tuna and Billfish fishery with aims of gathering data on gear setting, hauling, interaction with protected species, retained catch and released catch. The idea of REM is to check the reliability of the vessel's logbook (Piasente *et al.*, 2012). In 2015 the government implemented this as a full-time programme in which 90% of fishing effort was required to be covered by REM (van Helmond *et al.*, 2020).
- For the groundfish hook and line fishery in British Columbia a REM project which involved full capture of fishing activities, a 10% review of video from each fishing trip and checking of vessel logbooks. All of this has provided accurate data on catches for all quota species and some non-quota species and prevented the fishery from being closed and allows for changes in terms of catch limitations to be based on up to date data (Stanley *et al.*, 2015).
- A Dutch trial of a fully documented cod fishery was completed using REM, incentives for this system was a 30% quota bonus and were not limited on sea days for their net mesh size. This system resulted in larger boats changing fishing behaviour to avoid catching undersized cod, but smaller vessels showed no change in their behaviour (Van Helmond *et al.*, 2016).
- In Denmark REM was used to monitor bycatch of porpoises and videos were analysed and compared to the vessel logbook. The logbook often missed porpoises as they fell out of nets before making it on board, something only the cameras could see, or times were incorrect due to crew forgetting make entries (Kindt-Larsen *et al.*, 2012).
- Video footage from a Canadian fishing vessel was analysed using a CNN to try and determine species present and count individuals, an accuracy of 53.42% was achieved (Khokher *et al.*, 2022).
- A camera placed on escape panels in French active fishing gear recorded small fish that used the panels, an AI system was able to count the number of individuals escaping in which the count was similar to human observers counts (Simon *et al.*, 2020).
- In Indonesia an AI system is being developed for use at ports. The system can currently quite accurately count fish baskets which helps improve data for landings as data is currently poorly recorded (Wibowo *et al.*, 2023).

2.3 Summary of examples

- The most common use of REM is to monitor catches and bycatch in all different kinds of fisheries around the world.
- Onshore analysts of REM can achieve better accuracy or similar accuracies to onboard observers.
- AI can be used to determine length of individuals and in some instances identify them, but accuracy can be limited.
- The use of REM has shown to change fishing behaviour of some vessels for the better
- REM has been successful in collecting data to confirm catches and other fishing activities to help support management.

3. Benefits and Challenges of REM and AI

3.1 Benefits

- As technology has developed the data that can be obtained from REM is of greater resolution making it an ever more effective tool for monitoring and managing fisheries and helping meet commitments such as the Fisheries Act 2020 and 25-year Environment plan (French *et al.*, 2022)
- In the UK cost of installing REM systems dropped by 22% between 2015 and 2017 (Ewell *et al.*, 2020)
- Depending on the system it is possible for REM and AI to offer real time monitoring of a fishery which allows for better management decision making with the most up to date information (Sokolova *et al.*, 2021)
- Many fisheries are not managed sustainably resulting in an estimated yearly net benefit loss of \$80bn as estimated by the World Bank, REM and AI could help make fisheries more sustainable (Michelin *et al.*, 2018)
- REM could be more reliable than human observers, less bias and safer especially on small vessels in which space is limited whilst also taking pressure off skippers being responsible for the observer's safety (Evans and Molony, 2011; Kindt-Larsen *et al.*, 2012; Michelin *et al.*, 2018).
- In terms of trying to have information on 100% of all fisheries it is much more manageable and easier to scale REM then it is to have more human observers (Michelin *et al.*, 2018).
- Improvements to transparency of fishing operations in which the public gain an increased trust in sustainability and traceability of the fisheries (Michelin *et al.*, 2018)
- REM allows for fishermen to be responsible for collection of data which helps manages their fishery. They can produce data which backs up what they are seeing on the ground which overall increases the reliability of fisheries-dependent data (Michelin *et al.*, 2018)
- The cameras used for REM can also be used by skippers to get a better sense of their surroundings and adjust their fishing operation as well as monitor their crew's safety on the deck (Michelin *et al.*, 2018)
- Although costs of REM can be high these costs compared to fisheries that already have high levels of human observation were shown to be 247% less per a day in the USA when looking at 100% coverage by REM (Michelin *et al.*, 2018)
- With the Norway cod REM example, a human observer costs €200,000 for 300 days but the REM system costs only a tenth of this and could monitor continuously (Kindt-Larsen *et al.*, 2011).
- REM systems could be developed further to allow fish weight to be calculated, addition of DNA scanners to determine sex and thermal cameras to categorise if discards are alive or dead allowing for even more data to be fed into decision making (Michelin *et al.*, 2018)
- REM can promote fishermen to carry out better practises to improve the quality of their catches and be more compliant (Kindt-Larsen *et al.*, 2011).
- REM can promote fishermen to work together and benefit from this in terms of avoiding choke species (Calderwood *et al.*, 2023)
- AI has already been used to shorten review times of footage, AI was 99.2% accurate in terms of identifying when fishing activity was occurring allowing for the reviewer to complete the review 40% quicker (Michelin *et al.*, 2018)
- The Australian REM project showed that if either a compulsory or voluntary REM project was launched then either would be cheaper to operate then a human observer programme with the same coverage level (Piasente *et al.*, 2012)

3.2 Challenges

- REM is currently less accurate high-volume fisheries such as trawls due to the quantity, additionally data on sex and maturity of individuals is not collected (Mangi *et al.*, 2015; Ewell *et al.*, 2020)
- Camera angles and technology failing can mean missing or gaps in data collection (Ewell *et al.*, 2020)
- The REM system can also be manually turned off leading to further data gaps, therefore benefits need to be offered to fishermen to keep it switched on (Geytenbeek *et al.*, 2014)
- If REM was installed on all vessels, it would currently produce too much data to be able to keep on top of, there is a need to develop suitable AI to process the data effectively (Götz *et al.*, 2015; Willete *et al.*, 2023)
- There are a lot of costs associated with REM at various levels from the equipment cost to the running costs of the equipment, video storage and processing (Michelin *et al.*, 2018)
- If a fishery is not frequently observed by on board observers, then there is a large jump in cost if REM was used for 100% coverage (Michelin *et al.*, 2018)
- If REM system is required in order to fish, then any repair time reduces the time a vessel can fish (Michelin *et al.*, 2018)
- Fishing occurs in an environment which is very dynamic and at times extreme which means that there are unique challenges for camera systems and AI to overcome in order to be effective such as turbid waters and changing weather conditions (Michelin *et al.*, 2018; Gladju *et al.*, 2022)
- Due to these challenges of the environment, there is a niche for the REM development in which there is limited funding to develop the suitable systems (Kindt-Larsen *et al.*, 2012; Michelin *et al.*, 2018)
- Many fishermen are strongly opposed to the idea of having REM on their vessels if they have never had no experience with REM, meaning extra work is needed to give fishermen a trial to help promote its use (Kindt-Larsen *et al.*, 2012; Plet-Hansen *et al.*, 2017; Michelin *et al.*, 2018)
- Some fishers would prefer using a reference fleet or self-sampling to gather data rather than have REM installed on their vessel (Mangi *et al.*, 2019)
- With the use of cameras within REM systems there is a problem of fishermen feeling that their privacy is being invaded (Mangi *et al.*, 2015)
- REM has issues when catch is not in view which can be particularly problematic for discards, this requires crew to have a standardised sorting process to ensure that the cameras can detect everything clearly (Piasente *et al.*, 2012)
- REM systems are not always simple, and the different components can be complex, however fisheries are complex and so complex solutions can be effective if time and money are put into them (Stanley *et al.*, 2015)
- If a vessel changes fishing gear, then cameras may be only in the best viewing point for certain gear types and so changing of camera positions or just more cameras may be needed (MMO, 2012)
- A stable power supply is needed to ensure REM system does not have data loss, more of an issue on smaller vessels (Kindt-Larsen *et al.*, 2012)
- AI struggles when crew interact with the fish, the unpredictable movements that occur can easily lead to double counting and incorrect identifications (Khokher *et al.*, 2022)

3.3 Summary of benefits and challenges

- REM can offer great monitoring ability of the fishing fleet and could allow for 100% coverage something that is not easily done with just human observers.
- The cost of REM can be cheaper when compared to human observers to achieve full coverage.
- If the right system is in place near real time monitoring can occur allowing for decisions to be made with the best available evidence

- Allows for fishermen to help develop fisheries-dependent data and backup their observations on the ground.
- AI development will facilitate the processing of large quantities of data keeping management up to date.
- There is a strong aversion in many fleets to having REM systems due privacy concerns.
- The marine environment is at times extreme meaning that the technology needs to be robust to be effective and not require vessels to have downtime waiting for repairs.
- Vessels need incentives to have and keep REM systems operating as well as operating in a way that allows REM to capture consistent relevant data.

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Shore Gathering Byelaw and Fishing for Cockles (Amendment) Byelaw – Formal Consultation Decision Paper

Report by Senior IFCA Condie and DCO Birchenough

A. Purpose

For Members to review feedback to date from the formal consultation on the Shore Gathering Byelaw and the Fishing for Cockles (Amendment) Byelaw, and the indicative position of Southern IFCA responses, prior to consideration of the full outcomes of the formal consultation by the Executive Sub-Committee.

B. Recommendation(s)

- a) On reviewing feedback received to date from the formal consultation, that Members agree the indicated scope of Southern IFCA responses in relation to the Shore Gathering Byelaw and the Fishing for Cockles (Amendment) Byelaw.
 - b) That a summary of the TAC discussion is provided to the Executive Sub-Committee to inform their subsequent decision to make recommendations to the Authority regarding the submission of the Byelaws to the MMO for confirmation by the Secretary of State.
 - c) That Members agree to hold a Working Group prior to the Executive Sub-Committee in December in the event that any amendments are identified as being required to either Byelaw as a result of further submissions to the formal consultation.
-

1.0 Introduction

- Following the decision to make the Shore Gathering Byelaw and the Fishing for Cockles (Amendment) Byelaw at the Authority Meeting on 19th September 2024, Southern IFCA have commenced a period of formal consultation for both Byelaws.
- In line with Defra's IFCA Byelaw Guidance¹, Southern IFCA sought to advertise the Byelaws and Impact Assessment for two consecutive weeks in relevant publications and media platforms across the District. Adverts were published in the Fishing News, Southern Daily Echo, Dorset Echo and the Isle of Wight County Press. In addition, the advert was also run across these publications' websites.
- To supplement the adverts in publications, the Byelaw package was also advertised on the Southern IFCA website and Southern IFCA social media platforms (X, Instagram, Facebook). Email communications regarding the formal consultation were sent to stakeholder groups in the District and member organisations for the Memorandum of Agreement for Bait Digging in Poole Harbour. A presentation on the formal consultation was given by Officers at a meeting of the Solent Forum.
- Due to an unforeseen error on the part of the Fishing News, the second publication of the advert was delayed by a week. IFCA Byelaw Guidance outlines any person wishing to object to the advertised byelaw(s) must write to the IFCA and MMO not later than 28 days after the date of the newspaper in which the last advert appears. The delay in the publication of the second advert in the Fishing News has resulted in the closing date for the formal consultation being delayed to **14th November 2024**.
- The IFCA Byelaw Guidance outlines how the Authority should *examine all timely objections before the byelaw is submitted for confirmation, respond in writing to objectors and, where appropriate, liaise with objectors with a view to resolving the objection. The IFCA may wish*

¹ [IFCA Byelaw Guidance](#)

to consider amending the byelaw in light of those objections. Objections that cannot be resolved do not preclude confirmation but the IFCA must provide a sufficient explanation as to why they have decided to disregard the objections. When responding to objectors, IFCAs should explain that their objections have been considered and why the byelaw has not been amended as they might have wished.

- As part of the formal consultation process, Southern IFCA have responded to requests from stakeholders and provided additional information to support the formal consultation as follows:
 - Provision of Byelaw coordinates for the Shore Gathering Byelaw in a grid-reference format
 - Inclusion on the website of detailed maps of each site in addition to the maps provided as part of the Shore Gathering Byelaw

2.0 Summary of Key Points

- The Standing Orders outline that the TAC will consider any outcomes of formal public consultations following the making of statutory interventions.
- Due to the closing date for the formal consultation occurring after the November TAC meeting, an indicative position regarding the outcome of the formal consultation is provided on the basis of the objections received to date and the proposed Southern IFCA responses detailed in the table in this report. Two objections have been received to date, one to both Byelaws and one to the Shore Gathering Byelaw only.
- In addition to formal responses, Southern IFCA has also received feedback through engagement. This feedback has, as yet, not been formalised in a response to the formal consultation, however consideration has been given to the points raised and a response to those points provided for Members consideration.
 - *That areas which are proposed as prohibited areas for Portsmouth Harbour under the Shore Gathering Byelaw do not align with prohibited areas for bottom towed fishing gear.*
 - There are differences in the number of prohibited areas proposed for Portsmouth Harbour under the Shore Gathering Byelaw and those currently in place under the BTFG Byelaw 2016 and the proposed for the BTFG Byelaw 2023. There are 4 prohibited areas proposed under the Shore Gathering Byelaw and 6 under the BTFG 2016 Byelaw (with proposed extensions to 3 of these under the BTFG 2023 Byelaw).
 - All areas proposed under the Shore Gathering Byelaw are aligned with areas proposed for BTFG management under the BTFG Byelaw 2023.
 - The differences in management areas between the proposed Shore Gathering Byelaw and existing & proposed BTFG regulations are as a result of:
 - An update in the best available evidence used to inform feature-based protection for MCZs, SACs and SPAs, in the form of the Natural England designated features layer and the National Seagrass Layer, between the development of the BTFG Byelaw 2016, the subsequent BTFG Review (evidence layers dated 2020) and the Shore Gathering Review (evidence layers dated 2023).
 - A determination under the BTFG Review to maintain existing closures from the BTFG Byelaw 2016 in the proposed BTFG Byelaw 2023 as per the Principles defined for Phase 1 of the BTFG Review².
 - A determination that existing areas closed to shore gathering activities, under the Prohibition on Gathering (Sea Fisheries Resources) in Seagrass Beds Byelaw, which did not meet the Management Principles for the Shore

² [BTFG-2023-MI-FC.pdf](#), p.12

Gathering Review³ would be reopened due to the low level of risk posed by shore gathering due to low levels of activity.

- *That the Lower Swanwick area of the River Hamble has not been included as a proposed management area in the Shore Gathering Byelaw despite bait digging occurring and this area being regulated by the Hamble Harbour Authority.*
 - Under the Management Principles for the Shore Gathering Review³, areas identified as requiring seasonal management within the Southampton Water SPA and Solent Maritime SAC were determined based on defining Bird Sensitive Areas (BSA). In the absence of BSAs being defined by Natural England, BSAs were defined initially using areas proposed for management as good examples of estuarine habitats under the BTFG Byelaws 2016 & 2023 and adapted to be relevant to shore gathering activity.
 - The proposed management area for the River Hamble was defined on this basis.
 - Where consideration has then been given, under the Management Principles, to aligning BSAs with directions related to access and shore gathering activities given by other bodies, for example harbour authorities and conservation bodies, this has been on the basis of a conservation-based rationale for those access directions, for example closed areas for Tern protection in Langstone Harbour and The Fleet. The area covered by the Hamble Harbour Authority General Direction relating to bait digging is related to activity within proximity of structures, i.e., moorings, piles, beacons etc. (as well as including provisions related to backfilling) and was therefore identified as being for a harbour safety purpose as opposed to a conservation purpose. Therefore, this area has not been included in proposed shore gathering management areas.
 - The introduction of the Shore Gathering Byelaw would not preclude those undertaking relevant activities from complying with all other relevant legislation, therefore bait digging would still be subject to the General Direction in place by the Hamble Harbour Authority.

3.0 Key Considerations

- The indicative position of Southern IFCA at this stage, following consideration of two objections received through the formal consultation on the Shore Gathering Byelaw and Fishing for Cockles (Amendment) Byelaw is that:
 - No change is required to the management measures or wording of either Byelaw
 - Further information regarding push netting in The Fleet will be incorporated into the Impact Assessment.

4.0 Next Steps

- Further engagement will be carried out, where required, with respondents to the formal consultation to aim to resolve objections.
- In the event that any objections to the Byelaws are received following the November TAC meeting where those objections are determined to result in a required change to either Byelaw, a Working Group will be held with TAC Members to enable consideration of those objections and the proposed scope of the Southern IFCA response to inform the Executive Sub-Committee.

³ [Conservation-Assessment-Package-FC.pdf](#), p.57

General Themes and Indicated Southern IFCA Response - Objections			
General Theme	Sector	Nature of Objection	Indicated scope of Southern IFCA response
Access	Industry	That the Byelaws are restricting a common law right under the Magna Carta for persons to shore gather shellfish.	<p>To explain the public right to fish as provided for under the Magna Carta, that the public right may be regulated but not extinguished.</p> <p>The definition of spatial management areas (permanent and seasonal), based on the Management Principles for the Shore Gathering Review result in regulation of the public right as it relates to shore gathering activities, but the right is not extinguished.</p>
Access	Industry	That the Byelaws are reducing fishing opportunities for new entrants to the fishing industry.	<p>To outline that there is no proposal to limit access to shore gathering activities for new entrants under the proposed Byelaws. The Byelaws do not create restricted entry fisheries and therefore opportunities for undertaking shore gathering activities or fishing for cockles by hand are applied equally to all fishing industry stakeholders. Outside defined management areas, shore gathering activity will be unrestricted (subject to other regulations for example MCRS).</p> <p>To outline that the Impact Assessment for the Byelaw indicates, through evidence collected via a targeted engagement exercise, that the proposed management areas do not overlap with areas experiencing high levels of shore gathering activity and therefore the anticipated impact on the fishing industry is likely to be low.</p>

MPA Management	Industry	That the Byelaws are prioritising the application of the Habitats Directive over the encouragement of new entrants to the fishing industry and food security.	<p>To outline the Authority’s legal duties under The Marine and Coastal Access Act 2009 and The Conservation Regulations⁴. The Shore Gathering Review was refined to consider feature-based management within MCZs and within or adjacent to SACs and SPAs, where management is required to meet the Authority’s legal duties for these sites, the development of management is unable to consider socio-economic factors.</p> <p>The consideration of feature-based management in accordance with the Management Principles for the Shore Gathering Review ensures that management addresses the risks and satisfies the Authority’s legal duties whilst being proportionate to the level of risk posed by the relevant activities.</p>
Management Areas	Industry	That bait needs to be gathered from The Fleet through push netting to support rod and line fishing activity and that the ability to gather shrimp by push netting needs to be maintained to support the gathering of food during the winter.	To discuss the features designated for The Fleet (seagrass and bird species) alongside the outcomes of the Conservation Assessment package which determines that these features are sensitive to the potential impacts from push netting. To provide (through ongoing engagement) the opportunity for these impacts to be captured in the Impact Assessment.

⁴ The Conservation of Habitats and Species Regulations 2017, as amended by The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019.

Poole Harbour Dredge Permit Fishery 2024/2025 Paper For Information

Report by IFCO Mullen

A. Purpose

To provide Members with an in-season update on the Poole Harbour Dredge Permit fishery in relation to (1) Manila clam stock levels during the 24/25 season and (2) ongoing compliance efforts with the PHD permit conditions

B. Annex

1. Communication to Southern IFCA Poole Harbour Dredge Fishery Permit Holders – 27th August 2024
-

1.0 Introduction

- At the August TAC, Members were informed that Southern IFCA had received reports from Permit Holders in the PHDP fishery that there had been an observable decline in catches of Manila clam at the start of the 24/25 season (commenced 1st May 2024).
- Southern IFCA undertook in-depth monthly analysis of data submitted by permit holders through monthly catch return forms and identified that Catch Per Unit Effort (as kg/hour/fisher) for Manila clam catches in May, June and July 2024 were lower than CPUE for the same months in 2020-2023 but did remain generally consistent with (or slightly higher than) CPUE values for the same months in 2016-2019.
- It was communicated to Members that the reason for the decline in catches of Manila clam at the start of the 2024 season were unknown. Engagement had been carried out with key stakeholders and fishery experts regarding the PHDP fishery and there was a suggestion, although not confirmed, that a spring mortality may have taken place post the Southern IFCA Poole Bivalve Survey in April 2024, potentially due to warmer winter temperatures affecting the energy expenditure of Manila clam in the Harbour.

2.0 Ongoing Work in the PHDP Fishery

Communication with Permit Holders

- At the May TAC meeting, it was recommended that the Authority communicates with Permit Holders in the PHDP fishery on the catch data for the 24/25 season to date, as presented to the TAC, and the intended course of action by the IFCA on how the fishery will be monitored and managed going forward.
- A letter was sent to all Permit Holders on 27th August 2024 (Annex 1) providing an update on the information that had been received in relation to catch rates for Manila clam, the data from the analysis of catch data for the first three months of the season and that the IFCA would continue to closely monitor catch data and any other available evidence during the 24/25 season and would work with Permit Holders to explore an appropriate course of action in response to best available evidence.
- Southern IFCA has continued to receive feedback from Permit Holders on concerns over catch levels, however this is increasingly restricted to a small group. Wider representations from Permit Holders indicate that whilst they recognize catches are lower in the 24/25 season it is not to a level that hasn't been seen before and may be a cyclic pattern of stock changes due to environmental influences.

Catch Data

- Catch data provided by Permit Holders has been analysed for August and September 2024. As with previous analysis the landed weight of Manila clam (kg) has been converted to a CPUE value (kg/hour/fisher) to remove the influence of changes in the number of active fishers or the hours fished on the landed weight.
- The data for August and September 2024 is provided along with the previously analysed months (May to July) in Figure 1.
- **August 2024**
 - CPUE = 0.39 kg/hour/fisher
 - This is a decrease from August 2023 of 46.6% (Aug 2023 = 0.73 kg/fisher/hour)
 - Looking at the period 2016-2019, the CPUE for August 2024 ranged from a 26.4% decrease compared to 2016 (0.53 kg/fisher/hour) to no change compared to 2019 (0.39 kg/fisher/hour).
- **September 2024**
 - CPUE = 0.35 kg/hour/fisher
 - This is a decrease from September 2023 of 44.4% (Sept 2023 = 0.63 kg/fisher/hour)
 - Looking at the period 2016-2019, the CPUE for September 2024 ranged from a 27.1% decrease compared to 2016 (0.48 kg/fisher/hour) to a 5.4% decrease compared to 2018 (0.37 kg/fisher/hour).
- For both months, values showed a consistency between 2016-2019 followed by an increase in 2020 and then a gradual decline to 2022 followed by a smaller peak in 2023 and a decline in 2024 back to 2016-2019 levels. This mirrors the pattern seen in May and July, with June showing a similar pattern except for a continued gradual decrease in CPUE between 2020 and 2024 with no smaller peak in 2023.
- There is only a single month to date (Sept) where CPUE values have been lower in 2024 than all years in the period 2016-2019, however these values were lower by a small margin, between 0.02-0.13 kg/hr/fisher.
- The decrease in catch for the same month compared to 2023 data has been between 31.8% to 51.3%, with the biggest decrease in July. However, to date, there has been a general consistency in the difference between 2023 and 2024 data for each month rather than a progressively worsening decline with each month of the season.

