

# Southern Inshore Fisheries and Conservation Authority

Pia Bateman – Chief Executive Officer



Unit 3 Holes Bay Park  
Sterte Avenue West  
Poole  
Dorset  
BH15 2AA

10<sup>th</sup> September 2024

Dear Member,

## **ANNUAL GENERAL MEETING OF THE AUTHORITY**

A meeting of the Authority will be held at Northwood House & Park, Ward Avenue, Cowes, Isle of Wight PO31 8AZ on Thursday 19<sup>th</sup> September 2024 at 14:00 to discuss the under mentioned Agenda.

### **How to get there**

**By Bus:** Take the No.1 bus from Newport to Cowes, alight at the Northwood Park Car Park in Park Road and follow the signs.

**From the Red Jet:** Head out of the terminal and turn left into the High Street; take the first right up Terminus Road for a brief 5 minute walk to find the park on your right. Or take a taxi from the rank outside the Red Funnel entrance.

**By Car:** Sat Nav to PO31 8AZ

Members of the public can request to attend the meeting through emailing [enquiries@southern-ifca.gov.uk](mailto:enquiries@southern-ifca.gov.uk).

Yours sincerely,

Maria Chaplin, Office Manager  
[maria.chaplin@southern-ifca.gov.uk](mailto:maria.chaplin@southern-ifca.gov.uk)

### **13:30 Optional 'Members Lunchtime Learning'.**

**To receive a presentation from IFCOs on key fisheries and conservation relevant to the Isle of Wight and Solent**

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### **AGENDA**

#### **1. Appointment of Sub-Committee Membership for 2024-2025 (Audit and Governance)**

To appoint Elected Members to the Audit & Governance Sub-Committee (Marked A)

#### **2. Appointment of Sub-Committee Membership for 2024-2025 (Executive)**

To appoint Elected Members to the Executive Sub-Committee (Marked B)

#### **3. Apologies**

To receive apologies for absence.

#### **4. 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.

#### **5. Minutes**

To confirm the Minutes of the meeting held on 13<sup>th</sup> June 2024. (Marked C)

#### **6. Chairman's Announcements**

To receive any updates from the Chairman.

## **7. Sub-Committees**

To receive the Minutes of the following Sub-Committees and to consider the adoption of the recommendations contained therein:

- a) **Executive Committee** held on 11<sup>th</sup> June 2024 (Marked D).
- b) **Technical Advisory Committee** held on the 9<sup>th</sup> May 2024 (Marked E).

## **8. Progress Reports**

To consider the following:

- a. **Chief Executive Officer updates.** *To receive a verbal report from the CEO.*
- b. **Budget Control Statement.** *To consider a report from the CEO/Office Manager (Marked F).*
- c. **FPV Vigilant: Boat Build Progress.** *To receive a verbal update from PDCO Dell and letter from Ribcraft dated 5<sup>th</sup> September 2024 (Marked G).*

## **ITEMS FOR DECISION**

**9. Statement of Accounts for Year Ended 31<sup>st</sup> March 2024.** To consider an update following the submission of the above-named document for external audit from the Accountant (Marked H).

## **10. Shore Gathering Byelaw**

To consider the making of the above-named Byelaw, following receipt of written notice of the intention to make the Byelaw on the 3<sup>rd</sup> September 2024. Report from DCO Birchenough (Marked I).

## **11. Draft Annual Report 2023-2024.**

To consider the submission of the Annual Report to Defra in accordance with the requirements under the MaCAA, 2009. Report by the CEO (Marked J).

## **GUEST SPEAKER**

### **12. 'Seagrass Conservation and Restoration in a WILDER Solent'**

To receive a presentation from Tim Ferrero, a marine biologist working at Hampshire & IOW Wildlife Trust, followed by a Q&A.

## **ITEMS FOR INFORMATION ONLY**

### **13. Compliance and Enforcement Report**

To receive the report from DCO Dell (Marked K).

### **14. Southern's' Pilot REM Fisheries – status update.**

To consider a report from PDCO Dell and IFCO Payton (Marked L).

**15. Solent Scallop Fishery 2024-2025.** To receive a verbal update from Deputy CO Birchenough.

### **16. Behind the Scenes**

To receive staff reports across the Research & Policy, Compliance & Enforcement and Business Services Teams (Marked M).

### **17. Meeting Dates & Locations 2025**

To consider a report from the Office Manager (Marked N).

### **18. Sector Group Meetings**

To receive the minutes from recent meetings of The Fisherman's Council (Marked O) and the RASG (Marked P).

### **19. AIFCA Annual Report 2023-2024**

To receive the AIFCA Annual Report for Members interest. Report by the Rob Clark, Chief Officer, AIFCA (Marked Q).

### **20. Date of Next Meeting**

To confirm the date of the next Authority meeting at 14:00 on Thursday 5<sup>th</sup> December at RNLI, West Quay Road, Poole BH15 1HZ . To receive an update from the OM on the Annual Christmas Dinner.

## AUDIT AND GOVERNANCE SUB-COMMITTEE MEMBERSHIP 2024-25

*Report by The CEO and Chairman*

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### **A. Purpose**

To invite Council Members to sit on the Southern IFCA Audit and Governance Sub-Committee for the period December 2024- December 2025, in accordance with Standing Orders.

### **B. Recommendation**

For three or more Council Members to be appointed to the Audit and Governance Committee for the year 2024-2025.

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### **1.0 Background**

- 1.1 The Southern IFCA Standing Orders are made for the regulation of meetings, proceedings, and business of Southern IFCA pursuant to and in accordance with The Southern Inshore Fisheries and Conservation Authority Order 2010 No. 2198.
- 1.2 Under the Standing Orders (16), the appointment of Members to the Audit and Governance Sub-Committee (AGSC) shall be conducted at the Annual General Meeting (AGM) of The Authority and will be conducted by The Chairman.
- 1.3 Under the Standing Orders the Chairman of the Authority is ex officio to any Sub-Committee.
- 1.4 The quarterly meetings of the AGSC are held in March, June, September and December. The meetings are held virtually and **consider matters relating to budget and finance**.
- 1.5 Business shall not be transacted unless 3 Members of the AGSC are in attendance

### **2.0 Membership**

- 2.1 The Under Standing Orders 2022, paragraph (38), the Audit and Governance Sub-Committee will comprise **three or more** Council Members.
- 2.2 For the 2022-2023 period Council Members from the following Councils were appointed:
  - Hampshire County Council
  - Southampton County Council
  - Portsmouth City Council
- 2.3 For the 2023-2024 period Council Members from Portsmouth City Council and the Isle of Wight Council, in addition to the Chairman (Dorset Council) as ex officio, ensured that the AGSC remained quorate where possible. Neither the June 2024 nor September AGSC were held following local elections and the subsequent changes in Membership, which resulted in the meetings not being quorate.

## EXECUTIVE SUB-COMMITTEE MEMBERSHIP 2024-25

Report by The CEO and Chairman

### A. Purpose

To invite Council Members to sit on the Southern IFCA Executive Sub-Committee (ESC) for the period December 2024- December 2025, in accordance with Standing Orders.

### B. Recommendation

For two or more Council Members to be appointed to the Executive Sub Committee for the year 2024-2025.

## 1.0 Background

- 1.1 The Southern IFCA Standing Orders are made for the regulation of meetings, proceedings, and business of Southern IFCA pursuant to and in accordance with The Southern Inshore Fisheries and Conservation Authority Order 2010 No. 2198.
- 1.2 Under the Standing Orders (15), the appointment of Members to the ESC shall be conducted at the Annual General Meeting (AGM) of The Authority and will be conducted by The Chairman.
- 1.3 The quarterly meetings of the ESC are held in March, June, September and December. The meetings are held either virtually and consider matters in accordance with paragraphs (26) and (27) of the Standing Orders:

*(26) The Executive will make recommendations to The Authority on the following matters:*

- a. Those relating to The Authority's budget and finances.*
- b. To consider any proposals for the purchase of new capital equipment.*
- c. To consider any subject matter not dealt with by any of the other Sub-Committee.*
- d. To consider any outcomes of formal public consultations, following the making of statutory interventions.*

*(27) The following powers are delegated to the Executive:*

- a. To consider matters of health and safety.*
- b. To consider matters relating to risk management.*
- c. To consider matters relating to the attendance and conduct of Members.*
- d. The Executive shall ensure that there is always a person appointed as Chief Officer with responsibility for the execution, maintenance and co-ordination of the Authority's duties, functions and responsibilities. Where a vacancy occurs in the office of Chief Officer, the Executive shall appoint an officer to act as Chief Officer until the position is filled in accordance with Schedule 1.*
- e. To consider matters relating to the selection and appointment of the Chief Officer, a Deputy Chief Officer and the Authority's Internal Auditor.*
- f. To act in formal disciplinary and grievance proceedings, in accordance with policy for matters concerning employees and/or Members.*
- g. To make decisions on staff pay and conditions.*

- 1.4 Business shall not be transacted unless 4 Members of the ESC are in attendance.

## 2.0 Membership

- 2.1 Under Standing Orders 2022, paragraph (23), the Executive shall comprise the Chairman and Vice Chairman of The Authority, the Chairman and Vice Chairman of the TAC and **two or more** Council Members.
- 2.2 For 2022-2023 Council Members from the following Councils were appointed:



- Isle of Wight Council
- Hampshire County Council
- Dorset Council

2.3 For 2023-2024, due to local election timetables and subsequent changes in elected Membership, coupled with a lack of attendance and contribution from Hampshire and BCP Councils, no appointments were able to be made. Both Cllr R Hughes (Dorset Council) and Cllr M Winnington (Portsmouth City Council) provided attendance to ensure that the ESC remained quorate for the year in question.

# Southern Inshore Fisheries and Conservation Authority

Full Authority Meeting – 13<sup>th</sup> June 2024

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A meeting of the Full Authority was held at 2pm on 13<sup>th</sup> June 2024 at The University of Winchester, St Alphege Building, Room 002, Sparkford Road, Winchester, SO22 4NR

Marked C

## Present

Cllr. Paul Fuller	Isle of Wight Council (Acting Chairman)
Cllr. Rob Hughes	Dorset Council
Dr Antony Jensen	MMO Appointee
Mr Richard Stride	MMO Appointee
Mr Neil Hornby	MMO Appointee
Ms Louise MacCallum	MMO Appointee
Dr Simon Cripps	MMO Appointee
Ms Elisabeth Bussey-Jones	MMO Appointee
Mr Gary Wordsworth	MMO Appointee
Mr Stuart Kingston-Turner	Environment Agency
Ms Pia Bateman	Chief Executive Officer (CEO)
Ms Maria Chaplin	Office Manager (OM)
Mr Sam Dell	Principal Deputy Chief Officer (PDCO)
Dr Sarah Birchenough	Deputy Chief Officer (DCO)
Mrs Jennifer Carr	Chartered Accountant

## **Election of Chairman for 2024-2025**

**421.** The CEO informed Members that one nomination had been received for the role of Chairman, being Cllr. P Fuller. In accordance with Standing Orders, the CEO asked Dr A Jensen to seek a seconder to support the nomination. Mr G Wordsworth seconded the nomination. All Members were in favour.

That Cllr. R Hughes be elected as Vice Chairman for the year 2024-2025. This motion was proposed by Cllr. P Fuller and seconded by Dr A Jensen. All Members were in favour.

### **Resolved**

**422.** That Cllr P Fuller be elected as Chairman of the Authority for the year 2024-2025.

## **Election of Vice Chairman for 2024-2025**

**423.** The Chairman, Cllr P Fuller proposed Cllr R Hughes for the Vice Chair and invited any other nominations from the Membership. No further nominations were proposed, and as such the Chairman invited a seconder. Dr A Jensen seconded the nomination, all Members were in favour.

### **Resolved**

**424.** That Cllr R Hughes be elected as Vice Chairman of the Authority for the year 2024-2025.

## **Apologies**

**425.** Apologies for absence were received from Cllr. Matthew Winnington (Portsmouth City Council), Dr Richard Morgan (Natural England), Cllr. Kate Wheller (Dorset Council), Mr James Morgan (Marine Management Organisation), Mr Colin Francis (MMO Appointee) and Mr Charlie Brock (MMO Appointee).

## **Declarations of Interest**

**426.** There were no pecuniary or non-pecuniary interests.

## **Minutes**

**427.** Members considered and agreed the Minutes of the meeting held on the 14<sup>th</sup> March 2024.

## **Chairman's Announcements**

**428.** Cllr P Fuller discussed his attendance, in his role as Acting Chairman, at the recent AIFCA Members Forum and discussed some of the highlights of this meeting. The Chairman thanked the Members for his election to Chairman, welcoming all of the challenges this may bring.

## **Sub-Committees**

**429.** Members received the Minutes of the Executive Sub-Committee held on 12<sup>th</sup> March 2024 and the Technical Advisory Sub-Committee held on 1<sup>st</sup> February 2024.

## **Resolved**

**430.** That Members received and agreed the minutes of the Sub-Committees.

## **PROGRESS REPORTS**

### **Chief Executive Officer updates**

**431.** The CEO thanked the outgoing Chairman Mark Roberts for all his hard work during his tenure at SIFCA, discussing his dedication and commitment to Southern IFCA. On behalf of the Membership, the CEO offered her sincere gratitude. Dr A Jensen and Dr S Cripps discussed the huge contributions that Mark had made to Southern IFCA. All Members echoed this sentiment and wished him the best of luck for the future. Members asked that a card be sent to M Roberts on behalf of the Membership.

The CEO congratulated DCO Dell in his recent promotion to Principal Deputy Chief Officer (PDCO); a role created to fundamentally recognise the need for business continuity and decision making in the CEO's absence, for example during periods of annual leave.

The CEO informed Members that a Compliance and Enforcement Officer had 'walked off the job' in April citing constructive dismissal, advising Members that she had instructed solicitors to act on SIFCA's behalf. Accordingly, the CEO advised that SIFCA were now actively recruiting for a Compliance and Enforcement Officer.

The CEO reminded Members that General Member appraisals will be held in the summer, with the new Chairman Cllr. P Fuller working alongside Dr A Jensen and the CEO in delivering these.

The CEO discussed the impact of the Pre-Election Period and that as an Arm's Length Body (ALB) to Defra, Southern IFCA must maintain impartiality during this period, explaining that for this reason the Black seabream Working Group had been postponed.

The CEO discussed with Members that the planning had started to emerge with regard to the implementation of Tranche 1 FMPs, and that as part of this process the IFCAs (via the AIFCA) had been running a series of meetings with the MMO in order to explore implementation.

The CEO advised Members that the AFICA were running a two-day 'small scale fisheries' workshop in Poole in September, which will be represented by Mr G Wordsworth, Mr RStride, and Mr CBrock from the Membership, in addition to local fisher Tommy Russell. PDCO Dell and Senior IFCO Mayne will also be attending on behalf of Southern IFCA. The CEO discussed the AIFCA aims, to bring together commercial fishers, fisheries organisations, regulators, and policy

members, to share their knowledge. Dr Sarah Coulthard has been working with the AIFCA on this workshop.

### **Recommendation**

**432.** That a card be sent to Mark Roberts from the Membership.

### **Budget Control Statement 2023-2024**

**433.** The CEO discussed with Members that the BCS for the 12 month period was consistent with all updates provided in year to Members. She also discussed how challenging financial reporting has been, largely due to the delay in receipt of Defra money for the 2023-2024 period, which makes business planning, as well as financial reporting somewhat challenging.

Moving to the BCS, the CEO provided a summary position, in that there is a surplus of 161k, of which 140k relates to the Defra funding, granted to IFCA's to support Defra in its delivery of key Fisheries Act objectives. The CEO provided an overview of the positive variance under main headers. The takeaway being that the surplus is positive, in that it demonstrates that Southern IFCA are understanding and managing its finances effectively, and that the surplus signifies financial stability and opportunity for the future. Importantly, it provides a buffer for staff retention initiatives and flexibility to consider how as an organisation we reward, recognise and retain staff and create a working environment where staff want to thrive and invest their time in the IFCA, recognising that other IFCA's are having to make redundancies. Further, the CEO discussed the Defra funding model; in that the surplus provides us with a buffer to weather any unexpected changes in funding structures and commitments, so that we can honour contractual agreements with fixed term members of staff.

### **Resolved**

**434.** That the report be received.

### **Marine Asset Review**

**435.** PDCO Dell informed Members that officers had attended the Ribcraft factory on the 24<sup>th</sup> May, with the build progressing through the electrical fit out stage. Since the last meeting in March, the engines and steering system have arrived and are in the process of being fitted, the seating configuration now securely in place and the internal fit out of the cabin is well underway, including internal storage arrangements and lighting in addition to other components such as spotlights, handrails and other superstructure.

PDCO Dell advised Members that procurement is being finalised, with the majority of components now on site. The main delay continues to be the window and door set which at the last meeting all agreed were critical, these are due to arrive the first week of June. Sea trials are now likely to commence the first week in July in Portland.

PDCO Dell discussed his optimism regarding progress, in that he hopes that at the next Authority meeting in September he will be reporting that FPV Vigilant has completed its first few months service and be in a position to invite Members onboard.

PDCO Dell provided an update on the approved contractual transfer of the vessel Stella Barbara to Poole Harbour Commissioners in exchange for a 5-year berthing agreement for FPV Vigilant at its intended base at the Port of Poole Marina, in that this transaction was completed on the 2<sup>nd</sup> April.

Cllr R Hughes asked how many days the sea trials will take. PDCO Dell informed Members that the sea trials will take around two weeks to carry out, this is to ensure all the equipment is working and is in order before final payment is made.

## **Resolved**

**436.** That the report be received.

### **MPA Management Update**

**437.** DCO Birchenough informed Members that due to the imminent election, it was likely that the current QA process being undertaken on the BTFG Byelaw would be delayed. There has been a final round of QA from the MMO related to the impact assessment, these comments were mistakenly missed off the information provided to Southern IFCA by the MMO during QA Round 1 and therefore needed to be addressed through a separate QA round. DCO Birchenough informed Members that the comments on the IA had been addressed and returned to the MMO but that the Byelaw would not progress through the relevant next stages until after the pre-election period. DCO Birchenough outlined that the MMO had indicated that the next stage would be to pass the Byelaw to Defra for consideration by the Secretary of State and it is hoped that the Byelaw may be ratified before the end of the year.

Ms L MacCallum asked DCO Birchenough if the MMO QA is assessing the legalities for the byelaw, and if so, what are they benchmarking against. Ms L MacCallum also asked why so many rounds of QA are required and why all comments cannot be provided in a single round of QA to expedite the process.

DCO Birchenough informed Members that the byelaw package is reviewed by the MMO, considering how Southern IFCA have reached the conclusion on proposed measures as well as the technicalities of the Byelaw and IA wording. DCO Birchenough informed Ms L MacCallum that one of the issues that has been faced in the QA process is that the staff on the MMO IFCAO Byelaws Team changes quite often. Particularly with the BTFG, a different team provided the first QA that was missing the IA comments, compared to the team who is currently providing QA. There can be a need for repeated explanations on some elements where a new team is less familiar with the byelaw package and any initial rounds of QA.

DCO Birchenough updated Members on the Shore Gathering Review, draft measures having been agreed by the TAC at the meeting in May. The Research & Policy Team (RPT) have been finalising supporting documentation, drafting the byelaw and the associated impact assessment and have submitted the full package of conservation assessments to Natural England for their Formal Advice. As part of the review, existing Southern IFCA byelaws have been reviewed and it has been determined that 5 byelaws can be revoked and 1 byelaw amended through the delivery of the proposed Shore Gathering Byelaw. DCO Birchenough informed Members that this will hopefully reduce some of the current complexity around regulations for shore gathering activities in the District. DCO Birchenough outlined that the next steps are to bring the byelaw package to the TAC in August to consider recommending that the Authority Make the Byelaw at the September Meeting. DCO Birchenough reminded Members that the Shore Gathering Review formed one of the MPA workstreams subject to the 2024 Government target and that the review continued to progress in line with meeting this target.

DCO Birchenough informed members that the TAC, at the May meeting, considered two items relating to the Black Seabream workstream. These were, the outcomes of a quantification of impact exercise that PDCO Dell, Senior IFCO Condie and DCO Birchenough undertook with stakeholders in the District and a decision paper where Members have agreed that draft measures for black seabream in Dorset MCZs will be developed with consideration of all material considerations and that a Management Matrix be developed to support the Authority when considering draft management measures and Material Considerations. Members are due to attend a working group towards the end of July to progress the workstream to the next stage.

DCO Birchenough informed Members that when it comes to Working Groups, she is struggling to get responses as to whether Members are available or not. DCO Birchenough stressed to Members the importance of Working Groups as a forum for discussion and reviewing the detail

of different stages in the process to support the progression of workstreams and provide direction to officers. DCO Birchenough recognised the time commitment from Members to the Working Groups and that this commitment was appreciated.

DCO Birchenough informed Members that she wants to be able to provide timely updates on decisions on Working Group dates, but this is becoming difficult due to an extended period of time to get an idea of Member availability. DCO Birchenough outlined that it would be a great help if Members were able to respond with their availabilities as soon as possible when the requests go out, so that dates can be finalised and communicated to Members.

Dr A Jensen supported DCO Birchenough in the request and asked Members if they could provide a response to proposed dates in all cases, so it can be determined who may or may not be able to attend. This would then allow DCO Birchenough to come up with new dates if needed.

**Resolved**

**438.** That the update be received.

**Renewal of 167 Agreement with Sussex IFCA.**

**439.** PDCO Dell reminded Members that at the March meeting, they had made the decision to renew the Section 167 agreement under the Marine Coastal Access Act 2009, which would allow for a continuation of delegated IFCA byelaw making powers to Sussex IFCA for the area of Chichester Harbour which is within the county of Hampshire. PDCO Dell provided an update in that Sussex IFCA had now formally decided to renew the Section 167 Agreement, commencing on the 30th July 2024. Accordingly, Southern and Sussex IFCAs have notified and sent a signed copy of the Agreement to Defra who are in the process of seeking Secretary of State approval, it is unlikely that we will receive any correspondence until after the election has taken place.

**Resolved**

**440.** That the update be received.

**REM Project**

**441.** PDCO Dell reminded Members that as part of this year's Compliance and Enforcement Strategy, the Authority had agreed to fund a small-scale trial of Remote Electronic Monitoring (REM) and Artificial Intelligence (AI) across a number of vessels in the district that predominantly work within MPAs, including netting activity in harbour and estuarine areas, in addition to exploring the use of REM and AI in the potting fleet, with anticipation of the Pot Fishing Byelaw being ratified.

By way of update, since March, officers carried out preliminary work, including meeting with suppliers to obtain final costings for the equipment and discuss the logistics of getting vessels fitted. Southern IFCA have also met with other government partners, including Marine Scotland, who recently carried out a comprehensive trial in the Inshore creel fishery, as well as other partners including Devon & Severn IFCA who are closely working with Southern IFCA on the project.

The PDCO explained that Southern IFCA have also furthered engagement with the industry, via the NFFO, and have scheduled meetings with other interested partners such as Natural England. Providing a national context, PDCO Dell discussed Defra's published response to a public consultation on the use of REM in England, in which they have indicated that their next steps will be to work with volunteers across five priority fisheries.

Despite these fisheries falling out of the scope in terms of Southern IFCA's intended trials, there are similarities that can be made, for example, the use of REM to monitor bycatch in net fisheries.

The PDCO discussed a Literature Review that had been drafted by the Compliance and Enforcement Team which focussed on the use of REM and AI in inshore fisheries management.

In summary, the PDCO discussed plans to share the Project Proposal Document and Literature Review with Members in due course

**Resolved**

**442.** That the update be received.

**ITEMS FOR DECISION**

**Draft Statement of Accounts for Year Ended 31<sup>st</sup> March 2024.**

**443.** Mrs J Carr discussed with Members the Draft Statement of Accounts for Year ending 31<sup>st</sup> March 2024, explaining the parallels of this item with the previous BCS.