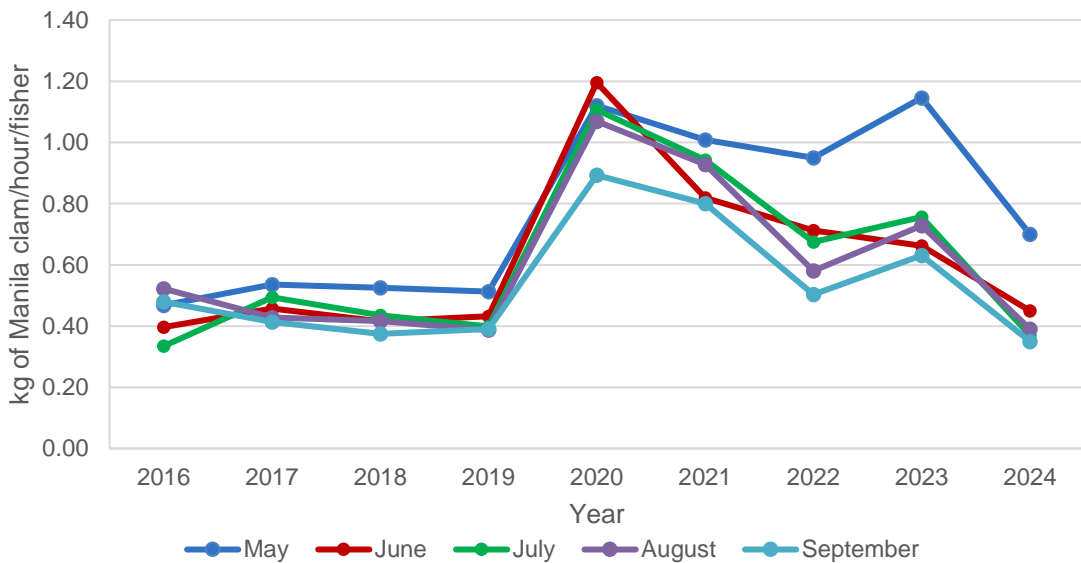


Figure 1: kg of Manila clam per hour per fisher for the months of May, June, July, August and September for 2016-2024 based on data supplied by permit holders in the PHDP fishery through monthly catch return submissions.

Update on Poole Harbour Oil Spill

- A small group of Permit Holders have voiced concerns to Southern IFCA that the decline in catch levels is related to the oil spill incident which occurred in the Harbour in spring 2023.
- An update on work related to the Poole Harbour Oil Spill was provided at the October meeting of the Poole Harbour Study Group, where it was concluded that water quality testing had now finished and that no residual contaminants were found in the water or sediment.
- Studies will continue to monitor habitats, birds and other protected features in the Harbour.

Compliance and Enforcement

- The Compliance & Enforcement Team continues to monitor Poole Harbour as a high priority fishery with appropriate resources applied in response to the level of risk, which includes the use of the patrol vessel and drones. This is in accordance with due process in line with the Compliance & Enforcement Framework

3.0 Next Steps

- Officers will continue to conduct high-level monitoring of catch data on a monthly basis and maintain communications with Permit Holders in this regard. The information provided in this report will be sent to Permit Holders following the meeting along with information on a review of the fishery which will be taking place ahead of the 25/26 season.
- A review of the fishery will be commencing in November 2024, in line with paragraph [11] of the PHDP Byelaw.
- The review will focus on the development of a Monitoring and Control Plan for the fishery, incorporating annual survey data, and a review of potential changes to permit conditions which could be implemented for the 25/26 season in the event that best available evidence (as listed under paragraph [11b] of the PHDPB) indicates further management is required to support a sustainable fishery.
- Establishing a program of action through a review at this stage will allow the Authority to be proactive and for Permit Holders to be fully informed of any potential changes to management in advance of the 25/26 season.

27th August 2024

Dear Permit Holder,

Southern IFCA would like to take this opportunity to update you on the 2024/25 fishing season in Poole Harbour under the Poole Harbour Dredge Permit Byelaw in relation to catch rates and information received from permit holders.

Following the start of the 2024/25 season on 25th May 2024, Southern IFCA received reports from permit holders that there has been an observable decline in catches of Manila clam. Southern IFCA wants to reassure permit holders that catch rates for Manila clam, and other species, are being closely monitored on a monthly basis with analysis being carried out to monitor trends and patterns in catch levels both for the 2024/25 season and in comparison to previous fishing seasons.

An initial analysis of the first three months of the season (May to July) was provided to the Technical Advisory Sub-Committee (TAC) of the Authority at their meeting on 22nd August 2024. The report for this meeting is available online and can be viewed on the Southern IFCA website at the following link - [TAC-Agenda-August-2024.pdf \(toolkitfiles.co.uk\)](https://www.southern-ifca.gov.uk/toolkitfiles.co.uk/TAC-Agenda-August-2024.pdf), with the relevant item Marked D, starting on p.296. The report also contains the Poole Harbour Bivalve Survey report from 2024, the survey having been carried out between 8th-11th April 2024, prior to the start of the 2024/25 fishing season.

Catch data analysis was provided in the report from May and June catch returns submitted by permit holders. Data from July was provided verbally at the meeting, analysis showing that the total catch of Manila clam (kg) per hour fished per fisher was 0.37kg/hr/fisher, a decrease when compared to July 2023 of 51.3% and, when compared to 2017-2020, ranging from a 24.5% decrease compared to July 2017 to a 10.4% increase compared to July 2016.

The reason for decreases in catch rates compared to previous seasons is unknown at this time. Southern IFCA have engaged with key stakeholders and fishery experts regarding the PHDP fishery, and Members discussed at the TAC meeting a potential impact from a spring mortality which may have taken place in late spring 2024, after the Southern IFCA Poole Harbour Stock Survey. There is however no data available at present to confirm that this environmental circumstance did occur.

Southern IFCA will continue to closely monitor catch data provided by fishers and any other available evidence during the 2024/25 fishing season. On this basis, it is important that permit holders provide their catch returns in line with the requirements in the Poole Harbour Dredge Permit Conditions to enable timely analysis of the data.

Southern IFCA are committed to the sustainability of the Poole Harbour Dredge Permit fishery and will continue to work with Permit Holders and the Authority to explore appropriate courses of action in response to best available evidence. We thank you for your continued engagement in the fishery and will continue to communicate with Permit Holders any relevant information and any further opportunities for engagement and participation in the development of this fishery in a timely and transparent manner.

Yours sincerely

A handwritten signature in black ink, appearing to read "S. Birchenough", with a long horizontal line extending to the right.

Dr Sarah Birchenough
Deputy Chief Executive Officer – Research & Policy Team
Southern IFCA

Solent Scallop Survey 2024 – Survey Report Paper For Information

Report by IFCA Churchouse

A. Purpose

To provide members with a report from the Solent Scallop Survey Program 2024.

B. Annex

- i. The Southern IFCA Solent Scallop Survey Report 2024

1.0 Introduction

- As part of Southern IFCA's management of bivalve species in the Solent, surveys are carried out across the King scallop fishing season to better understand the extent and nature of the Solent King scallop fishery.
- These surveys aim to provide an understanding of the distribution of the King Scallop (*Pecten maximus*) (hereafter referred to as 'scallop') and to collect information on the population structure of the scallops found within the Solent.
- Surveys were carried out in January¹ (mid-season), April (post-season) and September (pre-season) 2024. This paper provides a report on the Southern IFCA Solent Scallop Survey, analysing the data collected in 2024.

2.0 Summary of Key Points

- 19 sampling sites were sampled during each survey. A total of 1,152 scallops were sampled in Winter 24, 882 in Spring 24, and 1,741 in Autumn 24.
- Individual scallops are measured to the nearest mm in two dimensions, the width (longest axis) and the height (from the hinge to the outer shell edge). The catch obtained from each tow (3, 4-minute tows in each sampling site) was split into over 110mm (the Minimum Conservation Reference Size in ICES VIId) and under 110mm, both groups of scallops are then weighed.

Analysis

- Weight data is transformed to provide a value for Catch Per Unit Effort (CPUE), defined as kg of scallops per metre of dredge per hour (kg/m/hr). CPUE is calculated for total weight, weight over MCRS and weight under MCRS².
- Analysis of CPUE was carried out to identify any changes in stock health over key periods including:
 - When the fishing season was active (Autumn 23 to Spring 24 survey)
 - When the fishery was closed (Spring 24 survey to Autumn 24 survey)
 - Time series comparisons between spring and autumn surveys to date (22-24)
- Data analysis showed:
 - The pattern in the King scallop stock from the 2024 surveys was as would be expected based on fishing activity, a significant decrease in CPUE during the fishing season and an increase in CPUE when the fishery is closed.
 - Data for scallop under MCRS also showed the same pattern, which, due to high levels of compliance in the fishery with MCRS regulations, is likely due to other influencing

¹ The January survey was added to the survey programme in 2024 in order to provide greater understandings of mid-season stock status.

² It should be noted that the dredging method is inherently size selective due to the need for commercial vessels to maximise retention of scallops over MCRS. As such the data for CPUE under MCRS will not be fully representative of this size class, however, comparisons can be made between sites and over time to look for changes, in the knowledge that the sampling method is consistent and there is no statistical difference in the catch between dredges used from different vessels.

- factors such as environmental conditions.
- CPUE data from the period when the fishery was closed in 2024 (Spring 24 to Autumn 24) showed an improvement compared to this period in 2023 for Total CPUE, CPUE Over MCRS and CPUE Under MCRS.
 - There is a mixed picture when looking at individual sites, not all sites have shown an increase in CPUE during the closed season, however the number of sites where an increase has been seen is greater than for 2023.
 - Mean CPUE for the majority of individual sampling sites increased during the 2024 Closed Season for Total, Over MCRS, and Under MCRS sampled populations (16 sites [4 significant]), 17 sites [4 significant]), & 18 sites [3 significant] respectively).
 - This is an increase from the number that saw an increase in mean CPUE during the 2023 Closed Season for Total, Over MCRS and Under MCRS sampled populations (11 sites, 14 sites [3 significant], & 4 sites respectively).
 - CPUE data also showed an increase in the Autumn 24 survey compared to the Autumn 23 survey with a non-significant increase in Total CPUE and a significant increase in Under MCRS CPUE. Over MCRS CPUE remained similar between years (difference of 1.8 kg/m/hr).
 - Analysis found a statistically significant effect of survey on width, with mean width of the Autumn survey (105mm) lower than both the Winter 2024 (108mm) and Spring 2024 (108mm) surveys.
 - For all three surveys, the majority of sampling sites (11/19 in Winter 24, 10/19 in Spring 24, & 12/19 in Autumn 24) have peaks in their size frequency distribution for a class above MCRS.
- Increases in CPUE for Autumn 24 and during the 2024 closed period for the fishery have been seen despite greatly increased catch levels during the 23/24 season. This indicates that, at this stage, the increased catch levels have not led to a decline in stock and that the stocks can sustain the commercial fishery.
 - It cannot be determined that fishing activity is the only or primary influencing factor on the stock patterns seen from the survey data. It takes time to understand the impact of management intervention (for example increased effort controls introduced for the King scallop fishery in 2023) on stock levels and determine the relevant influencing factors, for example discerning potential influence of management or fishing effort compared to other environmental factors.
 - The results presented in this report add to the timeseries data Southern IFCA are collecting on the Solent Scallop Population, which will provide a greater understanding of the trends of this population. As the timeseries is still in its early stages (3 years of consecutive data collection to date), the data presented provides an overview of the population condition, but further data will be required to fully identify patterns within the stock and the contribution of different potential influencing factors to any patterns seen. It is likely that there are multiple factors influencing the stock pattern, the management of the fishery being one of these.

3.0 Next Steps

- The survey program will be implemented through 2025, maintaining the mid-season survey, to enhance understandings of the health of the fishery, providing an opportunity to assess the stock of King scallop during the 24/25 fishing season. In addition, in order to improve understanding of harvesting areas for King scallop in relation to patterns in the stock, an update has been made to the 24/25 monthly catch return form to require finer scale reporting of King scallop catches.
- During 2025, it is the intention to implement an updated methodology for the Solent Scallop Survey Programme, developed in consideration of key areas for the King scallop fishery in the Solent, engagement with the fishing industry and engagement with Cefas on nationally applied methodologies.
- The intention is to increase the robustness of the data collected and thus the timeseries dataset for this species in the Solent to ensure that management of the fishery continues to be based on best available evidence. The data collected under the new methodology also has the potential to be fed into national evidence gathering, for example as part of the implementation of the King Scallop Fisheries Management Plan (FMP).

Southern IFCA Survey Report

Solent Scallop Survey 2024

1. Introduction

As part of Southern IFCA's management of bivalve species in the Solent, surveys are carried out across the King scallop fishing season to better understand the extent and nature of the Solent King scallop fishery. In 2024, in order to provide further data on the stocks at the mid-season point, an additional survey was added mid-season (Jan/Feb) to complement the pre-season (Sept) and post-season (Apr) surveys.

These surveys aim to provide an understanding of the distribution of the King Scallop (*Pecten maximus*) (hereafter referred to as 'scallop') and to collect information on the population structure of the scallops found within the Solent.

The outcomes of the 2024 surveys enable Southern IFCA to monitor population trends before, during, and after the fishing season (1st November to 31st March), and contribute to the timeseries dataset that began in 2021. This data contributes to the evidence base used to inform management of the fishery through the Solent Dredge Permit Byelaw and enables Southern IFCA to ensure that the Solent bivalve fisheries are managed sustainably.

2. Methodology

- Sites for the Solent Scallop survey were defined in 2021 in consultation with local fishers. All 19 of these sites were sampled during each survey, which occurred over 3 days in February (Winter, Mid-the 23/24 season), April (Spring, Post the 23/24 season), and September (Autumn, Pre the 24/25 season).
- Southern IFCA chartered a local, commercial fishing vessel for each survey period to



Figure 1: An N-Viro Dredge

- carry out the sampling using a single N-Viro style dredge (Figure 1) towed from the stern of the vessel.
- At each site three 4-minute tows were performed, with the skipper identifying the appropriate direction and speed of the tows based on conditions.
- The contents of the dredge were brought inboard, emptied, and sorted, with any scallops put aside for measuring.
- Officers then measured each scallop to the nearest mm in two dimensions, the width (longest axis) and the height (from the hinge to the outer shell edge).
- The catch for each tow was split into over 110mm (the Minimum Conservation Reference Size in ICES VIId) and under 110mm. Both groups of scallops were then weighed.

- On completion of the measurements the scallops were returned to the same area from which they were sampled.
- A map displaying the location of each sampling area within the Solent and the position of tows undertaken during the 2024 surveys is shown in Figure 2.

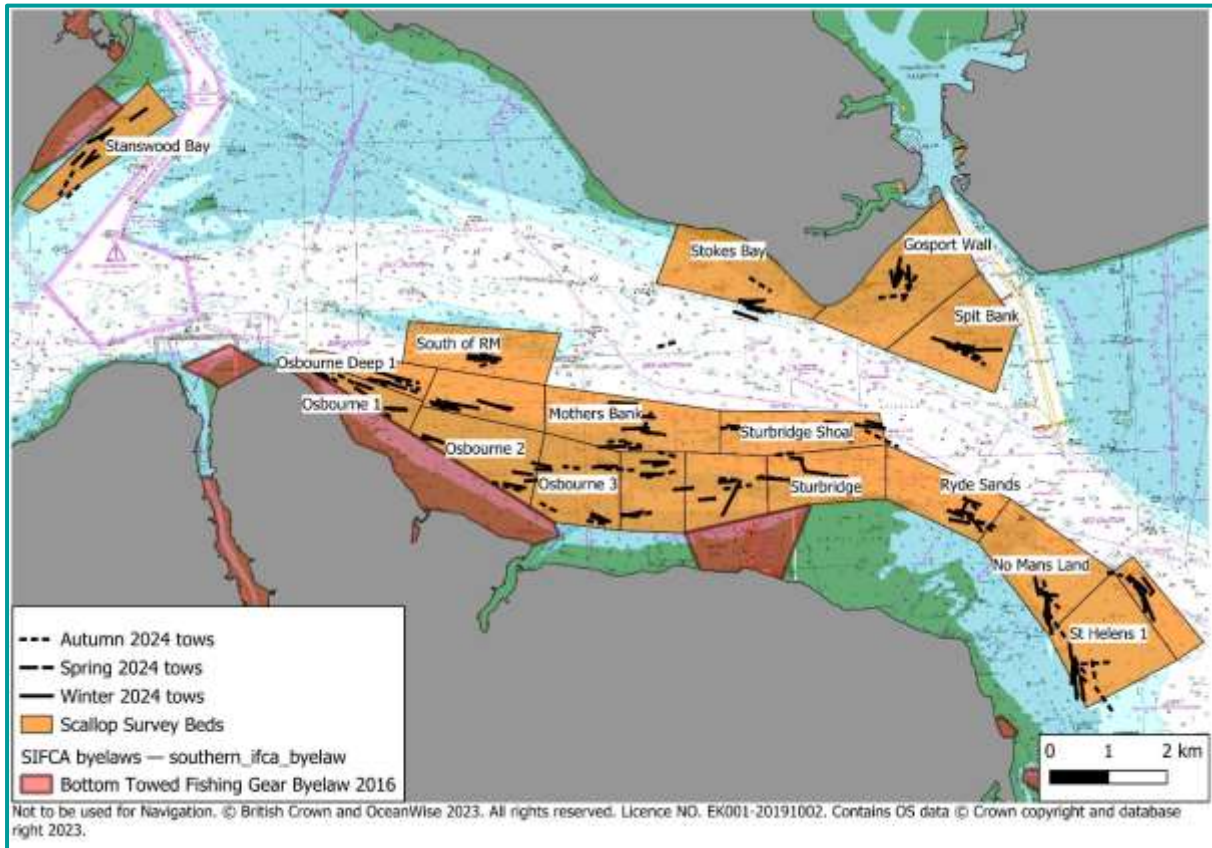


Figure 2: Location of the 19 sampling sites for the Solent scallop fishery, and the position of tows undertaken within these sites during 2024.

3. Results

Across the 19 sites, 1,152 scallops were sampled in Winter 2024, 882 were sampled in Spring 2024, and 1,741 were sampled in Autumn 2024.

3.1 Catch Per Unit Effort (CPUE)

The weight data collected was transformed to provide a value for Catch Per Unit Effort (CPUE), defined as kg of scallops per metre of dredge per hour (kg/m/hr). CPUE was calculated for total weight of scallops, weight of scallops over the Minimum Conservation Reference Size (MCRS), and weight of scallops under the MCRS.

It should be noted that the dredging method is inherently size selective due to the need for commercial vessels to maximise retention of scallops over MCRS and minimise catches (and secondary sorting requirements) of scallops under MCRS. As such the data for CPUE under MCRS will not be representative of this size class as it cannot be guaranteed that all scallops under MCRS have been sampled. However, comparisons can be made between sites and over time to look for changes, in the knowledge that the sampling method is consistent and there is no statistical difference in the catch between dredges used from different vessels.

3.1.1 CPUE between Sites for the 2024 Surveys

In this section, CPUE data for the total sampled population, the sampled population over MCRS, and the sampled population under MCRS is compared between sites for the 2024 surveys.

Winter 2024

- A Kruskal-Wallis test found statistically significant differences between sites for Total CPUE ($p < 0.01$), CPUE Over MCRS ($p < 0.05$), and CPUE Under MCRS ($p < 0.01$), however Dunns' post-hoc analyses found no statistically significant differences between the sites indicating that the variance in the data within sites is greater than the variance between sites.
- For Total population sampled, the site with the greatest average CPUE was St Helen's 2 (122.92 kg/m/hr), while the site with the lowest average total CPUE was South of Ryde Middle (7.29 kg/m/hr) (Figure 3).
- For Over MCRS population sampled, the site with the greatest average CPUE was St Helen's 2 (91.25 kg/m/hr), while the site with the lowest average CPUE was South of Ryde Middle (4.58 kg/m/hr) (Figure 4).
- For Under MCRS population sampled, the site with the greatest average CPUE was Osbourne 4 (52.81 kg/m/hr), while the site with the lowest average CPUE was Stanswood (2.08 kg/m/hr) (Figure 5).

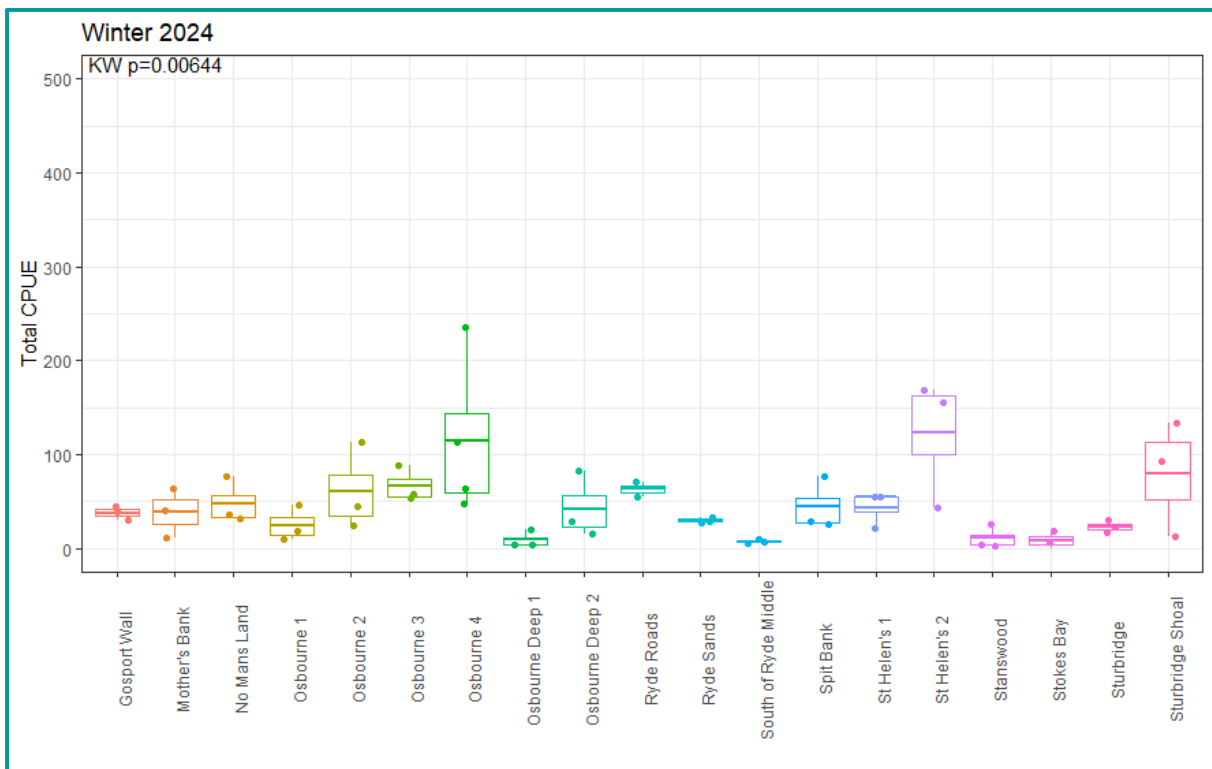


Figure 3: Catch per Unit Effort (kg/m/hr) of the Total population of sampled scallops for each site surveyed in Winter 2024.