There were no questions from Members on the draft Accounts. Cllr. P Fuller proposed the Recommendation, which was Seconded by Mr G Wordsworth. All Members were in favour.

**Resolved**

**444.** That Members authorise the submission of the draft Statement of Accounts to the external auditors for the financial year ending 31<sup>st</sup> March 2024.

**Guest Speaker**

**Angling for Sustainability, a Fisheries Industry Science Partnership Project**

**445.** Members received a presentation from Dr Peter Davies, Post Doctoral Researcher in Marine Ecology at the University of Plymouth on a collaborative project run between scientists, fishermen, conservation advisors and fisheries managers, funded by the Defra Fisheries Industry Science Partnership (FISP) scheme. The project, Angling for Sustainability, aims to support sustainable fisheries management by filling key knowledge gaps by tracking shark, ray and black seabream movements. Dr Davies presented an overview of the methods used in the project which involves the deployment of receivers, including in fine scale arrays, in locations across Dorset and Hampshire, and the tagging of black seabream and elasmobranch species with acoustic tags so that movements can be tracked using the receiver network. Dr Davies presented some initial findings from the project and outlined that the further receiver downloads which are planned for the autumn will provide further data to inform reporting on these key species. This was followed by a Q&A. Members expressed their thanks to Dr Davies for an interesting and informative presentation and that the work of the project would be helpful in providing evidence to support discussions on potential management in the future.

**ITEMS FOR INFORMATION ONLY**

**Compliance and Enforcement Report**

**446.** PDCO Dell provided an overview of work undertaken by the Compliance and Enforcement Team for the reporting period February to April 2024.

**Research and Policy Team: Behind the Scenes**

**447.** DCO Birchenough provided a summary of the work undertaken by the Research and Policy Team, to include recent surveys, mapping work, training and representation at regional meetings.

### **Sector Group Meetings**

**448.** Mr R Stride highlighted to Members the South Coast Fishermen's Council concerns about IVMS and the implications that its introduction could have on fishers.

### **Proposed Meeting Dates 2025**

**449.** Ms M Chaplin presented the proposed dates for the 2025 meetings. Following brief discussion, the dates were proposed by Chairman P Fuller and seconded by Dr S Cripps. All members were in favour.

#### **Resolved**

- 450.** a) That Members note the draft meeting dates and times for 2025.  
b) That Members contact the Office Manager via [enquiries@southernifca.gov.uk](mailto:enquiries@southernifca.gov.uk) before the 28th June 2024 if they have any concerns with regard to the draft dates set.

### **Date of Next Meeting**

**451.** That the date of the next Authority meeting be on the Thursday 19th September 2024 at Northwood House Isle of Wight.

**The meeting concluded at 16:28**

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# Southern Inshore Fisheries and Conservation Authority

## EXECUTIVE SUB-COMMITTEE

A meeting of the Executive Sub-Committee (ESC) was held at **14:00 on 11<sup>th</sup> June 2024** via video conferencing.

### Present

Cllr. Paul Fuller	Isle of Wight Council (Acting Chairman)
Cllr. Matthew Winnington	Portsmouth City Council
Dr Antony Jensen	MMO Appointee
Mr Richard Stride	MMO Appointee
Ms Pia Bateman	Chief Executive Officer (CEO)

Principal Deputy Chief Officer (PDCO) Mr Sam Dell, Deputy Chief Officer (DCO) Dr Sarah Birchenough, Accountant Ms Jen Carr and Office Manager Ms Maria Chaplin were also present.

### Apologies

**369.**Apologies were received from Cllr. R Hughes (Dorset Council).

### Declarations of Interest

**370.**There were no pecuniary or non-pecuniary interests declared.

### Minutes

**371.**The minutes from the previous meeting of the ESC held on the 12<sup>th</sup> March 2024 were considered by Members.

Ms J Carr confirmed to Members that SIFCA have utilised a 90-day deposit account with NatWest. The funds have been transferred over to this account. This account will provide a higher interest return on the funds.

### **Resolved**

**372.** The minutes from the previous meeting of the ESC were agreed by Members. The minutes were proposed by Cllr. P Fuller and seconded by Mr R Stride.

### Chairman's Announcements

**373.**There were no announcements.

### Progress Reports

#### **374. Chief Executive Officer Updates.**

The CEO updated Members on the promotion of DCO Sam Dell to Principal DCO, informing Members that the promotion recognises the need for business continuity and decision making in her absence.

The CEO advised Members that she was currently engaged with ACAS and lawyers following a IFCO "walking off the job" in recent weeks and would keep Members informed of any updates. Accordingly the CEO advised Members of an imminent recruitment campaign for a Compliance and Enforcement IFCO.

# Southern Inshore Fisheries and Conservation Authority

The CEO discussed the recent departure of the previous Chairman Cllr. M Roberts from his seat with Dorset Council following recent local council elections, expressing her gratitude for all of the work that Mark Roberts has achieved during this time as Chairman. The CEO thanked Cllr. P Fuller for standing in as Acting Chair in the interim period. Members echoed the CEO's thanks.

The CEO discussed with Members the lack of attendance from Councillors at the Authority Meeting, advising that both Acting Chair Cllr. P Fuller and previous Chair Cllr. M Roberts had made numerous attempts to contact BCP and Hampshire Councils on this matter, to no avail. Acting Chairman Cllr. P Fuller suggested requesting that each Local Authority nominate a deputy to stand in for the Elected Member in the event that they are unable to attend IFCA meetings. Cllr. M Winnington agreed and advised that he was happy to talk to colleagues at Portsmouth Council regarding this.

## **Recommendation**

**375.** That the CEO and Chairman formally write to all constituent LA's with the aim to encourage Elected Member attendance. Letter to include (1) deputy option in accordance with Standing Orders (2), copy of Annual Plan (2024-25) and Annual Report (2023/24) to demonstrate how Southern are utilising LA levy monies, and a (3) summary of elected member attendance 2023/24.

## **Budget Control Statement April 2023 - March 2024.**

**376.** The CEO ran through the cover sheet providing context around the surplus figure (c.161k) of which the majority related to outstanding Defra funding anticipated as well as a delay in the introduction of FPV Vigilant.

## **Resolved**

**377.** That the report be received.

## **Marine Asset Review**

**378.** PDCO Dell informed Members that officers had attended the Ribcraft factory on the 24<sup>th</sup> May, with the build progressing through the electrical fit out stage. Since the last meeting in March, the engines and steering system have arrived and are in the process of being fitted, the seating configuration now securely in place and the internal fit out of the cabin is well underway, including internal storage arrangements and lighting in addition to other components such as spotlights, handrails and other superstructure.

PDCO Dell advised Members that procurement is being finalised, with the majority of components now on site. The main delay continues to be the window and door set which at the last meeting all agreed were critical, these are due to arrive the first week of June. Sea trials are now likely to commence the first week in July in Portland.

PDCO Dell informed Members of his optimism regarding progress, in that he hopes that at the next Authority meeting in September he will be reporting that FPV Vigilant has completed its first few months service and be in a position to invite Members onboard.

PDCO Dell provided an update on the approved contract transfer of the vessel Stella Barbara to Poole Harbour Commissioners in exchange for a 5-year berthing agreement for FPV Vigilant at its intended base at the Port of Poole Marina, in that this transaction was completed on the 2<sup>nd</sup> April.

# Southern Inshore Fisheries and Conservation Authority

## **Resolved**

**379.** That the verbal update be received.

## **Draft Statement of Accounts for Year Ended 31<sup>st</sup> March 2024.**

**380.** Ms J Carr presented to Members the draft statement of accounts for the year to 31st March 2024. Explaining that the consolidated revenue account shows a net surplus for the year of 161k; the detail of which is included in the relevant Executive Summary. The Accountant reminded Members that SIFCA are no longer required to have their accounts audited, however, to provide assurance that the financial business of the Authority is conducted in accordance with proper and recognised standards, ensuring the safeguarding of public money Francis Clark have been appointed to conduct a limited scope assurance report, with the outcomes presented to the Authority in September.

## **Resolved**

**381.** That Members of the ESC make a recommendation to the Authority on the 13<sup>th</sup> June 2024 for the submission of the draft statement of accounts to the external auditors for the financial year ended 31<sup>st</sup> March 2024.

## **General Member Dispensation**

**382.** The CEO invited Members to consider whether a Dispensation be granted for General Member Mr C Brock, from the Code of Conduct for Non Council Members, in accordance with provisions contained within the Localism Act 2011, which would enable Mr C Brock to vote when a Disclosable Pecuniary Interest has been registered. The CEO discussed that Mr C Brock had written to the Authority seeking this Dispensation in order to invite discussions on how he can facilitate commercial sector representation in circumstances where his varied role in the fishing community will likely compromise his ability to vote on matters.

Members discussed the importance of removing barriers to the fishing community to ensure representation on the Authority, whilst recognising the need to uphold the Southern IFCA Constitution, drawing upon examples of other Sector Representatives who have successfully navigated this matter since joining Southern IFCA.

Members rejected the original Recommendation. Cllr P Fuller proposed the following, seconded by Dr A Jensen. All Members were in favour.

## **383.Recommendations**

- a) That the decision on whether to grant a dispensation be delayed by 6 months in order for the new General Member to familiarise himself with Southern IFCA meeting processes.
- b) That the CEO provides a formal response to Mr C Brock in accordance with the above recommendation. If during this 6 month period, Mr C Brock feels that there are barriers to his participation, then, upon the request of the Mr C Brock, a meeting be held with the Authority Chair and Vice Chair, TAC Chair and Vice Chair and CEO prior to the December ESC in order to consider resolutions.
- c) That the CEO provide an update to Members at the December ESC meeting.

# Southern Inshore Fisheries and Conservation Authority

## **Poole Harbour Steering Group Request**

**384.** DCO Birchenough discussed a request made by the CEO of Poole Harbour Commissioners to all members of the Poole Harbour Steering Group, which includes Southern IFCA, that consideration be given to providing an annual contribution of £1000 per year to PHC for their Poole Harbour Aquatic Management Plan as well as to support future project work. DCO Birchenough advised Members that she had sought a detailed cost breakdown from PHC to understand how the funds were intended to be used, however it was felt that the response provided did not offer sufficient justification for the level of funds being sought. DCO Birchenough outlined that the provision of funding to the Poole Harbour Steering Group had not been included in the 2024/25 budget. DCO Birchenough informed Members that the Aquatic Management Plan had recently been reviewed in full with input on any aspects relevant to Southern IFCA provided by DCO Birchenough as the IFCA representative. The funding would therefore be relevant to monitoring of the plan and updates to the live management matrix. It was discussed that the additional projects for which part of the funding would be allocated were not current proposals and therefore consideration was not able to be given on whether the projects and associated outcomes would be relevant to the remit of Southern IFCA.

Members reviewed the Recommendation, to consider whether to authorise a contribution of £1,000 per year for the Poole Harbour Steering Group for 2024-2025 and proposed that no contribution be made during the 2024-2025 year. Cllr P Fuller proposed the following, seconded by Dr A Jensen. All Members were in favour.

### **385.Recommendation**

That DCO Birchenough provide a formal response to the CEO of PHC in accordance with the request received, inviting PHC to approach SIFCA on such matters in autumn when the Authority consider budget setting for the forthcoming period.

## **Accident, Incident and Near Miss Report.**

**386.** PDCO Dell discussed 1 near miss and 2 incidents which had occurred in the last reporting period.

### **Resolved**

**387.** That the accident and incident report is noted by members of the Executive Committee.

## **Date of Next Meeting**

**388.** Members considered the date of the next ESC, timetabled for the 17<sup>th</sup> September 2024.

### **Resolved**

**389.** The date of the next virtual meeting of the Executive Sub-Committee is confirmed.

The Meeting closed at 16:10.

## SOUTHERN INSHORE FISHERIES & CONSERVATION AUTHORITY TECHNICAL ADVISORY COMMITTEE – 9<sup>th</sup> May 2024

Minutes of the Technical Advisory Committee (TAC), held in the meeting room at the Southern IFCA office in Poole at **14:00 on 9<sup>th</sup> May 2024**.

### Present

Dr Antony Jensen	Chairman, MMO Appointee
Mr Richard Stride	Vice Chairman, MMO Appointee
Ms Elisabeth Bussey-Jones	MMO Appointee
Mr Colin Francis	MMO Appointee
Mr Gary Wordsworth	MMO Appointee
Mr Charlie Brock	MMO Appointee
Mr Stuart Kingston-Turner	Environment Agency
Dr Richard Morgan	Natural England
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 Megan Fullbrook, Ms Celie Mullen and Ms Hester Churchouse, also attended alongside Project Officers Ms Imogen Wright and Mr William Meredith-Davies and Office Manager Ms Maria Chaplin.

Dr Simon Cripps (MMO Appointee) and PO Chelsea Perrins attended the meeting virtually.

Mr T Ferrero (Hampshire and Isle of Wight Wildlife Trust) and Rebecca Nesbitt (Angling for sustainability FISP) joined the meeting from the virtual public gallery.

### **Apologies**

**51.** Apologies for absence were received from Mr N Hornby (MMO Appointee), Ms L MacCallum (MMO Appointee), Mr J Morgan (MMO Representative).

### **Declarations of interest**

**52.** The following pecuniary interested were declared: Mr G Wordsworth (Agenda Item 8 & 10) (Agenda item 15 personal). The following non-pecuniary interest were declared: Dr R Morgan (Agenda Item 6 & 7), Mr R Stride (Agenda Item 6) and Dr A Jensen (Agenda item 7).

### **Minutes**

**53.** Members considered the Minutes of the meeting held on the 1<sup>st</sup> February 2024, these were confirmed and signed.

Dr R Morgan asked that it be noted that although Natural England (NE) supported the outcomes of the Poole Harbour HRA, that NE have identified a potential evidence gap regarding the long-term impacts of dredges upon intertidal habitats, NE put in a bid in 2023 to conduct relevant research. NE were awarded the bid but at the time did not have the resources to carry out the work. NE are hoping to reapply in 2024.

## **PROGRESS REPORTS**

### **54a. Chief Executive Officer Updates**

The CEO discussed some highlights of the previous quarter, most of which feature on the forthcoming agenda; to include the work on the three main MPA workstreams, namely the BTFG 2023 iteration, the progress to date on the Black Seabream Review, to include a summary of a Member Working Group held in recent weeks on Material Considerations and the Decision-Making Process and, finally a status update on Shore Gathering.

The CEO discussed the enormity of work relating to all three of the MPA reviews, recognising not only the officers work to date, but also thanking the Members for their attendance at

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relevant Working Groups to facilitate and aid the progression of these areas of work. The CEO explained that due to this enormity of work and the crescendo heading into the latter stages of some of these review areas, that some of the annexes to Authority meetings will be full and extensive, reminding Members of the purpose of Executive Summaries to accompany the detailed work, which were developed in order to aid Members and the wider stakeholder community in their navigation of complex matters.

### **54b. BTFG Byelaw 2023**

DCO Birchenough informed members that prior to the last meeting of the TAC, there had been a round of QA with the MMO on the BTFG Byelaw 2023, the byelaw had been returned to them and the MMO suggested that they anticipated no further full rounds of QA, but that there might be minor points to address. The byelaw was received from the MMO at the end of April requiring minimal updates on minor points which did not change the content. Those updates have been made and the byelaw has been sent back to the MMO. The MMO have provided an indication that the byelaw will now be subject to a review by senior parties in the MMO prior to submission to Defra.

### **54c. Black Seabream Quantification of Impact Exercise**

DCO Birchenough outlined for Members the Quantification of Impact Exercise which had taken place with stakeholders regarding an initial iteration of draft measures for the management of black seabream in three Dorset MCZs. The aim of the exercise was to understand how different gear types may be impacted by the initial iteration of management measures, engaging with key stakeholders across both commercial and recreational fishing, both private and charter fleet, to supplement the limited amount of information which is currently publicly available.

DCO Birchenough explained that to ensure that the initial quantification of what this impact might be was fully robust, a series of targeted engagement exercises were undertaken across all relevant sectors. DCO Birchenough, DCO Dell and Senior IFCO Condie conducted a number of meetings in person at the office and on the coast with the aim of gathering not just economic information but also social, cultural, community and well-being aspects which are hard to capture and explore any other way than by direct engagement. The Indicative Habitat Areas which Members had previously agreed, and formed the spatial extent for discussions, are smaller than the relevant MCZ therefore there was a need to obtain data at the appropriate spatial scale as much as possible.

Cumulatively data was fed into the resulting report from the direct engagement, which covered 23 stakeholders and across the different sectors, online available data on charter vessels, which indicated the number of charter vessels operating, the nature of trips, number of trips and costs, landings data obtained from the MMO, for the commercial fleet and the wider literature where studies have been done on Gross Value Added and Total Economic Contribution from various sectors. DCO Birchenough emphasised that the resulting report is a representation of the potential impact built using various datasets, recognising that there are estimations made within the reported data, but that the best possible estimates have been made and that, where possible, this has been summarised to provide an overview of the potential economic impact. DCO Birchenough provided an example from the report, indicating an estimate of just over £1.3 million as the potential economic impact for the Charter sector. Figures have also been used to illustrate associated business effects and well-being and social aspects. DCO Birchenough emphasised how grateful the IFCA are to the stakeholders who participated in the exercise and the help and expertise they provided.

Dr A Jensen thanked the staff for the effort and the work that had been put into this exercise. Dr Jensen commented that the amount of information and detail is quite remarkable and shows the value of this species to the economy and therefore its conservation value as well.

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Mr R Stride expressed that has never seen this type of exercise undertaken so comprehensively and that provides a good model for others to follow. Mr G Wordsworth felt that it would be a good idea to see if the IFCA can obtain funding to employ an officer to help with this type of work across all workstreams.

Dr R Morgan outlined to Members that some work on the subject of impacts had been undertaken by Defra and offered to send a link to the online report.

Dr S Cripps concurred that the report is very detailed, and a lot of work has gone into it. Dr Cripps suggested that the approach taken by the IFCA should be considered for publication but also outlined that there is an incentive for the charter industry to keep figures as high as possible in case there is a situation where any losses could be recovered.

DCO Birchenough clarified that the calculations, particularly in relation to data obtained from online sources, are designed to represent the largest potential economic impact. There are a number of skippers that run half day trips as well as full day trips and, from the data available, the half day trips are around £40.00 per person whereas the full day trips are towards £65.00 to £75.00 per person. DCO Birchenough outlined that the costs for full day trips had been used as this provides an indication of the upper end of the potential economic impact.

PDCO Dell commented that the impact assessment in terms of its structure is based around the financial cost/benefit element and is a requirement as part of the byelaw making process.

### **ITEMS FOR DECISION**

#### **55. Black Sea Bream: Material Considerations**

The CEO explained the purpose of this item, too firstly to provide an update following a Members Working Group held on the 24<sup>th</sup> April 2024 which focused primarily on decision making processes and material considerations. Secondly, to provide an overview of process and consider the current stage the Authority are at with regard to Black Seabream (BSB), recognising the stakeholders who have considerable interest in this area of work, and the importance of providing a clear understanding of the decision-making process, how this works, and the matters and considerations that Members will contemplate when considering possible future management in this fishery.

The CEO outlined that as a public body it is paramount that the IFCA maintain full transparency of process, so any interested party can be confident in the processes that Southern are following. The CEO reiterated that for some stakeholders, the outcomes of this area of work could have significant impacts on livelihoods. The CEO discussed the importance of gaining and nurturing trust with the community, to encourage buy-in and ownership and where that can't be achieved, to provide comprehensive understanding and reasoning for the decisions that the Authority make. The CEO reiterated the importance of reflecting on the impact that decisions made by the Authority can have, sometimes positive, sometimes negative and discussed the extremely challenging role to deliver in balancing a healthy marine environment with a viable industry.

The CEO discussed that the purpose of the Working Group was to discuss Material Considerations, namely, all relevant matters which should be taken into account during a decision-making process to ensure that the outcome or decision that is reached is fully informed and proportionate to the risk presented and captured in a decision making matrix.

Mr G Wordsworth informed Members that he was in favour of the idea of the matrix because hopefully it will be transferable to other workstreams. Mr G Wordsworth informed Members that he would like to see the Association of IFCA acknowledging and using the matrix so that

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other Chief Officers can follow it.

Dr R Morgan stated that he thinks the matrix is a good idea and will provide a clear record of decision making and how this may or may not align with any advice provided by Natural England and any decisions the Authority may take in this regard.

Dr S Cripps proposed an amendment to Recommendation 1, removing ‘ consideration of social, economic and environmental impact’, as the term ‘all material considerations’ captures these three aspects. All Members were in agreement. Mr S Kingston-Turner proposed Recommendations 1 (amended) & 2 together which was seconded by Dr R Morgan, all Members voted in favour.

### **Resolved**

**56.** That draft management measures for Black Sea bream in Dorset MCZ’s will be developed with consideration of all material considerations.

**57.** That a Management Matrix be developed to support the Authority when considering Material Considerations vs. draft management options, in order to inform an appropriate decision-making process.

### **58. Shore Gathering Draft Measures**

DCO Birchenough reminded Members that draft measures for the management of shore gathering in MCZs, SACs and SPAs in the District had been developed with Member input through Working Groups. DCO Birchenough outlined that the Shore Gathering Review is one of the Authority’s priority MPA workstreams for the year and is part of the work towards the 2024 Government target for MPAs. Members considered management principles for the review at a previous working group, these have been further developed following Member input and have informed the draft measures, reflecting both our legal duties under the Marine and Coastal Access Act 2019, as it relates to Marine Conservation Zones, and also the Conservation of Habitats and Species Regulations 2017 and the Conservation of Habitats and Species Regulations (Amendment) (EU Exit) Regulations 2019 for SACs and SPAs.

Senior IFCO Condie advised Members that working in line with the Government target for 2024, the Shore Gathering Review is focused on feature-based management interventions for relevant MPAs. The Review considered the activities of bait collection, shellfish collection, mechanical harvesting by hand, shrimp push netting, crab tiling and seaweed harvesting. Senior IFCO Condie guided Members through the management principles, outlining that the first two principles relate to the evidence that was used, consisting of three defined evidence bases, and that any further evidence received after a specified date will be considered either at the point of Formal Consultation if raised, or as part of any further reviews. The third principle related to the inclusion of a GPS buffer of 10m.

Senior IFCO Condie outlined that principles 4-7 defined how spatial management areas would be determined and how existing management measures would be considered. It was outlined that the application of the principles resulted in three types of management area; year-round prohibitions for areas of seagrass as defined in principle 4 and for relevant SAC and SPA habitats in The Fleet, in line with access requirements already in place under the local nature reserve, seasonal prohibited areas between 1<sup>st</sup> November and 31<sup>st</sup> March in Poole Harbour, seasonal prohibited areas during the same period in Langstone Harbour and seasonal prohibited areas between 1<sup>st</sup> March and 31<sup>st</sup> August in Southampton Water and the Solent. Senior IFCO Condie outlined to Members that the proposed prohibited areas, drafted based on the principles, did not include all areas currently managed under the Southern IFCA ‘Prohibition of Gathering (Sea Fisheries Resources) in Seagrass Beds’ byelaw, explaining that



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any areas under the existing byelaw which, according to current best available evidence, did not contain seagrass, and were therefore not in line with principle 1 were not included. Members were invited to consider this approach and provide any comment.

Senior IFCO Condie outlined that the final principle covered the management of hand gathering of seaweed, through the development of a Code of Conduct, the content of which had been developed in line with other existing codes including one developed between Cornwall IFCA and Natural England.