Solent Scallop Survey 2024

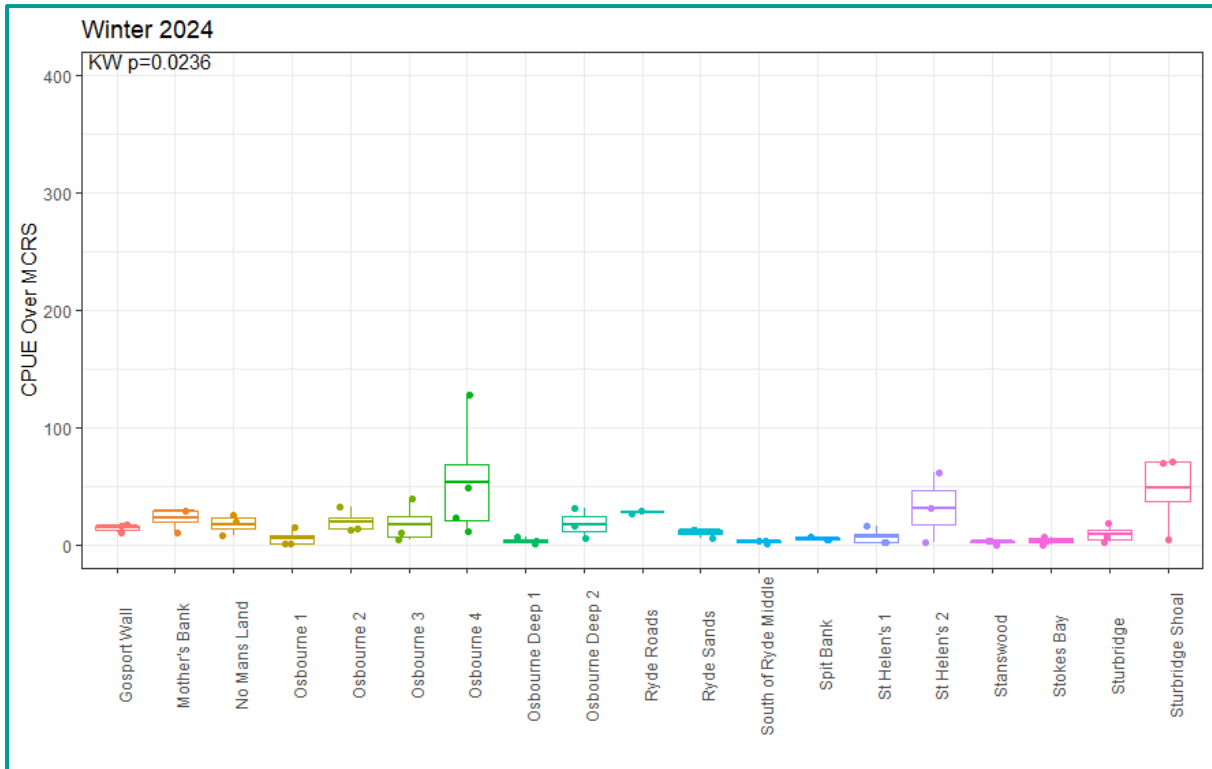


Figure 4: Catch per Unit Effort (kg/m/hr) for the sampled population of scallops Over the Minimum Conservation Reference Size for each site surveyed in Winter 2024.

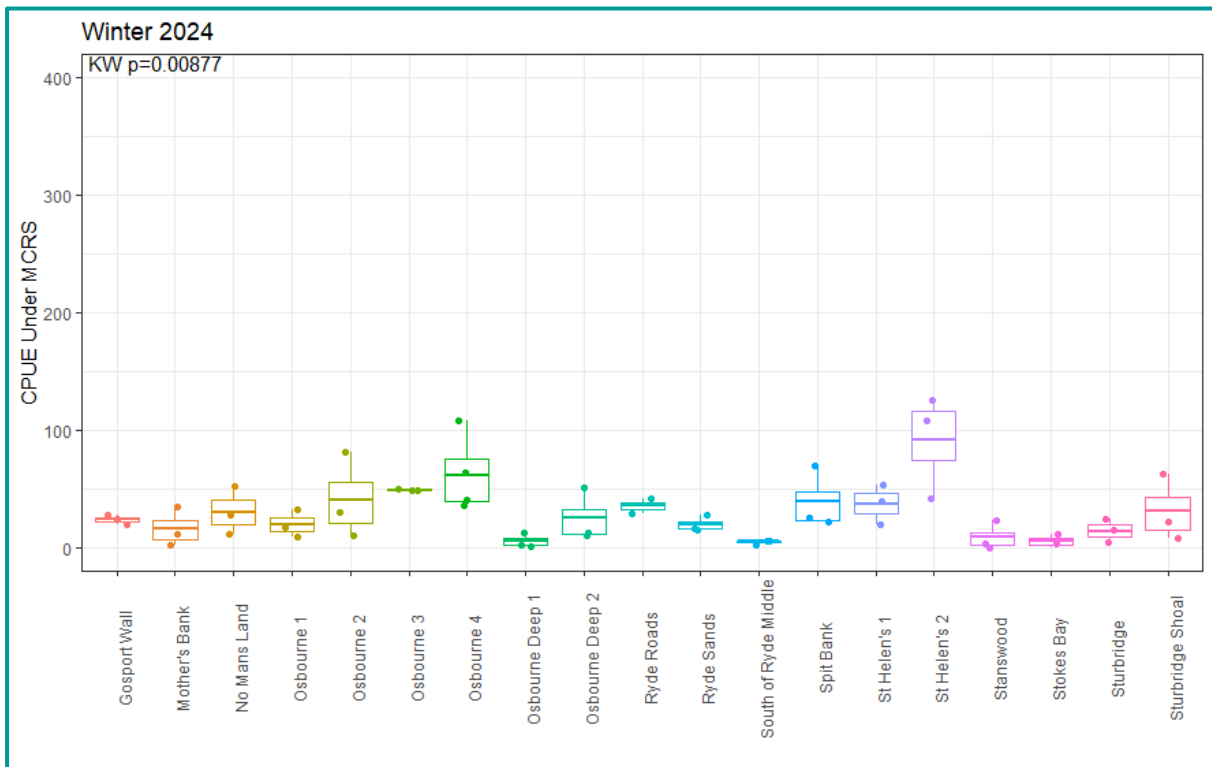


Figure 5: Catch per Unit Effort (kg/m/hr) for the sampled population of scallops Under the Minimum Conservation Reference Size for each site surveyed in Winter 2024.

Spring 2024

- A Kruskal-Wallis test found statistically significant differences between sites for Total CPUE ($p < 0.01$), CPUE Over MCRS ($p < 0.01$), and CPUE Under MCRS ($p < 0.01$), however Dunns' post-hoc analyses found no statistically significant differences between the sites indicating that the variance in the data within sites is greater than the variance between sites.
- For Total population sampled, the site with the greatest average CPUE was Sturbridge (95.93 kg/m/hr), while the site with the lowest average CPUE was South of Ryde Middle (3.90 kg/m/hr) (Figure 6).
- For Over MCRS population sampled, the site with the greatest average CPUE was Sturbridge (42.57 kg/m/hr), while the site with the lowest average CPUE was South of Ryde Middle (3.13 kg/m/hr) (Figure 7).
- For Under MCRS population sampled, the site with the greatest average CPUE was Sturbridge (53.35 kg/m/hr), while the site with the lowest average CPUE was Stanswood (0.00 kg/m/hr) (Figure 8).

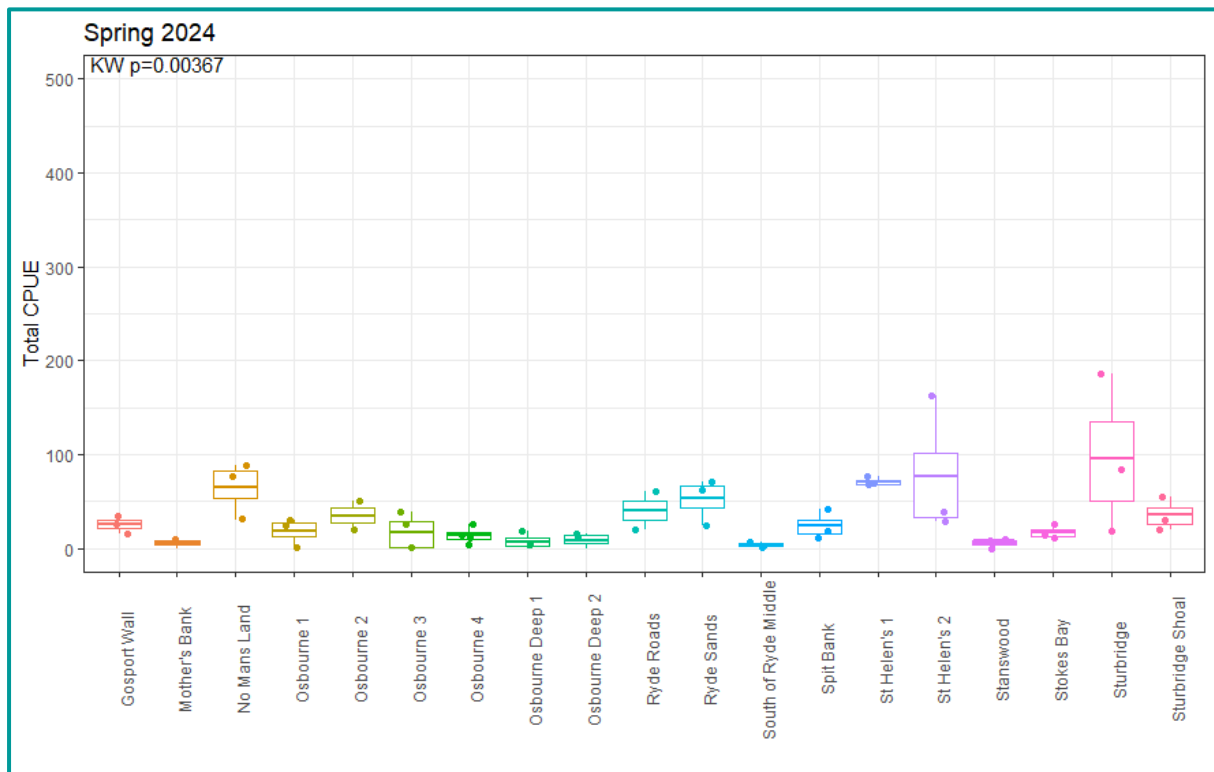


Figure 6: Catch per Unit Effort (kg/m/hr) of the Total population of sampled scallops for each site surveyed in Spring 2024.

Solent Scallop Survey 2024

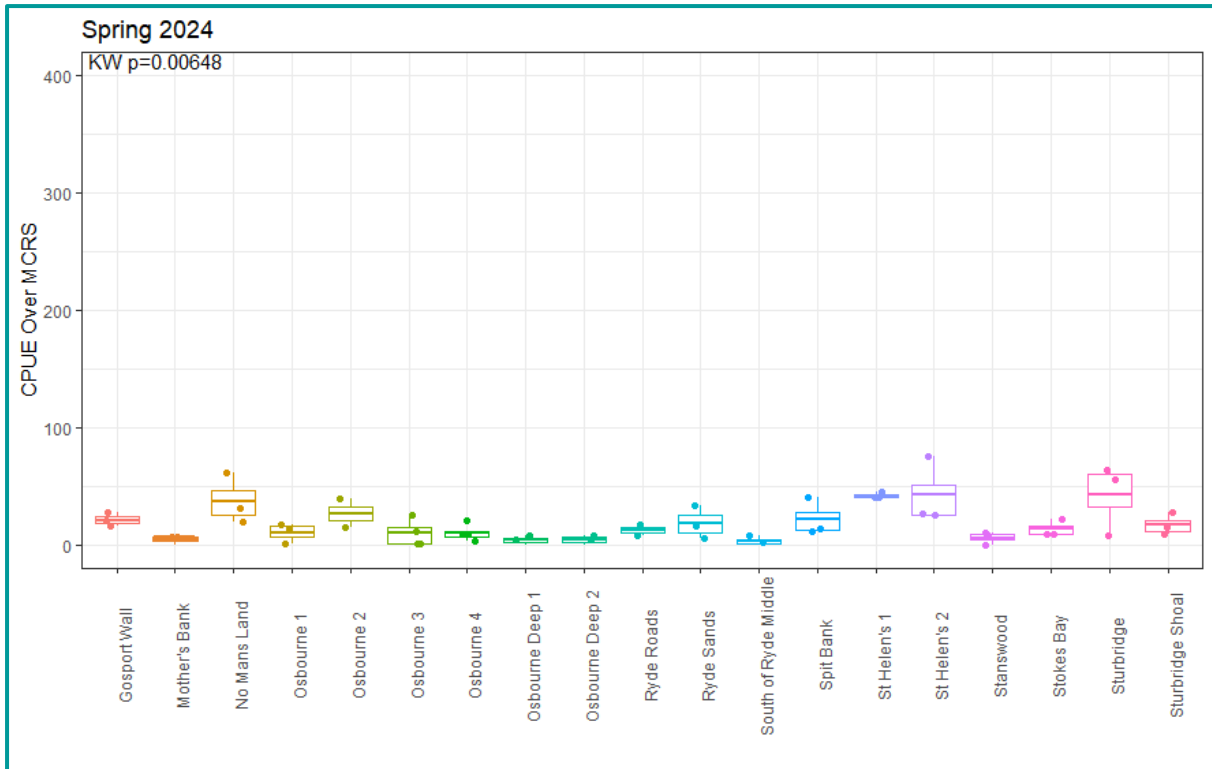


Figure 7: Catch per Unit Effort (kg/m/hr) for the sampled population of scallops Over the Minimum Conservation Reference Size for each site surveyed in Spring 2024.

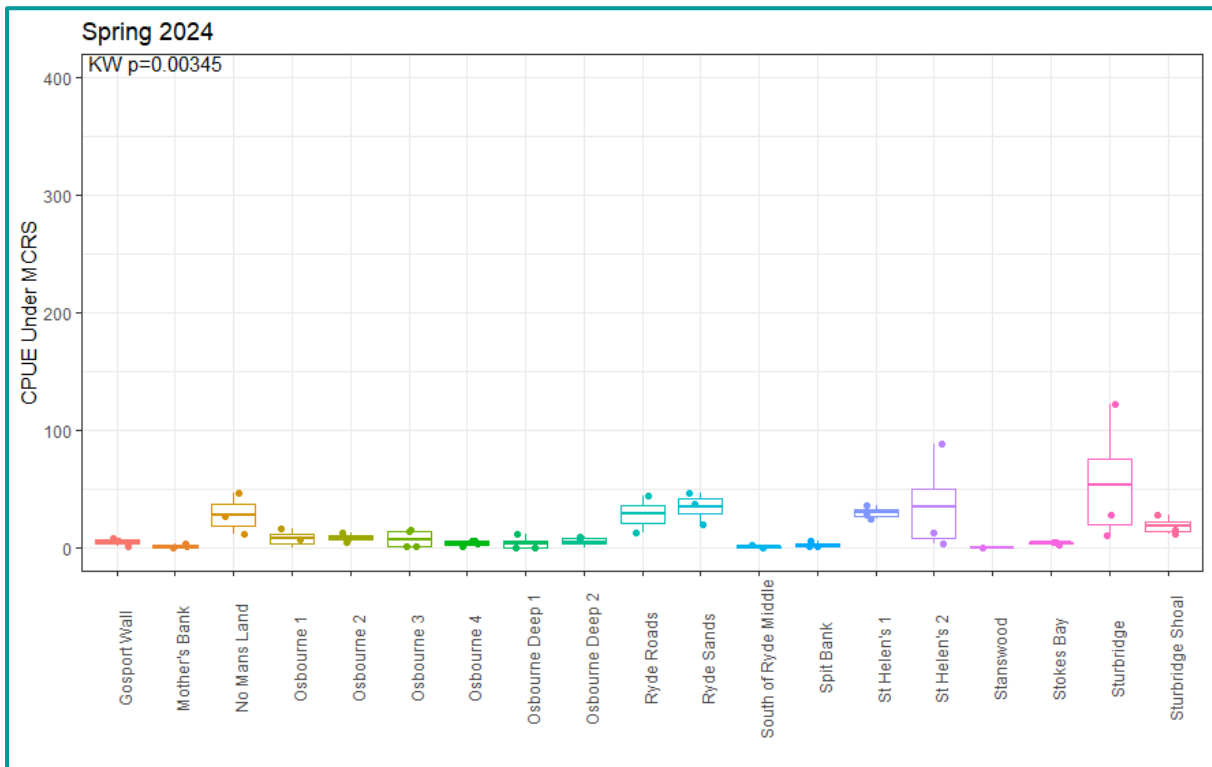


Figure 8: Catch per Unit Effort (kg/m/hr) for the sampled population of scallops Under the Minimum Conservation Reference Size for each site surveyed in Spring 2024.

Autumn 2024

- A Kruskal-Wallis test found statistically significant differences between sites for Total CPUE ($p < 0.01$), CPUE Over MCRS ($p < 0.01$), and CPUE Under MCRS ($p < 0.01$), however Dunns' post-hoc analyses found no statistically significant differences between the sites indicating that the variance in the data within sites is greater than the variance between sites.
- For Total population sampled, the site with the greatest average CPUE was No Mans Land (392.96 kg/m/hr), while the site with the lowest average CPUE was Stanswood (4.46 kg/m/hr) (Figure 9).
- For Over MCRS population sampled, the site with the greatest average CPUE was Osbourne 2 (182.67 kg/m/hr), while the site with the lowest average CPUE was Stanswood (3.98 kg/m/hr) (Figure 10).
- For Under MCRS population sampled, the site with the greatest average CPUE was No Mans Land (232.26 kg/m/hr), while the site with the lowest average CPUE was Osbourne Deep 1 (0.40 kg/m/hr) (Figure 11).

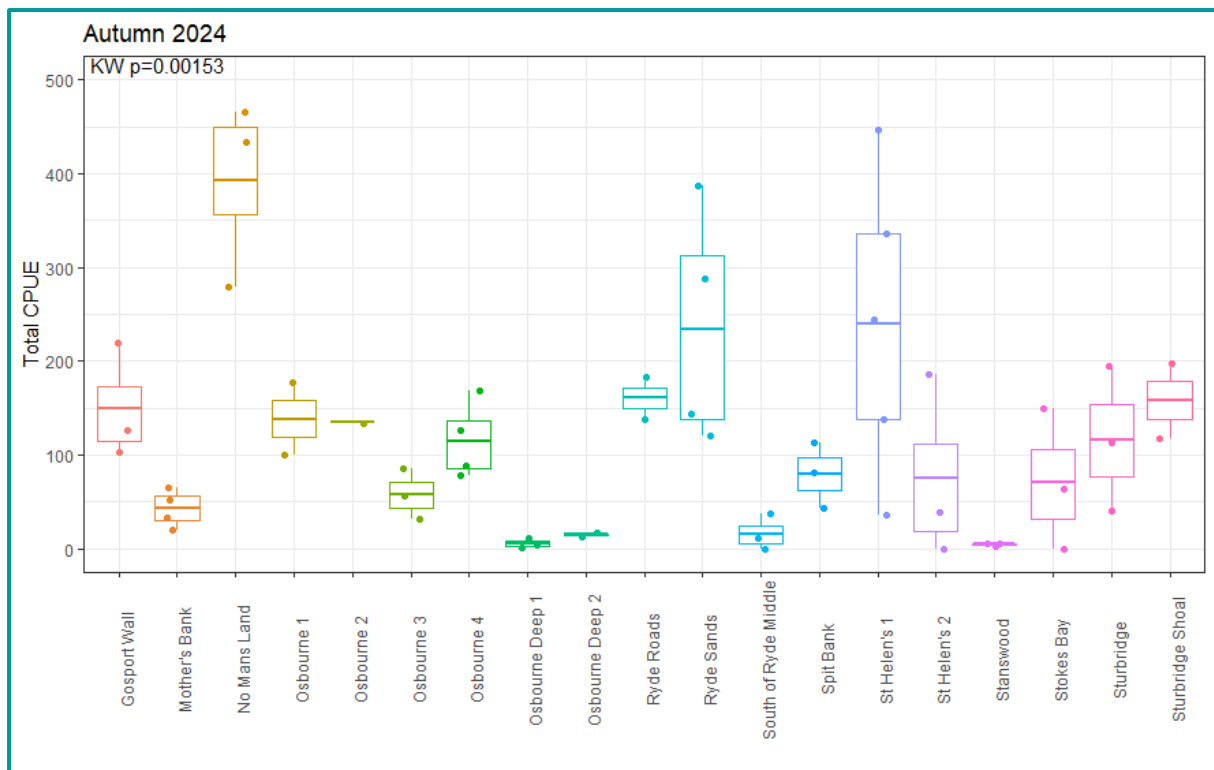


Figure 9: Catch per Unit Effort (kg/m/hr) of the Total population of sampled scallops for each site surveyed in Autumn 2024.

Solent Scallop Survey 2024

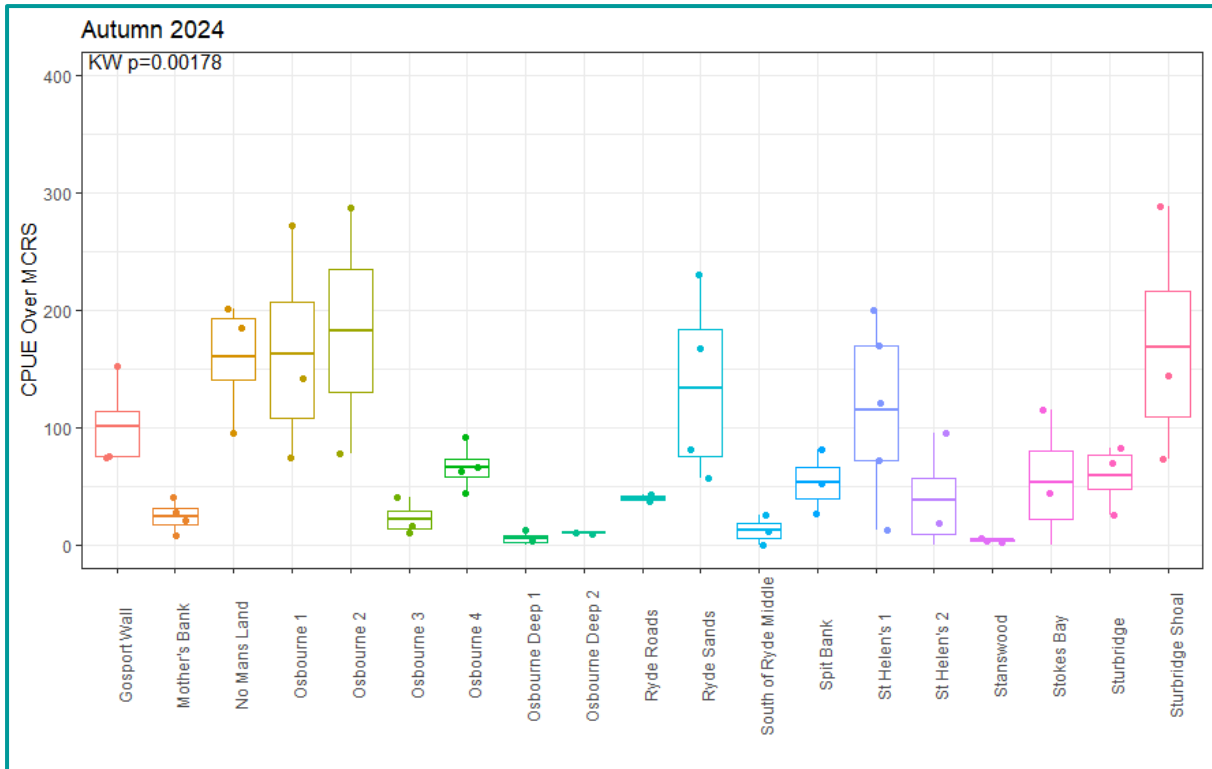


Figure 10: Catch per Unit Effort (kg/m/hr) for the sampled population of scallops Over the Minimum Conservation Reference Size for each site surveyed in Autumn 2024.

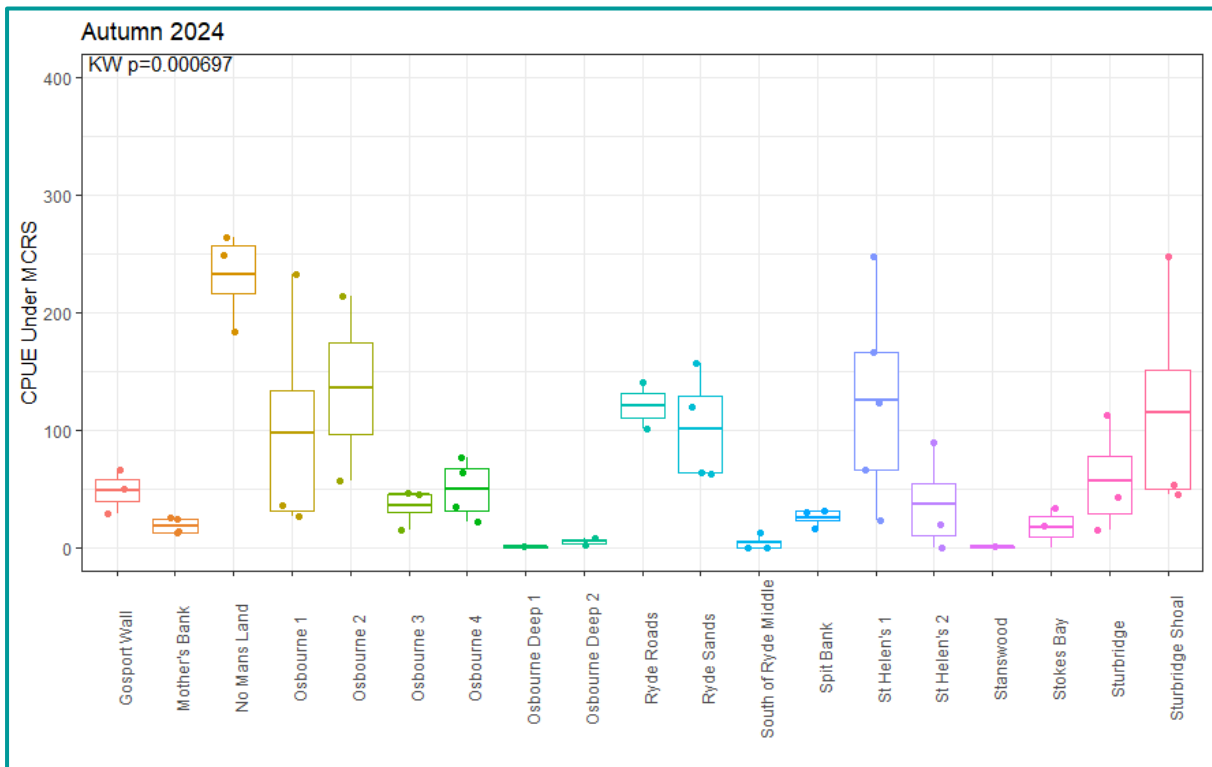


Figure 11: Catch per Unit Effort (kg/m/hr) for the sampled population of scallops Under the Minimum Conservation Reference Size for each site surveyed in Autumn 2024.

3.1.2 Comparing CPUE Between Surveys

Combining data for all the sites in each of the surveys, comparisons were made between surveys for Total CPUE, CPUE Over MCRS, and CPUE Under MCRS using Kruskal-Wallis and post-hoc Dunn's test. Trends in CPUE are highlighted for key timeframes:

- When the fishing season was active (Autumn 23 to Spring 24 surveys),
- When the fishery was closed (Spring 24 to Autumn 24 surveys),
- Comparisons between the spring and autumn surveys in 2023 and 2024.

Total CPUE (Figure 12)

- A statistically significant decrease in mean CPUE was seen during the 23/24 fishing season (Autumn 23 to Spring 24) from 110.00 kg/m/hr to 32.00 kg/m/hr ($p < 0.01$).
- A statistically significant increase in mean CPUE was seen when the fishery was closed (Spring 24 to Autumn 24) from 32.00 kg/m/hr to 141.00 kg/m/hr ($p < 0.01$).
- A statistically significant decrease in mean CPUE was seen from the Spring 2023 survey (84.70 kg/m/hr) to the Spring 2024 survey (32.00 kg/m/hr) ($p < 0.01$).
- The mean CPUE increased from Autumn 2023 (110.00 kg/m/hr) to Autumn 2024 (142.00 kg/m/hr) but was not significant.

CPUE Over MCRS (Figure 13)

- A statistically significant decrease in mean CPUE was seen during the 23/24 fishing season (Autumn 23 to Spring 24) from 77.40 kg/m/hr to 18.00 kg/m/hr ($p < 0.01$).
- A statistically significant increase in mean CPUE was seen when the fishery was closed (Spring 24 to Autumn 24) from 18.00 kg/m/hr to 75.60 kg/m/hr ($p < 0.01$).
- A statistically significant decrease in mean CPUE was seen from the Spring 2023 survey (30.10 kg/m/hr) to the Spring 2024 survey (18.00 kg/m/hr) ($p < 0.05$).
- The mean CPUE decreased from Autumn 2023 (77.40 kg/m/hr) to Autumn 2024 (75.60 kg/m/hr) but was not significant.

CPUE Under MCRS (Figure 14)

- A statistically significant decrease in mean CPUE was seen during the 23/24 fishing season (Autumn 23 to Spring 24) from 32.40 kg/m/hr to 14.10 kg/m/hr ($p < 0.01$).
- A statistically significant increase in mean CPUE was seen when the fishery was closed (Spring 24 to Autumn 24) from 14.10 kg/m/hr to 65.10 kg/m/hr ($p < 0.01$).
- A statistically significant decrease in mean CPUE was seen from the Spring 2023 survey (54.60 kg/m/hr) to the Spring 2024 survey (14.10 kg/m/hr) ($p < 0.01$).
- A statistically significant increase in mean CPUE was seen from the Autumn 2023 survey (32.40 kg/m/hr) to the Autumn 2024 survey (65.10 kg/m/hr) ($p < 0.05$).

Additional Significant Results

The following significant results were also observed:

- For Total CPUE, a statistically significant decrease in mean CPUE was seen between the Autumn 23 (110.00 kg/m/hr) and Winter 24 (47.10 kg/m/hr) surveys ($p < 0.01$) (Figure 12). This was also seen for mean CPUE Over MCRS (77.40 kg/m/hr to 17.20 kg/m/hr) (Figure 13).
- For CPUE Under MCRS, a statistically significant decrease in mean CPUE was seen between the Winter 24 (29.90 kg/m/hr) and Spring 24 (14.10 kg/m/hr) surveys ($p < 0.01$).

Solent Scallop Survey 2024

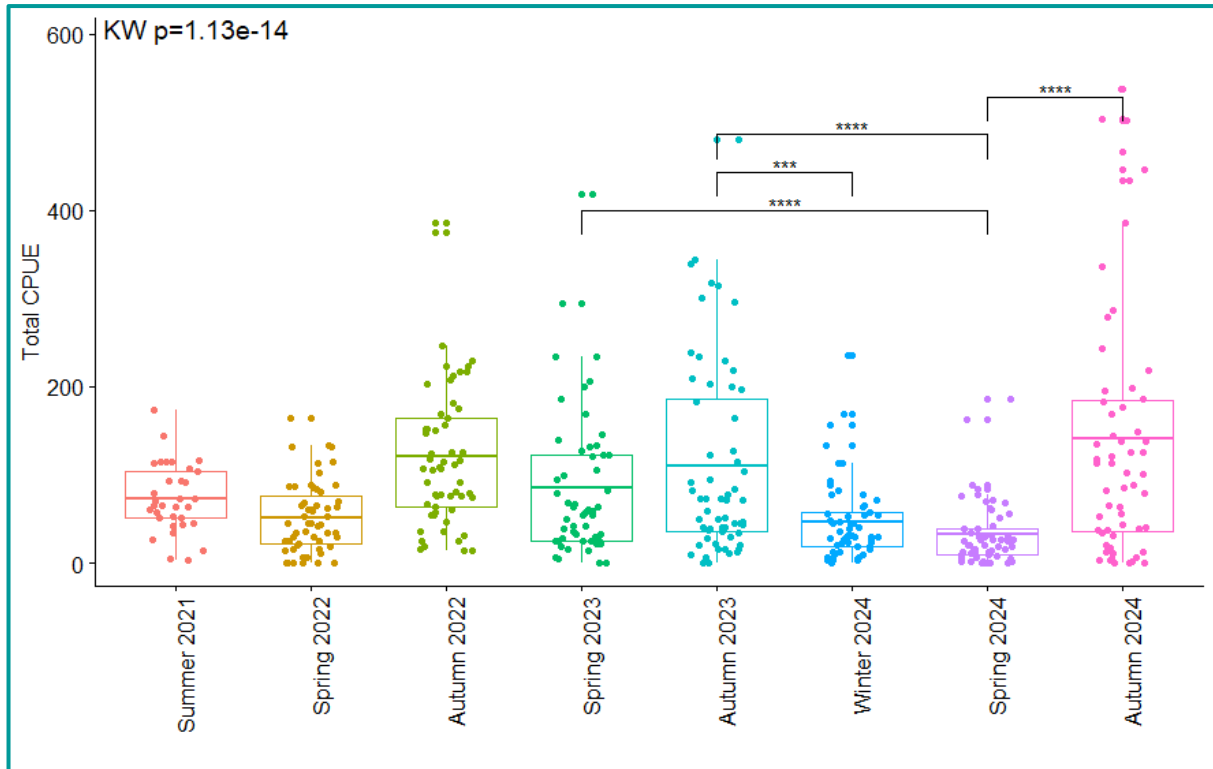


Figure 12: Catch per Unit Effort (kg/m/hr) for the total population of sampled scallops in all surveys undertaken since 2021. Brackets indicate the presence of statistically significant differences between surveys as determined by Dunn's post-hoc analysis (* = $p < 0.05$, * = $p < 0.001$, **** = $p < 0.0001$).**

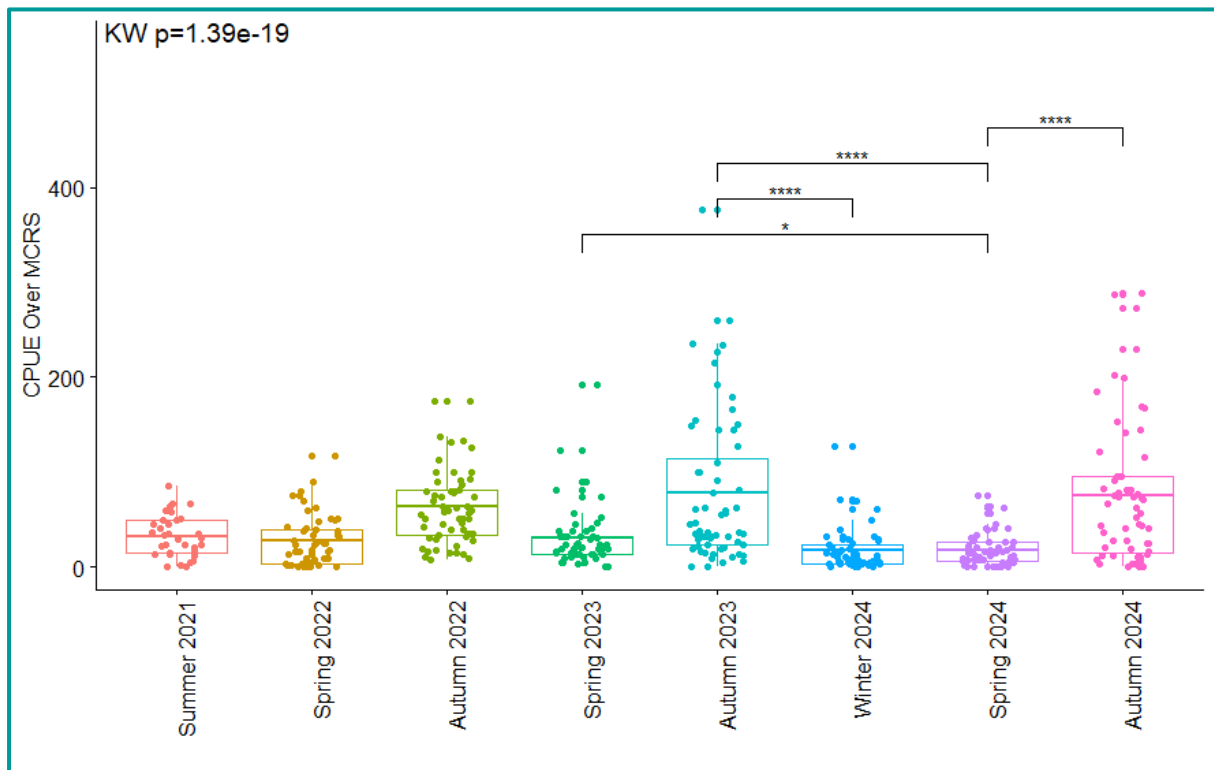


Figure 13: Catch per Unit Effort (kg/m/hr) for sampled scallops Over the Minimum Conservation Reference Size from all surveys undertaken since 2021. Brackets indicate the presence of statistically significant differences between surveys as determined by Dunn's post-hoc test (* = $p < 0.01$, **** = $p < 0.0001$).**

Solent Scallop Survey 2024

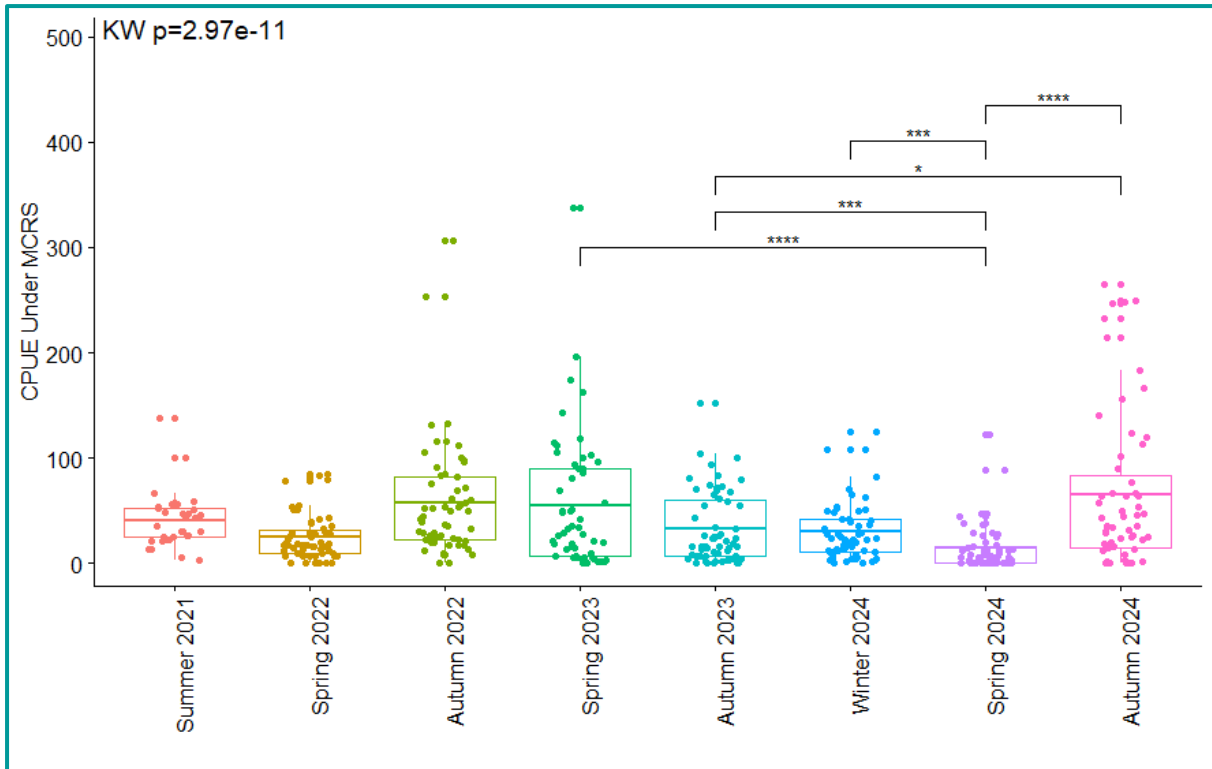


Figure 14: Catch per Unit Effort (kg/m/hr) for sampled scallops Under the Minimum Conservation Reference Size in all surveys undertaken since 2021. Brackets indicate the presence of statistically significant differences between surveys as determined by Dunn’s post-hoc test (* = $p < 0.05$, * = $p < 0.001$, **** = $p < 0.0001$).**

3.1.3 Comparing CPUE for Each Site Between Surveys

For the same key timeframes, comparisons were also made between the individual sampling sites for Total CPUE, CPUE Over MCRS and CPUE Under MCRS. A summary of the change to CPUE at sites between surveys undertaken in 2023 and 2024 for these key periods is provided in Table 1.

Table 1: A summary of the trends in CPUE change for individual sites between surveys for key timeframes; during the fishery closed period (2023 and 2024) during the fishing season (23/24) and between spring and autumn surveys for 23-24.

		Total Sample	Over MCRS	Under MCRS
No. of sites where CPUE increased during the closed season (Spr – Aut of same year)	2023	11 sites	14 sites 3 significant	4 sites
	2024	16 sites 4 significant	17 sites 4 significant	18 sites 3 significant
No. of sites where CPUE decreased during the closed season (Spr – Aut of the same year)	2023	7 sites	4 sites	14 sites 1 significant
	2024	3 sites	2 sites	1 site

Solent Scallop Survey 2024

		Total Sample	Over MCRS	Under MCRS
No. of sites where CPUE increased during the 23/24 fishing season (Aut 23 – Spr 24)		1 site	1 site	3 sites
		18 sites 3 significant	18 sites 4 significant	16 sites 1 significant
Spring 2023 – Spring 2024	Increase	2 sites	6 sites	4 sites
	Decrease	16 sites 3 significant	12 sites	14 sites 5 significant
Autumn 2023 – Autumn 2024	Increase	11 sites	8 sites	14 sites 1 significant
	Decrease	9 sites 1 significant	11 sites 1 significant	5 sites

Graphs displaying trends in CPUE at each site throughout the timeseries can be found in Annex 1 for all three sampled groups, with significant results indicated with brackets.

3.2 Size Frequency

An analysis of width data from the three surveys undertaken in 2024 gave the following results:

- A visual analysis of the size frequency data for all 2024 surveys shows that the Winter 24 survey had a wider range of width measurements for scallops than either the Spring or Autumn surveys (Figure 15).
- Comparing the average width of scallops (mm) between all the 2024 surveys using a Kruskal-Wallis test showed that there was a significant effect of survey on width ($p < 0.01$), with a statistically significant decrease found for the Autumn 24 survey (105mm) in comparison to Spring 24 survey (108mm) ($p < 0.01$).
 - This is different from the previous closed season, when a statistically significant increase in mean width of the sampled population was found from the Spring 23 survey (104mm) to the Autumn 23 survey (109mm) ($p < 0.01$).
- A statistically significant decrease in mean width of the sampled population was found between the Autumn 23 (109mm) and Spring 24 (108mm) surveys.
- The results show that the greatest width of scallop sampled in 2024 was 145mm in the Winter survey (Figure 15).

Solent Scallop Survey 2024

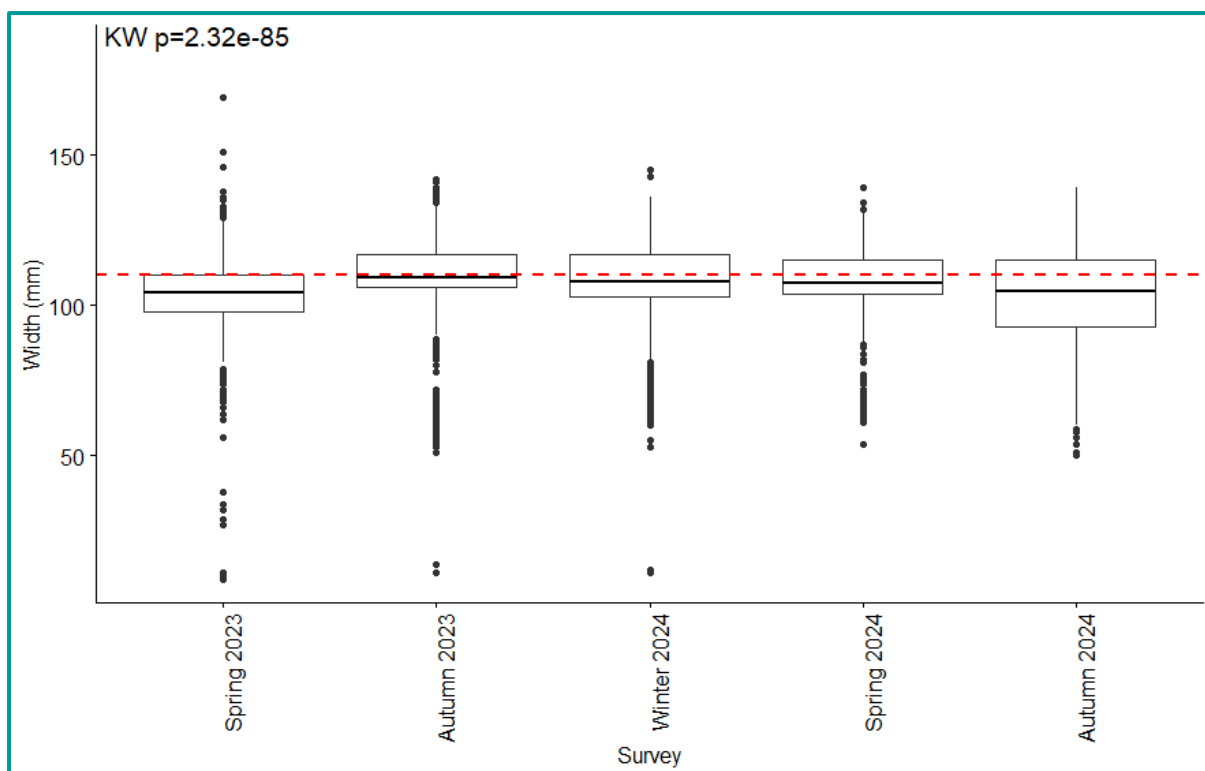


Figure 15: Comparison of the widths of scallops (mm) measured during the Winter, Spring, and Autumn 2024 surveys and the Spring and Autumn 2023 surveys. The thick black line shows the median width (mm), the red dotted line represents the Minimum Conservation Reference Size of King scallops in ICES area VIId (110mm).

3.2.1 Descriptive Analysis of Size Frequency

Winter 2024 (Figure 16)

Eleven of the nineteen sites sampled for the Winter 2024 survey have peaks in their size frequency distribution for a class above the MCRS (<110mm). Of the remaining sites, 6 have distribution peaks in the 105 – 110mm size class.

The distributions for Osbourne 2, Osbourne 3, Osbourne 4, Ryde Roads, and St Helens 2 also display smaller secondary peaks around the 60 – 65mm class.

Spring 2024 (Figure 17)

Ten of the nineteen sites sampled for the Spring 2024 survey have peaks in their size frequency distribution for a class above the MCRS (<110mm). Of the remaining sites, 8 have distribution peaks in the 105 – 110mm size class.

The distributions for Ryde Roads, Ryde Sands, St Helens 1, and St Helens 2 also display smaller secondary peaks around the 60 – 65mm class.