Dr A Jensen asked Senior IFCO Condie how the proposed measures might affect students from universities, higher education and field study centres going on to the beach to collect samples. Dr A Jensen also queried that there is not a specific recommendation in relation to the areas under the 'Prohibition of Gathering' byelaw merging with the new proposed areas and how this would be addressed.

DCO Birchenough advised Dr A Jensen that additional provisions normally contained within a byelaw would also be included in any byelaw drafted for these measures, for example the ability to consider dispensations for educational, scientific, stocking/breeding purposes. DCO Birchenough also outlined that the recommendation for Members to consider is to proceed with the draft measures as outlined in the report which are management areas based on the current best available evidence. If Members do not wish to open areas that are already closed, then these areas could be reconsidered. The recommendation as it stands proposes the draft measures, which is to have prohibition areas based on the current best available evidence, as per the sources available and detailed in principle 1.

Mr R Stride queried definition 1. "no person shall remove", stating it felt like a circular agreement but was dependent on the definition of harvesting and he wondered where that left the students.

DCO Birchenough confirmed to members that student work would still need to be covered by a dispensation if it involved the taking of sea fisheries resources as samples. The definition proposed is based on the definition that is currently in relevant Southern IFCA management for shore gathering activities. There have been some updates to this definition to avoid creating offences for unintended activities outside the IFCA remit. DCO Birchenough explained that the proposed definition was based on one which stakeholders in the district are used to as it has been in place for over 10 years. DCO Birchenough welcomed any input from Members on refinement of the proposed definitions.

Ms E Bussey-Jones queried, with regards to management under current byelaw and the proposed new measures, whether it would be helpful for all measures to be merged so that stakeholders are not having to comply with multiple different regulations.

DCO Birchenough informed Ms E Bussey-Jones that existing byelaws for shore gathering activities, where appropriate, would be revoked by the new byelaw creating a single management mechanism.

Ms E Bussey-Jones asked about the areas currently closed under the Prohibition of gathering (sea fisheries resources) in seagrass beds byelaw and what the reason is for reopening these when this was not the approach taken for bottom towed fishing gear (BTFG).

DCO Birchenough explained when consideration was given during the BTFG review, the potential impact of BTFG is greater than that of shore gathering and there are more factors to take into account before re-opening any previously closed areas. For example, it would require consideration of how those areas have been used by other gear types in the absence of BTFG.

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These considerations are not relevant for the intertidal areas where shore gathering is currently prohibited and recognises the low level of risk posed by shore gathering due to low levels of activity, on this basis the proposed measures are only for areas which comply with the relevant principles.

Dr S Cripps asked DCO Birchenough whether the proposed closed areas replace or add on to existing closure areas. Dr S Cripps felt that it is hard for Members to judge whether there's much difference between existing and proposed closed areas and asked if a map could be provided that shows where existing closure are.

DCO Birchenough informed Dr S Cripps that existing closures are shown on the maps that are provided as part of the item.

Dr R Morgan informed DCO Birchenough that he has reviewed the proposed measures with colleagues at NE and they felt some of the bird seasonal restrictions weren't necessarily in line with specific species. Dr Morgan commented that the rationale in the Principles for defining seasonality in bird sensitive areas raises some potential issues, for example because of the distinction between nesting Terns and wintering birds such as in Langstone Harbour where terns nest during the summer.

Dr Morgan outlined that NE had discussed the proposal to apply the Poole Harbour model for shore gathering management to the Solent, recognising that in Poole Harbour the seasonal winter closure is 1<sup>st</sup> November to 31<sup>st</sup> March. Dr Morgan outlined that the general advice that NE gives to any developer about disturbance of wintering birds is that the key sensitive period is 1<sup>st</sup> October to 31<sup>st</sup> March. He outlined that there will be inconsistencies with this advice if the Poole Harbour season of 1<sup>st</sup> November is applied in the Solent thus missing the October month.

DCO Birchenough explained that officers reviewed the advice on seasonality provided by NE and that the seasonality for the proposed measures is based on a consideration of the months where there are 50% or more of the designated species present in that area. The summer closure in the Solent and Southampton Water SPA covers all of the months where this is the case, the winter closures proposed for Langstone Harbour apply this method and are reflective of the model that's been applied in Poole Harbour, the seasonality being consistently applied to other gear types (dredge fishery) and agreed as appropriate through Southern IFCA HRAs. It was determined that based on the low risk posed by shore gathering, that there was a proportionate approach in applying the same winter closure used in the district to all areas, and that for the Chichester and Langstone Harbours SPA does take account of the majority of the months where there are 50% or more of the designated bird species present. There is also a benefit in that the same period applied consistently aids understanding for stakeholders.

Dr R Morgan outlined to Members that there may be additional sources of seagrass data to that which has been used in the review. He outlined that the national seagrass layer is an open-source data set, and there are some differences between that and NE data. Dr Morgan outlined that some of the areas currently closed under the existing byelaw which are proposed to be re-opened on the basis of no feature being present will not have a feature mapped because the area hasn't been surveyed recently, however there is older data which shows features in these areas. NE will be conducting further surveys working with the Wildlife Trust. Dr Morgan highlighted that there are other organisations with expertise in seagrass surveys who may question why areas are being reopened.

Dr S Cripps informed members that this issue arises because MPA boundaries were set around features which creates a mismatch between the MPA and the actual area being protected which falls to bodies like the IFCA to explore and resolve. He commented that on

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land a wider area/ecosystem would be protected rather than an individual plant, however this is not the case in the marine environment.

Ms E Bussey-Jones stated that the IFCA needs to be satisfied that the areas proposed to be re-opened do not have seagrass in them and that it should be a balance between the best available evidence and the precautionary principle, with any identified risk subject to protection.

Mr R Stride proposed recommendation 1 which was seconded by Mr C Francis, all Members voted in favour.

Mr G Wordsworth proposed recommendation 2 which was seconded by Mr R Stride., All Members were in favour, with the exception of Dr R Morgan and Ms E Bussey-Jones who abstained.

Ms E Bussey-Jones proposed recommendation 3 which was seconded by Mr S Kingston-Turner, all Members voted in favour.

### **Resolved**

59. That Members agree the Management Principles for shore gathering activities occurring in MCZs, SACs and SPAs in the Southern IFCA District.
60. That Members agree the draft measures for shore gathering activities in the above mentioned sites based on the Management Principles.
61. That Members delegate officers to make any inconsequential amendments to the draft measures on the basis of any Formal Advice received by Natural England.

### **62. Annual review of the Poole Harbour Several Order Management Plan (2024 update)**

PO Meredith-Davies informed Members that an annual review had been carried out on the Poole Harbour Several Order 2015 Management Plan: 2020 Revision. The Authority is required to review the document on an annual basis in line with the requirements of The Poole Harbour Fishery Order 2015.

PO Meredith-Davies outlined those inconsequential amendments had been made to the Management plan in the form of amendments to grammar and sentence structure where required and an update to the text in the table for 'Management Plan 2: Aquaculture and the Poole Harbour SSSI' to reflect the phasing of the BTFG review as agreed by the Authority and the consideration of SSSI components under Phase II.

PO Meredith-Davies outlined that the 2024 review had resulted in only those inconsequential amendments being required and as such the 2024 review had not introduced any significant changes to the Management Plan.

The recommendations were taken on mutual consent, with all in favour. Mr G Wordsworth did not vote due to a declared pecuniary interest.

### **Resolved**

63. That Members approve 2024 updates to the Poole Harbour Several Order 2015 Management Plan: 2020 Revision.
64. That Members approve the document for publication on the Southern IFCA

# SOUTHERN INSHORE FISHERIES & CONSERVATION AUTHORITY

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website.

### **ITEMS FOR INFORMATION**

#### **65. Wrasse Fishery Information Report**

Senior IFCO Condie provided Members with information relating to the Southern IFCA live wrasse fishery in response to requests made for further information on specific topics raised at the February 2023 TAC meeting, namely how management aligns with Southern IFCA legal duties, wrasse welfare as cleaner fish and potential ecosystem wide effects of the fishery.

Dr A Jensen thanked Senior IFCO Condie for providing information in relation to the points raised at the previous TAC and asked whether levels of activity/participation in the fishery were changing. Senior IFCO Condie informed Members that currently Southern IFCA is the only district with a live wrasse fishery, previous fisheries in both Cornwall and Devon have stopped due to logistical issues and changes in participants. She informed Members that for the Southern IFCA district, in the most recent year (2023) the number of fishers went down from 10 to 5 fishers.

#### **67. Poole Bivalve Survey Report 2023**

IFCO Mullen presented Members with the survey report from the Poole Harbour Bivalve Survey 2023. Members were informed that the survey is carried out annually in the spring prior to the opening of the dredge fishery under the Poole Harbour Dredge Permit Byelaw and collects data on size (length) and catch per unit effort (CPUE) for the two most commonly harvested species, the Manila clam and the common cockle.

IFCO Mullen outlined that the data from the survey can be used to build a timeseries which can be used; in combination with other data sources such as catch data from the fishery, to assess the sustainability of the fishery in Poole Harbour and inform any reviews of management measures.

IFCO Mullen presented the key points from the 2023 report and informed Members that the results indicated that the harvestable populations of both species remain stable with CPUE showing either no significant differences between years, or for common cockle, an increase in CPUE in the last two survey years. Catch levels and length frequency also remained stable for both species. IFCO Mullen informed Members that the 2024 survey was undertaken in April and the data would be added to the survey timeseries dataset, incorporating data from the 2023 season as the most recently available data on catch levels.

#### **69. Solent Bivalve Survey Report 2023**

IFCO Churchouse presented Members with the survey report from the Solent Bivalve Survey 2023. Members were informed that the survey is carried out twice a year to assess the distribution and abundance of bivalve species in three of the Bivalve Management Areas (BMAs) defined under the Solent Dredge Permit Byelaw (SDPB); Southampton Water, Portsmouth Harbour and Langstone Harbour. The survey is carried out in the autumn (pre-fishing season) and the spring (post-fishing season), with a focus on monitoring the stocks of two commercially important bivalve species, the Manila clam and the common cockle.

IFCO Churchouse outlined that the data from the survey is combined with previous years to create a timeseries dataset which can be used to monitor trends in stock levels and help inform management under the SDPB.

IFCO Churchouse presented the key points from the 2023 survey report and informed

## SOUTHERN INSHORE FISHERIES & CONSERVATION AUTHORITY TECHNICAL ADVISORY COMMITTEE – 9<sup>th</sup> May 2024

Members that for all analyses run on CPUE and average length, where significant results were found, no general trends were observed. In analyses run between the pre-fishing season survey (Autumn 2022) and the post-fishing season survey (Spring 2023), CPUE for Manila clam and Common cockle at/above and below MCRS was found to have no significant difference for all BMAs except for the Common cockle population at/above MCRS within Portsmouth Harbour, where CPUE increased. In analyses run between the post-fishing season survey (Spring 2023) and the pre-fishing season survey (Autumn 2023), CPUE at/above MCRS for the Manila clam in Southampton Water was found to increase and CPUE below MCRS for common cockle in Portsmouth Harbour was seen to decrease, there were no other significant differences. IFCO Churchouse informed Members that the spring survey for 2024 had been carried out in March and the autumn survey was scheduled for September.

Mr C Brock asked whether there was any intention to review MCRS within Portsmouth or Langstone Harbours or whether size frequency was just going to continue to be monitored. Mr C Brock stated the question was related to alignment of measures to aid fishers use of gear between areas. Mr C Brock also asked whether there was any regulation stipulating use of a riddle or riddle bar spacing size.

PDCO Dell responded that there are currently no regulations on riddle use or bar spacing within the fishery.

Ms E Bussey-Jones asked whether the MCRS was the same across both of the areas mentioned by Mr C Brock. PDCO Dell confirmed that the MCRS was the same for all areas and the onus was on the fisher to ensure they are compliant with the MCRS.

Dr A Jensen commented that there has been work done on the relationship between the width and length of Manila clam, which is a key component to the development of riddle bar spacing regulations, showing that there is no perfect relationship between the two which would make defining a riddle size that was suitable for all areas difficult.

### **71. Fisheries Management Plans Update**

DCO Birchenough provided an update to Members on the development of Fisheries Management Plans (FMPs). Members were informed of the Defra workshops which had been held on the T1 and T2 FMPs, attended by Southern, the aim of which was to understand and discuss a collaborative evidence approach for FMPs, understand the evidence gaps identified for the first five published FMPs and how organisations/authorities/stakeholders can work with Defra to support a collaborative process going forward to help address these evidence gaps.

Members were also updated on T3 and T4 FMPs. Southern IFCA submitted a response to the draft Southern North Sea and Channel Skates and Rays FMP and have been made aware of the new T4 FMPs and the associated Delivery Partners which are; Black seabream (MMO), Wrasses complex (MMO), Celtic Sea and Western Channel demersal (MMO), Celtic Sea and Western Channel pelagic (Defra). DCO Birchenough outlined that the T4 FMPs would be delivered by the end of 2025.

### **73. Marine Licencing Update**

IFCO Churchouse provided an update on Marine Licence Applications that the Southern IFCA have received as a consultee, from the MMO. Between February 2024 and April 2024 there were nine MLAs requiring a response and four MLAs deemed to not require a response. Detail on the MLAs requiring a response was provided as part of the report.

**SOUTHERN INSHORE FISHERIES & CONSERVATION AUTHORITY  
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**75. Poole Harbour Several Order – Request to Amend Business Plan**

In accordance with the consideration of information which is exempt by virtue of Schedule 12A of the Local Government Act 1972, the public were excluded from the meeting (virtually and in person) during consideration of this item.

Following an overview provided by PO Meredith-Davies, regarding a change in vessel for a lease bed in Poole Harbour, Members considered the Recommendations.

The Recommendations were taken on mutual consent, with all in favour. Mr G Wordsworth did not vote due to declared pecuniary interests.

**Resolved**

**76.** That Members approve the proposed changes to the Business Plan 2020-25 for Lease Bed 3.

**Date of Next Meeting**

**77.** That the meeting of the TAC will be on the 22<sup>nd</sup> August 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 16.44.

**Chairman:**

**Date:**

## Budget Control Statement

Report by The CEO and Chartered Accountant

### A. Purpose

To provide Members with a summary of the Authority's accounts for the period 1<sup>st</sup> April 2024 to 31<sup>st</sup> July 2024.

### B. Recommendation

That the report be received.

### C. Annex

**Annex 1:** Detailed Budget Control Statement with contextual narrative.

## 1.0 Budget Control Statement

1.1 The Summary Budget Control Statement to 31<sup>st</sup> July 2024, as shown below, shows a **deficit of c.97k against budget**.

SUMMARY RESULTS Major Budget Headers	Apr24-Mar25 12 mths Budget incl. inflation	YTD 1 Apr 24 - 31 July 24		
		Actual	Budget	Variances
<b>EXPENDITURE SUMMARY</b>				
Compliance and Enforcement	133,105	29,942	66,478	(36,536)
Research and Policy	39,093	6,524	24,111	(17,587)
Business Services	998,538	313,483	357,889	(44,406)
Capital Equipment	97,947	11,878	32,672	(20,794)
<b>TOTAL EXPENDITURE</b>	<b>1,268,683</b>	<b>361,827</b>	<b>481,150</b>	<b>(119,323)</b>
<b>TOTAL INCOME</b>	<b>1,132,194</b>	<b>911,317</b>	<b>1,127,858</b>	<b>(216,541)</b>
<b>INCOME OVER EXPENDITURE</b>	<b>(136,489)</b>	<b>549,490</b>	<b>646,708</b>	<b>(97,218)</b>

1.2 The Detailed Budget Control Statement (Annex 1) provide a narrative of all positive and negative variance equal to or greater than 1k., in addition to contextual notes where necessary.

## 2.0 Summary of Major Budget Headers

2.1 The positive variance captured under the **Compliance & Enforcement** Header (**c.36k**) represents c.10k of savings on FPV fuel and maintenance costs, directly related to the delay of FPV Vigilant entering service, in addition to the disposal of FPV Stella Barbara in May 2024. A c.10k payment for access to a National Intelligence System (CLUE) are anticipated imminently. This system is currently being utilised by the Compliance & Enforcement Team. Combined costs for 2 x REM projects are anticipated to be realised later in the financial year (10k).

- 2.2 The positive variance captured under the **Research and Policy** Header (c.17k) relates to three surveys (c.8.5k) and research ((c.1.5k) timetabled to be undertaken later in the financial year. No costs have been incurred for Byelaw advertisement or associated legal support at this stage of the year (c.4k). The annual MSC audit of the Poole Harbour dredge fishery is timetabled for September (c5k).
- 2.3 The positive variance captured under the **Business Services** Header (c.44k) is due to a reduction in staff salary and pension contributions (c.35k) as a result of one IFCO currently embarking on a sabbatical, the resignation of an IFCO in April, as well as carrying over from the previous financial year a vacancy in the Compliance and Enforcement team. Costs associated with staff training (c.5k) will be realised later in the year. Costs for the annual financial audit are imminent but not yet realised (c.6k).
- 2.4 The positive variance under the **Capital Equipment** Header (c.21k) reflects an underspend relating to the delay in FPV Vigilant entering service.

### 3.0 **Total Income**

A deficit in projected income of **c.216k** reflects in part the outstanding payment of project funding from Defra (150k budgeted, 130k anticipated, following a change in Defra's previous commitments during the last financial year). 50k relates to the sale of FPV Protector, which was budgeted for prior to experiencing the delays in procurement and delivery of FPV Vigilant. We may not complete this sale during the current financial year. An amount c.4.5k relates to the anticipated issuing of commercial and recreational permits under the Pot Fishing Byelaw. This Byelaw remains with the MMO quality assurance team. It is likely that this delay is due to the national delivery of FMPs and Tranche 1 outcomes. c. 15k relates to a payment from Aquaculture Lease Holders in January 2025.

### 4.0 **Payment of Amounts Exceeding £5,000**

- 4.1 Paragraph (11) of Southern IFCA's Financial Regulations 2022 require that all ex. VAT payments over £5,000 (with the exception of salaries, PAYE, pension contributions and regular payments outside of the Financial Manager's control) are to be reported to the Authority via a BCS.
- 4.2 Between the 1<sup>st</sup> April 2024 and the 31<sup>st</sup> July 2024, the following payments equal to or greater than the above-mentioned figure were made, as follows:

Amount	Date	What	Who
£31,213.15	12/04/2024	Annual insurance premiums (vehicles, marine assets and estate)	Brundel Insurance Brokers
£13,992.55	21/06/2024	AIFCA Subscriptions 2024-2025	AIFCA



DETAILED RESULTS		Apr24-Mar25	YTD			YTD Notes	
Minor Budget Headers		12 mths Budget	1 Apr 24 - 31 July 24 (4 mths)				
			Actual	Budget	Variances		
Income	Levy	Levy - Hants	341,629	341,629	0		
		Levy - IOW	121,345	121,345	0		
		Levy - Dorset	209,599	209,599	0		
		Levy - BCP	94,231	94,231	0		
		Levy - Southampton	36,362	36,362	0		
		Levy - Portsmouth	42,449	42,449	0		
	Permits & Leases	Poole Harbour Dredge Permits	27,000	26,400	27,000	(600)	44 of 45 permits taken out at this stage of year
		Solent Dredge Permits Category A	7,740	480	7,740	(7,260)	2 of 36 permits (£215) paid for early, plus £50 admin fee. Majority expected to be taken out in October
		Poole Order Aquaculture Leases	32,160	16,441	32,160	(15,719)	Represents splitting of annual payments for some Lease Holders
		Net Fishing Permit	2,890	0	2,890	(2,890)	Permits issued late in the year for 2024/2025 season
		Pot Fishing Permit: Commercial	3,600	0	3,600	(3,600)	Byelaw currently undergoing MMO quality assurance
		Pot Fishing Permit: Recreational	1,050	0	1,050	(1,050)	Byelaw currently undergoing MMO quality assurance
	Other	BCP Council Shellfish Sampling	2,939	2,939	2,939	0	
		Bank interest receivable	1,000	13,768	332	13,436	Represents interest received on 90 Deposit Account (£4k), and £9.7k on the Reserve Account
		Unforeseen income (including chartering )	2,500	3,461	832	2,629	Represents MMO drone hire (£1.3k), Home Office Training (£2k)
		DEFRA Fisheries Act Funding	150,000	0	150,000	(150,000)	Payment yet to be received from Defra
		AIFCA Cockle FMP	2,700	1,906	2,700	(794)	Less commissioned work (DCO expertise to assist AIFCA) than anticipated
		Equipment Sale (profit/loss)	50,000	0	50,000	(50,000)	Anticipated income following possible sale of FPV Protector
		Court Costs Recovered	3,000	307	1,000	(693)	
<b>Income</b>		<b>1,132,194</b>	<b>911,317</b>	<b>1,127,858</b>	<b>(216,541)</b>		
Compliance & Enforcement	Vehicles	Vehicle Fuel (combined)	5,090	1,647	1,696	(49)	
		Roadside Assistance	109	0	109	(109)	
		Maintenance	2,902	724	1,004	(280)	
		Road Tax	881	215	881	(666)	Payment depends on TAX expiry date of vehicles
		Secure off site Parking	2,239	900	748	152	Represents additional 2 x parking spaces to that budgeted for health & safety reasons (IFCOs parking off site)
	Drone	Insurance	2,073	4,234	2,073	2,161	Represents the unforeseen rising cost of insurance( £1047.20 x 4 vehicles)
		Maintenance	2,149	2,068	2,149	(81)	
	Fisheries Protection Vessels	Fuel (combined)	3,731	1,089	1,244	(155)	
		FPV Maintenance (combined 3 FPVs)	21,545	1,464	7,180	(5,716)	Less fuel due to sale of Stella Barbara, plus pending Vigilant coming into service
		FPV Berthing (combined 3 FPVs)	15,548	392	6,164	(5,772)	Saving due to sale of Stella Barbara plus delay in Vigilant coming into service
		Marine Insurance	18,489	5,181	5,184	(3)	
	General	REM AI NFB Project (with D&S IFCA) Phase 1	7,898	10,141	7,898	2,243	Change in provider, plus rising cost of insurance
		REM AI PFB Project (with D&S IFCA) Phase 2	5,000	0	5,000	(5,000)	Project costs anticipated later in year
		Personal Protective Clothing	5,000	0	5,000	(5,000)	Project costs anticipated later in year
		Enforcement Equipment	5,561	874	1,852	(978)	
		Industry Compliance Aids	2,308	972	768	204	
		CLUE Intelligence System	1,852	34	616	(582)	
		Legal Services - Prosecutions	10,000	0	10,000	(10,000)	Project costs anticipated later in year
	<b>Expenditure</b>		<b>133,105</b>	<b>29,942</b>	<b>66,478</b>	<b>(36,536)</b>	
	Research & Policy	Developing Management	Byelaws - Adverts	8,133	0	2,712	(2,712)
Legal Services - Byelaws			4,664	83	1,556	(1,473)	Incorrect coding - to be posted to miscellaneous (relating to industry engagement)
Monitoring Programme		Poole Bivalve Survey	960	960	960	0	
		Solent Scallop Survey	4,320	1,440	1,440	0	
		Solent Bivalve Stock Assessment	2,880	470	0	470	Payment due Sept & March. Actual represents late invoice from previous year
		Whelk Sampling	600	69	600	(531)	
		Whelk Monitoring Programme Pilot CPUe	5,148	0	5,148	(5,148)	Project costs anticipated later in year
		Oyster Survey (every 2 years)	1,950	0	1,950	(1,950)	Project costs anticipated later in year
Other		NFB Drift Net Project	1,200	0	1,200	(1,200)	Project costs anticipated later in year
		Survey Equipment and Maintenance	1,037	202	344	(142)	
<b>Expenditure</b>		<b>39,093</b>	<b>6,524</b>	<b>24,111</b>	<b>(17,587)</b>		
Business Services	Estate	Office - General	12,319	3,543	4,584	(1,041)	Outstanding invoices expected later in year (Fire etc), new approach to ordering of office stationary and supplies
		Office - Energy	7,152	2,418	2,936	(518)	
		Office - IT	13,425	4,244	3,444	800	
		Communications	7,503	2,895	2,500	395	
		General insurance	18,016	16,123	18,016	(1,893)	Changed provider which removed outdated insurance premiums
		Office - Rates	22,301	7,654	7,432	222	
		Equipment (<£500)	2,000	717	668	49	
	Finance	Miscellaneous	3,000	1,332	1,000	332	Holding pot for office refurb costs (c.1k) prior to transfer to Dilapidations Fund (ringfenced in reserves)
		Financial Audit costs	3,731	0	3,731	(3,731)	Expected September
		Xero Software	684	23	228	(205)	
	Subscriptions	Paycircle	1,206	0	404	(404)	Invoice imminent
		Bank charges	1,000	416	332	84	
	Meetings	AIFCA	14,088	13,993	14,088	(95)	
		Authority Meetings	4,685	2,114	1,560	554	
	HR	Permit Database	1,213	0	404	(404)	Annual payments anticipated later in financial year
		Recruitment	2,500	386	832	(446)	
	Staff Costs	Recruitment	4,000	628	1,332	(704)	
		Legal Services	4,000	3,270	1,332	1,938	Represents legal support for ongoing Constructive Dismissal case
	Training	Salaries and Other Labour Costs	746,809	216,727	248,936	(32,209)	Savings due to 1 x sabbatical (3.1k), 1 x leaver Apr 24 (9.6k) and 1 x IFCO C&E vacancy (12k)
		LGA Pension Scheme	101,622	30,971	33,876	(2,905)	As above for salary costs
		Mandatory Training	3,244	3,401	1,080	2,321	(MMO Boarding officer course (1k), Drone training course (£1k) held prior to transfer to Training Fund (ringfenced in reserves)
	Staff Expenses	National Training Model	10,698	0	3,392	(3,392)	Anticipate course early 2025
		Boarding and Pacing	1,750	0	1,750	(1,750)	
Professional Development		2,250	-491	924	(1,415)	Represents credit on training course rescheduled for later in year	
Members Expenses	CEO	1,037	6	344	(338)		
	DCO	829	220	276	(56)		
	DCO	829	495	276	219		
<b>Expenditure</b>		<b>998,538</b>	<b>313,483</b>	<b>357,889</b>	<b>(44,406)</b>		
Capital Equipment	Premises Depreciation	4,988	1,722	1,664	58		
	Equipment Depreciation	3,864	1,487	1,308	179		
	Vehicles Depreciation	10,688	3,936	3,564	372		
	FPV's Depreciation	78,407	4,733	26,136	(21,403)	Vigilant yet to enter operation - budgeted £5.5k depn per month from April 2024	
<b>Expenditure</b>		<b>97,947</b>	<b>11,878</b>	<b>32,672</b>	<b>(20,794)</b>		

Professional Rigid Inflatable Boats

**RIBCRAFT**  
United Kingdom

05/09/2024

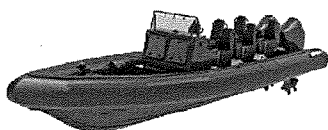
Sam Dell  
Principal Deputy Chief Officer  
Southern IFCA

**SUBJECT: PROJECT DELAYS**

Dear Sam and the Southern IFCA,

This letter addresses the matter in principle of the delays to the vessel "Vigilant". Ribcraft acknowledge that the undertaking off this vessel has been more complex than initially anticipated and therefore the project timelines have suffered delay. With the original contract delivery date being April 24 and the now scheduled and finalized delivery being in September 24, the delay period has been a total of 5 months. Responsibility for the delay is acknowledged internally within Ribcraft, we apologize and appreciate the patience demonstrated by the Southern IFCA.

Print Name	JACK CLIMPSON.
Signature	<i>[Handwritten Signature]</i>
Date of Signing	05/09/2024.



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## Statement of Accounts for Year Ended 31<sup>st</sup> March 2024

Report by The Accountant and CEO

### A. Purpose

To formally accept the Statement of Accounts for the financial year April 2023 to March 2024, following completion of external auditing by accountancy firm PKF Francis Clark, based in Poole, Dorset.

### B. Recommendations

1. That Members note the outcomes of the external audit for the financial year ended 31<sup>st</sup> March 2024.
2. That Members formally accept the Statement of Accounts for the financial year April 2023 to March 2024 and that the document be signed by the Chairman, the CEO and the Accountant on behalf of the Authority.

### C. Annexes

1. Annual Return for financial year ended 31 March 2024.
2. Francis Clark Review Report (letter dated September 2024)
3. The Statement of Accounts for Year Ended 31<sup>st</sup> March 2024

## 1.0 Background

At the meeting of The Executive Sub-Committee on the 11<sup>th</sup> June 2024, following Members consideration of the draft Statement of Accounts for the previous financial year, it was agreed that the Executive Sub-Committee make recommendations to the Authority authorising the submission of the draft Statement of Accounts to the external auditors, PKF Francis Clark for consideration.

At the meeting of The Authority on the 13<sup>th</sup> June 2024, Members authorised the submission of the draft Statement of Accounts to the external auditors for the financial year ended 31<sup>st</sup> March 2024.

## 2.0 Outcomes of Annual Financial Audit conducted by PKF Francis Clark.

Following the Independent Assurance Review **no changes have been made** to the numbers in the Statement of Accounts.

### 2.1 Assurance Review Observations and Recommendations

*'...In 2022/23 we encountered some difficulty during the expenditure testing and recommended management consider implementing an alphabetical filing system to improve the organisation and to make it easier to locate paperwork if needed. Another option was be to consider a paperless filing system.*

*In 2023/24 we observed the use of an online filing system this worked very effectively, improving the efficiency of the expenditure testing.*

*During 2023/24 scrutiny we noted £500 movement (increase in liability) on the 'suspense' nominal 2500. This has been raised with management, going forward amounts received in respect of fines will be credited to income rather than to increase the historical liability...'*

### 2.2 Conclusions

*'...Based on our review, nothing has come to our attention that causes us to believe that the financial statements have not been prepared so as to present fairly the state of the Authority's affairs as at 31 March 2024 and its surplus for the year then ended...'*

# Southern Inshore Fisheries and Conservation Authority

## Annual return for the financial year ended 31 March 2024

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The annual return on pages 2 to 5 is made up of four sections:

- Sections 1 and 2 are completed by the person nominated by the Authority.
- Section 3 is completed by Francis Clark LLP as the reviewer appointed by the Authority.
- Section 4 is completed by Jennifer Carr, the Authority's internal audit provider.

## Section 1 – Annual governance statement 2023/24

We acknowledge as the members of Southern Inshore Fisheries and Conservation Authority our responsibility for ensuring that there is a sound system of internal control, including the preparation of the accounting statements. We confirm, to the best of our knowledge and belief, with respect to the accounting statements for the year ended 31 March 2024, that:

	Agreed-		'Yes' Means that the body:
	Yes	No*	
1 We approved the accounting statements prepared in accordance with the guidance notes within this Annual Return.	YES		Prepared its accounting statements and approved them.
2 We maintained an adequate system of internal control, including measures designed to prevent and detect fraud and corruption and reviewed its effectiveness.	YES		Made proper arrangements and accepted responsibility for safeguarding the public money and resources in its charge.
3 We took all reasonable steps to assure ourselves that there are no matters of actual or potential non-compliance with generally accepted good practice that could have a significant financial effect on the ability of the body to conduct its business or on its finances.	YES		Has only done what it has the legal power to do and has complied with generally accepted good practice.
4 We provided opportunity during the year for interested persons to inspect and ask questions about the accounts.	YES		Has given all persons interested the opportunity to inspect and ask questions about these Authority accounts.
5 We carried out an assessment of the risks facing the body and took appropriate steps to manage those risks, including the introduction of internal controls and/or external insurance cover where required.	YES		Considered the financial and other risks it faces and has dealt with them properly.
6 We maintained throughout the year an adequate and effective system of internal audit of the body's accounting records and control systems.	YES		Arranged for a competent person, independent of the financial controls and procedures, to give an objective view on whether internal controls meet the needs of the body.
7 We took appropriate action on all matters raised in reports from internal audit and external reviews.	YES		Responded to matters brought to its attention by internal and external reviewers.
8 We considered whether any litigation, liabilities or commitments, events or transactions, occurring either during or after the year-end, have a financial impact on the body and where appropriate have included them in the accounting statements.	YES		Disclosed everything it should have about its business activity during the year including events taking place after the year-end if relevant.

This annual governance statement is approved by the Authority and recorded as minute reference

Signed by:  
Chair PAUL FULLER  
Dated .....

Signed by:  
Clerk PIA BATEMAN  
Dated .....

MINUTE REFERENCE	
DATED	

\*Note: Please provide explanations on a separate sheet for each 'No' response. Describe how the Authority will address the weaknesses identified

## Section 2 – Accounting statements 2023/24 for: Southern Inshore Fisheries and Conservation Authority

	Year ended		Notes and Guidance
	31 March 2024 £	31 March 2023 £	
1 Balances brought forward	1,297,095	909,202	Please round all figures to nearest £1. Do not leave any boxes blank and report £0 or Nil Balances. All figures must agree to underlying financial records Total balances and reserves at the beginning of the year as recorded in the body's financial records. Value must agree to Box 7 of previous year.
2 (+) Income from local taxation and/or levy	813,091	813,090	Total amount of local tax and/or levy received or receivable in the year including funding from a sponsoring body. Excluding any grants received.
3 (+) Total other receipts	333,671	518,709	Total income or receipts as recorded in the cashbook less the taxation and/or levy (line 2). Include any grants received here.
4 (-) Staff costs	(714,238)	(566,081)	Total expenditure or payments made to and on behalf of all employees. Include salaries and wages, PAYE and NI (employees and employers), pension contributions and employment expenses.
5 (-) Loan interest/capital repayments	0	0	Total expenditure or payments of capital and interest made during the year on the body's borrowings (if any).
6 (-) All other payments	(366,122)	(377,825)	Total expenditure or payments as recorded in the cashbook less staff costs (line 4) and loan interest/capital repayments (line 5).
7 (=) Balances carried forward	1,368,497	1,297,095	Total balances and reserves at the end of the year. Must equal (1+2+3) – (4+5+6)
8 Total cash and short term investments	1,599,153	1,608,167	The sum of all current and deposit bank accounts, cash holdings and short term investments held as at 31 March – to agree with bank reconciliation.
9 Total fixed assets plus other long term investments and assets	1,181,041	1,176,046	The original Asset and Investment Register value of all fixed assets, plus other long term assets owned by the body as at 31 March
10 Total borrowings	0	0	The outstanding capital balance as at 31 March of all loans from third parties (including PWLB).

I certify that for the year ended 31 March 2024 the accounting statements in this annual return present fairly the financial position of the Authority and its income and expenditure, or properly present receipts and payments, as the case may be.

Signed by Responsible Financial Officer:

Signature .....

Date .....

I confirm that these accounting statements were approved by the Authority on:

Date .....

And recorded as minute reference

.....

Signed by Chair of meeting approving these accounting statements:

Signature .....

Date .....

### Section 3 – Review report 2023/24 Certificate

We present the findings from our review of the annual return for the year ended 31 March 2024 in respect of Southern Inshore Fisheries and Conservation Authority

#### Respective responsibilities of the Authority and the reviewer

The Authority is responsible for ensuring that its financial management is adequate and effective and that it has a sound system of internal control. The Authority prepares an annual return which:

- summarises the accounting records for the year ended 31 March 2024; and
- confirms and provides assurance on various governance matters in accordance with generally accepted good practice.

We have reviewed the annual return and set out our findings below. Our work does not constitute an audit carried out in accordance with International Standards on Auditing (UK & Ireland) and therefore does not provide the level of assurance of a statutory audit.

#### Report

Please see the attached report dated September 2024

Review signature 

Reviewer Adrian Way Date 4 September 2024



## Section 4 – Annual internal audit report 2023/24 to Southern Inshore Fisheries and Conservation Authority

The Authority's internal audit service provider, acting independently and on the basis of an assessment of risk, carried out a selective assessment of compliance with relevant procedures and controls expected to be in operation during the financial year ended 31 March 2024. Internal audit has been carried out in accordance with the Authority's needs and planned coverage. On the basis of the findings in the areas examined, the internal audit conclusions are summarised in this table. Set out below are the objectives of internal control and alongside are the internal audit conclusions on whether, in all significant respects, the control objectives were being achieved throughout the financial year to a standard adequate to meet the needs of the Authority.

Internal control objective	Agreed? Please choose one of the following		
	Yes	No*	Not covered
A. Appropriate accounting records have been kept properly throughout the year	YES		
B. The Authority's financial regulations have been met, payments were approved and VAT was appropriately accounted for.	YES		
C. The Authority assessed the significant risks to achieving its objectives and reviewed the adequacy of arrangements to manage these.	YES		
D. The annual taxation or levy or funding requirements resulted from an adequate budgetary process; progress against the budget was regularly monitored; and reserves were appropriate	YES		
E. Expected income was fully received, based on correct prices, properly recorded and promptly banked; and VAT was appropriately accounted for.	YES		
F. Petty cash payments were properly supported by receipts, all petty cash expenditure was approved and VAT appropriately accounted for.	YES		
G. Salaries to employees and allowances to members were paid in accordance with the body approvals, and PAYE and NI requirements were properly applied.	YES		
H. Asset and investments registers were complete and accurate and properly maintained.	YES		
I. Periodic and year-end bank account reconciliations were properly carried out.	YES		
J. Accounting statements prepared during the year were prepared on the correct accounting basis (receipts and payments or income and expenditure), agreed to the cash book, were supported by an adequate audit trail from underlying records, and, where appropriate, debtors and creditors were properly recorded.	YES		

For any other risk areas identified by the Authority (list any other risk areas below or on separate sheets if needed) adequate controls existed:

The internal audit was conducted by Gemma Roberts up to and including January 2024 when she left SIFCA. Her replacement, Jennifer Carr, continued with this work from February 2024 onwards.

Name of person who carried out the internal audit:

Print name JENNIFER CARR

Signature of person who carried out the internal audit: Signature .....Date.....

**\*Note:** If the response is 'no' please state the implications and action being taken to address any weakness in control identified (add separate sheets if needed).

**\*\*Note:** If the response is 'not covered' please state when the most recent internal audit work was done in this area and when it is next planned, or, if coverage is not required, internal audit must explain why not (add separate sheets if needed).



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**Private & Confidential**

Southern Inshore Fisheries and Conservation Authority  
Unit 3, Holes Bay Park  
Sterte Avenue West  
POOLE  
Dorset  
BH15 2AA

Our ref:  
**PS866B-AW/CW**

September 2024

Dear Sirs

**Independent Chartered Accountants' Review report to the Committee of Southern Inshore Fisheries & Conservation Authority ("the Authority")**

We have reviewed the Statement of Accounts of the Authority for the year ended 31 March 2024, as prepared by Jennifer Carr.

This report is made to the Committee, as a body, in accordance with the terms of our engagement letter dated 12 August 2024. Our review has been undertaken so that we may state to the Authority those matters agreed in our engagement letter and for no other purpose. To the fullest extent permitted by law, we do not accept or assume responsibility to anyone other than the Authority for our work, for this report or the conclusions we have formed.

***The Authority's responsibility for the Statement of Accounts***

As explained at Section 2.2.1 of the Statement of Accounts set out on page 4, the Authority is responsible for making arrangements for the proper administration of its financial affairs and to ensure that one of its officers has the responsibility for the administration of those affairs. The Authority is also responsible for managing its affairs to secure economic, efficient, and effective use of resources and safeguard its assets.

***Accountants' responsibility***

Our responsibility is to express a conclusion based on our review of the Statement of Accounts. We conducted our review in accordance with International Standard on Review Engagements (ISRE) 2400 (Revised), *Engagements to review historical financial information* and ICAEW Technical Release TECH 09/13AAF (Revised) *Assurance reviews on historical financial statements*. ISRE 2400 also requires us to comply with the ICAEW Code of Ethics.

### **Scope of the Assurance Review**

A review of financial statements in accordance with ISRE 2400 (Revised) is a limited assurance engagement. We have performed additional procedures to those required under a compilation engagement. These primarily consist of making enquiries of management and others within the entity, as appropriate, applying analytical procedures and evaluating the evidence obtained. The procedures performed in a review are substantially less than those performed in an audit in accordance with International Standards on Auditing (UK and Ireland).

### **Assurance Review Observations and Recommendations**

In 2022/23 we encountered some difficulty during the expenditure testing and recommended management consider implementing an alphabetical filing system to improve the organisation and to make it easier to locate paperwork if needed. Another option was to consider a paperless filing system.

In 2023/24 we observed the use of an online filing system this worked very effectively, improving the efficiency of the expenditure testing.

During 2023/24 scrutiny we noted £500 movement (increase in liability) on the 'suspense' nominal 2500. This has been raised with management, going forward amounts received in respect of fines will be credited to income rather than to increase the historical liability

### **Conclusion**

Based on our review, nothing has come to our attention that causes us to believe that the financial statements have not been prepared so as to present fairly the state of the Authority's affairs as at 31 March 2024 and its surplus for the year then ended.

Yours faithfully

*Francis Clark LLP.*

**FRANCIS CLARK LLP**

E-mail: [mail@pkf-francisclark.co.uk](mailto:mail@pkf-francisclark.co.uk)

# **SOUTHERN INSHORE FISHERIES AND CONSERVATION AUTHORITY**

Unit 3, Holes Bay Park, Sterte Avenue West, Poole, BH15 2AA

## **STATEMENT OF ACCOUNTS**

**1<sup>st</sup> April 2023 to 31<sup>st</sup> March 2024**

# SOUTHERN INSHORE FISHERIES AND CONSERVATION AUTHORITY

## 1 FOREWORD TO THE ACCOUNTS

Provided by Chief Executive Officer Pia Bateman and Chartered Accountant Jennifer Carr

This Statement of Accounts sets out the overall financial position of the Southern Inshore Fisheries and Conservation Authority for the year 1<sup>st</sup> April 2023 to 31<sup>st</sup> March 2024.

The core financial statements are:

- **The Statement of Accounting Policies** which details the principles on which the Statement of Accounts has been prepared.
- **The Consolidated Revenue Account** which covers the income and expenditure for the year to 31<sup>st</sup> March 2024.
- **The Consolidated Balance Sheet** which sets out the financial position of the Authority as at 31<sup>st</sup> March 2024.
- **The Statement of Total Movements in Reserves** which brings together all the recognised gains and losses of the Authority during the period 1<sup>st</sup> April 2023 to 31<sup>st</sup> March 2024.
- **The Consolidated Cash Flow Statement** which summarises the inflows and outflows of cash arising from transactions with third parties for revenue and capital purposes.

During the year to 31<sup>st</sup> March 2024 the Consolidated Revenue Account shows that the Southern Inshore Fisheries and Conservation Authority recorded a net surplus of £161,705 (2022-2023 surplus of £517,821), this was taken to the General Reserve. Of this £161,705 surplus, £140,000 related to a DEFRA revenue grant which will be fully utilised over the next few years. £98,449 of the DEFRA Revenue grant was utilised during the year. £8,903 of the surplus was transferred to the Research Reserve (2022-2023: £16,000).

Levies upon the six constituent councils of Dorset, Hampshire, Isle of Wight, BCP, Portsmouth and Southampton were consistent with last year and raised £813,091 (2022-2023: £813,091) (see Section 5 & Note 5.1.8). At the year-end net assets were valued at £2,227,615 (2022-2023: £2,065,910) (see Section 6).

# **SOUTHERN INSHORE FISHERIES AND CONSERVATION AUTHORITY**

## **2 STATEMENTS ON INTERNAL CONTROL AND RESPONSIBILITIES PLUS CERTIFICATE BY THE TREASURER**

### **2.1 Statement on Internal Control**

#### **2.1.1 Scope of Responsibility**

Southern Inshore Fisheries and Conservation Authority ('The Authority') takes responsibility for ensuring that its business is conducted in accordance with the law and proper standards and that public money is safeguarded and properly accounted for, used economically, efficiently, and effectively. The Authority also has a duty under the Local Government Act 1999 to make arrangements to secure continuous improvement in the way in which its functions are exercised, having regard to a combination of economy, efficiency and effectiveness.

In discharging this overall responsibility, The Authority takes responsibility for ensuring that there is a sound system of internal control which facilitates the effective exercise of The Authority's functions, and which includes arrangements for the management of risk.

#### **2.1.2 The Purpose of the System of Internal Control**

The system of internal control is designed to manage risk to a reasonable level rather than to eliminate all risk of failure to achieve policies, aims and objectives; it can therefore only provide reasonable and not absolute assurance of effectiveness. The system of internal control is based on an ongoing process designed to identify and prioritise the risks to the achievement of The Authority's policies, aims and objectives, to evaluate the likelihood of those risks being realised and the impact should they be realised, and to manage them efficiently, effectively, and economically.

The system of internal control has been in place at the Southern Inshore Fisheries and Conservation Authority for the year to 31<sup>st</sup> March 2024 and up to the date of approval of the annual report and accounts.

#### **2.1.3 The Internal Control Environment**

The key elements of the internal control environment, includes:

- the facilitation of policy and decision-making.
- ensuring compliance with established policies, procedures, laws, and regulations including how risk management is embedded in the activity of The Authority, how leadership is given to the risk management process, and how staff are trained or equipped to manage risk in a way appropriate to their authority and duties.
- ensuring the economical, effective, and efficient use of resources, and for securing continuous improvement in the way in which its functions are exercised, having regard to a combination of economy, efficiency, and effectiveness.
- the financial management of The Authority.
- the overview of the Executive Sub Committee, in accordance with their functions, as specified under The Authority's Standing Orders.

# SOUTHERN INSHORE FISHERIES AND CONSERVATION AUTHORITY

## 2.1.4 Review of Effectiveness

The Authority takes responsibility for conducting, at least annually, a review of the effectiveness of the system of internal control. The review of the effectiveness of the system of internal control is informed by the work of the internal auditors and the executive managers within The Authority who have responsibility for the development and maintenance of the internal control environment, and also by comments made by the external auditors and other review agencies and inspectorates.

## 2.1.5 Significant Internal Control Issues

The most significant Internal Control Issue is the small number of staff to whom tasks can be allocated. There is little or no flexibility in the case of leave or sickness which means that mundane and routine tasks have to be constantly planned in advance.

## 2.1.6 Financial Internal Audit

Financial internal audit was carried out by Gemma Roberts ACA for April 2023 to December 2023 and Jennifer Carr ACA for January 2024 to March 2024. Areas examined include:

- Variance of budget against actual
- Prompt banking of receipts
- Authorisation of expenditure
- Salaries, pensions, and PAYE
- Control over fixed assets
- VAT
- MMO appointees' expenses
- Bank reconciliations

The review of the effectiveness of the system of internal control is informed by:

- the work of officers of the Authority,
- the work of the internal auditor as described above, and
- the external auditors in their limited scope assurance report

Pia Bateman  
Chief Executive Officer

Jennifer Carr  
Chartered Accountant

Date:

Date:

# **SOUTHERN INSHORE FISHERIES AND CONSERVATION AUTHORITY**

## **2.2 Statement on Responsibilities**

### **2.2.1 The Authority's Responsibilities**

The Authority:

- Makes arrangements for the proper administration of its financial affairs and to ensure that one of its officers has the responsibility for the administration of those affairs. In this Authority that officer is the Treasurer.
- Manages its affairs to secure economic, efficient, and effective use of resources and safeguard its assets.