Solent Scallop Survey 2024

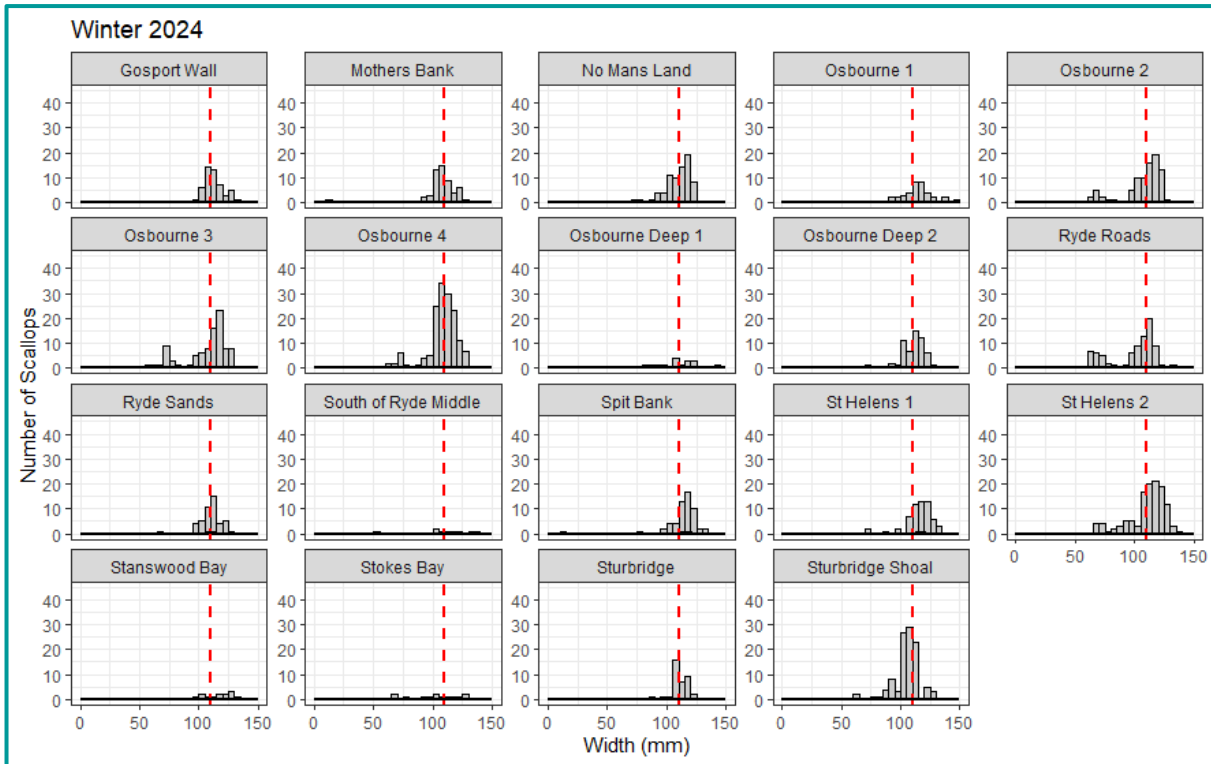


Figure 16: Width of scallops (mm) across all beds sampled in the Winter 2024 survey. The red dashed line represents the Minimum Conservation Reference Size of King scallops in ICES area VIId (110mm).

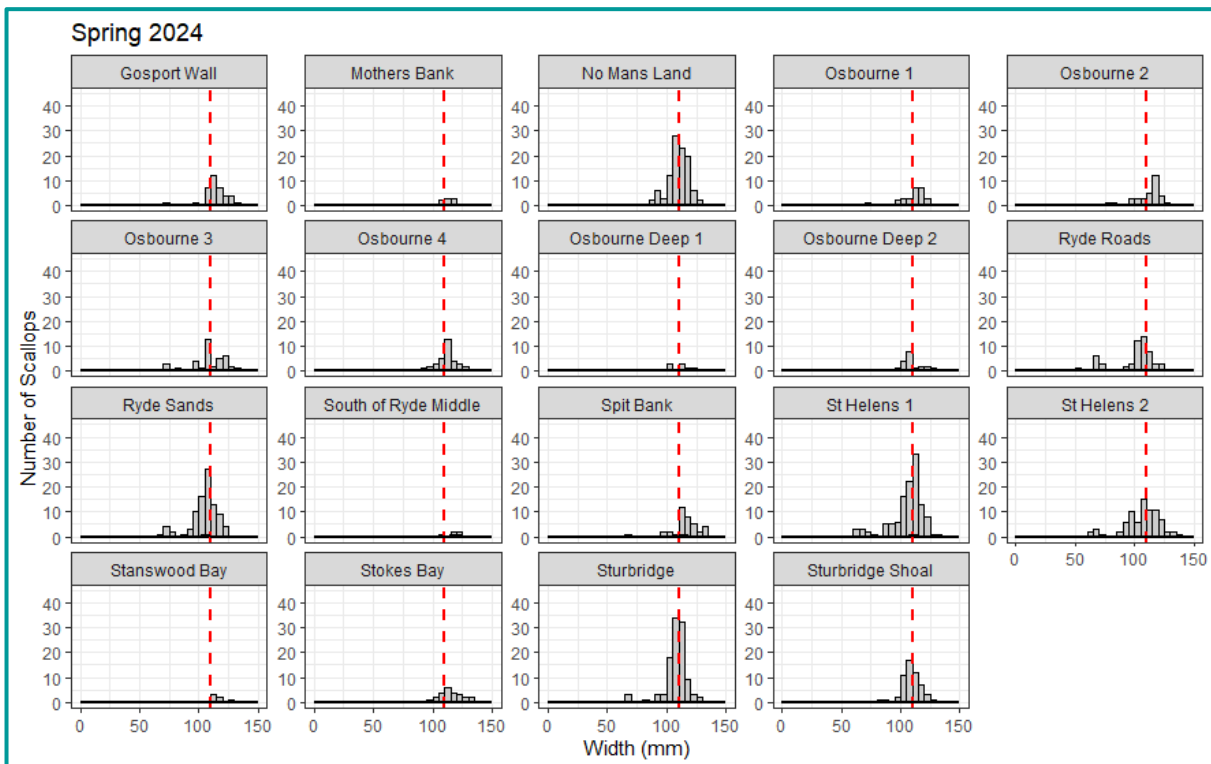


Figure 17: Width of scallops (mm) across all beds sampled in the Spring 2024 survey. The red dashed line represents the Minimum Conservation Reference Size of King scallops in ICES area VIId (110mm).

Autumn 2024 (Figure 18)

Twelve of the nineteen sites sampled for the Autumn 2024 survey have peaks in their size frequency distribution for a class above the MCRS (<110mm). Of the remaining sites, 4 have distribution peaks in the 90 – 95mm class.

No distribution peaks are below 75mm for any of the sites sampled in Autumn 2024.

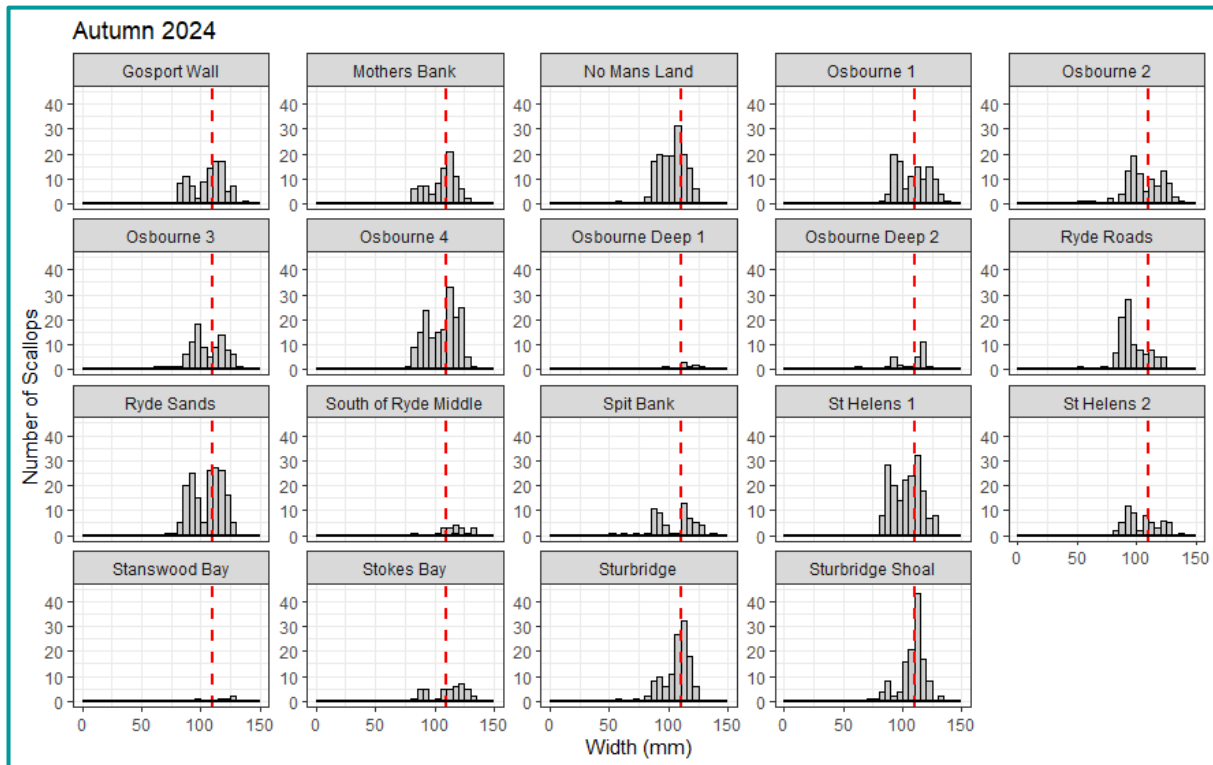


Figure 18: Width of scallops (mm) across all beds sampled in the Autumn 2024 survey. The red dashed line represents the Minimum Conservation Reference Size of King scallops in ICES area VIId (110mm).

4. Catch Data

As the Solent Dredge Permit renews in November of each year, catch is recorded in a season from November to October of the following year. The only year where October was open to fishing following a closed season was in 2022.

The total kg of King Scallop caught across all vessels during the 23/24 season was 560.9 tonne, an increase from the 22/23 season at 153.3 tonne, and from the 21/22 season at 297.8 tonne.

During the 23/24 fishing season, the average weight of scallop caught each month was 7.2 tonne per vessel. This was an increase from both the 22/23 season (2.1 tonne per vessel) and the 21/22 season (3.5 tonne per vessel).

During the 23/24 fishing season, the most vessels fished during January (17), and the most catch was taken during the first month (November, 11.7 tonne per vessel) (Figure 19). During the 22/23 season, the most vessels were seen fishing in November (18), when the most catch was also taken (3.4 tonne per vessel). During the 21/22 season, the most vessels during January and October (17), with the most catch taken during October (8.5 tonne per vessel) (Figure 19).

Solent Scallop Survey 2024

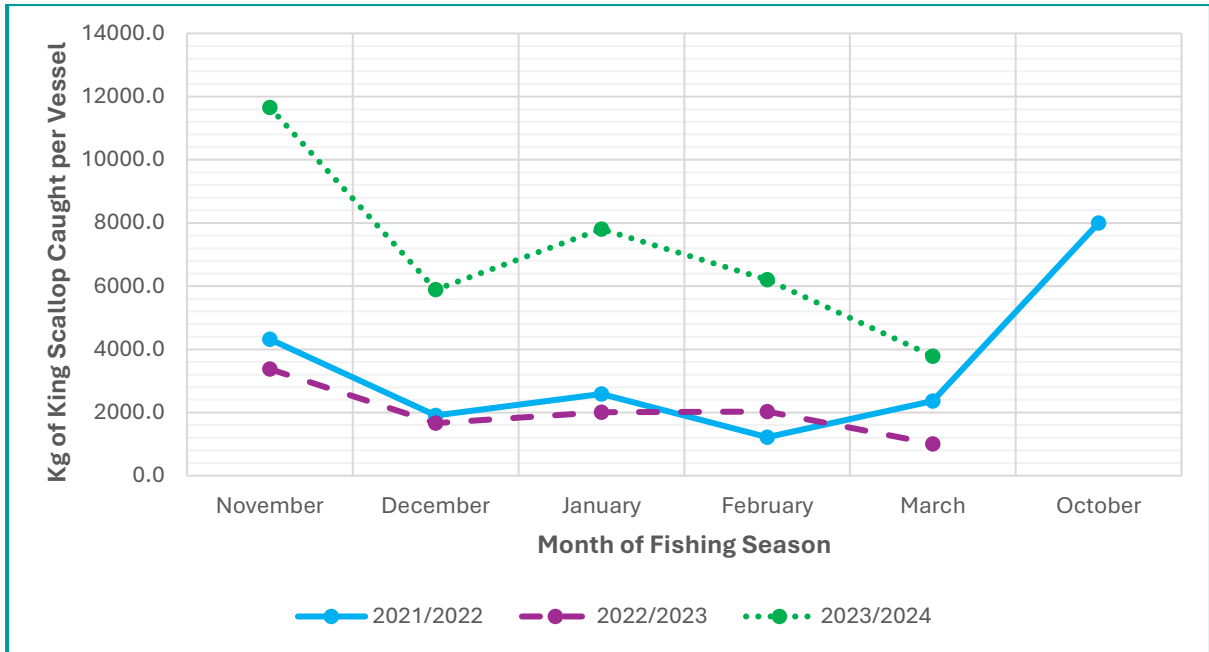


Figure 19: The average Kg of King Scallop caught per vessel during each month of the previous 3 years fishing seasons. Please note that catch levels were not recorded during October 2021 as the SPDB was not yet in place, and were not reported in October 2023 due to a closure of the fishery for that month.

5. Summary

- The Total sampled population, as well as the sampled population when split into Over and Under MCRS, showed a statistically significant decrease in mean CPUE from the Autumn 23 to the Spring 24 survey (23/24 Fishing Season).
- The Total sampled population, as well as the sampled population when split into Over and Under MCRS, showed a statistically significant increase in mean CPUE from the Spring 24 to the Autumn 24 survey (2024 Closed Season).
- The Total sampled population, as well as the sampled population when split into Over and Under MCRS, showed a statistically significant decrease in mean CPUE from the Spring 23 to the Spring 24 survey.
- The sampled population Under MCRS showed a statistically significant increase in mean CPUE from the Autumn 23 to the Autumn 24 survey, the Total CPUE showed an increase which was not significant and the Over MCRS CPUE showed a small decrease of 1.8 kg/m/hr (not significant).
- Mean CPUE for the majority of individual sampling sites increased during the 2024 Closed Season for Total, Over MCRS, and Under MCRS sampled populations (16 sites, 17 sites, & 18 sites respectively).
- This is an increase from the number that saw an increase in mean CPUE during the 2023 Closed Season for Total, Over MCRS and Under MCRS sampled populations (11 sites, 14 sites, & 4 sites respectively).
- Analysis found a statistically significant effect of survey on width, with mean width of the Autumn survey lower than both the Winter 2024 and Spring 2024 surveys.

- The increase in CPUE seen for all sampled populations (Total, Over MCRS, and Under MCRS) during the 2024 closed season and between the Autumn 2023 and Autumn 2024 surveys occurred following the fishing season with the highest landings for King scallop seen within this fishery to date.

6. Discussion

The scallop stock from the 2024 surveys shows a pattern which would be expected based on fishing activity, with an overall decrease in CPUE during the fishing season and then an increase in CPUE during the period when the fishery is closed.

The data from 2024, when looking at the period during which the fishery was closed (Spring 2024 to Autumn 2024), shows an improvement in the stock levels across all sampled populations' CPUE (Total, Over MCRS and Under MCRS) compared to the results seen in 2023. In addition, there has also been an increase in Total CPUE for Autumn 2024 compared to Autumn 2023, with CPUE values in 2024 being more aligned with those seen in 2022. It is recognised that there is a mixed picture when looking at individual sites and not all sites have shown an increase in CPUE during the closed season, however the number of sites where an increase has been seen is greater in 2024 than in 2023 and there is an increased number of sites where this increase is statistically significant (Table 1).

Increases in CPUE for Autumn 24 and during the 2024 closed period for the fishery have been seen despite greatly increased catch levels during the 23/24 season with the highest total quantity and quantity of King scallop per vessel (both overall and monthly through the season) seen for any season to date. This indicates that, at this stage, the increased catch levels have not led to a decline in stock and that the stocks can sustain the commercial fishery.

It is noted that the Under MCRS portion of the stock sampled is subject to the inherent size selectivity of the fishing gear, designed to maximise catches of Over MCRS stock, however the repetition in method used each survey allows for comparisons of this group over time.

It cannot be determined that fishing activity is the only or primary influencing factor on the stock patterns seen from the survey data. It takes time to understand the impact of management intervention (for example increased effort controls introduced for the King scallop fishery in 2023) on stock levels and determine the relevant influencing factors, for example discerning potential influence of management or fishing effort compared to other environmental factors. The results presented in this report add to the timeseries data Southern IFCA are collecting on the Solent Scallop Population, which will provide a greater understanding of the trends of this population. As the timeseries is still in its early stages (3 years of consecutive data collection to date), the data presented provides an overview of the population condition, but further data will be required to fully identify patterns within the stock and the contribution of different potential influencing factors to any patterns seen. It is likely that there are multiple factors influencing the stock pattern, the management of the fishery being one of these.

The continuation of the timing of the survey program, maintaining the mid-season survey for 2025, will enhance understandings of the health of the fishery, providing an opportunity to assess the stock of King scallop during the 24/25 fishing season. In addition, in order to improve understanding of harvesting areas for King scallop in relation to patterns in the stock, an update has been made to the 24/25 monthly catch return form to require finer scale reporting of King scallop catches, moving from the level of a Bivalve Management Area to Sub-Areas within BMA 3 (Eastern Solent) where the majority of fishing for King scallop takes place. This will allow catch

Solent Scallop Survey 2024

data to be better related to data from the survey, allowing, for example, quantification of information provided by the fishing industry during the 23/24 season suggesting that some of the sites which have shown lower stock levels in the 2024 survey are those which were not fished extensively during the 23/24 season.

During 2025, it is the intention to implement an updated methodology for the Solent Scallop Survey Programme, developed in consideration of key areas for the King scallop fishery in the Solent, engagement with the fishing industry and engagement with Cefas on nationally applied methodologies. The updated methodology aims to provide data on smaller size classes of King scallop by using a Queen scallop dredge alongside the N-Viro dredge used by fishers and to ensure that each year the areas surveyed align with those where harvesting takes place, as for example it is known that there are areas of the Solent which are targeted for King Scallop which are not covered by the current survey methodology. The intention is to increase the robustness of the data collected and thus the timeseries dataset for this species in the Solent to ensure that management of the fishery continues to be based on best available evidence. The data collected under the new methodology also has the potential to be fed into national evidence gathering, for example as part of the implementation of the King Scallop Fisheries Management Plan (FMP).

Solent Scallop Survey 2024

Annex 1

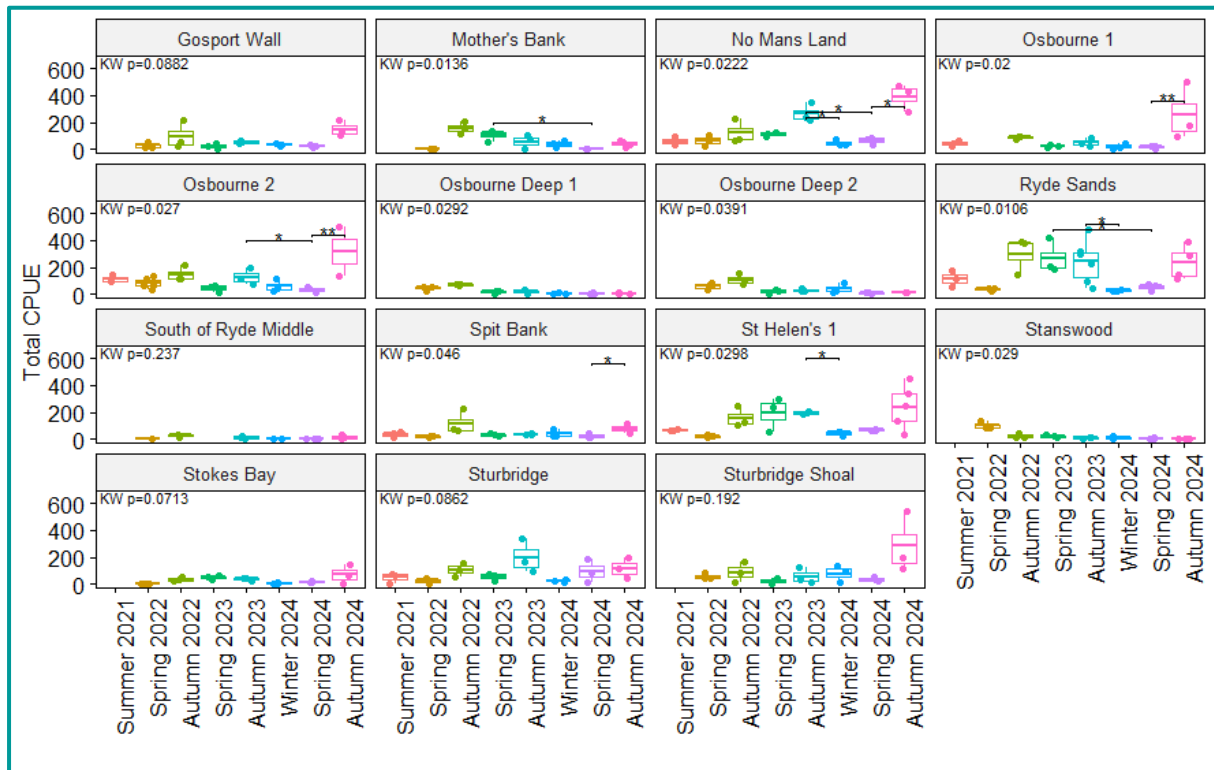


Figure 20: Catch Per Unit Effort (kg/m/hr) of the total population of scallops sampled at sites analysed by a Kruskal-Wallis test for all surveys. The brackets display the statistically significant results between 2023 and 2024 surveys from a post-hoc Dunns analysis (* = $p < 0.05$, ** = $p < 0.01$).