### **2.2.2 The Treasurer's Responsibilities**

The Treasurer takes responsibility for the preparation of the Authority's Statement of Accounts which, in terms of the CIPFA/LASAAC Code of Practice on Local Authority Accounting in Great Britain ("the Code of Practice"), is required to present fairly the financial position of the Authority at the accounting date and its income and expenditure for the year to 31<sup>st</sup> March 2024.

In preparing these accounts, the Treasurer has:

- selected suitable accounting policies and then applied them consistently.
- made judgements and estimates that were reasonable and prudent.
- complied with the Code of Practice; kept proper accounting records which were up to date.
- taken reasonable steps for the prevention and detection of fraud and other irregularities.

## **2.3 Treasurer's Certificate**

I hereby certify that the Statement of Accounts for the year to 31<sup>st</sup> March 2024 has been prepared in accordance with the Accounts and Audit Regulations 1996.

I further certify that the Statement of Accounts presents fairly the financial position of Southern Inshore Fisheries and Conservation Authority at 31<sup>st</sup> March 2024 and its income and expenditure for the year to 31<sup>st</sup> March 2024.

Signed:

Date:  
Pia Bateman  
Treasurer to the Authority

# SOUTHERN INSHORE FISHERIES AND CONSERVATION AUTHORITY

## **3 AUDITORS' REPORT TO THE SOUTHERN INSHORE FISHERIES AND CONSERVATION AUTHORITY**

With effect from 1<sup>st</sup> April 2015 Inshore Fisheries and Conservation Authorities are no longer required to have their accounts audited. In order to give a degree of comfort regarding this Statement of Accounts, The Authority has appointed Francis Clark LLP, registered auditors, to carry out a "limited scope assurance report" ('the Report'), a formal procedure recognised by the Institute of Chartered Accountants. This Report will be available from 30<sup>th</sup> September 2024 and copies may be requested.

## **4 STATEMENT OF ACCOUNTING POLICIES**

### **4.1 Accounting Principles**

The general principles applied in compiling these accounts are those recommended by the Chartered Institute of Public Finance and Accountancy (CIPFA). The accounts have been prepared in accordance with their Code of Practice on Local Authority Accounting and with the guidance notes issued by CIPFA on the application of accounting standards (SSAPs).

### **4.2 Accruals and Historic Cost Convention**

The accounts have been prepared under the accruals concept where income and expenditure are brought into account as they are earned and incurred and not as money received or paid and under the historic cost convention adjusted to include the revaluation of assets.

### **4.3 Basis of Debtors and Creditors**

Revenue creditors are recorded on an Income and Expenditure basis, with estimated creditors being introduced into the accounts to cover goods and services received but not paid for by the year to 31<sup>st</sup> March 2024.

Revenue debtors are accrued to reflect the latest estimates of amounts due. There are no losses or anticipated losses, from non-collectible debts.

### **4.4 Stocks and Work in Progress**

There are no stocks or work in progress included in the accounts.

### **4.5 Depreciation Policy**

Depreciation is charged on all fixed assets. Premises are written down on a straight-line basis at 1% per annum. All other assets are depreciated on the reducing balance method at a rate of 25% per annum.

### **4.6 European Commission Grant Aid**

There are no outstanding payments in respect of support for fisheries training of employees of the Authority.



# SOUTHERN INSHORE FISHERIES AND CONSERVATION AUTHORITY

## 4.7 Pension Fund

The Authority is a scheduled body within the Pension Fund administered by Hampshire County Council. The Authority's staff are eligible to participate in this scheme and all have elected to do so. Costs shown represent contributions paid by the Authority into this scheme. Contributions to the fund are determined on a triennial basis by the Actuary. During the year to 31<sup>st</sup> March 2024 employee contribution of their salary was as follows:

<b>Earnings</b>	<b>Contribution</b>
Up to £16,500	5.5%
£16,501-£25,000	5.8%
£25,901-£42,100	6.5%
£42,101-£53,300	6.8%
£53,301-£74,700	8.5%
£74,701-£105,900	9.9%

The Authority contributed 14.5% of employee's earnings (Previous year: 14.5% of employee's earnings). Employer's contribution during the year to 31<sup>st</sup> March 2024 was £92,759 (2022-2023: £72,579).

## 4.8 Interest and Investments

All interest is from bank accounts. The Authority holds no investments.

## 4.9 Cost of Services

Recharges for work required under the Poole Harbour Fishery Order 2015 are made to The Authority's General Reserve from the Poole Harbour Reserve. In the year to 31<sup>st</sup> March 2024 there was a recharge of £34,566 (2022-2023: credit of £17,021).

## 4.10 Finance Leases and other Financing Arrangements

The Authority had no finance leases, operating leases or hire purchase agreements in operation during the year to 31<sup>st</sup> March 2024.

## 4.11 Reserves and Provisions

**The Capital Finance Reserve** equates to the net book value of the Authority's fixed asset register to provide a fund for the ongoing replacement of all Authority capital assets (buildings, marine assets, vehicles and equipment)

The **Marine Asset Renewal Reserve** provides a fund for the replacement of marine assets (principally patrol vessels) where costs are anticipated to be in excess of net book value, in addition to provisions for a holding pot for unscheduled significant maintenance works.

The **Defra Revenue Reserve** includes funds committed to by Defra in order for IFCA's to support Defra's delivery of the Fisheries Act Objectives, specifically those related to Fisheries Management Plans, Marine Protected Areas and Marine Consents.

The **Research Reserve (formally the Marine Act Reserve)** is funded from surpluses on third party contracts to fund ongoing research.

# SOUTHERN INSHORE FISHERIES AND CONSERVATION AUTHORITY

The **Poole Order Reserve** is held within the General Reserve Balance – please refer to Section 9 for further details,

In 2023-2024, a formal policy on the reserves held by the Authority was reviewed and updated. This stated that reserves would be held for three main purposes:

- To establish and maintain an adequate balance of working capital to help cushion the impact of uneven cash flows.
- To create a contingency to protect against the impact of unexpected events or emergencies and to ensure the Authority’s long term sustainability.
- To build up funds to meet known or predicted requirements often referred to as Earmarked Reserves. Though accounted for separately they are legally part of the General Reserve.

The Executive Sub Committee will review the Reserves Policy every three years. The next review will be undertaken in the financial year 2026-2027.

Following the approval of the annual accounts by The Authority’s external auditors an annual presentation will be made to The Authority’s Executive Sub Committee to justify the existing reserves and their adequacy or otherwise for the following 10 years.

## 4.12 Contingent Liabilities

The Authority has no contingent liabilities.

## 4.13 Related Party Transactions

In accordance with The Accounting Code of Practice the following Related Party Transactions are disclosed for the year to 31 March 2024.

	<u>Receipts</u>	<u>Payments</u>
Levy (receipts), Pension (payments)	£813,091	£92,759
Levies received in advance (This amount has been included in creditors)	(£340,191)	

## 4.14 Disclosure of Fees

The fees expected to be charged by Francis Clark for The Report are approximately £3,500 for the year to 31 March 2024.

# SOUTHERN INSHORE FISHERIES AND CONSERVATION AUTHORITY

## 5 CONSOLIDATED REVENUE ACCOUNT FOR THE YEAR ENDED 31 MARCH 2024

	Notes	2023-2024 £	2022-2023 £
<b><i>Expenditure</i></b>			
Employees	5.1.1	714,238	566,081
Premises - General Office	5.1.2	43,974	31,738
Transport Related Costs	5.1.3	21,461	15,203
Supplies and Services	5.1.4	44,949	61,740
Marine Asset Costs:			
<i>PV Endeavour</i>		9,955	9,457
<i>PV Stella Barbara</i>		8,659	2,860
<i>PV Protector</i>		5,237	3,419
<i>Drone costs</i>		2,708	2,629
<i>PV Fuel</i>		7,266	9,129
<i>Insurance</i>		5,138	4,607
Depreciation	5.1.5	43,317	46,550
Establishment expenses	5.1.6	78,155	60,566
Total Gross Expenditure		985,057	813,979
 <b><i>Income</i></b>			
Interest		25,277	5,879
Other Income		94,905	109,668
Profit on Sale of Fixed Assets	5.1.7	73,489	3,162
		193,671	118,709
Total Net Operating Expenditure, to be met from Levies upon Constituent Authorities		791,386	695,270
Hampshire County Council		328,489	328,489
Isle of Wight Council		116,678	116,678
Dorset Council		201,537	201,537
BCP Council		90,607	90,607
Southampton City Council		34,963	34,963
Portsmouth City Council		40,817	40,817
Total Financing	5.1.8	813,091	813,091
DEFRA Grant Income	5.1.9	140,000	400,000
Net General Fund Surplus		<b>161,705</b>	<b>517,821</b>

# SOUTHERN INSHORE FISHERIES AND CONSERVATION AUTHORITY

## 5.1 Notes to the Consolidated Revenue Account

### 5.1.1 Employees

At year end (31 March 2024) the Authority employed 16 full time and 2 part time staff (2022-2023: 13 full time, 2 part time), at agreed pay bands linked to Local Government Pay Scales. The Authority is required to report specifically on two issues:

1. Employees with remuneration in excess of £50,000. One employee received emoluments at this level in the year to 31 March 2024 (2022- 2023: One).
2. The cost of providing pension contributions for employees: In the year to 31 March 2024 this was £92,759 (2022-2023: £72,579)

### 5.1.2 Premises – General Office

Premises - general office expenses are principally rates, utility bills and other costs incurred in providing the offices at 3 Holes Bay, Poole.

### 5.1.3 Transport Related Costs

Transport related costs cover mainly the travel and subsistence allowances of the Authority's operational staff.

### 5.1.4 Supplies and Services

Supplies and services relate principally to protective clothing, legal costs, training, rent, audit, project and miscellaneous costs together with bank interest.

### 5.1.5 Depreciation

The total is derived as follows:

Premises	Marine Assets	Vehicles	Equipment	Total
£5,006	£23,536	£9,793	£4,982	£43,317

### 5.1.6 Establishment Expenses

Establishment expenses relate to subscriptions to National associations, printing, advertising, stationery, telephones and communications licences, postages, interest payments and insurance other than those relating to the marine assets.

Under this heading the Authority is required to report specifically under Section 4(5) of the Local Government Act 1986 regarding the amount it spent on publicity. In the year to 31<sup>st</sup> March 2024 £1,653 was charged to public notices to advertise the audit and byelaws (2022-2023: £nil). A total of £12,892 (2022-2023: £1,109) was spent on recruitment advertising.

## SOUTHERN INSHORE FISHERIES AND CONSERVATION AUTHORITY

### 5.1.7 Other Income

Other income relates principally to income from DEFRA, in order to support DEFRA's work in achieving its objectives under the Fisheries Act 2020, the Poole Harbour Shellfish Dredge Permit Byelaw (administrative cost recovery only), The Solent Dredge Permit Byelaw (administrative cost recovery only), rent from leases under the Poole Harbour Fishery Order 2015 (administrative cost recovery only), grants received, third party project fees, chartering of marine assets, training provided to other authorities and costs awarded from court cases (cost recovery only).

### 5.1.8 Local Authority Contributions

	<b>2023-24</b>	<b>2022-23</b>
Dorset Council	24.79%	24.79%
Hampshire County Council	40.40%	40.40%
Isle of Wight Council	14.35%	14.35%
BCP Council	11.14%	11.14%
Southampton City Council	4.30%	4.30%
Portsmouth City Council	5.02%	5.02%
TOTAL	100.00%	100.00%

### 5.1.9 DEFRA Grant Income

This comprised one grant made relating to 2023–2024 of £140,000 relating to Revenue to enable Southern IFCA to support Defra in its delivery of specific requirements listed under The Fisheries Act 2020.

### 5.1.10 MMO appointee expenses

MMO appointee general expenses provided in the year to 31 March 2024 were £627. (2022-2023: -£4,833). Details as follows:

	<b>Outstanding at 1 Apr 23</b>	<b>Paid in year</b>	<b>Outstanding at 31 Mar 24</b>	<b>Total per a/cs</b>
T Legg	-	-	-	-
L MacCallum	-	82	-	82
R Stride	-	-	-	-
G Wordsworth	-	-	-	-
N Hornby	-	47	-	47
Provision for o/s claims	(1,000)	-	(1,498)	498
	(1,000)	129	(1,498)	627

**SOUTHERN INSHORE FISHERIES AND CONSERVATION AUTHORITY**

**6**

**CONSOLIDATED BALANCE SHEET AS AT 31 MARCH 2024**

	Notes	2023-2024 £	2022-2023 £
<b>Fixed Assets</b>			
Office and Equipment	6.1.1	506,792	496,692
Marine Assets	6.1.1	63,679	94,984
Vehicles	6.1.1	47,234	27,981
Assets under construction	6.1.1	<u>241,405</u>	<u>149,150</u>
		859,110	768,807
 <b>Current Assets</b>			
Debtors	6.1.2	168,577	375,444
Cash at Bank and In Hand	6.1.3	<u>1,599,153</u>	<u>1,608,167</u>
		1,767,730	1,983,611
<b>Total Assets</b>		<u>2,626,840</u>	<u>2,752,418</u>
 <b>Current Liabilities</b>			
Creditors	6.1.4	<u>399,225</u>	<u>686,508</u>
<b>Current Assets Less Liabilities</b>		1,368,505	1,297,103
 <b>Total Assets Less Liabilities</b>		<u><u>2,227,615</u></u>	<u><u>2,065,910</u></u>
 <b>Represented by</b>			
Capital Finance Account	7	859,110	768,807
Marine Assets Renewal Reserve	7	434,984	275,287
Research Reserve	7	24,903	16,000
DEFRA Revenue Reserve	7	187,503	-
General Reserve	7	<u>721,115</u>	<u>1,005,816</u>
<b>Total Financing</b>		<u><u>2,227,615</u></u>	<u><u>2,065,910</u></u>

# SOUTHERN INSHORE FISHERIES AND CONSERVATION AUTHORITY

## 6.1 Notes to the Balance Sheet

### 6.1.1 Movement of Fixed Assets

	Premises	Marine Assets	Vehicles	Equipment	Assets Under Construction	Total
Book value 1 Apr 2023	478,425	94,984	27,981	18,267	149,150	768,807
Additions	15,529	-	36,397	4,733	115,467	172,126
Disposals	-	(97,960)	(39,761)	(6,196)	-	(143,917)
Revaluation					(23,212)	(23,212)
Depreciation	(5,006)	(23,536)	(9,793)	(4,982)	-	(43,317)
Adjustment on disposal	-	90,191	32,410	6,022	-	128,623
Book value 31 March 2024	488,948	63,679	47,234	17,844	241,405	859,110

### 6.1.2 Debtors

	2023 – 2024 £	2022 - 2023 £
Prepayments	16,470	16,689
VAT Control Account	12,107	8,755
Accrued income	140,000	350,000
	<b>168,577</b>	<b>375,444</b>

Accrued income represent amounts due from Dorset County Council in respect of one DEFRA grant for the year to 31 March 2024.

### 6.1.3 Cash at Bank and In Hand

The amount held at the bank, in petty cash and in stamps.

### 6.1.4 Creditors

	2023 – 2024 £	2022 - 2023 £
Deferred income	344,916	620,633
Other creditors	18,500	18,000
Accruals	35,809	47,875
	<b>399,225</b>	<b>686,508</b>

## SOUTHERN INSHORE FISHERIES AND CONSERVATION AUTHORITY

### 7. STATEMENT OF TOTAL MOVEMENTS IN RESERVES

	Capital Finance Reserve	Marine Assets Renewal Reserve	DEFRA Revenue Reserve	Research Reserve	General reserve	Total
	£	£	£	£	£	£
<b>B/F 1 April 2023</b>	<b>768,807</b>	<b>275,287</b>	-	<b>16,000</b>	<b>1,005,816</b>	<b>2,065,910</b>
Surplus for the year	-	-		-	161,705	161,705
Transfer to/(from) General Reserve	-	-		8,903	(8,903)	-
Transfer to/(from) DEFRA Revenue Reserve			285,952		(285,952)	-
Transfer to Marine Act Reserve		250,000			(250,000)	-
Utilised			(98,449)		98,449	-
<b>Fixed asset movement:</b>						
Additions	172,126	(172,126)		-	-	-
Disposals	(143,917)	143,917		-	-	-
Revaluations	(23,212)	23,212		-	-	-
Depreciation	(43,317)	43,317		-	-	-
Adjustment on disposal	128,623	(128,623)		-	-	-
<b>C/F 31 March 2024</b>	<b>859,110</b>	<b>434,984</b>	<b>187,503</b>	<b>24,903</b>	<b>721,115</b>	<b>2,227,615</b>



## SOUTHERN INSHORE FISHERIES AND CONSERVATION AUTHORITY

### 8. CONSOLIDATED CASH FLOW STATEMENT FOR THE YEAR ENDED 31 MARCH 2024

		2023-2024	2022-2023
	Notes	£	£
<b><i>Expenditure</i></b>			
Cash paid to and on behalf of employees		(714,245)	(546,358)
Other operating costs		(209,636)	(215,372)
		(923,881)	(761,730)
<b><i>Income</i></b>			
Local Authority Precept/Levy (includes early payment for following year)		882,879	813,091
Grant income		50,000	50,000
Insurance Claim		1,255	1,810
Cash received for goods and services		107,675	94,461
Net Cash In/(Out)flow from Revenue Activities	8.1	<b>117,928</b>	<b>197,632</b>
<b><i>Servicing of Finance</i></b>			
Interest Received		25,277	5,879
<b><i>Capital Activities</i></b>			
<b><i>Expenditure</i></b>			
Purchase of fixed assets (including AUC)		(181,004)	(167,895)
<b><i>Income</i></b>			
Proceeds from sale of fixed assets (Patrol vessel/van)		28,785	3,461
Net in/(de)crease in cash	8.1	<b>(9,014)</b>	<b>39,077</b>
		<b>2023-2024</b>	<b>2022-2023</b>
		<b>£</b>	<b>£</b>
<b><i>8.1 Reconciliation</i></b>			
General Fund Surplus/(Deficit)		(284,701)	121,869
Interest Received		(25,277)	(5,879)
Revaluations of fixed assets		23,212	-
Disposal of fixed assets		143,917	2,200
Adjustment on disposal		(128,623)	(1,901)
Net proceeds from sales of fixed assets		(28,785)	(3,461)
Depreciation		43,317	46,550
Sundry Debtors		206,865	(367,097)
Sundry Creditors		(278,403)	405,351
Movement on other Reserves		446,406	-
Cash movement		<b>117,928</b>	<b>197,632</b>
<b><i>Reconciliation</i></b>			
Balance brought forward 1 April		1,608,167	1,569,090
Balance carried forward 31 March		1,599,153	1,608,167
		<b>(9,014)</b>	<b>39,077</b>

# SOUTHERN INSHORE FISHERIES AND CONSERVATION AUTHORITY

## 9. POOLE HARBOUR FISHERY ORDER 2015

The Authority manage aquaculture activity within a defined area of Poole Harbour under [The Poole Harbour Fishery Order 2015](#) (1346/2015). In accordance with Section 6(1) of this Order, The Authority is required to account for the relevant income and expenditure associated with its duties under this Order. The rents received include the costs associated with the reallocation of lease beds in 2020 (Tranche 2) for the period 2020-2025, as well as annual costs associated with the management under this Order. The initial costs associated with the reallocation of lease beds were incurred in 2020 when the previous Tranche 1 (2015-2020) expired, and are being written off over a 5 year period.

The balance for the Poole Order is held within the Authority's General Reserve. In the year to 31<sup>st</sup> March 2024, £16,710 (2022-2023: £17,021) of this balance was used to account for work delivered in accordance with required duties under this Order. £22,000 was transferred to the general reserve, leaving £40,000 ringfenced for legal costs and £40,000 for a year's employment costs for a Project Officer.

	<b>2023-2024</b>	<b>2022-2023</b>
<b><i>Expenditure</i></b>	<b>£</b>	<b>£</b>
Employee Costs	59,060	14,152
Legal costs	6,000	750
Transfer to General Reserve	4,144	20,000
TOTAL	69,204	34,902
 <b><i>Income</i></b>		
Rents	30,494	31,923
Net Income/(Expenditure)	(38,710)	(2,979)
 <b><i>Balances</i></b>		
B/F 1 April	118,791	121,770
Net Income for the year	(38,710)	(2,979)
C/F 31 March	80,081	118,791

## Shore Gathering Byelaw and Supporting Documentation Decision Paper

Report by DCO Birchenough

### A. Purpose

For Members to consider making the proposed Shore Gathering Byelaw and the Fishing for Cockles (Amendment) Byelaw.

Upon the recommendation of the Technical Advisory Sub-Committee (TAC), Members were provided with written notice of the intention to make the Byelaws at least 14 days prior to the date of this meeting.

### B. Recommendation

1. That the Authority proceeds to make the Shore Gathering Byelaw.
2. That the Authority proceeds to make the Fishing for Cockles (Amendment) Byelaw.
3. That both Byelaws are advertised in accordance with IFCA Byelaw Guidance from Defra<sup>1</sup>.
4. That the Authority agrees to implement the Seaweed Harvesting Code of Conduct in line with the ratification of the Byelaws.
5. That the TAC will consider outcomes of the Formal Consultation, prior to review by the Executive Sub-Committee, who, under delegated powers, are required to report with recommendations to the Authority following the making of statutory interventions, prior to MMO quality assurance and an application to the Secretary of State to confirm the Byelaws.

### C. Annexes

1. The Shore Gathering Byelaw
2. The Fishing for Cockles (Amendment) Byelaw
3. The Seaweed Harvesting Code of Conduct
4. The Impact Assessment
5. The Conservation Assessment Package
6. The Site Specific Evidence Package
7. The Literature Review

## 1.0 Introduction

- Members commenced a review of shore gathering management in late 2022. The review was further informed in 2023 by the publication of The Environmental Improvement Plan 2023<sup>2</sup> which introduced a requirement on IFCAs to ensure that all management measures are in place for all MPAs by 2024 to meet Government targets.
- Subsequently, the scope of the Shore Gathering Review was re-defined to focus on **feature-based management interventions for MPAs: sites designated under the National Site Network (SACs, SPAs and MCZs)**.
- A set of Management Principles (*Annex 5 - Conservation Assessment Package, Figure 18, p. 57*) to underpin the development of measures was developed through Member Working Groups and agreed by the TAC at the meeting on 9<sup>th</sup> May 2024. In addition, the TAC agreed a set of draft regulatory measures based on these Management Principles, in the form of the Shore Gathering Byelaw, and a code of conduct for seaweed harvesting.
- In reviewing the draft measures, Members also considered initial drafts of the Conservation Assessment Package, Site Specific Evidence Package and Literature Review as supporting documents.

<sup>1</sup> [ifca-byelaw-guidance.pdf \(publishing.service.gov.uk\)](https://publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/118442/ifca-byelaw-guidance.pdf)

<sup>2</sup> [Environmental Improvement Plan 2023 - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/118442/Environmental_Improvement_Plan_2023_-_GOV.UK.pdf)

- At the TAC meeting on 22<sup>nd</sup> August 2024, Members provided comment on the draft Shore Gathering Byelaw and supporting documentation and the draft Seaweed Harvesting Code of Conduct. Noting that the draft Shore Gathering Byelaw included updates made since the May 2024 TAC meeting on the basis of comment made at the meeting by NE and Formal Advice received from NE on the Conservation Assessment Package and supporting documents (Screening Assessment, Part A/TLSE Assessments, Site Specific Evidence Package and Literature Review) that underpin the proposed management measures.
- In addition, Members considered the draft Fishing for Cockles (Amendment) Byelaw, developed due to the necessity to remove certain provisions from the existing Fishing for Cockles byelaw to avoid duplication of regulation with the Shore Gathering Byelaw but to maintain other provisions to ensure sustainable fishing for cockles across the District.
- **Members of the TAC recommended that the Authority and Secretary of State be formally notified of the intention to make the Shore Gathering Byelaw (SGB) (Annex 1) and the Fishing for Cockles (Amendment) Byelaw (FFCAB) (Annex 2).** There were no required updates to the SGB, FFCAB, the Seaweed Harvesting Code of Conduct (CoC) or the supporting documentation following the TAC meeting.