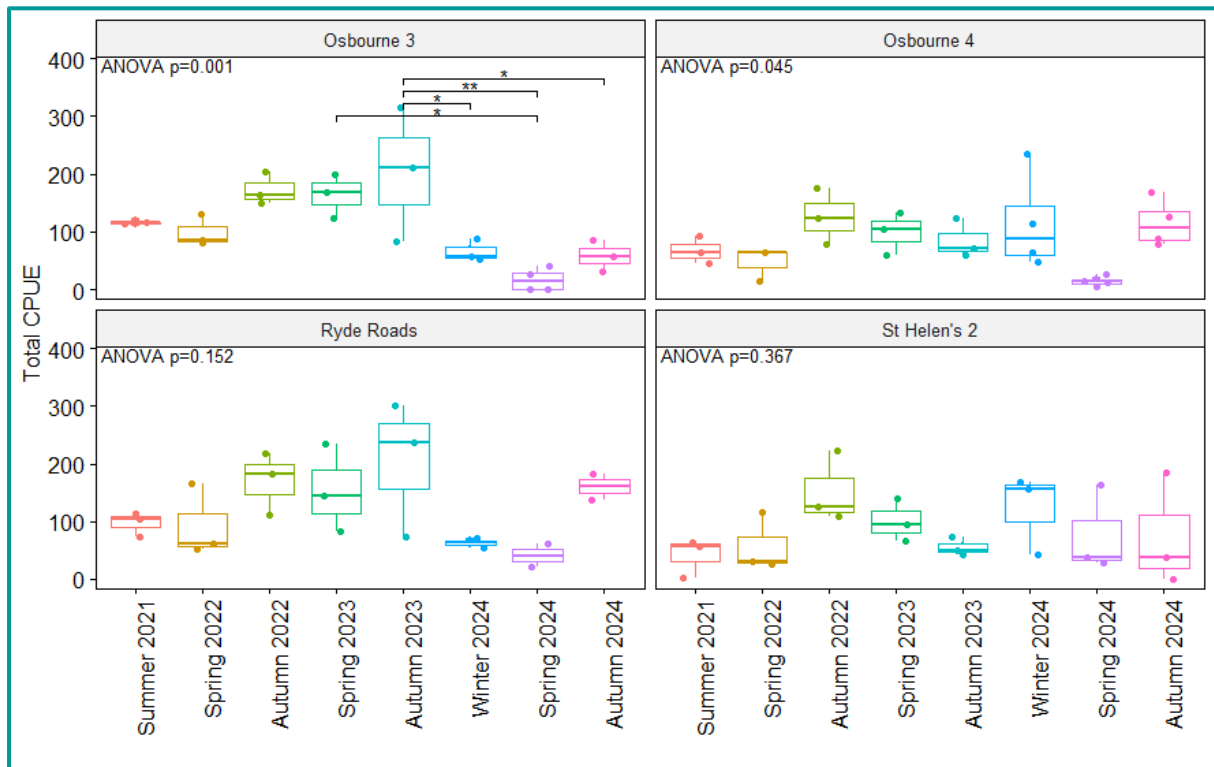


Figure 21: Catch Per Unit Effort (kg/m/hr) of the total population of scallops sampled at sites analysed by ANOVA for all surveys. The brackets display the statistically significant results between 2023 and 2024 surveys from a post-hoc Tukey analysis (* = $p < 0.05$, ** = $p < 0.01$).

Solent Scallop Survey 2024

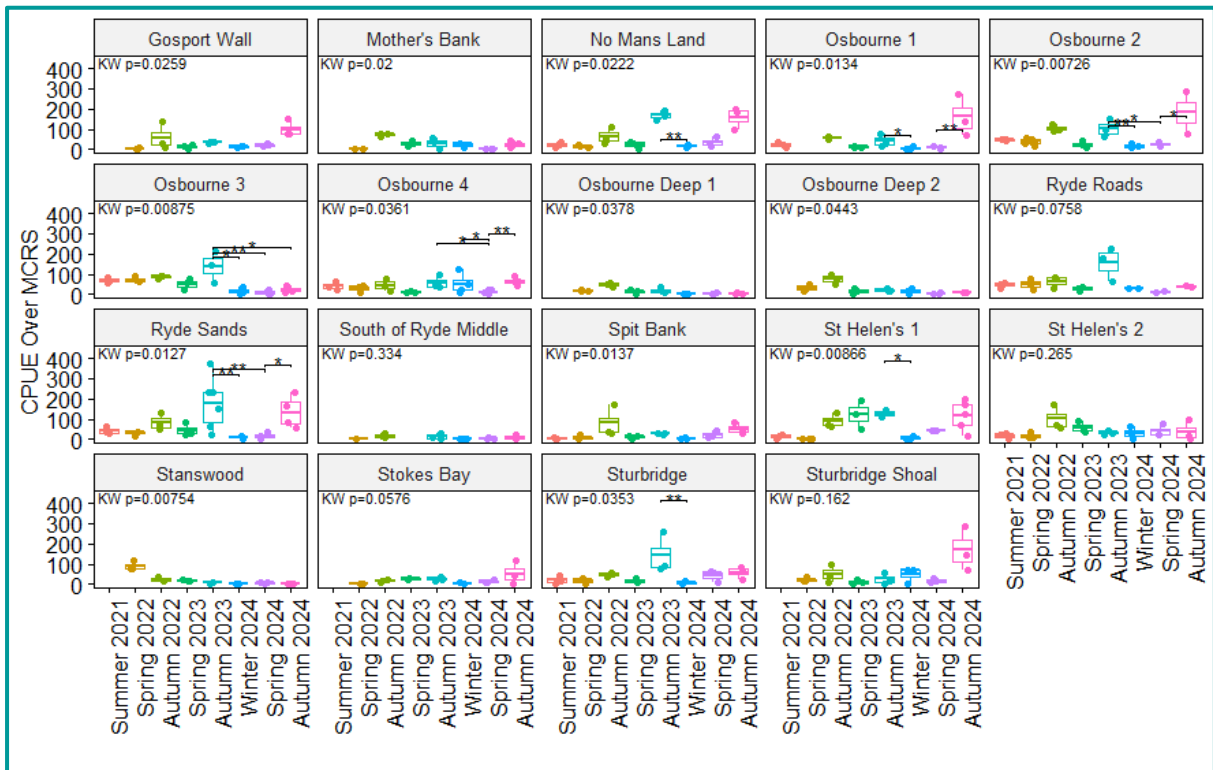


Figure 22: Catch Per Unit Effort (kg/m/hr) of sampled scallops Over the Minimum Conservation Reference Size at sites analysed by a Kruskal-Wallis test for all surveys. The brackets display the statistically significant results between 2023 and 2024 surveys from a post-hoc Dunns analysis (* = $p < 0.05$, ** = $p < 0.01$).

Solent Scallop Survey 2024

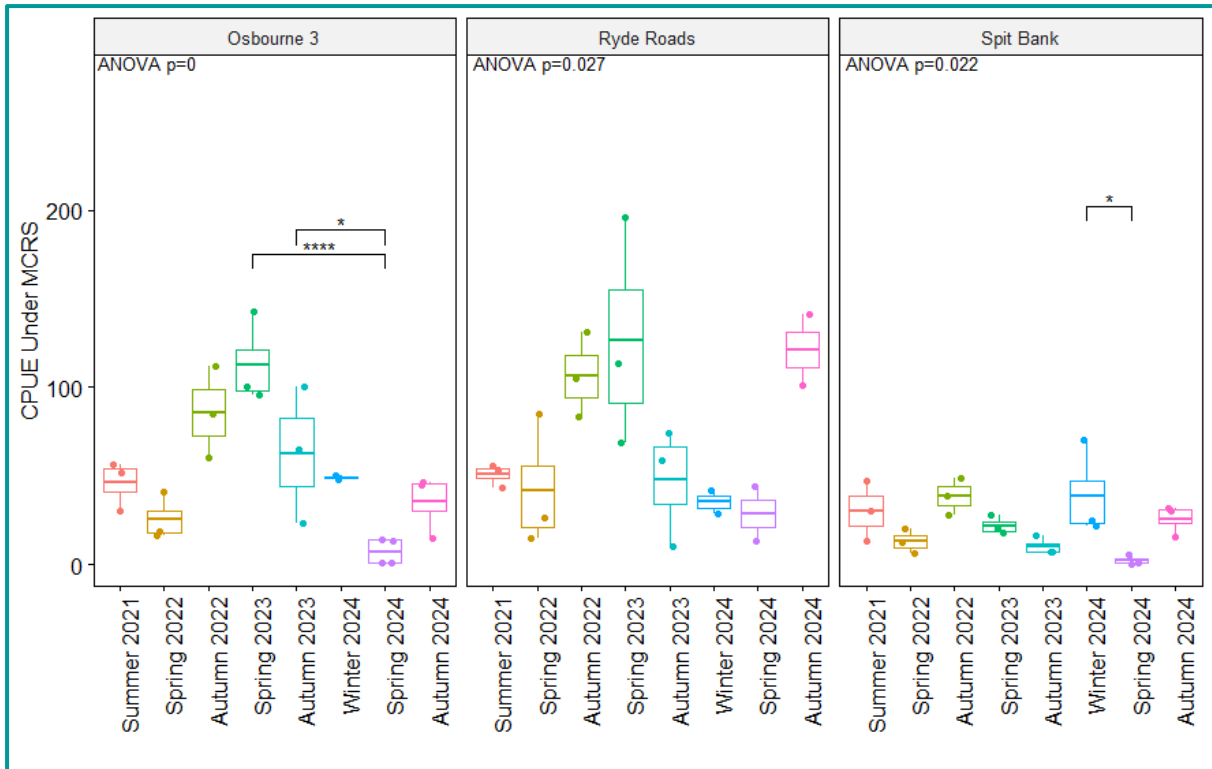


Figure 23: Catch Per Unit Effort (kg/m/hr) of sampled scallops Under the Minimum Conservation Reference Size at sites analysed by a Kruskal-Wallis test for all surveys. The brackets display the statistically significant results between 2023 and 2024 surveys from a post-hoc Dunns analysis (* = $p < 0.05$, ** = $p < 0.01$).

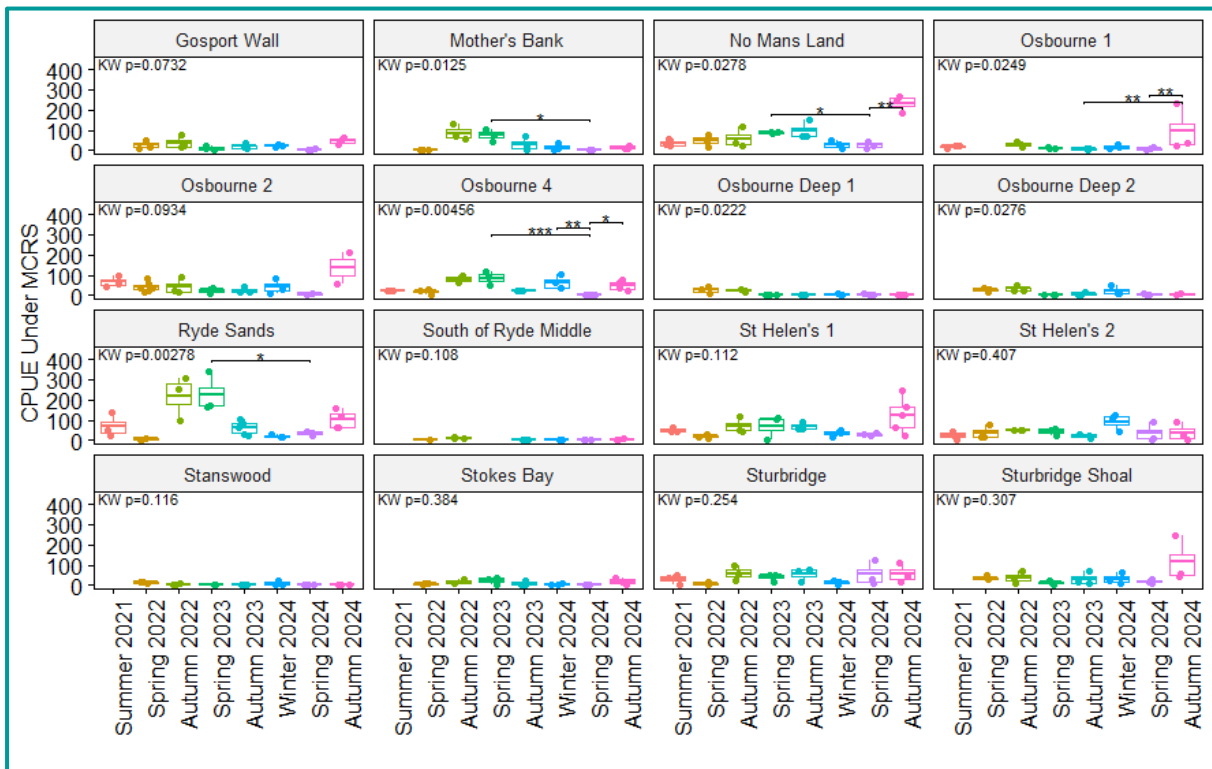


Figure 24: Catch Per Unit Effort (kg/m/hr) of sampled scallops Under the Minimum Conservation Reference Size at sites analysed by an ANOVA for all surveys. The brackets display the results between 2023 and 2024 surveys from a post-hoc Tukey analysis (* = $p < 0.05$, ** = $p < 0.0001$).**

Whelk CPUE Pilot Project Paper For Information

Report by IFCO Mullen and PO Wright

A. Purpose

To provide members with an overview of the upcoming Whelk CPUE Pilot Project.

B. Annex

1. The Southern IFCA Whelk CPUE Pilot Project Volunteer Request
-

1.0 Introduction

- Under the Southern IFCA Whelk Monitoring Programme and in conjunction with the Whelk Population Survey, Southern IFCA are conducting a Whelk CPUE Pilot Project to obtain data on whelk populations throughout the Southern IFCA District.
- This will contribute to an evidence base for whelk fisheries which can be used to help understand the effectiveness of management, including management under the proposed Southern IFCA Pot Fishing Byelaw at the point that this Byelaw comes into force and ensure that reviews of management continue to be based on best-available evidence.
- The data could also contribute to identified objectives under the Whelk FMP related to assessing CPUE within whelk fisheries nationally, developing data collection programs and improving evidence on whelk stocks, stock boundaries and fishing effort.
- All of these identified objectives from the FMP intend to improve the ability to implement evidence-based fisheries management which is responsive to changes in fishing activity and stock status.

2.0 Summary of Key Points

- The project is intended to run between December 2024 – December 2025.
- Data will be collected on a monthly basis; volunteer participants would be asked to submit the data on a catch return form provided by Southern IFCA by the 14th day of the month following the month where fishing has taken place.
- The data collected on the catch return will include:
 - Details of the vessel
 - The date and time of the fishing trip
 - The location of the fishing trip
 - The type of pot and bait used
 - The soak time of the pots
 - The total number of pots fished
 - The total kg of whelk landed
- A Volunteer Request document was created and sent out to all fishers who indicated they undertake pot fishing within the Southern IFCA District on Monday 14/10/2024 asking for volunteer participants to be involved in the pilot project. The initial window for expressing an interest in the project is open until 31st October, however fishers will have the opportunity to participate through the year dependent on when they undertake whelk fishing.
- To date 3 fishers have agreed to participate in the pilot project.

3.0 Next Steps

- That Members note the report.
- The project will commence December 1st 2024 and Officers will receive catch return data from 14th January 2025. Following the first year of the project a report will be produced which will be presented to the Authority and made publicly available through the website. The report will also be provided as part of the implementation program for the Whelk FMP as appropriate.
- The first year of the project will act as a pilot, identifying any ways in which data collection could be improved and how the data collected can be used to inform sustainable management. Lessons learned through the pilot project will be used to consider a longer-term monitoring program for whelk CPUE in the District.
- Southern IFCA will continue to provide updates on the data being collected for the District as part of the FMP implementation program and through the national Whelk Working Group which is attended by all relevant IFCAs and members of other bodies.

Southern IFCA Whelk CPUE Pilot Project

Call for Volunteer Participants



Southern IFCA are looking to run a **Whelk Catch Per Unit Effort (CPUE) Pilot Project** for the District, working collaboratively with the fishing industry to collect CPUE data from pot fishing for whelks to improve understanding of the whelk fisheries within the District. This will help further develop the evidence base for this fishery to support evidence-based management and help contribute to national data collection as part of the implementation of the Whelk Fisheries Management Plan (FMP).

Southern IFCA are seeking volunteer fishers who undertake whelk fishing using pots to participate in the Whelk CPUE Pilot Project.

Volunteers would undertake normal fishing practice and complete a monthly catch reporting form for each month fished between December 2024 and December 2025.

What is CPUE data and why is it important?

- CPUE data is a standard measure of fishing effort, looking at the quantity of catch of a species against the parameters needed to collect it, for example the weight of whelk from a fishing trip against the number of pots needed to catch that weight.
- Looking at fishing by CPUE allows for comparisons between fishing areas within the District and also allows for comparisons to wider regional or national areas and other whelk fisheries.

Why is the data needed?

- Collecting CPUE data for the District's whelk fisheries will enhance understanding of how stocks and fishing practice might vary across the District and where stock boundaries may exist.
- This will contribute to an evidence base for whelk fisheries which can be used to help understand the effectiveness of management, including management under the proposed Southern IFCA Pot Fishing Byelaw at the point that this Byelaw comes into force¹, and ensure that reviews of management continue to be based on best-available evidence.
- The data could also contribute to identified objectives under the Whelk FMP² related to assessing CPUE within whelk fisheries nationally, developing data collection programs and improving evidence on whelk stocks, stock boundaries and fishing effort. All of these identified objectives intend to improve the ability to implement evidence-based fisheries management which is responsive to changes in fishing activity and stock status. Whilst the full implementation of the Whelk FMP has not yet been fully outlined, collection of data for the Southern IFCA District will give the potential for data specific to the District's whelk fisheries to be fed into this program.

What data will need to be collected?

- Data will be collected on a **monthly basis**, volunteer participants would be asked to submit the data on a catch return form provided by Southern IFCA by the **14th day of the month following the month**

¹ The Southern IFCA Pot Fishing Byelaw is currently undergoing a period of Quality Assurance by the Marine Management Organisation.

² <https://www.gov.uk/government/publications/whelk-fisheries-management-plan-fmp-for-english-waters>

where fishing had taken place, i.e., if you fish in December we would ask if any fishing data for December could be submitted by 14th January.

- The catch return form will include:
 - Details of the vessel
 - The date and time of the fishing trip
 - The location of the fishing trip
 - The type of pot and bait used
 - The soak time of the pots
 - The total number of pots fished
 - The total kg of whelk landed
- There will also be an option for fishers to provide further detail if they wish, providing coordinates for each string, the number of pots on the string and an approximate weight of whelk per string.
- One of the aims of this pilot project is to define a suitable level of data collection, we welcome input from fishers throughout the project on feedback on the project and any updates that could be made to ensure the data collection is suitable to the needs of your fishing practice whilst capturing enough information to provide robust evidence on the fishery.

How will the data be used?

- Data will be collected over a 12-month period from **December 2024 to December 2025**.
- Any data provided will be **anonymised** to protect commercial sensitivities. This will include anonymisation of persons and vessels as well as specific fishing locations.
- Data on fishing location will be assigned to a 4km grid (see Figure 1), this will allow the identification of important fishing areas and potential stock boundaries without providing detail on exact fishing locations in public facing reports.
- The data will be analysed and used to produce a report on the Whelk CPUE Pilot Project, this will be presented to the Southern IFC Authority and made publicly available through the Southern IFCA website. The report will also be provided as part of the implementation program for the Whelk FMP as appropriate.
- All data will be processed and held in accordance with General Data Protection Regulations (GDPR). For details of how the Southern IFCA process data please see our website - <https://www.southern-ifca.gov.uk/privacy-access-to-information>

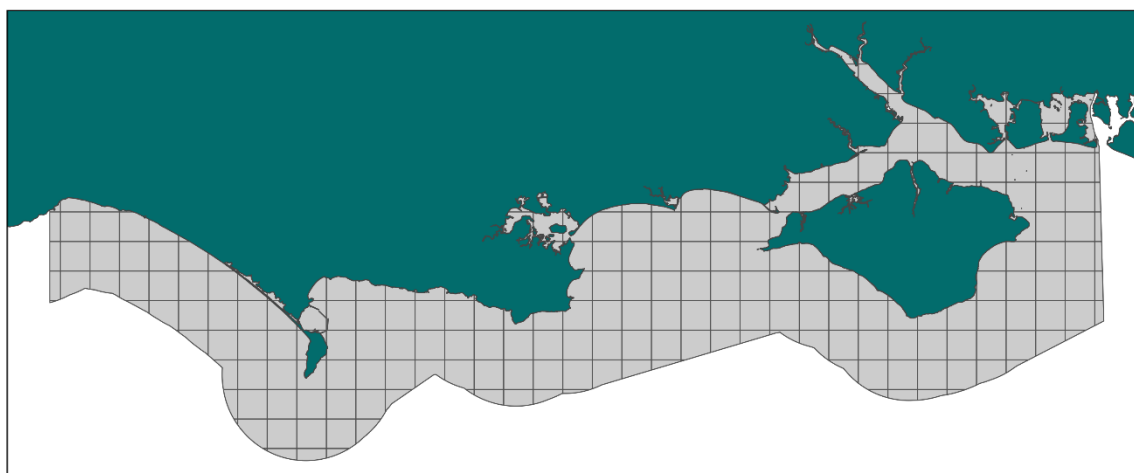


Figure 1: Example of a grid applied to the District, data on whelk fishing effort will be assigned to a grid to allow for definition of fishing areas whilst protecting exact locations of fishing activity.

How can you get involved?

Southern IFCA welcomes volunteer participants from all areas of the District, the only requirement is that you must undertake whelk fishing using pots and you must undertake that whelk fishing within the Southern IFCA District.

If you are interested in being a voluntary participant in the Southern IFCA Whelk CPUE Pilot Project or would like any further information on the project, please contact us:

IFCO Celie Mullen (07834 030309 or celie.mullen@southern-ifca.gov.uk)

Project Officer Imogen Wright (07850 774375 or imogen.wright@southern-ifca.gov.uk)

We ask if you can please get in contact with us by **31st October 2024** this will help the project achieve a start date of 1st December 2024. However, if you wish to participate at any point during the 12-month period please do let us know.

**We look forward to working collaboratively
with the fishing industry on this exciting
project**



Whelk Population Survey Report 2024 Paper For Information

Report by IFCO Mullen

A. Purpose

To provide members with the survey report from the Whelk Population Survey 2024.

B. Annex

1. The Southern IFCA Whelk Population Survey Report 2024
-

1.0 Introduction

- This is the second report covering the annual Whelk Population Survey, first carried out in 2023, to assess the population of the common whelk (*Buccinum undatum*) across the Southern IFCA District.
- The survey was carried out from March-June 2024, using local commercial fishers from Weymouth Bay, Poole Bay and The Solent. Samples were unable to be collected from Lyme Bay in 2024 due to unforeseen circumstances.
- The aim of the annual survey is to create a timeseries dataset for whelk stocks in the District and to monitor trends in abundance and size frequency between different areas.
- The evidence collected during the Whelk Population Survey will be integrated with other research initiatives, such as the Whelk CPUE Pilot Project, to form part of the Southern IFCA Whelk Monitoring Programme. This programme seeks to establish a robust evidence base to inform management, including proposed objectives under the Whelk Fisheries Management Plan (FMP), and help to evaluate the effectiveness of future management strategies, for example the Southern IFCA Pot Fishing Byelaw, which is currently undergoing a period of Quality Assurance with the Marine Management Organisation (MMO).
- Additional information from other district specific whelk studies will also contribute to the Programme, such as the collaboration with the University of Southampton to investigate size of maturity (SOM).

2.0 Summary of Key Points

- The delivery of this survey showed that the methodology was appropriate for providing samples of whelks, in line with currently used fishing methods, which could be analysed to provide information on CPUE and size frequency for different areas of the District identified as being important for whelk fisheries.
- It is recognised that the method of sampling is inherently size selective due to methods employed by fishers to reduce the quantity of whelk below MCRS, which is retained in pots and thus the level of post-capture sorting required. There is also likely to be an element of variation introduced by using subtly different pots in each location. However, this risk was weighed up against the need to use pots which are adapted to the conditions of each site and have been optimised by the fisher in each case to maximise capture potential in line with specific environmental considerations. The methodology is repeatable which will allow for comparisons to be made between sites over time to ascertain any changes in CPUE or size frequency.

2024 Results

- Samples from Weymouth Bay showed a significantly higher total CPUE and CPUE over MCRS than samples from the Solent, the CPUE of whelk under MCRS was significantly

lower in Weymouth Bay than in Poole Bay (all $p < 0.01$).

- Comparisons were made with 2023 data indicating that, for Weymouth Bay there was a significantly larger total CPUE, CPUE over MCRS and CPUE under MCRS in 2024 compared to 2023 (all $p < 0.01$). CPUE data was not significantly different for Poole Bay between years but for The Solent total CPUE, CPUE over MCRS and CPUE under MCRS were all significantly lower in 2024 than in 2023 (all $p < 0.01$).
- Size frequency data showed significant variation in length and width measurements between sampled areas with the longest and widest whelks found in Weymouth Bay. There was a significant increase in whelk length and width in Weymouth Bay in 2024 compared to 2023 but a significant decrease for The Solent ($p < 0.01$), samples from Poole Bay were not significantly different.
- Analysis of size categories above MCRS showed that a higher proportion of whelks fall into larger size categories in the west of the District with a gradient towards smaller size classes moving eastwards.
- The analysis revealed variations in whelk populations across the district, indicating that there is the potential for subpopulations with differing characteristics. For instance, whelks in Weymouth were generally larger, with higher catch levels, than those in Poole Bay and in turn Poole Bay showed larger whelks and higher catch levels than in the Solent. This supports observations of varying whelk sizes across the UK, even over relatively small spatial areas. 48% of individuals collected in Weymouth Bay exceeded 65mm in length compared to 2% of those collected in the Solent.
- Variations in CPUE and whelk size may be attributed to several factors, including fishing pressure, genetic variation, ecological and environmental conditions such as depth, predation pressure, and availability of food resources. This variation can be monitored through the annual time-series dataset, as the time-series dataset is developed further analysis can be made of patterns in the population and potential influencing factors.
- The Southern IFCA survey highlights the variability that can be displayed in whelk allometry across the District, potentially influenced by a range of environmental and anthropogenic factors such as freshwater inputs and physical barriers like bay and temperature fluctuations. Sample populations also displayed distinct characteristics, such as the presence of barnacle colonies on whelks found within Weymouth Bay.
- The notable differences observed between areas highlights the complexity surrounding effective whelk management and supports continued evidence gathering over a time series to effectively understand whelk populations and support a robust evidence base to inform appropriate management strategies which support the sustainability of whelk stocks and fisheries.
- There have been many benefits of working with the fishing industry to facilitate this data collection. Officers have been able to engage with fishers on the local knowledge of particular fishing sites and variations in fishing methods which will aid understanding of whelk fishing in the district. In addition, fishers have been able to gain an understanding of why the data is being collected and its potential uses. The officers thank the fishers involved for their participation and help with the sample collection.

3.0 Next Steps

- That Members note the report.
- The report will be published on the Authority's website.



Southern IFCA Whelk Population Survey- 2024



This report has been produced by Southern Inshore Fisheries and Conservation Authority.
Reported by IFCA Celie Mullen

A copy of the report is available on our website at www.southern-ifca.gov.uk or from Southern IFCA Office at:

Unit 3, Holes Bay Park, Sterte Road West, Poole, Dorset, BH152AA

Tel: 01202721773, email: enquiries@southern-ifca.gov.uk

1. Introduction

This paper describes the 2024 Southern IFCA Whelk Population Survey. The survey is conducted annually as part of the Southern IFCA Monitoring Programme to generate a timeseries dataset, monitor whelk stocks across the Southern IFCA District (the District) and inform evidence-based management.

In 2024, the second annual survey was undertaken, aimed at collecting whelk data from four regions within the District: The Solent, Poole Bay, Weymouth Bay, and Lyme Bay. The findings from this research, in conjunction with the Whelk Catch Per Unit Effort (CPUE) Pilot Project, which is due to commence in late 2024, will contribute to the Southern IFCA Whelk Monitoring Programme. This programme is designed to enhance our understanding of whelk stocks across Dorset, Hampshire, and the Isle of Wight, and to provide evidence on the effectiveness of management measures, for example under the proposed Pot Fishing Byelaw, which is currently undergoing Quality Assurance (QA) with the Marine Management Organisation (MMO). The time series data from the District aims to help contribute to national research efforts and datasets and support the post-publication phase of the Whelk Fisheries Management Plan (FMP).

1.1 The Fishery

UK landings of whelk reached 14.3 000 tonnes in 2022 and while demersal and pelagic species landings decreased in this year, shellfish landings increased over 260% (Marine Management Organisation, 2022). Low start-up costs and near-year-round availability have made whelks an attractive alternative fishing option in substitute of other fisheries. Similarly, whelk fishing complements or replaces other fisheries such as crab and lobster in the off-season (Haig *et al.*, 2015; McIntyre *et al.*, 2014; McIntyre *et al.*, 2015). Within the Southern IFCA District, the fishery is generally active from March to July, with some fishing as early as December. Landings reach their highest during May, however, weather conditions, market value and demand contribute to the length of the season. Data on stocks is limited at a national scale, and the potential for regional differences emphasises the importance of local and regional data collection. There is a need to understand the relationship between whelk fishing effort and stocks in order to ensure sustainable management.

1.2 Whelk Pots

The whelk potting fishery uses a pot specifically built for collecting whelk (Figure 1) or uses recycled plastic containers (Seafish, 2024). To ensure the pot remains stable at the seabed, the bottom of the pot is lined with a cement block. Small drainage holes surrounding the pot assist in hauling methods. The top section of the pot is removed and replaced with a mesh net with a hole that allows easy entrance but almost impossible exit for whelk species. In contradiction, the bycatch from whelk potting is negligible due to escape gaps providing easy escape of fish species



Figure 1. An example of a typical whelk pot used.

before hauling. Bycatch that is commonly found consists of crab species and dogwhelk. Multiple pots are baited and attached to a single string, which is soaked from 6-48 hours before retrieval. Marker buoys as well as marker points on GIS systems are used to identify the geographical location of strings.

1.3 Common Whelk (*Buccinum undatum*)

Buccinum undatum known as the common whelk is a marine gastropod growing up to ~150mm in length. The organism features a pale-colour body, frequently adorned with black flecks, encased within a spiral shell characterised by prominent ribs and lines (Figure 2A). The posterior part of the whelk foot carries the operculum, commonly known as the shell door, a structure used to seal the shell's aperture, providing protection against potential threats (Figure 2B).



Figure 2A and 2B. Photographs of *Buccinum undatum*. The whelk shell door can be seen in Figure 2B (Alchetron, n.d.; The Wildlife Trusts, n.d.)

Whelks are ubiquitously distributed along the UK coastline, ranging from the intertidal zone to depths of approximately 1200 meters. They inhabit diverse benthic substrates, including sand, mud, and gravel (Ager, 2008; Haig et al., 2015; Hollyman, 2017). Due to their sedentary nature and lack of a planktonic larval phase, whelk populations can form localised stocklets, leading to differentiation in population characteristics over short geographical distances (Weetman et al., 2006; Shelmerdine et al., 2007; BLUE, 2022). Within these areas, whelks utilise highly developed chemosensory systems to locate food sources. They are opportunistic feeders, actively preying on bivalves, molluscs, crabs, and polychaete worms, while also scavenging carrion (Scolding et al., 2007).

Sexual maturity in whelks is reached after several years and varies with geographical location. Mating is triggered in UK waters when temperatures fall below at least 12°C, although mating has previously been displayed at 9°C in the Solent (Kideys et al., 1993; Hollyman, 2017). Post-mating, females deposit up to 2000 egg capsules, each containing approximately 1000 eggs. While the majority of these eggs do not survive, they provide a crucial food source for the few that do (Naylor, 2011).

1.4 Southern IFCA Management

Whelks are exempt from EU Total Allowable Catch (TAC) limits as they are classified as a non-quota species (BLUE, 2022). Within the Southern IFCA District, current management practices include the national Minimum Conservation Reference Size (MCRS) of 45 mm in shell length (Defra, 2018), which is applied across the supply chain and to both commercial and recreational fishers under the Southern IFCA MCRS Byelaw¹. Given the commercial significance of this species, it is crucial to assess the District's whelk populations to provide data that will inform sustainable management strategies. The evidence collected during the Whelk Population Survey will be integrated with other research initiatives, such as the Whelk CPUE Pilot Project, to form part of the Southern IFCA Whelk Monitoring Programme.

Research outputs will contribute to building an evidence base for informing and assessing future management, including the proposed Southern IFCA Pot Fishing Byelaw, which is currently undergoing Quality Assurance with the MMO. This research will establish a baseline for understanding whelk stocks in the District and therefore evaluating the effectiveness of future management measures proposed under the byelaw. Additionally, the survey will support the gathering of evidence to support the implementation of the Whelk Fisheries Management Plan (FMP). The management measures proposed under the FMP (published in December 2023) for consideration initially over a 6-year period include pot limits, reviews of MCRS, permit schemes, catch limits, and seasonal closures (Seafish, 2023). Obtaining data at a local and regional level will aim to contribute to the evidence gaps identified by the FMP at a national level.

2. Methodology

Survey areas were selected to encompass four primary fishing regions within the Southern IFCA District, aiming to identify any variations within the whelk population across the District. These fishing areas were chosen in collaboration with local fishers, leveraging their knowledge and experience of commonly utilised fishing grounds (Figure 3). The selected areas for sampling included the Solent, Poole Bay, Weymouth Bay, and Lyme Bay, areas which have been maintained through the 2023 and 2024 surveys. Although the survey aimed to collect samples at the start of the fishing season, adverse weather conditions necessitated sampling from March to June 2024. Please note that samples could not be collected from the Lyme Bay region during the 2024 survey due to unforeseen circumstances.

The methodology involved local fishers conducting their usual fishing practices, utilising their own site-specific whelk pots, which are typically adjusted in height based on sea conditions, tidal ranges, and water flow. This approach ensured a more representative sample of the typical catch in each area, making the data relevant to local fishing practices. It is acknowledged that data analysis will need to account for variations in pot setup. Fishers either conducted their fishing activities independently or with Southern IFCA officers present on board during sampling.

¹ [SIFCA-MCRS-Byelaw.pdf \(toolkitfiles.co.uk\)](#)

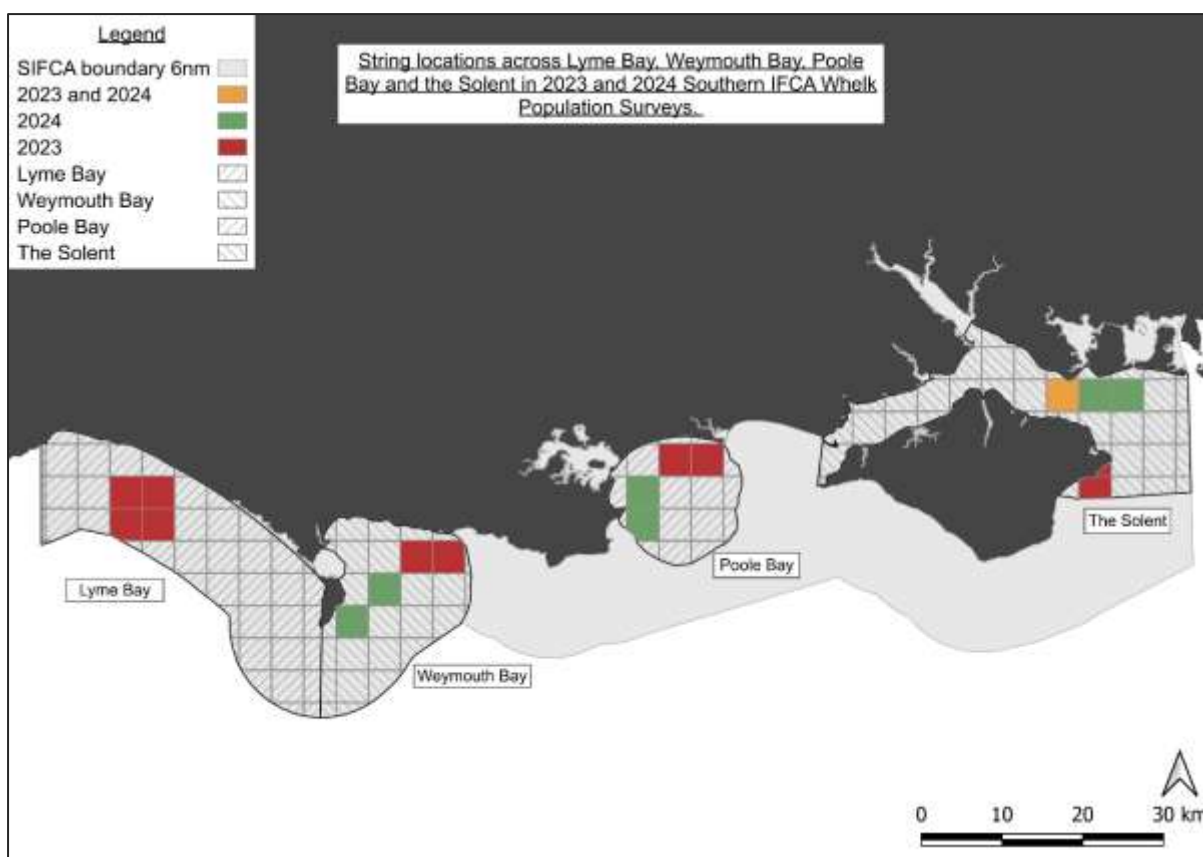


Figure 3. The Southern IFCA District. The 4 regions which samples were taken, Lyme Bay, Weymouth Bay, Poole Bay and The Solent are labelled. Fishing locations within each region are highlighted within a 4km grid system. Sampled areas from the 2023 data collection are highlighted in red, whereas areas sample during 2024 are highlighted in green. Areas that include samples from both 2023 and 2024 are shaded in orange.

Collection

Date of fishing trip, gear type, bait type, soak time and location (latitude and longitude) were collected on the day of retrieval. Five whelk pots from 3 strings were selected, providing 15 samples from each area. The methodology included:

- Whelk pots were baited and deployed between 12 and 48 hours before retrieval, dependant on weather windows.
- The GPS position, using the vessel GPS system, were recorded upon retrieval of the first pot and last pot.
- The pots were recovered in-board and all whelks from each chosen pot emptied directly into sample bags and labelled according to area, string number and pot number.

Measurement

- The retained whelks were measured for total shell length (TSL) and widest shell width (WSW) for the first 50 individuals, measurements in mm were made using Vernier callipers (Figure 4). Individuals were categorised as either above or below the MCRS of

45 mm, and the weight of each group (> or < MCRS) (in kg) was recorded.

- During the sorting of whelk samples, other bycatch species, such as the netted dogwhelk (*Tritia reticulata*), were also present. These bycatch species were excluded from any CPUE, WSW, and TSL values.

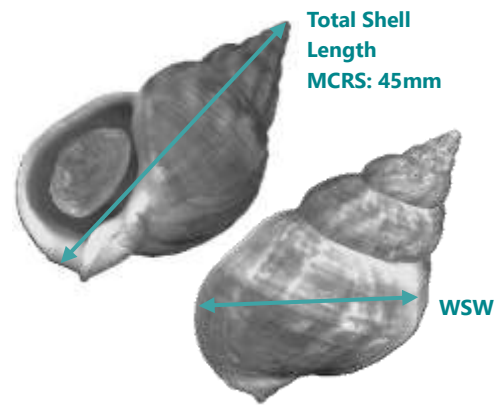


Figure 4. Diagrams of the common whelk showing the total shell length (TSL) and widest shell width (WSW).

3. Results

The weight data collected was analysed to provide a value for Catch Per Unit Effort (CPUE), defined as kilograms of whelk per pot (kgs/pot). CPUE was calculated for total kg of whelk, kg of whelk over the MCRS and kg of whelk under the MCRS (MCRS = 45mm). Please note potting methods used to obtain data for this survey are size selective due to the escape holes for drainage, which also minimise catches of whelk under the MCRS. On this basis the data for CPUE under MCRS will not be representative of this size class as it cannot be guaranteed that all whelk under MCRS have been sampled. However, comparisons can be made between sites and over time to look for changes, in the knowledge that the sampling method is consistent.

3.1 Catch Per Unit Effort

3.1.1 Analysis of 2024 data

- In the 2024 survey, Weymouth Bay recorded the highest collected weight of whelk at 39.99 kg, while Poole Bay and The Solent reported total catches of 37.46 kg and 23.15 kg, respectively (Figure 5).
- Weymouth Bay exhibited the highest total Catch Per Unit Effort (CPUE) with an average of 2.67 kg per pot. Additionally, this site had the lowest CPUE of whelk under the MCRS, at an average of 0.073 kg per pot (Figure 5).
- The Solent demonstrated the lowest total CPUE, at an average of 1.54 kg per pot.
- The Poole Bay sample showed the highest CPUE of under MCRS whelks, at an average of 0.504 kg per pot.
- Statistical analysis of the sites revealed that the total CPUE in Weymouth Bay was significantly higher than in The Solent ($p < 0.01$). This trend was also observed when comparing the CPUE of whelks above MCRS.
- The CPUE of whelk under MCRS in Weymouth Bay was significantly lower than in Poole Bay ($p < 0.01$).

3.1.2 Comparison to 2023 dataset: All data combined

- A paired t-test was undertaken to compare the two datasets against each other. Please note that no data was collected in Lyme Bay in the 2024 survey due to unforeseen circumstances, although the 2023 dataset has been included in graphs for reference. Figure 5 shows the comparison of sites between years.
- The total weight of whelk collected across the three sites in the 2024 survey was 100.6 kg, which is slightly lower than the 114.2 kg recorded in the 2023 dataset for the same sites.
- Statistical analysis indicated no significant difference in the total weight of whelk collected in 2024 compared to 2023 ($p > 0.05$). Similarly, there was no significant difference in the weight of whelk above or below the MCRS collected across all sites in 2024 compared to 2023 ($p > 0.05$).

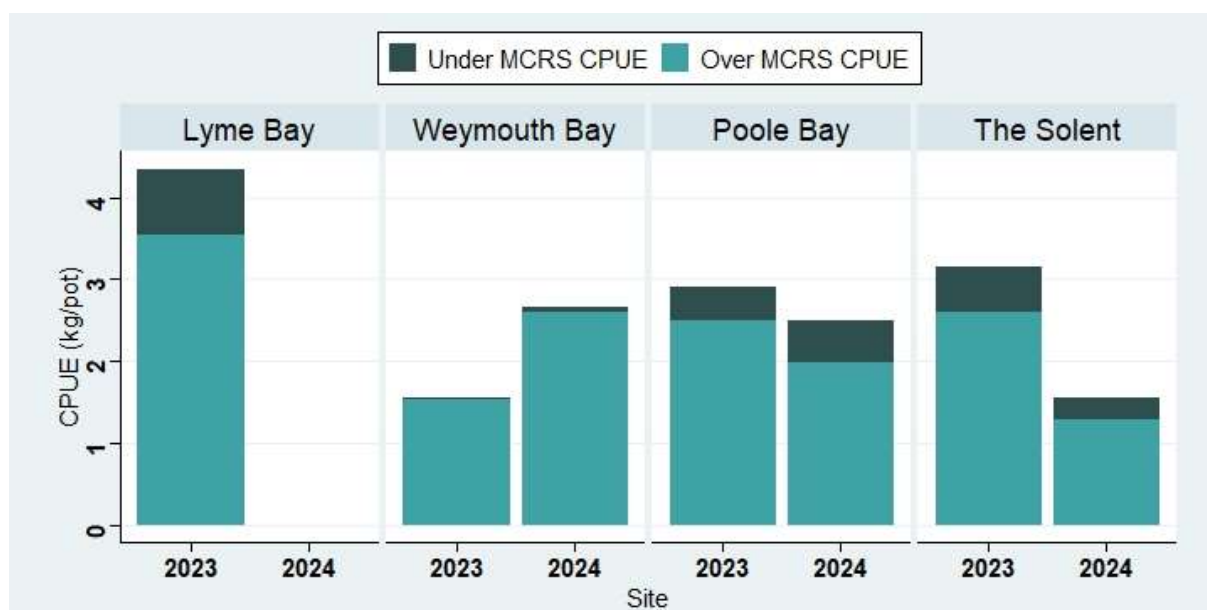


Figure 5. A comparison of Catch Per Unit Effort (CPUE) of sites surveyed within the whelk survey 2023 and 2024. Please note Lyme Bay was not surveyed in 2024. Above MCRS CPUE (above 45mm) is represented by light blue and under MCRS CPUE is represented by dark blue.

Weymouth Bay

- There was a significant increase in the total CPUE collected in the 2024 survey, at an average of 2.7 kg per pot, compared to the 2023 survey, which was 1.55 kg per pot ($p < 0.01$).
- There was a significant increase in the average CPUE of whelks above the Minimum Conservation Reference Size (MCRS) in the 2024 survey, at 2.6 kg per pot, compared to 1.53 kg per pot in the 2023 survey ($p < 0.01$).
- Additionally, a significantly larger CPUE of undersized whelks was observed in 2024, at 0.1 kg per pot, compared to 0.013 kg per pot in 2023 ($p < 0.01$).

Poole Bay

- The total CPUE in 2024 was lower than in 2023, at 2.49 kg/pot compared to 2.94 kg/pot, although the difference was not statistically significant ($p > 0.05$).

- The CPUE of whelks above the Minimum Conservation Reference Size (MCRS) was also lower in the 2024 survey compared to 2023, at 1.99 kg/pot and 2.49 kg/pot, respectively, but this difference was not significant ($p > 0.05$).
- The average CPUE of whelks under MCRS was higher in 2024 than in 2023, at 0.5 kg/pot and 0.42 kg/pot, respectively, although this difference was not significant ($p > 0.05$).

The Solent

- The total CPUE of whelks was significantly lower in 2024, at 1.53 kg/pot, compared to 3.15 kg/pot in 2023 ($p < 0.01$).
- The CPUE of whelks above MCRS was lower in 2024, at 1.28 kg/pot, compared to 2.59 kg/pot in 2023. Similarly, the CPUE of whelks under MCRS was lower in 2024, at 0.27 kg/pot, compared to 0.56 kg/pot in 2023.
- The CPUE for both above MCRS and under MCRS whelks were statistically different between the years (both $p < 0.01$).

3.2 Length Data

3.2.1 Analysis of 2024 dataset

- Statistical comparison of the 2024 dataset showed statistical differences in length of whelk across the 3 survey regions ($p < 0.01$) (Figure 6).
- The average length of whelk was highest in Weymouth Bay at 63.6mm, compared to Poole Bay (50.4mm) and The Solent (48.9mm).

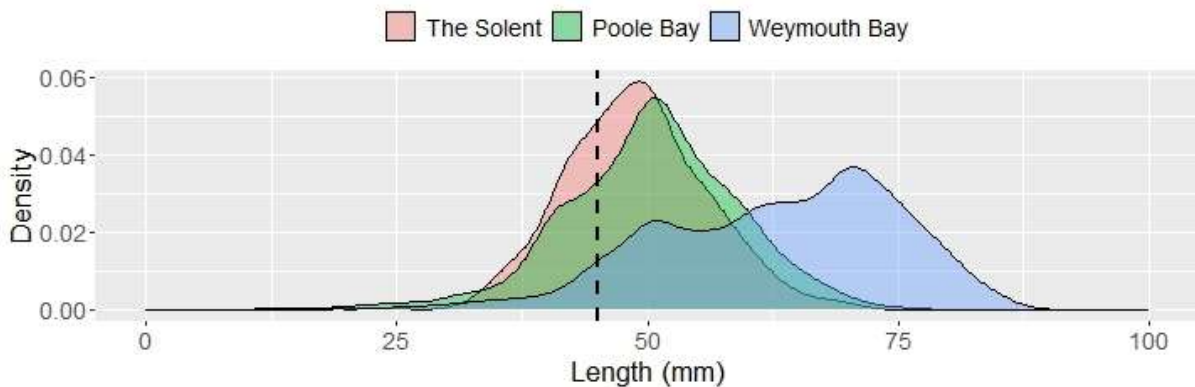


Figure 6. The length distribution of the 2024 dataset. Weymouth Bay is represented in blue, Poole Bay in green and The Solent in red. The minimum conservation reference size of 45mm is represent by a vertical dashed black line.