### 3.0 Rationale

- Southern IFCA is responsible for the management of fishing activities in the coastal waters of Dorset, Hampshire and the Isle of Wight. These waters contain highly biodiverse and ecologically rich habitats, providing a range of valuable ecosystem services. The value of these habitats and species is recognised through a range of Marine Protected Area (MPA) designations, collectively contributing to the UK's MPA network, the National Site Network.
- A review of current management of shore gathering was required in response to the creation of new MCZs within the Southern IFCA District, the availability of updated evidence on the location and extent of designated features within existing MCZs and within or adjacent<sup>3</sup> to SACs and SPAs and to ensure that management is proportionate, relevant and consistent for all shore gathering activities in the District.
- Shore gathering activities such as shellfish gathering, bait digging, push-netting, mechanical harvesting (by hand), crab tiling and seaweed harvesting have the potential to impact certain sensitive features for which MPAs in the National Site Network are designated.
- The introduction of the SGB, accompanied by a seaweed harvesting CoC (Annex 3), and the amendment of the Fishing for Cockles Byelaw to the FFCAB introduces relevant, consistent and feature-based spatial management for shore gathering activities as a proportionate response to ensuring appropriate protection of the marine environment. This is therefore considered to be the most effective approach for the Authority to meet its legislative duties<sup>4</sup>.
  - Duties under Section 154 of The Marine and Coastal Access Act 2009 (MaCAA)<sup>5</sup>
  - Duties under The Conservation of Habitats and Species Regulations 2017<sup>6</sup>, as amended by the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019<sup>7</sup> ('the Conservation Regulations').

### 4.0 The Shore Gathering Byelaw

- The SGB (Annex 1) provides spatial management for sensitive habitats and species within MCZs and within or adjacent to SACs and SPAs to mitigate potential impacts from shore

<sup>3</sup> The term 'adjacent' means a feature (to include any buffer) which extends across the boundary of the designated site, to ensure that the integrity of that part of the feature which exists within the boundary of the site is not affected by activity occurring over that same feature where it extends outside the boundary of the site.

<sup>4</sup> Details of both legislations and relevant duties are given in the Conservation Assessment Package supporting document to the Shore Gathering Byelaw, Annex 5 to this report, Section 2.0, p.7

<sup>5</sup> [Marine and Coastal Access Act 2009 \(legislation.gov.uk\)](https://legislation.gov.uk)

<sup>6</sup> [The Conservation of Habitats and Species Regulations 2017 \(legislation.gov.uk\)](https://legislation.gov.uk)

<sup>7</sup> [The Conservation of Habitats and Species \(Amendment\) \(EU Exit\) Regulations 2019 \(legislation.gov.uk\)](https://legislation.gov.uk)

gathering activities. Spatial management is further defined by prohibition (year-round) or seasonal management, with three types of management areas under the Byelaw:

- Prohibited Areas (year-round)
- Summer Closure Areas (closed 1st March to 31st August)
- Winter Closure Areas (closed 1st November to 31st March)
- During those periods of closure, no shore gathering activities will be permitted to take place in accordance with the prohibitions and associated definitions for shore gathering outlined in the 'Prohibitions' section below.
- There are **43 Prohibited Areas, 8 Summer Closure Areas and 10 Winter Closure Areas** under the SGB.
- The total area closed to shore gathering activity by Prohibited Areas is **20.28km<sup>2</sup>** representing **0.74%** of the Southern IFCA District, this is an increase of **4.97km<sup>2</sup>** from the current year-round spatial footprint of the Southern IFCA Prohibition of Gathering (Sea Fisheries Resources) in Seagrass Beds Byelaw. The total area closed to shore gathering activity by Winter Closure Areas is **5.27km<sup>2</sup>** representing **0.19%** of the Southern IFCA District and the total area closed by Summer Closure Areas is **17.26km<sup>2</sup>** representing **0.63%** of the District. The total area of the District closed under both year-round and seasonal closures is **42.81km<sup>2</sup>** representing **1.56%**.
- Considering the use of spatial management in line with the management principles (up to the 2m contour)<sup>8</sup> the relevant area within MCZs, SACs and SPAs covered by each type of spatial management is:
  - Prohibited Areas = **10.9%**
  - Winter Closure Areas = **2.8%**
  - Summer Closure Areas = **17.3%**
  - Total = **23.1%**
- The total area managed under the SGB, in line with the relevant area covered by the management principles (up to the 2m contour) is **24.2%** of SPAs, **32.4%** of SACs and **16.1%** of MCZs (noting that some designations overlap therefore the same area of closure will be applicable across more than one designated site in some cases).

### Prohibitions

- The prohibitions under the SGB are given as follows. These are applicable to all three types of management area during the relevant closed period.
  - i. No person shall fish for or take sea fisheries resources by hand or with the use of hand operated equipment where the fishing for, or taking is for the purpose of harvesting sea fisheries resources.*
  - ii. No person shall have with them any hand operated equipment for use in the course of, or in connection with, the fishing for, or taking of sea fisheries resources for the purpose of harvesting.*
  - iii. No person shall use or deploy any form of artificial habitat, structure or shelter to aid the collection of crab.*
- The definition of 'harvesting' in relation to the above prohibitions is given as: *to remove and retain for the purposes of consumption, selling, displaying, using as part or wholly for a product or service, cultivating, introducing to the sea or using as bait whether carried out for commercial purposes or otherwise.*

<sup>8</sup> These calculations are made on the basis of management being applied to the 2m contour in line with the Management Principles defined for the Shore Gathering Review, and therefore the boundaries used to inform the size of closure areas against the overall size of an MPA within that contour is based on modelled outputs, the calculations should be viewed as such.

- The Byelaw provides two exceptions:
  - Points (i) and (ii) do not apply to the fishing for or taking of sea fisheries resources using a vessel provided that no part of the vessel's hull is in contact with the seabed.
  - Points (i) and (ii) do not apply when using:
    - a. hook and line in conjunction with a fishing rod;
    - b. a handline;
    - c. a spear gun; or
    - d. a net other than a push net
- The definitions used in the Byelaw ensure that all relevant activities are covered. The potential impacts which require spatial management are applicable to all types of shore gathering activity and therefore in order to ensure that identified protections for designated features are appropriately mitigating those impacts, there is a need to manage all relevant activities consistently.

## Revocations

- The SGB will revoke the following Southern IFCA Byelaws:
  - Prohibition of Gathering (Sea Fisheries Resources) in Seagrass Beds Byelaw
  - Poole Harbour Shellfish Hand Gathering Byelaw
  - Periwinkles Byelaw
  - Fishing for Oysters, Mussels and Clams Byelaw
  - Redeposit of Shellfish Byelaw

## **5.0 The Seaweed Harvesting Code of Conduct**

- For the management of seaweed harvesting outside of the management areas defined in the SGB, the Southern IFCA Seaweed Harvesting CoC has been developed (Annex 3). The CoC is in line with other seaweed harvesting CoCs around the UK and has primarily used a CoC developed by Natural England, in conjunction with partners including other IFC Authorities, as a base with the inclusion of specific provisions relevant to the needs of applicable National Site Network Sites.
- The intention is that the CoC would be introduced alongside the SGB and FFCAB at the point the Byelaws are ratified by the Secretary of State.

## **6.0 The Fishing for Cockles (Amendment) Byelaw**

- The Southern IFCA Fishing for Cockles Byelaw will be amended along with the introduction of the SGB.
- An amendment is required to remove the provision relating to specifications on hand gathering practices for common cockle, in addition, in light of regulation for this species under the Poole Harbour Dredge Permit Byelaw and the Solent Dredge Permit Byelaw, existing provisions regarding dredge size and deployment can also be removed.
- The amended byelaw, FFCAB (Annex 2), will contain the provisions for a closed season for fishing for cockles of between 1st February and 30th April inclusive and the MCRS for cockle, stated as a person must not take from a fishery a cockle which will pass through a gauge having a square opening measuring 23.8mm along each side.

## 7.0 Supporting Documentation

### Impact Assessment

- An Impact Assessment (Annex 4) has been prepared to consider the anticipated costs and benefits of the SGB. To estimate the economic cost, Southern IFCA undertook a targeted engagement exercise to gather the potential impact of changes to shore gathering management in the district. In the absence of any available catch data from national mechanisms being available for shore gathering activities, targeted engagement was the most appropriate method to gather this information.
- Through this exercise it was determined that commercial bait digging participants are expected to incur costs as a result of reduced access or loss of access to fishing grounds within year-round prohibition areas under the Byelaw. These costs will be incurred as a direct result of the closure of the fishing area.
- The average annual cost to industry was calculated as £77,609. As the only data available to inform this assessment was from direct engagement, it needs to be caveated that calculations are based on the maximum potential cost if the relevant areas were accessed every day with the maximum quantity of sea fisheries resource taken. Based on Southern IFCA records of activity data and observations made by Officers, the relevant activity has not been observed to occur every day in any location and therefore the estimation of cost is highly likely to be an overestimate.
- The total transition cost to Southern IFCA associated with the new measures is estimated to be £1,717 and would come in the first year of the SGB. This cost is related to the update of current information boards and production of new information resources. Ongoing compliance costs would form part of the normal annual delivery of work by Southern IFCA.

### Conservation Assessments

- A determination of whether management measures are appropriate to meet the legal duties for relevant sites is made through the completion of an MCZ Assessment (for MCZs) or a Habitats Regulations Assessment (HRA, for SACs and SPAs). For the latter, a duty is placed on Southern IFCA as a competent authority under Article 6(3) of the Habitats Directive, whereby any plan or project likely to have a significant effect on an SPA or SAC within the National Site Network, either individually or in combination with other plans or projects, is to undergo an appropriate assessment, namely a Habitats Regulation Assessment (HRA). The plan or project must be assessed in view of the site's conservation objectives. Accordingly, MCZ Assessments and HRAs were undertaken as part of the review.
- MCZ assessments for shore gathering activities were undertaken for the following MCZs in the Southern IFCA district:
  - Bembridge MCZ
  - Studland Bay MCZ
  - Yarmouth to Cowes MCZ
  - Purbeck Coast MCZ
  - The Needles MCZ
  - Chesil Beach and Stennis Ledges MCZ
- SAC/SPA assessments for shore gathering activities were undertaken for the following SPAs and SACs in the Southern IFCA district:
  - Lyme Bay and Torbay SAC
  - Studland to Portland SAC
  - Chesil and the Fleet SAC
  - Solent Maritime SAC
  - South Wight Maritime SAC
  - Chesil Beach and The Fleet SPA
  - Poole Harbour SPA
  - Solent and Southampton Water SPA
  - Portsmouth Harbour SPA
  - Chichester and Langstone Harbours SPA



- The outputs of these assessments and the supporting information used to inform the assessments is provided as a series of supporting documents to the SGB as follows:
  - The Conservation Assessment Package (Annex 5)
  - The Shore Gathering Site Specific Evidence Package (Annex 6)
  - The Shore Gathering Literature Review (Annex 7)
- Formal Advice was sought from Natural England on the assessments and has been provided. A review of the Formal Advice and the response from Southern IFCA was carried out by the Technical Advisory Sub-Committee at the meeting in August 2024.

## 2.0 Next Steps

- Should the Authority resolve to make the Byelaws, the Authority will give notice of its intention to apply for confirmation of the Byelaws by advertising them for 2 consecutive weeks.
- Following this, a 28-day formal consultation period will begin, during which stakeholders will have the opportunity to respond to the Authority.
- The Authority will then respond and, where appropriate, liaise with objectors with a view to resolving the objection. The TAC will consider outcomes of the Formal Consultation, prior to review by the Executive Sub-Committee, who, under delegated powers, are required to report with recommendations to the Authority following the making of statutory interventions, prior to MMO quality assurance and an application to the Secretary of State to confirm the Byelaws.
- The MMO will make final quality assurance checks and assess the evidence prior to recommending the Byelaws for confirmation, any byelaw will only come into force following confirmation by the Secretary of State.



## SOUTHERN INSHORE FISHERIES AND CONSERVATION AUTHORITY

MARINE AND COASTAL ACCESS ACT 2009<sup>1</sup>**SHORE GATHERING BYELAW**

The Southern Inshore Fisheries and Conservation Authority, in exercise of the powers conferred by section 155(1) of the Marine and Coastal Access Act 2009 makes the following byelaw for that District.

**INTERPRETATION**

- (1) In this byelaw:
- a. All positions given by means of coordinate are defined on World Geodetic System 1984 Datum (WGS84);
  - b. "the Authority" means the Southern Inshore Fisheries and Conservation Authority as defined in Article 4 of the Southern Inshore Fisheries and Conservation Order 2010<sup>2</sup>;
  - c. "crab" means all crab species, including but not limited to Edible crab (*Cancer pagurus*), European green crab (*Carcinus maenas*), Spinous spider crab (*Maja squinado*) and Velvet crab (*Necora puber*);
  - d. "the District" means the area defined in Article 3 of the Southern Inshore Fisheries and Conservation Order 2010<sup>2</sup>;
  - e. "harvesting" means to remove and retain for the purposes of consumption, selling, displaying, using as part of or wholly for a product or service, cultivating, introducing to the sea or using as bait whether carried out for commercial purposes or otherwise;
  - f. "prohibited area" means the area enclosed by the co-ordinates listed in Schedule 1;
  - g. "sea fisheries resources" means that defined in section 153(10) of the Marine and Coastal Access Act 2009<sup>3</sup>;
  - h. "summer closure area" means the area enclosed by the co-ordinates listed in Schedule 3;
  - i. "winter closure area" means the area enclosed by the co-ordinates listed in Schedule 2.

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<sup>1</sup> 2009 c.23

<sup>2</sup> S.I. 2010/2198

<sup>3</sup> [Marine and Coastal Access Act 2009 \(legislation.gov.uk\)](http://legislation.gov.uk)

## **PROHIBITIONS**

- (2) No person shall fish for or take sea fisheries resources by hand or with the use of hand operated equipment where the fishing for, or taking is for the purpose of harvesting sea fisheries resources within:
  - a) a prohibited area;
  - b) a summer closure area for the period 1<sup>st</sup> March to 31<sup>st</sup> August; or
  - c) a winter closure area for the period 1<sup>st</sup> November to 31<sup>st</sup> March.
- (3) No person shall have with them any hand operated equipment for use in the course of, or in connection with, the fishing for, or taking of sea fisheries resources for the purpose of harvesting within:
  - a) a prohibited area;
  - b) a summer closure area for the period 1<sup>st</sup> March to 31<sup>st</sup> August; or
  - c) a winter closure area for the period 1<sup>st</sup> November to 31<sup>st</sup> March.
- (4) No person shall use or deploy any form of artificial habitat, structure, or shelter to aid the collection of crab within:
  - a) a prohibited area;
  - b) a summer closure area for the period 1<sup>st</sup> March to 31<sup>st</sup> August; or
  - c) a winter closure area for the period 1<sup>st</sup> November to 31<sup>st</sup> March.

## **EXCEPTIONS**

- (5) Paragraphs (2) and (3) do not apply to the fishing for or taking of sea fisheries resources using a vessel provided that no part of the vessel's hull is in contact with the seabed.
- (6) Paragraphs (2) and (3) do not apply when using:
  - a) hook and line in conjunction with a fishing rod;
  - b) a handline;
  - c) a spear gun; or
  - d) a net other than a push net.

## **DISPENSATIONS**

- (7) Paragraphs (2) to (4) do not apply to any person who has obtained a written dispensation issued by the Authority in accordance with paragraph (8) and the authorisation is valid in accordance with paragraph (9).

- (8) The Authority may issue a written dispensation for scientific, educational, stocking or breeding purposes.
- (9) A dispensation issued under paragraph (8) will only be valid if:
  - a) The act being undertaken complies with the terms of the dispensation; and
  - b) The dispensation is carried on the person and produced for inspection when requested by an Inshore Fisheries and Conservation Officer of the Authority or any other person authorised by the Authority to make such a request.

## **REVIEW**

- (10) The Authority (or a sub-committee thereof authorised by the Authority to do so) will review the suitability of the byelaw in accordance with any changes in best available evidence, to include any statutory advice provided by Natural England or other such bodies, organisations or persons as the Authority deem fit.

## **AMENDMENT**

- (11) The byelaw with the title “Fishing for Cockles” made by the Authority, in exercise of its powers under section 155(1) of the Marine and Coastal Access Act 2009, confirmed on 23<sup>rd</sup> June 2015, and in force immediately before the making of this byelaw is amended to the “Fishing for Cockles (Amendment) Byelaw”.

## **REVOCATIONS**

- (12) The byelaw with the title “Prohibition of Gathering (Sea Fisheries Resources) in Seagrass Beds Byelaw” made by the Authority, in exercise of its powers under sections 155(1) of the Marine and Coastal Access Act 2009, confirmed on 20<sup>th</sup> December 2013, and in force immediately before the making of this byelaw is revoked.
- (13) The byelaw with the title “Poole Harbour Shellfish Hand Gathering Byelaw” made by the Authority, in exercise of its powers under sections 155(1) of the Marine and Coastal Access Act 2009, confirmed on 23<sup>rd</sup> June 2015, and in force immediately before the making of this byelaw is revoked.
- (14) The byelaw with the title “Periwinkles” made by the Southern Sea Fisheries District Committee in exercise of its power under section 5 of the Sea Fisheries Regulation Act 1966, confirmed on 17<sup>th</sup> November 1994, and in force immediately before the making of this byelaw is revoked.
- (15) The byelaw with the title “Fishing for Oysters, Mussels and Clams” made by the Southern Sea Fisheries District Committee in exercise of its power under section 5 of the Sea Fisheries Regulation Act 1966, confirmed on 27<sup>th</sup> September 1994, and in force immediately before the making of this byelaw is revoked.
- (16) The byelaw with the title “Redeposit of Shellfish” made by the Southern Sea Fisheries District Committee in exercise of its power under section 5 of the Sea Fisheries

Regulation Act 1966, confirmed on 27<sup>th</sup> February 1995, and in force immediately before the making of this byelaw is revoked.

I hereby certify that the above byelaw was made by Southern Inshore Fisheries and Conservation Authority at their meeting on 19<sup>th</sup> September 2024 (TBC).

.....

**Pia Bateman**  
Chief Executive Officer  
Southern Inshore Fisheries and Conservation Authority

The Secretary of State for Environment, Food and Rural Affairs in exercise of the power conferred by section 155(3) of the Marine and Coastal Access Act 2009 confirms the Shore Gathering Byelaw made by the Southern Inshore Fisheries and Conservation Authority on 19<sup>th</sup> September 2024 (TBC).

.....

A Senior Civil Servant for, and on behalf of, the Secretary of State for Environment, Food and Rural Affairs

Date:

## SCHEDULE 1 – PROHIBITED AREAS

Schedule 1 - Prohibited Areas			
Point Number	Latitude	Longitude	Straight Line, unless otherwise stated, to Next Point Number
<b>Chichester Harbour: Areas 1 - 2</b>			
<b>Area 1</b>			
1	50 ° 48.787 minutes N	0 ° 57.393 minutes W	to
2	50 ° 49.095 minutes N	0 ° 56.963 minutes W	to
3	50 ° 48.174 minutes N	0 ° 56.656 minutes W	to
4	50 ° 48.112 minutes N	0 ° 56.977 minutes W	to
5	50 ° 48.375 minutes N	0 ° 57.627 minutes W	to
6	50 ° 48.263 minutes N	0 ° 58.044 minutes W	to
7	50 ° 48.311 minutes N	0 ° 58.093 minutes W	to
8	50 ° 48.330 minutes N	0 ° 58.129 minutes W	to
9	50 ° 48.383 minutes N	0 ° 58.059 minutes W	From point 9 along the coast at the level of mean high water spring tide to point 10
10	50 ° 48.594 minutes N	0 ° 58.067 minutes W	to
11	50 ° 48.641 minutes N	0 ° 58.064 minutes W	From point 11 along the coast at the level of mean high water spring tide to point 1.
<b>Area 2</b>			
12	50 ° 47.374 minutes N	0 ° 57.407 minutes W	to
13	50 ° 47.406 minutes N	0 ° 57.403 minutes W	to
14	50 ° 47.675 minutes N	0 ° 56.729 minutes W	to
15	50 ° 47.675 minutes N	0 ° 56.623 minutes W	to
16	50 ° 47.203 minutes N	0 ° 56.588 minutes W	From point 16 along the coast at the level of mean high water spring tide to point 17
17	50 ° 46.978 minutes N	0 ° 57.014 minutes W	to
18	50 ° 47.050 minutes N	0 ° 57.076 minutes W	From point 18 along the coast at the level of mean high water spring tide to point 12.
<b>Langstone Harbour: Areas 3 - 12</b>			
<b>Area 3</b>			
19	50 ° 49.437 minutes N	0 ° 59.164 minutes W	to
20	50 ° 49.439 minutes N	0 ° 59.314 minutes W	to
21	50 ° 49.495 minutes N	0 ° 59.455 minutes W	to
22	50 ° 49.564 minutes N	0 ° 59.450 minutes W	to
23	50 ° 49.635 minutes N	0 ° 59.400 minutes W	to
24	50 ° 49.701 minutes N	0 ° 59.311 minutes W	to
25	50 ° 49.744 minutes N	0 ° 59.208 minutes W	to

26	50 °	49.751 minutes	N	0 °	59.161 minutes	W to
27	50 °	49.797 minutes	N	0 °	59.031 minutes	W to
28	50 °	49.826 minutes	N	0 °	59.001 minutes	W to
29	50 °	49.839 minutes	N	0 °	58.973 minutes	W to
30	50 °	49.834 minutes	N	0 °	58.955 minutes	W From point 30 along the coast at the level of mean high water spring tide to point 19.
<b>Area 4</b>						
31	50 °	48.769 minutes	N	0 °	59.295 minutes	W to
32	50 °	48.776 minutes	N	0 °	59.320 minutes	W to
33	50 °	48.812 minutes	N	0 °	59.277 minutes	W to
34	50 °	48.806 minutes	N	0 °	59.257 minutes	W From point 34 to point 31.
<b>Area 5</b>						
35	50 °	47.680 minutes	N	1 °	0.052 minutes	W to
36	50 °	47.657 minutes	N	1 °	0.388 minutes	W to
37	50 °	47.704 minutes	N	1 °	0.520 minutes	W to
38	50 °	47.785 minutes	N	1 °	0.525 minutes	W to
39	50 °	47.878 minutes	N	1 °	0.330 minutes	W to
40	50 °	47.912 minutes	N	1 °	0.083 minutes	W to
41	50 °	48.073 minutes	N	1 °	0.011 minutes	W to
42	50 °	48.259 minutes	N	0 °	59.543 minutes	W to
43	50 °	48.439 minutes	N	1 °	0.038 minutes	W to
44	50 °	48.670 minutes	N	0 °	59.514 minutes	W to
45	50 °	48.631 minutes	N	0 °	59.333 minutes	W From point 45 along the coast at the level of mean high water spring tide to point 35.
<b>Area 6</b>						
46	50 °	47.922 minutes	N	1 °	0.926 minutes	W to
47	50 °	47.921 minutes	N	1 °	0.895 minutes	W to
48	50 °	47.796 minutes	N	1 °	0.757 minutes	W to
49	50 °	47.748 minutes	N	1 °	0.768 minutes	W to
50	50 °	47.723 minutes	N	1 °	0.948 minutes	W to
51	50 °	47.759 minutes	N	1 °	1.010 minutes	W to
52	50 °	47.776 minutes	N	1 °	1.078 minutes	W to
53	50 °	47.815 minutes	N	1 °	1.057 minutes	W to
54	50 °	47.795 minutes	N	1 °	0.987 minutes	W From point 54 to point 46.