3.2.2 Comparison to 2023 survey

Weymouth Bay

- The average length of whelk found in Weymouth Bay was significantly higher in 2024 (63.6mm) compared to 2023 (61.1mm) ($p < 0.01$).

Poole Bay

- The average length of whelk was similar between the two surveyed years ($p > 0.05$). The average length in 2024 was 50.4mm compared to 51mm in 2023.

The Solent

- Average length of whelk was statistically different between the 2023 and 2024 datasets ($p < 0.01$). The average length of whelk in 2024 (48.9mm) was lower than in 2023 (51.9mm).

3.3 Width Data

3.3.1 Analysis of 2024 dataset

- Statistical analysis of the width of whelk showed variation across the 3 surveyed sites in 2024 ($p < 0.01$), suggesting that all sites were statistically different to each other (Figure 7).
- Weymouth Bay had the largest width whelks found at 38.3mm, compared to Poole Bay (30.6mm) and The Solent (28.6mm).
- Statistical analysis of width data showed in both Weymouth Bay and The Solent, all strings showed significantly different width sizes (all p values < 0.01).

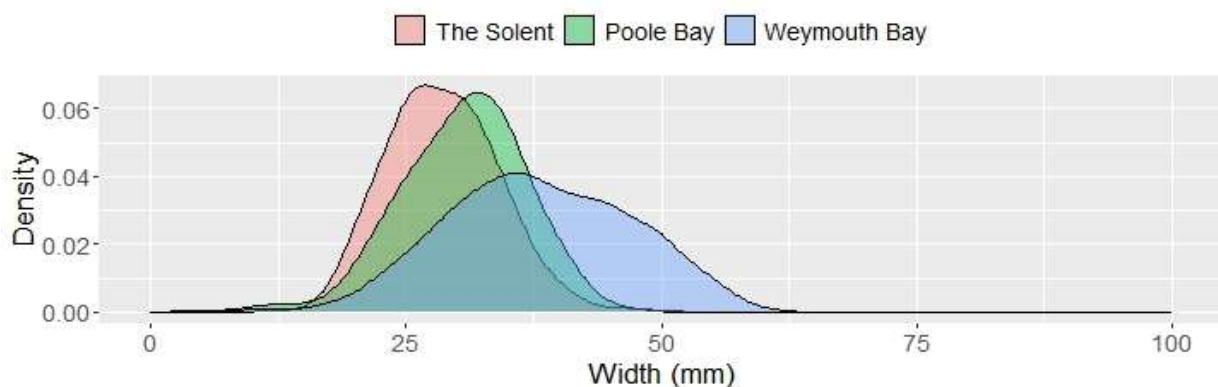


Figure 7. The width distribution of the 2024 dataset. Weymouth Bay is represented in blue, Poole Bay in green and The Solent in red.

3.3.2 Comparison to 2023 survey

Weymouth Bay

- The width of whelk in Weymouth Bay was significantly larger in 2024 compared to 2023 ($p < 0.01$).
- The average width in 2024 was 38.3mm compared to 33.7mm in 2023.

Poole Bay

- While the length of whelk in Poole Bay was similar between years the width showed significant differences ($p < 0.01$).
- The width in the 2024 was larger compared to 2023 (30.6mm compared to 29mm, respectively).

The Solent

- The width of whelk in the Solent was significantly lower in 2024 than in the 2023 survey ($p < 0.01$).
- The average width in 2024 was 28.6mm compared to 30.5mm in 2023.

3.4 Size category proportion

- All sample sites exhibited at least 74% of individuals above MCRS. Notably, in Weymouth Bay, 93% of the whelk population was above the MCRS (Figure 8).
- 48% individuals caught in Weymouth Bay exceed 65mm, whereas these figures were 4% and 2% in Poole Bay and The Solent respectively.
- The 2024 dataset size category proportions were compared against the 2023 dataset. Weymouth Bay displayed similar length category distributions in 2023 and 2024. The percentage of whelk above 65mm in 2024 increased from 42% found in 2023.
- Poole Bay also displayed consistent distributions of length in 2023 and 2024.
- While the percentages of whelk under and over MCRS remained similar in the Solent between 2023 and 2024, a larger proportion of the sample population occurred within smaller size categories in 2024.

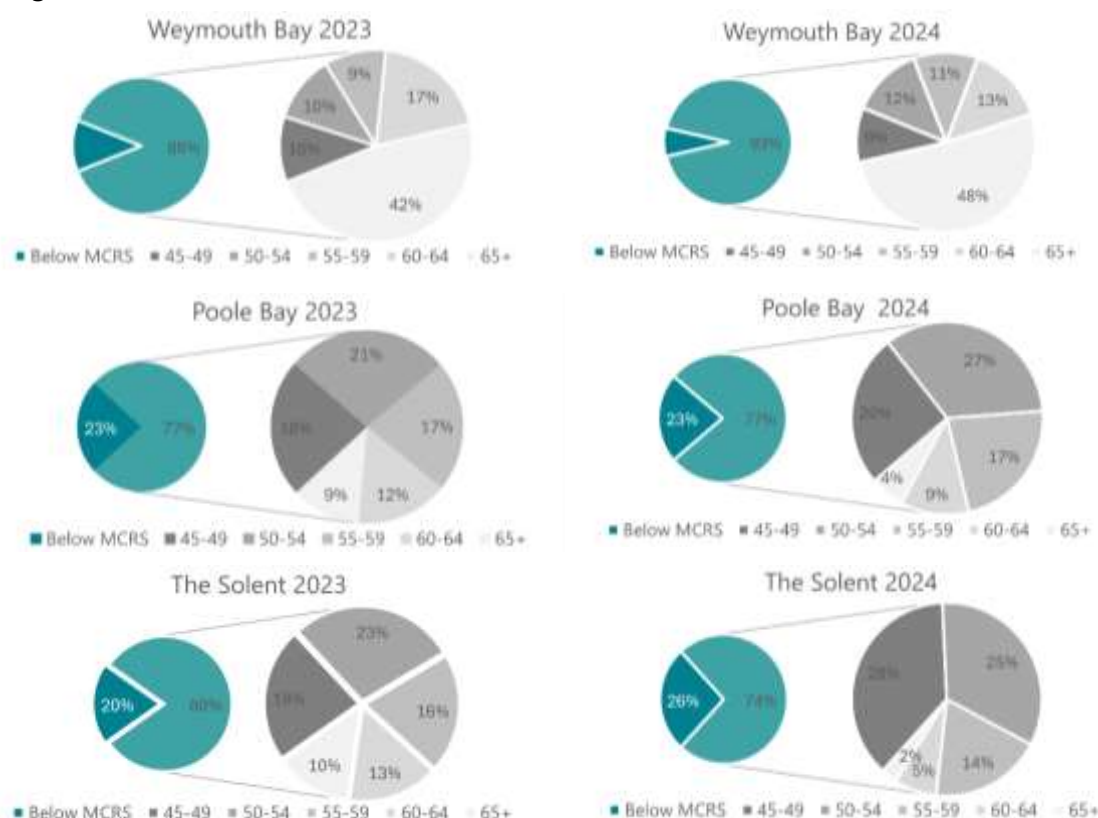


Figure 8. Pie charts representing the length distribution of whelks at each location surveyed in 2024, categorised by size and compared against the same criteria in the 2023 survey. The left pie chart for each figure represents the percentage of whelk below MCRS (dark blue) and above MCRS (light blue). The right pie charts categorise the above MCRS subsample into its representative size categories: 46-50mm, 51-55mm, 56-60mm, 61-65mm >65mm. The colour varies through a gradient from dark grey to light grey, the bigger the whelk.

4.0 Discussion

- Although the survey is relatively novel, being only the second of its kind, it has significantly contributed to the development of a comprehensive data series for monitoring whelk populations as part of the Whelk Monitoring Programme within the Southern IFCA District. The objective is to conduct annual surveys to build a robust dataset that establishes characteristics of the whelk populations along the Hampshire, Dorset, and Isle of Wight coastlines. This dataset will help identify trends and patterns in whelk stock abundance across different sampled areas and over multiple years. While the 2024 dataset can be compared to the previous year's data, the ongoing survey efforts will enable the analysis of long-term trends to inform an evidence base for this species.
- It is recognised that the method of sampling is inherently size selective due to methods employed by fishers to reduce the quantity of whelk below MCRS which is retained in pots and thus the level of post-capture sorting required. There is likely to be an element of variation introduced by using subtly different pots in each location. However, this risk was weighed up against the need to use pots which are adapted to the conditions of each site and have been optimised by the fisher in each case to maximise capture potential in line with specific environmental considerations
- The analysis revealed variations in whelk populations across the district, indicating that there is the potential for subpopulations with differing characteristics. For instance, whelks in Weymouth were generally larger, with higher catch levels, than those in Poole Bay and in turn Poole Bay showed larger whelks and higher catch levels than in the Solent. This supports observations of varying whelk sizes across the UK (McIntyre *et al.*, 2015), even over relatively small spatial areas. 48% of individuals collected in Weymouth Bay exceeded 65mm in length compared to 2% of those collected in the Solent.
- While Weymouth Bay exhibited the lowest CPUE of whelks above the MCRS in the 2023 survey, at 1.53 kg/pot, this figure significantly increased to 2.59 kg/pot in the 2024 survey. Consequently, Weymouth Bay demonstrated the highest CPUE from a harvesting perspective compared to other areas. In contrast, the CPUE, as well as the length and width of whelks caught in the Solent, significantly decreased between years and displayed the lowest levels when compared to other sites. Variations in CPUE and whelk size may be attributed to several factors, including fishing pressure, genetic variation, ecological and environmental conditions such as depth, predation pressure, and availability of food resources. This variation can be monitored through the annual time-series dataset, as the time-series dataset is developed further analysis can be made of patterns in the population and potential influencing factors.

- The Southern IFCA survey highlights the variability that can be displayed in whelk allometry across the District, potentially influenced by a range of environmental and anthropogenic factors such as freshwater inputs and physical barriers like bay and temperature fluctuations. Consequently, small subpopulations with distinct characteristics may exist over short distances. For instance, whelks in Weymouth tend to be larger and wider, whereas those in the Solent are generally smaller and thinner, with a spiral point towards the base. Additionally, whelks in Weymouth Bay have been observed with barnacle colonies covering their shells, which were not present in other sampled areas (Figure 9).



Figure 9. Images of whelks collected from Weymouth Bay in the 2024 survey, displaying barnacle colonies across the shells.

- The notable differences observed between areas highlights the complexity surrounding effective whelk management and supports continued evidence gathering over a time series to effectively understand whelk populations and support a robust evidence base to inform appropriate management strategies which support the sustainability of whelk stocks and fisheries.

5.0 Summary

- The data collected during the 2024 Whelk Population Survey builds upon the baseline dataset established in 2023, with the goal of enhancing the understanding of whelk populations within the Southern IFCA District.
- The findings indicate that features of whelk populations vary across different geographical regions and exhibit small subpopulation variations over short distances.
- This evidence, combined with data from the Whelk CPUE Pilot Project, will contribute to the Whelk Monitoring Programme.
- This programme seeks to establish a robust evidence base to evaluate the effectiveness of future management strategies within the Southern IFCA District and contribute to national data collection programs.

6.0 References

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Fisheries Management Plans Updates Paper For Information

Report by PO Wright

- **Purpose**

For Members to receive updates on the development of Fisheries Management Plans (FMPs).

1.0 Introduction

- FMPs, developed under the Joint Fisheries Statement (JFS) aim to carry out the objectives of the Fisheries Act 2020 by ensuring the continued provision of a shared natural resource for future generations, through the management of fish stocks, geographic area and fishing methods.
- Each FMP is developed by a delivery partner which, to date, includes Defra, the MMO, Seafish, the AIFCA and industry bodies.
- The development process includes collaborative engagement between delivery partners and stakeholders and each FMP will be monitored, reviewed and adapted every 6 years.

The FMP Program

Tranche 1 & Tranche 2		Tranche 3		Tranche 4	
No. of Plans:	6	No. of Plans:	5	No. of Plans:	4
Relevant to SIFCA:	6	Relevant to SIFCA:	4	Relevant to SIFCA:	4
Development:	2021-2023	Development:	2022-2024	Development:	2023-2025
Publication:	Dec 2023 (*)	Publication:	Intended 2024	Publication:	Intended 2025
Implementation:	2024 - ongoing	Implementation:	Intended 2025	Implementation:	Intended 2026

(*) Mixed Flatfish FMP published in October 2024

2.0 Summary of Key Updates

General

- The FMP programme officially recommenced on 25th September. Work on FMPs was paused around the period of the 2024 UK General Election. Now in the post-election period it has been agreed that the development and implementation of FMPs will continue. Both formal and informal engagement on developing FMPs and the implementation program for published FMPs have all re-commenced.

Consultation

- On the 10th October 2024 Defra published a package of FMP material. Any elements specific to a particular tranche are discussed in the relevant sections of this report.
- Defra have launched a consultation on **proposed amendments to Annex A of the Joint**

Fisheries Statement (JFS), the consultation is for updates to the publication dates of FMPs which have not yet been published, a proposal to change the name of the Black seabream FMP to 'Seabream' to include other bream species, a new FMP for Northern Ireland and updates to the responsible authorities for Welsh zone FMPs.

- Southern IFCA are currently reviewing this consultation, in summary the proposed changes relevant to the District are:
 - Extension of the publication date for T3 FMPs to 2025
 - Extension of the publication date for T4 FMPs to 2026
 - Update to the name of the Black seabream FMP

Consultation: Proposed amendments to Annex A of the JFS

Opened: 10th Oct 2024

Closes: 11:59pm on 21st Nov 2024

Link: <https://consult.defra.gov.uk/joint-fisheries-statement/jfs-amendment-consultation/>

Tranche 1 and Tranche 2 FMPs

- The Southern North Sea and Eastern Channel Mixed Flatfish Fisheries Management Plan was published on 10th October 2024. Southern IFCA is currently in the process of reviewing the documents published with this FMP.
 - [Southern North Sea and Eastern Channel mixed flatfish fisheries management plan \(FMP\) - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/consultations/southern-north-sea-and-eastern-channel-mixed-flatfish-fisheries-management-plan-fmp)
- On 16th October 2024, Defra laid legislation in Parliament (in the form of a Statutory Instrument) which proposes to enact a number of management measures from the frontrunner FMPs.
- Subject to Parliamentary scrutiny, the following measures will come into force on **16th December 2024**:
 - New MCRS for lemon sole (250mm), turbot (300mm), brill (300mm) in ICES areas 7d and 7e, and crawfish (110mm) in all English waters.
 - The sizes for fish species are an output from the Channel demersal non-quota species and Southern North Sea and Eastern Channel mixed flatfish FMPs and the crawfish an output from the Crab and Lobster FMP.
 - The proposed MCRS all align with MCRS which Southern IFCA currently have in place for the District.
 - Flyseining vessels are to have engine power restrictions for those vessels with a power > 221Kw and all vessels using flyseining gear will have to use a larger mesh (100mm minimum) in English waters.
 - This is an output from the Channel demersal non-quota species FMP
 - Changes which allow commercial catch limits for bass to be updated promptly in fishing licences following international negotiations, so they are in line with evolving evidence. This is instead of having to change legislation, which takes time.
 - This is an output from the Bass FMP.
- Any changes to fishing gear and/or fishing practices to comply with new measures will need to be made for the 16th December 2024.

Tranche 3 FMPs

Consultation

- Defra has published the consultation documents for the 5 draft T3 FMPs in English Waters.
- 4 of the 5 FMPs cover the Southern IFCA District, the Southern North Sea demersal non-quota species FMP does not have any geographic overlap.
- Southern IFCA is currently reviewing the consultation documents and will be formulating a process for engaging with Members on the consultations and any proposed response by the IFCA.
- Below are the links to the documents and consultations:

- Cockle FMP
 - [Cockle: proposed fisheries management plan consultation - GOV.UK \(www.gov.uk\)](http://www.gov.uk)
- Queen scallop FMP
 - [Queen scallop: proposed fisheries management plan consultation - GOV.UK \(www.gov.uk\)](http://www.gov.uk)
- North Sea and Channel Sprat
 - [North Sea and Channel sprat: proposed fisheries management plan consultation - GOV.UK \(www.gov.uk\)](http://www.gov.uk)
- Southern North Sea and Channel skates and rays
 - [Southern North Sea and Channel skates and rays: proposed fisheries management plan consultation - GOV.UK \(www.gov.uk\)](http://www.gov.uk)
- Southern North Sea demersal non-quota species
 - [Southern North Sea demersal non-quota species: proposed fisheries management plan consultation - GOV.UK \(www.gov.uk\)](http://www.gov.uk)

Consultation: Consultation on 5 T3 FMPs

Opened: 10th Oct 2024

Closes: 11:59pm on 19th January 2025

Link: see above links for each FMP

Consultation Events

As part of the consultation on the 5 draft T3 FMPs Defra are holding consultation events across the country where the FMP team will be available to talk about the T3 plans in more detail. Stakeholders are invited to share views on the draft plans and feed them into the consultations.

Events in the Southern IFCA District are:

Monday 2nd December – Poole – Cockle FMP

- 16:00 – Poole Harbour Commissioners

Monday 2nd December – Poole – Skates and Rays FMP

- 18:30 – Poole Harbour Commissioners

To book a place at one of these events please use this link:

<https://www.eventbrite.com/cc/fisheries-management-plans-events-2053129>



Tranche 4 FMPs

- There are 4 T4 FMPs which are currently being developed:
 - Black seabream FMP (*all Southern IFCA District*)
 - Wrasses complex FMP (*all Southern IFCA District*)
 - Celtic Sea and Western Channel demersal FMP (*ICES 7e part of Southern IFCA District*)
 - Celtic Sea and Western Channel pelagic FMP (*ICES 7e part of Southern IFCA District*)
- DCO Birchenough and PO Wright have been engaging with the MMO FMP team on the Black seabream and Wrasses Complex FMP. A meeting was held to meet the wider MMO team involved in these FMPs and to discuss any further work which had been done in the Southern IFCA District in relation to these species since the UK Election period.
- Working Groups for the Black seabream and Wrasses Complex FMP have been formed, DCO Birchenough and PO Wright will sit on both Working Groups. The first meeting has been scheduled for 22nd October.

Consultation

- Two surveys to gain stakeholder views have been published by the MMO for:

- The Wrasses complex and Black seabream FMP
 - [Wrasses Complex FMP and Black Seabream FMP online survey - GOV.UK \(www.gov.uk\)](#)
- Celtic Sea and Western Channel Demersal FMP
 - [Celtic Sea and Western Channel demersal Fisheries Management Plan online survey - GOV.UK \(www.gov.uk\)](#)

Consultation: Consultation seeking views on the development of T4 FMPs

Opened: 6th September 2024

Closes: 31st January 2025

Link: see above links for each survey

3.0 Next Steps

- That Members note the report.
- Officers will review published consultation documents for the JFS consultation and the consultation on T3 FMPs and establish a process for engaging with Members on the consultations and any proposed response by the IFCA.
- The Southern IFCA FMP webpage continues to be updated with all new developments in the FMP program - [Fisheries Management Plans : Southern IFCA \(southern-ifca.gov.uk\)](#).

Poole Harbour Aquatic Management Plan 2024 Paper For Information

Report by DCO Birchenough

A. Purpose

For Members to be updated on the publication of the 2024 version of the Poole Harbour Aquatic Management Plan, developed by the Poole Harbour Steering Group.

1.0 Introduction

- The Poole Harbour Aquatic Management Plan (PHAMP) aims to provide a management framework for Poole Harbour by promoting safe and sustainable use, whilst balancing the demands on its natural resources, minimising risk, and resolving conflicts of interest. It aims to provide for effective, coordinated management of the Poole Harbour SPA and serves as a management scheme for the area as set out in the Habitats Regulations.
- The plan is non-statutory, seeking to guide the current and future management of the Harbour and act as a vehicle for communication between the key statutory organisations that make up the Poole Harbour Steering Group, as well as other stakeholders.
- Members of the Steering Group are Poole Harbour Commissioners, BCP Council, Dorset Council, the Environment Agency, the Marine Management Organisation, Natural England, Southern IFCA and Wessex Water Services Ltd.
- The PHAMP has been updated in 2024, consolidating and updating previous iterations (1994, 2006 and 2011) as well as drawing on other current planning and guidance documents.
- The PHAMP is available via the Poole Harbour Commissioners website - [Poole Harbour Aquatic Management Plan | Poole Harbour Commissioners \(phc.co.uk\)](https://www.phc.co.uk).

2.0 Summary of Key Points

- The PHAMP contains a number of objectives:
 - To provide a framework for the co-ordinated management of the Harbour
 - To improve communications between Harbour users and regulators
 - To promote the safe use of the Harbour for all
 - To educate and promote amongst Harbour users the sustainable and wise use of the Harbour for commerce, recreation and amenity
 - To protect and maintain the special natural features of the Harbour
 - To create a culture of openness and an awareness of other users
- The PHAMP provides a series of chapters covering different aspects of the Harbour including, nature conservation and landscape, water quality and pollution, managing the shoreline, fisheries, conservancy and marine safety, recreation and tourism, commerce, transport connects, emergency planning and archaeology.
- For the 2024 review of the PHAMP, Southern IFCA provided information to support the updates to the Fisheries chapter in particular (Chapter 7), providing data and text on key fisheries. Southern IFCA also supported QA for the 2024 Plan as a whole during the development phase.
- The PHAMP identifies a number of management objectives under each chapter, for the Fisheries chapter these include:
 - To identify effective mechanisms (e.g., codes of conduct, voluntary agreements, byelaws) to manage conflicts between shellfish fishing, bait digging/dragging and their impacts on interest features of the European Marine Site.
 - To understand further the extent and potential implications of bait collection.

- To ensure the sustainable management of fisheries to not significantly affect the interest features of the European Marine Site.
- To continue enforcement and monitoring of fishing practices and awareness raising among fishermen to eliminate all illegal fishing activity from the Harbour.
- To ensure eel fishing is carried out in a sustainable way that complies with legislation and minimise impact on other wildlife.
- These management objectives are not applied to a specific authority/organisation but reflect the remit of several bodies. A Management Matrix accompanies the PHAMP (not yet available online) which details any actions that have been completed against any of the identified objectives. The Matrix remains a live document which is updated periodically during the life of the PHAMP.
- Southern IFCA have provided comment on management objectives applicable to the Southern IFCA remit, identifying where management measures are in place to support each relevant objective. For all objectives relevant to the Southern IFCA remit, demonstrable action has already been taken to meeting those objectives through ongoing work, for example,
 - through delivery and continued development/review of management mechanisms for Harbour fisheries
 - ensuring robust Habitats Regulations Assessments are completed for all relevant fishing and aquaculture activities
 - through the delivery of the Southern IFCA compliance and enforcement function through the Compliance and Enforcement Framework
- Southern IFCA will continue to provide input to the Management Matrix with any required updates and, as part of the Poole Harbour Steering Group, discuss the application of the PHAMP and engage with other authorities and organisations operating within Poole Harbour.

3.0 Next Steps

- That Members note the report.