Area 7						
55	50 °	47.616 minutes	N	1 °	1.070 minutes	W to
56	50 °	47.605 minutes	N	1 °	1.204 minutes	W to
57	50 °	47.647 minutes	N	1 °	1.266 minutes	W to
58	50 °	47.699 minutes	N	1 °	1.167 minutes	W to
59	50 °	47.660 minutes	N	1 °	1.133 minutes	W From point 59 along the coast at the level of mean high water spring tide to point 55.
Area 8						
60	50 °	49.589 minutes	N	1 °	1.464 minutes	W to
61	50 °	49.120 minutes	N	1 °	1.507 minutes	W to
62	50 °	48.882 minutes	N	1 °	1.924 minutes	W to
63	50 °	49.478 minutes	N	1 °	2.394 minutes	W to
64	50 °	49.732 minutes	N	1 °	2.411 minutes	W to
65	50 °	49.760 minutes	N	1 °	2.100 minutes	W From point 65 along the coast at the level of mean high water spring tide to point 60.
Area 9						
66	50 °	50.074 minutes	N	1 °	2.375 minutes	W to
67	50 °	50.022 minutes	N	1 °	2.282 minutes	W to
68	50 °	49.884 minutes	N	1 °	2.431 minutes	W to
69	50 °	49.930 minutes	N	1 °	2.576 minutes	W to
70	50 °	50.071 minutes	N	1 °	2.425 minutes	W From point 70 along the coast at the level of mean high water spring tide to point 66.
Area 10						
71	50 °	49.798 minutes	N	1 °	0.860 minutes	W to
72	50 °	49.421 minutes	N	1 °	0.315 minutes	W to
73	50 °	49.283 minutes	N	1 °	0.443 minutes	W to
74	50 °	49.543 minutes	N	1 °	1.089 minutes	W to
75	50 °	49.698 minutes	N	1 °	1.093 minutes	W From point 75 to point 71.
Area 11						
76	50 °	49.615 minutes	N	1 °	0.201 minutes	W to
77	50 °	49.600 minutes	N	1 °	0.152 minutes	W to
78	50 °	49.561 minutes	N	1 °	0.192 minutes	W to
79	50 °	49.574 minutes	N	1 °	0.252 minutes	W From point 79 to point 76.
Area 12						
80	50 °	50.357 minutes	N	1 °	1.236 minutes	W to
81	50 °	50.171 minutes	N	1 °	0.404 minutes	W to
82	50 °	49.860 minutes	N	1 °	0.039 minutes	W to

83	50 °	49.697 minutes	N	1 °	0.081 minutes	W to
84	50 °	50.117 minutes	N	1 °	0.828 minutes	W to
85	50 °	50.112 minutes	N	1 °	1.307 minutes	W From point 85 along the coast at the level of mean high water spring tide to point 80.
<b>Portsmouth Harbour: Area 13 - 16</b>						
<b>Area 13</b>						
86	50 °	50.015 minutes	N	1 °	7.693 minutes	W to
87	50 °	49.944 minutes	N	1 °	7.362 minutes	W to
88	50 °	49.856 minutes	N	1 °	7.418 minutes	W to
89	50 °	49.970 minutes	N	1 °	7.735 minutes	W From point 89 to point 86.
<b>Area 14</b>						
90	50 °	49.495 minutes	N	1 °	7.155 minutes	W to
91	50 °	49.244 minutes	N	1 °	7.129 minutes	W to
92	50 °	49.139 minutes	N	1 °	7.741 minutes	W to
93	50 °	49.437 minutes	N	1 °	7.927 minutes	W From point 93 to point 90.
<b>Area 15</b>						
94	50 °	50.166 minutes	N	1 °	7.478 minutes	W to
95	50 °	50.079 minutes	N	1 °	7.362 minutes	W to
96	50 °	50.015 minutes	N	1 °	7.411 minutes	W to
97	50 °	50.070 minutes	N	1 °	7.742 minutes	W to
98	50 °	49.606 minutes	N	1 °	8.179 minutes	W to
99	50 °	49.683 minutes	N	1 °	8.399 minutes	W to
100	50 °	49.869 minutes	N	1 °	8.434 minutes	W to
101	50 °	50.370 minutes	N	1 °	8.968 minutes	W to
102	50 °	50.444 minutes	N	1 °	9.102 minutes	W to
103	50 °	50.480 minutes	N	1 °	9.058 minutes	W From point 103 along the coast at the level of mean high water spring tide to point 104
104	50 °	50.513 minutes	N	1 °	8.933 minutes	W to
105	50 °	50.417 minutes	N	1 °	8.811 minutes	W From point 105 along the north side of the jetty to point 106
106	50 °	50.434 minutes	N	1 °	8.768 minutes	W From point 106 along the coast at the level of mean high water spring tide to point 94.
<b>Area 16</b>						
107	50 °	50.594 minutes	N	1 °	9.266 minutes	W to
108	50 °	50.508 minutes	N	1 °	9.437 minutes	W to
109	50 °	50.476 minutes	N	1 °	9.713 minutes	W to
110	50 °	50.577 minutes	N	1 °	9.696 minutes	W to



111	50 °	50.682 minutes	N	1 °	9.549 minutes	W	From point 111 along the coast at the level of mean high water spring tide to point 112
112	50 °	50.665 minutes	N	1 °	9.434 minutes	W	to
113	50 °	50.621 minutes	N	1 °	9.243 minutes	W	to
114	50 °	50.601 minutes	N	1 °	9.231 minutes	W	From point 114 along the coast at the level of mean high water spring tide to point 107.
<b>Southampton Water: Areas 17 - 18</b>							
<b>Area 17</b>							
115	50 °	49.546 minutes	N	1 °	15.733 minutes	W	to
116	50 °	49.400 minutes	N	1 °	15.429 minutes	W	to
117	50 °	49.292 minutes	N	1 °	15.269 minutes	W	to
118	50 °	49.175 minutes	N	1 °	15.315 minutes	W	to
119	50 °	49.506 minutes	N	1 °	16.055 minutes	W	to
120	50 °	49.583 minutes	N	1 °	16.011 minutes	W	From point 120 to point 115.
<b>Area 18</b>							
121	50 °	48.570 minutes	N	1 °	18.702 minutes	W	to
122	50 °	48.505 minutes	N	1 °	18.582 minutes	W	to
123	50 °	48.196 minutes	N	1 °	19.328 minutes	W	to
124	50 °	47.905 minutes	N	1 °	19.750 minutes	W	to
125	50 °	47.777 minutes	N	1 °	19.861 minutes	W	to
126	50 °	47.788 minutes	N	1 °	19.902 minutes	W	to
127	50 °	47.873 minutes	N	1 °	19.926 minutes	W	From point 127 along the coast at the level of mean high water spring tide to point 128
128	50 °	48.103 minutes	N	1 °	19.715 minutes	W	to
129	50 °	48.470 minutes	N	1 °	19.136 minutes	W	From point 129 to point 121.
<b>Beaulieu: Area 19</b>							
<b>Area 19</b>							
130	50 °	46.846 minutes	N	1 °	21.762 minutes	W	to
131	50 °	46.634 minutes	N	1 °	21.703 minutes	W	to
132	50 °	46.644 minutes	N	1 °	22.091 minutes	W	to
133	50 °	46.797 minutes	N	1 °	22.120 minutes	W	From point 133 to point 130.
<b>Isle of Wight: Areas 20 - 34</b>							
<b>Area 20</b>							
134	50 °	40.964 minutes	N	1 °	32.675 minutes	W	to
135	50 °	40.853 minutes	N	1 °	32.929 minutes	W	to
136	50 °	40.876 minutes	N	1 °	33.036 minutes	W	to

137	50 °	41.078 minutes	N	1 °	32.770 minutes	W to
138	50 °	40.995 minutes	N	1 °	32.661 minutes	W From point 138 along the coast at the level of mean high water spring tide to point 134.
<b>Area 21</b>						
139	50 °	41.664 minutes	N	1 °	32.296 minutes	W to
140	50 °	41.489 minutes	N	1 °	32.189 minutes	W to
141	50 °	41.409 minutes	N	1 °	32.522 minutes	W to
142	50 °	41.448 minutes	N	1 °	32.554 minutes	W From point 142 to point 139.
<b>Area 22</b>						
143	50 °	42.420 minutes	N	1 °	30.954 minutes	W to
144	50 °	42.462 minutes	N	1 °	30.944 minutes	W to
145	50 °	42.486 minutes	N	1 °	30.150 minutes	W to
146	50 °	42.633 minutes	N	1 °	28.785 minutes	W to
147	50 °	42.943 minutes	N	1 °	27.643 minutes	W to
148	50 °	42.860 minutes	N	1 °	27.588 minutes	W From point 148 along the coast at the level of mean high water spring tide to point 149
149	50 °	42.425 minutes	N	1 °	30.019 minutes	W From point 149 to point 150
150	50 °	42.424 minutes	N	1 °	30.073 minutes	W From point 150 along the coast at the level of mean high water spring tide to point 143.
<b>Area 23</b>						
151	50 °	45.439 minutes	N	1 °	19.855 minutes	W to
152	50 °	45.481 minutes	N	1 °	19.867 minutes	W to
153	50 °	45.543 minutes	N	1 °	19.661 minutes	W to
154	50 °	45.533 minutes	N	1 °	19.643 minutes	W to
155	50 °	45.475 minutes	N	1 °	19.694 minutes	W From point 155 along the coast at the level of mean high water spring tide to point 156
156	50 °	45.461 minutes	N	1 °	19.738 minutes	W From point 156 to point 151.
<b>Area 24</b>						
157	50 °	46.036 minutes	N	1 °	18.327 minutes	W to
158	50 °	46.060 minutes	N	1 °	18.350 minutes	W to
159	50 °	46.061 minutes	N	1 °	18.263 minutes	W to
160	50 °	46.036 minutes	N	1 °	18.265 minutes	W From point 160 along the coast at the level of mean high water spring tide to point 157.
<b>Area 25</b>						
161	50 °	45.863 minutes	N	1 °	17.609 minutes	W to
162	50 °	45.979 minutes	N	1 °	17.556 minutes	W to
163	50 °	46.017 minutes	N	1 °	17.495 minutes	W to
164	50 °	46.081 minutes	N	1 °	16.972 minutes	W to

165	50 °	45.971 minutes	N	1 °	16.915 minutes	W to
166	50 °	45.834 minutes	N	1 °	17.499 minutes	W From point 166 to point 161.
<b>Area 26</b>						
167	50 °	45.942 minutes	N	1 °	16.327 minutes	W to
168	50 °	45.975 minutes	N	1 °	16.291 minutes	W to
169	50 °	45.959 minutes	N	1 °	16.099 minutes	W to
170	50 °	44.953 minutes	N	1 °	13.983 minutes	W to
171	50 °	44.515 minutes	N	1 °	12.516 minutes	W to
172	50 °	44.429 minutes	N	1 °	12.355 minutes	W to
173	50 °	44.268 minutes	N	1 °	12.554 minutes	W to
174	50 °	44.241 minutes	N	1 °	12.699 minutes	W to
175	50 °	44.335 minutes	N	1 °	12.828 minutes	W to
176	50 °	44.392 minutes	N	1 °	13.194 minutes	W to
177	50 °	44.668 minutes	N	1 °	14.116 minutes	W to
178	50 °	44.968 minutes	N	1 °	14.700 minutes	W to
179	50 °	45.129 minutes	N	1 °	14.841 minutes	W to
180	50 °	45.280 minutes	N	1 °	15.364 minutes	W to
181	50 °	45.559 minutes	N	1 °	15.588 minutes	W From point 181 along the coast at the level of mean high water spring tide to point 167.
<b>Area 27</b>						
182	50 °	44.020 minutes	N	1 °	10.487 minutes	W to
183	50 °	44.112 minutes	N	1 °	10.498 minutes	W to
184	50 °	44.338 minutes	N	1 °	9.715 minutes	W From point 184 along the Northern edge of the pier to point 185
185	50 °	44.363 minutes	N	1 °	9.556 minutes	W to
186	50 °	44.487 minutes	N	1 °	8.955 minutes	W to
187	50 °	44.200 minutes	N	1 °	9.049 minutes	W to
188	50 °	43.981 minutes	N	1 °	9.207 minutes	W From point 188 along the coast at the level of mean high water spring tide to point 182.
<b>Area 28</b>						
189	50 °	43.041 minutes	N	1 °	6.405 minutes	W to
190	50 °	43.047 minutes	N	1 °	6.346 minutes	W to
191	50 °	42.865 minutes	N	1 °	6.273 minutes	W to
192	50 °	42.855 minutes	N	1 °	6.339 minutes	W From point 192 to point 189.
<b>Area 29</b>						
193	50 °	42.412 minutes	N	1 °	6.047 minutes	W to

194	50 °	42.510 minutes	N	1 °	6.090 minutes	W to
195	50 °	42.527 minutes	N	1 °	6.038 minutes	W to
196	50 °	42.422 minutes	N	1 °	5.882 minutes	W to
197	50 °	42.386 minutes	N	1 °	5.957 minutes	W From point 197 to point 193.
<b>Area 30</b>						
198	50 °	42.275 minutes	N	1 °	5.170 minutes	W to
199	50 °	42.339 minutes	N	1 °	5.168 minutes	W to
200	50 °	42.337 minutes	N	1 °	5.054 minutes	W to
201	50 °	42.273 minutes	N	1 °	5.057 minutes	W From point 201 to point 198.
<b>Area 31</b>						
202	50 °	41.992 minutes	N	1 °	5.626 minutes	W to
203	50 °	42.060 minutes	N	1 °	5.534 minutes	W to
204	50 °	42.070 minutes	N	1 °	5.161 minutes	W to
205	50 °	41.769 minutes	N	1 °	5.054 minutes	W to
206	50 °	41.738 minutes	N	1 °	5.089 minutes	W From point 206 to point 202.
<b>Area 32</b>						
207	50 °	41.675 minutes	N	1 °	4.854 minutes	W to
208	50 °	41.688 minutes	N	1 °	4.838 minutes	W to
209	50 °	41.410 minutes	N	1 °	4.218 minutes	W to
210	50 °	41.204 minutes	N	1 °	4.002 minutes	W to
211	50 °	41.176 minutes	N	1 °	4.065 minutes	W to
212	50 °	41.357 minutes	N	1 °	4.284 minutes	W From point 212 to point 207.
<b>Area 33</b>						
213	50 °	41.131 minutes	N	1 °	4.155 minutes	W to
214	50 °	41.130 minutes	N	1 °	4.098 minutes	W to
215	50 °	41.021 minutes	N	1 °	4.071 minutes	W to
216	50 °	41.020 minutes	N	1 °	4.153 minutes	W From point 216 to point 213.
<b>Area 34</b>						
217	50 °	40.920 minutes	N	1 °	4.216 minutes	W to
218	50 °	40.919 minutes	N	1 °	4.184 minutes	W to
219	50 °	40.788 minutes	N	1 °	4.159 minutes	W to
220	50 °	40.789 minutes	N	1 °	4.206 minutes	W From point 220 to point 217.

**Poole Harbour: Areas 35 - 40**

**Area 35**

221	50 °	42.262 minutes	N	1 °	57.039 minutes	W to
222	50 °	42.236 minutes	N	1 °	56.897 minutes	W to
223	50 °	42.051 minutes	N	1 °	56.581 minutes	W to
224	50 °	42.014 minutes	N	1 °	56.615 minutes	W to
225	50 °	42.019 minutes	N	1 °	56.831 minutes	W to
226	50 °	42.206 minutes	N	1 °	57.105 minutes	W From point 226 to point 221

**Area 36**

227	50 °	41.826 minutes	N	1 °	56.748 minutes	W to
228	50 °	41.857 minutes	N	1 °	56.541 minutes	W to
229	50 °	41.680 minutes	N	1 °	56.555 minutes	W to
230	50 °	41.589 minutes	N	1 °	56.181 minutes	W to
231	50 °	41.331 minutes	N	1 °	56.648 minutes	W to
232	50 °	41.363 minutes	N	1 °	56.757 minutes	W to
233	50 °	41.365 minutes	N	1 °	56.931 minutes	W From point 233 to point 227.

**Area 37**

234	50 °	39.953 minutes	N	1 °	58.431 minutes	W to
235	50 °	39.952 minutes	N	1 °	58.336 minutes	W to
236	50 °	39.885 minutes	N	1 °	58.338 minutes	W to
237	50 °	39.886 minutes	N	1 °	58.432 minutes	W From point 237 to point 234.

**Area 38**

238	50 °	40.309 minutes	N	1 °	59.785 minutes	W to
239	50 °	40.310 minutes	N	1 °	59.739 minutes	W to
240	50 °	40.279 minutes	N	1 °	59.739 minutes	W to
241	50 °	40.280 minutes	N	1 °	59.785 minutes	W From point 241 to point 238

**Area 39**

242	50 °	40.831 minutes	N	2 °	0.462 minutes	W to
243	50 °	40.834 minutes	N	2 °	0.383 minutes	W to
244	50 °	40.726 minutes	N	2 °	0.349 minutes	W to
245	50 °	40.716 minutes	N	2 °	0.435 minutes	W From point 245 to point 242

**Area 40**

246	50 °	43.779 minutes	N	2 °	0.333 minutes	W to
247	50 °	43.782 minutes	N	2 °	0.304 minutes	W From point 247 along the northern edge of the railway line to point 248

248	50 °	43.797 minutes	N	1 °	59.726 minutes	W to
249	50 °	43.795 minutes	N	1 °	59.695 minutes	W From point 249 along the coast at the level of mean high water spring tide to point 247.
<b>Studland Bay: Areas 41 -42</b>						
<b>Area 41</b>						
250	50 °	39.320 minutes	N	1 °	57.063 minutes	W to
251	50 °	39.318 minutes	N	1 °	56.843 minutes	W to
252	50 °	39.202 minutes	N	1 °	56.845 minutes	W to
253	50 °	39.204 minutes	N	1 °	57.065 minutes	W From point 253 to point 250.
<b>Area 42</b>						
254	50 °	38.957 minutes	N	1 °	57.021 minutes	W to
255	50 °	38.954 minutes	N	1 °	56.740 minutes	W to
256	50 °	38.820 minutes	N	1 °	56.197 minutes	W to
257	50 °	38.629 minutes	N	1 °	56.017 minutes	W to
258	50 °	38.634 minutes	N	1 °	55.545 minutes	W to
259	50 °	38.571 minutes	N	1 °	55.521 minutes	W to
260	50 °	38.480 minutes	N	1 °	56.335 minutes	W to
261	50 °	38.484 minutes	N	1 °	56.395 minutes	W to
262	50 °	38.591 minutes	N	1 °	56.612 minutes	W to
263	50 °	38.764 minutes	N	1 °	56.897 minutes	W From point 263 to point 254.
<b>The Fleet: Area 43</b>						
<b>Area 43</b>						
264	50 °	35.905 minutes	N	2 °	29.958 minutes	W to
265	50 °	35.840 minutes	N	2 °	30.074 minutes	W to
266	50 °	34.720 minutes	N	2 °	28.167 minutes	W to
267	50 °	34.692 minutes	N	2 °	28.222 minutes	W From point 267 along the coast at the level of mean high water spring tide to point 264.

## SCHEDULE 2 – WINTER CLOSURE AREAS

Schedule 2 - Winter Closure Areas 1st November - 31st March both days inclusive			
Point Nu	Latitude	Longitude	Straight Line, unless otherwise stated, to Next Point Number
<b>Poole Harbour: Areas 44 - 53</b>			
<b>Area 44</b>			
The Part of the District that lies below mean high water springs and north of a straight line drawn from:			
268	50 ° 43.203 minutes N	2 ° 2.446 minutes W	to
269	50 ° 43.210 minutes N	2 ° 2.417 minutes W	
<b>Area 45</b>			
270	50 ° 43.779 minutes N	2 ° 0.333 minutes W	to
271	50 ° 43.782 minutes N	2 ° 0.304 minutes W	to point 272 along the northern edge of the railway line
272	50 ° 43.797 minutes N	1 ° 59.726 minutes W	to
273	50 ° 43.795 minutes N	1 ° 59.695 minutes W	From point 273 along the northern edge of the railway line and along the coast at the level of mean highwater springs to point 274
274	50 ° 42.774 minutes N	1 ° 59.543 minutes W	to
275	50 ° 42.738 minutes N	1 ° 59.595 minutes W	From point 275 along the coast at the level of mean highwater springs and along the northern edge of the railway line to point 270.
<b>Area 46</b>			
The Part of the District that lies below mean high water springs and north of a straight line drawn from:			
276	50 ° 42.501 minutes N	1 ° 57.224 minutes W	to
277	50 ° 42.475 minutes N	1 ° 57.189 minutes W	
<b>Area 47</b>			
The Part of the District that lies below mean high water springs and south of a straight line drawn from:			
278	50 ° 40.160 minutes N	1 ° 58.264 minutes W	to
279	50 ° 40.156 minutes N	1 ° 58.981 minutes W	
<b>Area 48</b>			
The Part of the District that lies below mean high water springs and west of a straight line drawn from:			
280	50 ° 40.156 minutes N	1 ° 58.981 minutes W	to
281	50 ° 40.608 minutes N	1 ° 58.699 minutes W	to
<b>Area 49</b>			
The Part of the District that lies below mean high water springs and south of a straight line drawn from:			
282	50 ° 40.357 minutes N	1 ° 59.519 minutes W	to
283	50 ° 40.400 minutes N	1 ° 59.753 minutes W	
<b>Area 50</b>			
The Part of the District that lies below mean high water springs and south of a straight line drawn from:			

284	50 °	40.547 minutes	N	2 °	0.163 minutes	W to
285	50 °	40.649 minutes	N	2 °	0.422 minutes	W
<b>Area 51</b>						
The Part of the District that lies below mean high water springs and south of a straight line drawn from:						
286	50 °	40.906 minutes	N	2 °	1.068 minutes	W to
287	50 °	41.189 minutes	N	2 °	1.623 minutes	W
<b>Area 52</b>						
The Part of the District that lies below mean high water springs and west of a straight line drawn from:						
288	50 °	41.950 minutes	N	2 °	1.641 minutes	W to
289	50 °	42.179 minutes	N	2 °	1.837 minutes	W
<b>Area 53</b>						
290	50 °	42.400 minutes	N	2 °	4.507 minutes	W to
291	50 °	42.252 minutes	N	2 °	4.070 minutes	W to
292	50 °	41.880 minutes	N	2 °	4.271 minutes	W to
293	50 °	41.842 minutes	N	2 °	4.540 minutes	W From point 293 along the coast at the level of mean high water spring tide to point 290.



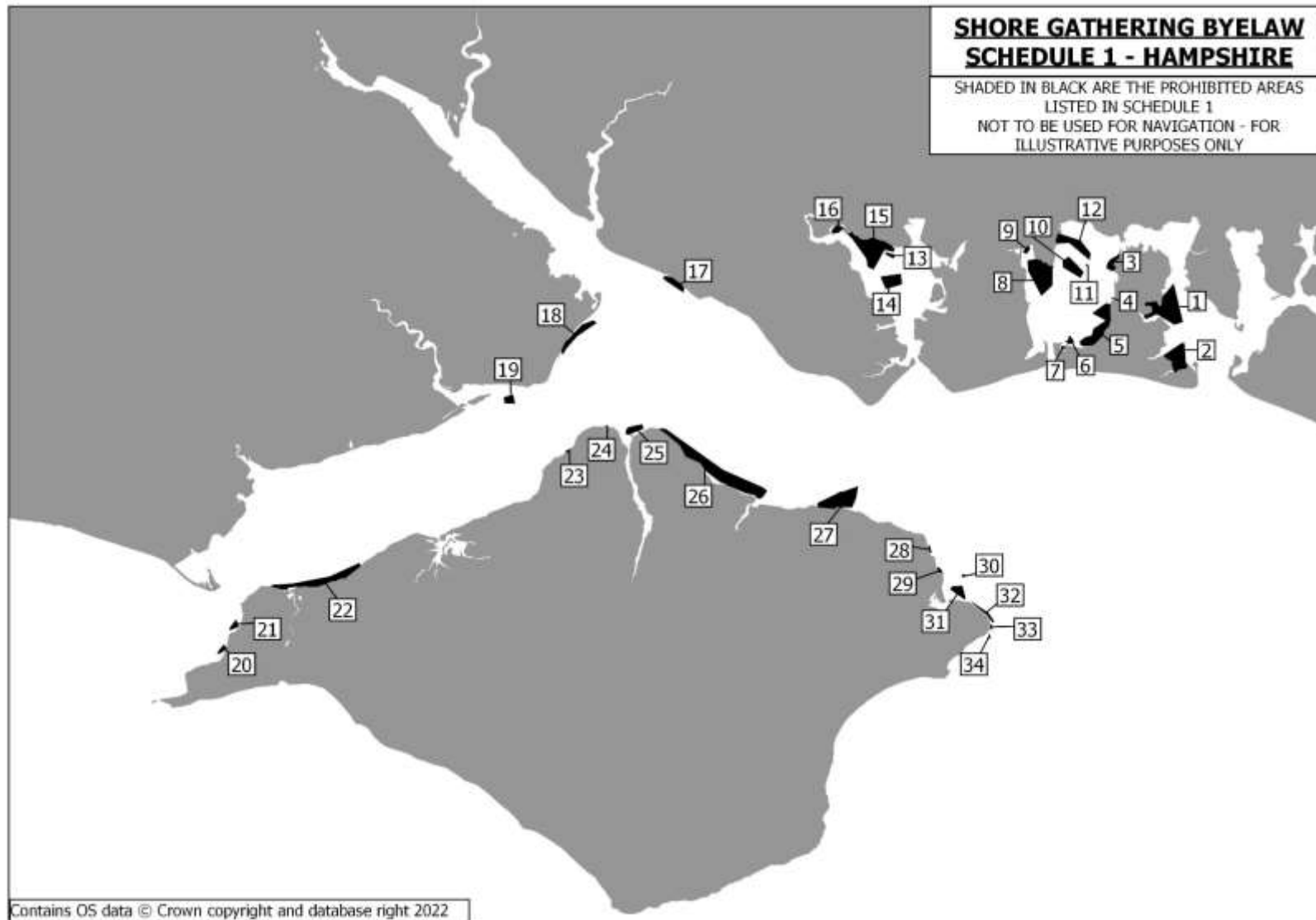
### SCHEDULE 3 – SUMMER CLOSURE AREAS

Schedule 3 - Summer Closure Areas 1st March - 31st August both days inclusive			
Point Nu	Latitude	Longitude	Straight Line, unless otherwise stated, to Next Point Number
<b>Southampton Water: Areas 54- 57</b>			
<b>Area 54</b>			
The Part of the District that lies below mean high water springs and north of a straight line drawn from:			
294	50 ° 52.385 minutes N	1 ° 18.782 minutes W	to
295	50 ° 52.381 minutes N	1 ° 18.340 minutes W	
<b>Area 55</b>			
The Part of the District that lies below mean high water springs and west of a line drawn from:			
296	50 ° 54.687 minutes N	1 ° 28.029 minutes W	to
297	50 ° 54.615 minutes N	1 ° 28.103 minutes W	to
298	50 ° 54.423 minutes N	1 ° 27.899 minutes W	to
299	50 ° 54.285 minutes N	1 ° 27.875 minutes W	to
300	50 ° 54.290 minutes N	1 ° 27.588 minutes W	to
301	50 ° 54.133 minutes N	1 ° 27.119 minutes W	to
302	50 ° 54.099 minutes N	1 ° 27.121 minutes W	
<b>Area 56</b>			
303	50 ° 51.902 minutes N	1 ° 23.320 minutes W	to
304	50 ° 50.764 minutes N	1 ° 20.967 minutes W	From point 304 along the coast at the level of mean high water spring tide to point 303.
<b>Area 57</b>			
305	50 ° 50.211 minutes N	1 ° 20.152 minutes W	to
306	50 ° 48.909 minutes N	1 ° 18.558 minutes W	From point 306 along the coast at the level of mean high water spring tide to point 305.
<b>Lymington and Keyhaven: Area 58</b>			
<b>Area 58</b>			
307	50 ° 45.751 minutes N	1 ° 26.758 minutes W	to
308	50 ° 45.207 minutes N	1 ° 28.936 minutes W	to
309	50 ° 43.792 minutes N	1 ° 32.436 minutes W	to
310	50 ° 42.863 minutes N	1 ° 33.302 minutes W	From point 310 along the coast at the level of mean high water spring tide to point 307.
<b>Isle of Wight: Areas 59 - 61</b>			
<b>Area 59</b>			
The Part of the District that lies below mean high water springs and south of a line drawn from:			
311	50 ° 42.424 minutes N	1 ° 30.073 minutes W	to
312	50 ° 42.425 minutes N	1 ° 30.019 minutes W	
<b>Area 60</b>			

The Part of the District that lies below mean high water springs and south of a line drawn from:	
313 50 ° 43.549 minutes N	1 ° 25.067 minutes W to
314 50 ° 43.633 minutes N	1 ° 24.278 minutes W
<b>Area 61</b>	
The Part of the District that lies below mean high water springs and south of a line drawn from:	
315 50 ° 44.963 minutes N	1 ° 17.590 minutes W to
316 50 ° 44.962 minutes N	1 ° 17.418 minutes W

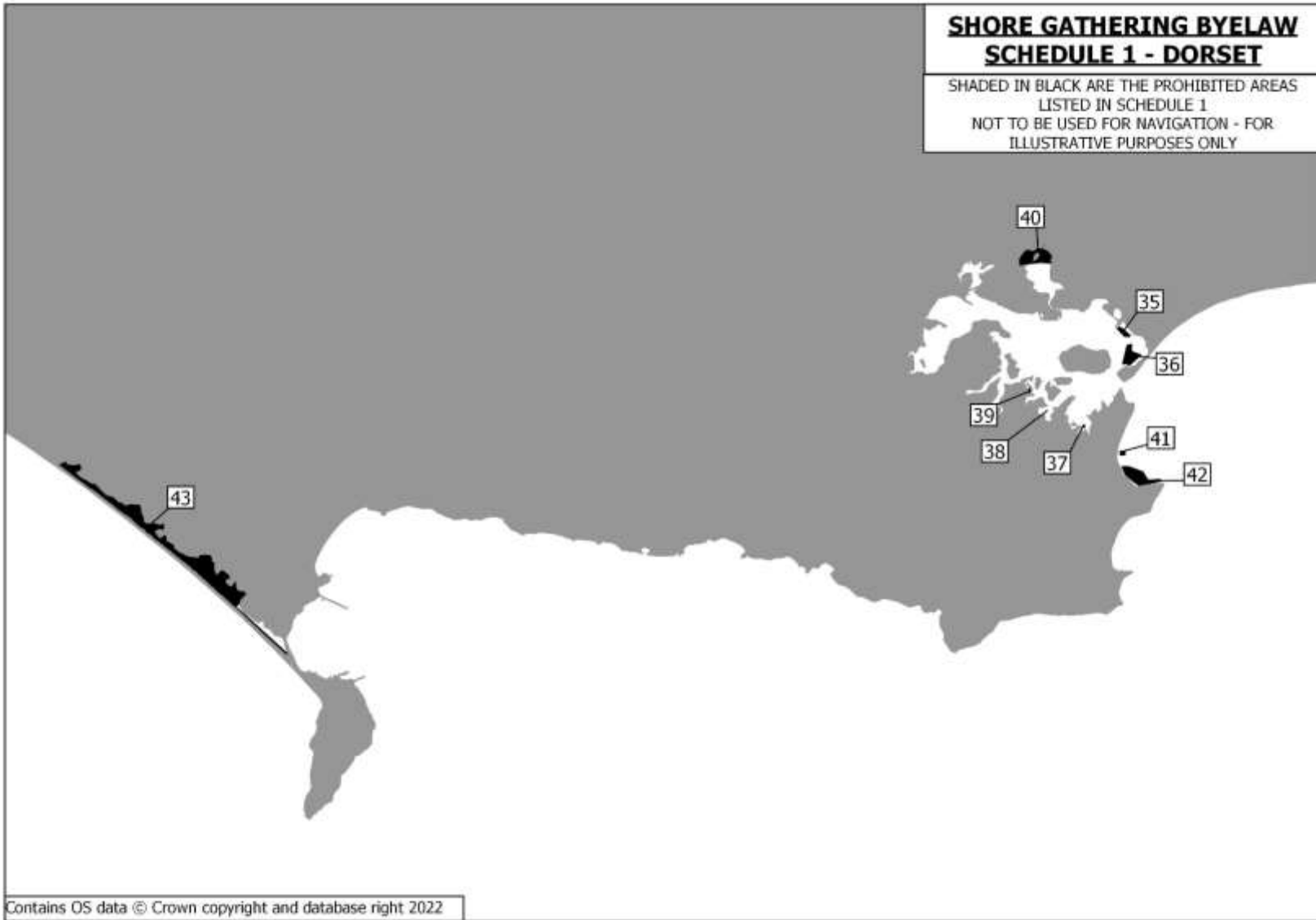
## SCHEDULE 4

PROHIBITED AREAS ILLUSTRATIVE MAPS – the number provided for each Prohibited Area corresponds to the Area Number in Schedule 1



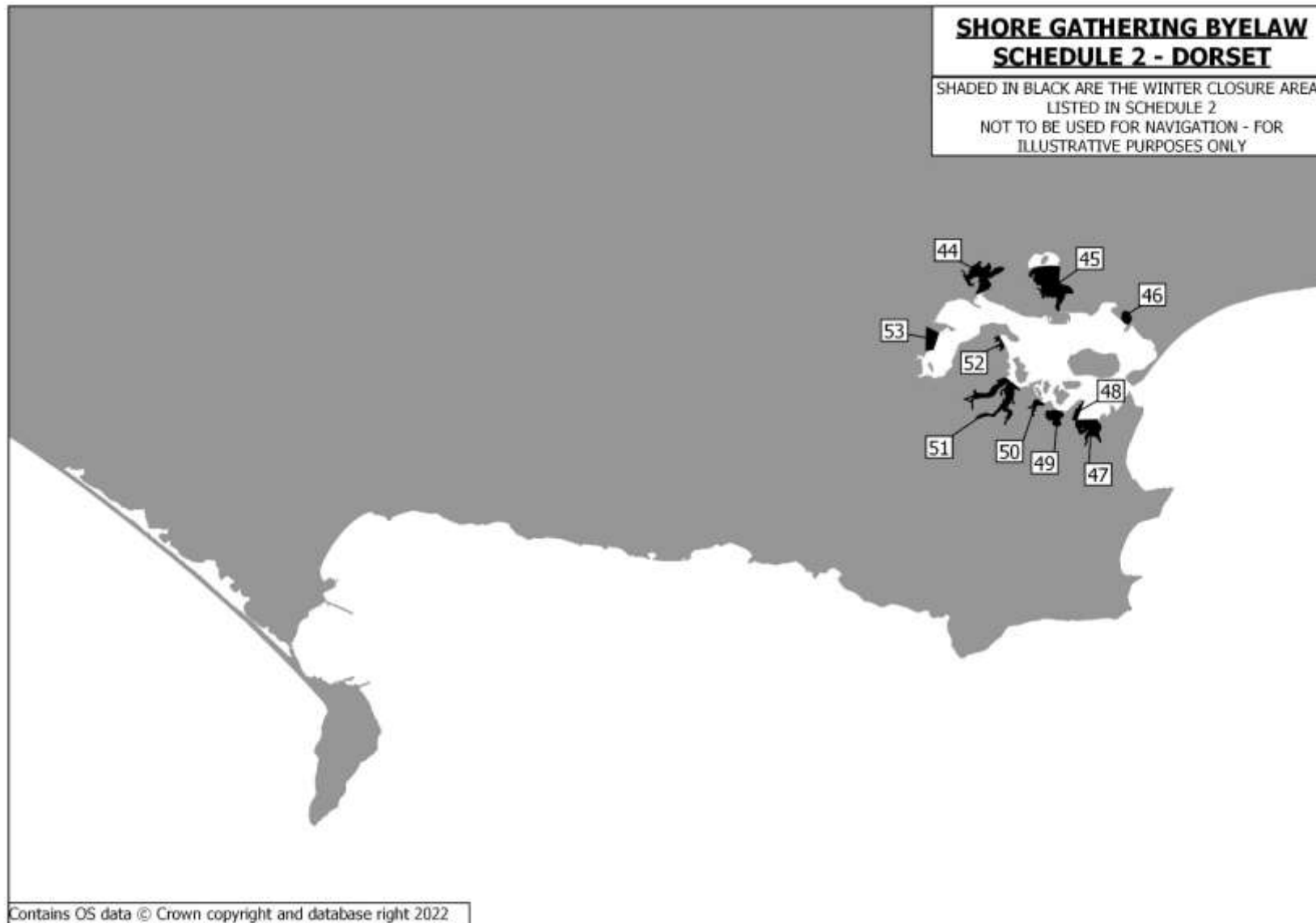
**SHORE GATHERING BYELAW  
SCHEDULE 1 - DORSET**

SHADED IN BLACK ARE THE PROHIBITED AREAS  
LISTED IN SCHEDULE 1  
NOT TO BE USED FOR NAVIGATION - FOR  
ILLUSTRATIVE PURPOSES ONLY



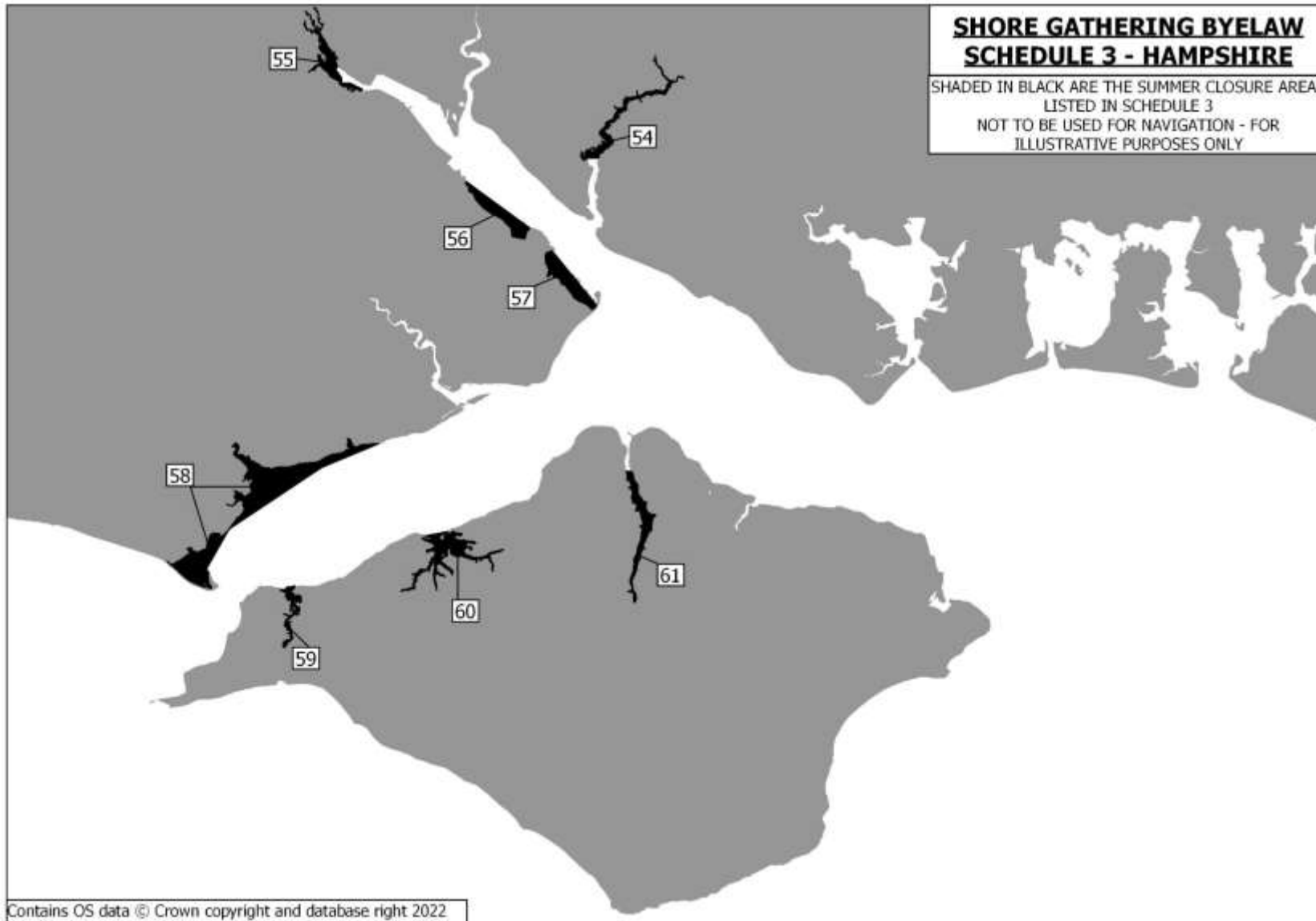
## SCHEDULE 5

WINTER CLOSURE AREAS ILLUSTRATIVE MAPS - the number provided for each Winter Closure Area corresponds to the Area Number in Schedule 2



SCHEDULE 6

SUMMER CLOSURE AREAS ILLUSTRATIVE MAPS - the number provided for each Summer Closure Area corresponds to the Area Number in Schedule 3



SOUTHERN INSHORE FISHERIES AND CONSERVATION AUTHORITY

**EXPLANATORY NOTE**

**(not part of the byelaw)**

*This byelaw prohibits the fishing for or taking of sea fisheries resources by hand or with the use of handheld operated equipment where the fishing for or taking is for the purpose of harvesting sea fisheries resources in prohibited and seasonally restricted areas.*

*The byelaw creates a carriage offence for hand operated equipment used in the course of or in connection with the fishing for, or taking of sea fisheries resources for the purpose of harvesting, in addition to a restriction which prohibits the deployment of any form of artificial habitat, structure, or shelter to aid the collection of crab species.*

*These measures are in place to protect designated features and supporting habitats within Marine Conservation Zones (MCZs) and within or adjacent to Special Areas of Conservation (SACs) and Special Protection Areas (SPAs).*

*Written dispensations may be granted in accordance with the provisions contained within the byelaw.*

*The Southern Inshore Fisheries and Conservation Authority's 'Fishing for Cockles' byelaw is amended by this byelaw.*

*The Southern Inshore Fisheries and Conservation Authority's byelaws: 'Prohibition of Gathering (Sea Fisheries Resources) in Seagrass Beds Byelaw' and 'Poole Harbour Shellfish Hand Gathering Byelaw' are revoked by this byelaw.*

*The Southern Sea Fisheries Committee byelaws: 'Periwinkles', 'Fishing for Oysters, Mussels and Clams' and 'Redeposit of Shellfish' are revoked by this byelaw.*

## SOUTHERN INSHORE FISHERIES AND CONSERVATION AUTHORITY

MARINE AND COASTAL ACCESS ACT 2009<sup>1</sup>**FISHING FOR COCKLES (AMENDMENT) BYELAW**

The Southern Inshore Fisheries and Conservation Authority, in exercise of the powers conferred by sections 155(1) of the Marine and Coastal Access Act 2009 makes the following byelaw for that District.

**INTERPRETATION**

- (1) In this byelaw:
- a) “the Authority” means the Southern Inshore Fisheries and Conservation Authority as defined in Article 4 of the Southern Inshore Fisheries and Conservation Order 2010<sup>2</sup>;
  - b) “the District” means the Southern Inshore Fisheries and Conservation District as defined in Article 3 of the Southern Inshore Fisheries and Conservation Order 2010<sup>2</sup>;
  - c) “dredge” means a dredge, scoop or similar device that is designed for, or capable of taking any shellfish;
  - d) “Poole Harbour” means that part of the District in Poole Harbour as lies below Mean High Water Springs and to the west of and within an imaginary line between Point 1 (50° 40.809’N 001° 57.000’W) and Point 2 (50° 40.980’N 001° 56.926’W).

**PROHIBITION**

- (3) A person must not fish for or take from a fishery a cockle between the 1st February and the 30th April inclusive.
- (4) A person must not take from a fishery a cockle which will pass through a gauge having a square opening measuring 23.8mm along each side.

**EXCEPTIONS**

- (5) Paragraph (3) does not apply to a person fishing for or taking cockles using a dredge from a vessel within Poole Harbour.

**DISPENSATIONS**

- (6) Paragraphs (3) and (4) do not apply to any person who has obtained a written dispensation issued by the Authority in accordance with paragraph (7) and the authorisation is valid in accordance with paragraph (8).

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<sup>1</sup> 2009 c.23

<sup>2</sup> S.I. 2010/2198



- (7) The Authority may issue a written dispensation for scientific, educational, stocking or breeding purposes.
- (8) A dispensation issued under paragraph (7) will only be valid if:
  - a) The act being undertaken complies with the terms of the dispensation; and
  - b) The dispensation is carried on the person and produced for inspection when requested by an Inshore Fisheries and Conservation Officer of the Authority or any other person authorised by the Authority to make such a request.

**REVIEW**

- (9) The Authority (or a sub-committee thereof authorised by the Authority to do so) will review the suitability of the byelaw in accordance with any changes in best available evidence, to include any statutory advice provided by Natural England or other such bodies, organisations or persons as the Authority deem fit.

**AMENDMENT**

- (10) The byelaw with the title ‘Fishing for Cockles’ made by the Authority, in exercise of its powers under section 155(1) of the Marine and Coastal Access Act 2009, confirmed on 23<sup>rd</sup> June 2015, and in force immediately before the making of this byelaw is amended.

I hereby certify that the above byelaw was made by Southern Inshore Fisheries and Conservation Authority at their meeting on 19<sup>th</sup> September 2024 (TBC).

.....

**Pia Bateman**  
Chief Executive Officer  
Southern Inshore Fisheries and Conservation Authority

The Secretary of State for Environment, Food and Rural Affairs in exercise of the power conferred by section 155(3) of the Marine and Coastal Access Act 2009 confirms the Shore Gathering Byelaw made by the Southern Inshore Fisheries and Conservation Authority on 19<sup>th</sup> September 2024 (TBC).

.....  
A Senior Civil Servant for, and on behalf of, the Secretary of State for Environment, Food and Rural Affairs

Date:

## **EXPLANATORY NOTE**

### **(not part of byelaw)**

*The purpose of this byelaw is to manage fishing for cockles within the Southern IFCA District. The byelaw imposes a closed season for fishing for or taking cockles, except within Poole Harbour if a vessel is being used. The byelaw also sets a minimum conservation reference size for cockles that can be taken from a fishery within the Southern IFCA District.*

*This byelaw is an amendment to the “Fishing for Cockles Byelaw” made by the Authority, in exercise of its powers under section 155(1) of the Marine and Coastal Access Act 2009, confirmed on 23<sup>rd</sup> June 2015, and in force immediately before the making of this byelaw. The following amendments were made to the “Fishing for Cockles Byelaw” text:*

- a) Removal of paragraph (3);*
- b) Removal of reference within paragraph (5) to paragraph (3);*
- c) Inclusion of ‘Dispensations’ provision to include revision of text under paragraph (6);*
- d) Inclusion of ‘Review’ provision;*
- e) Renumbering of all paragraphs as required based on (a) to (d).*

# Seaweed Harvesting

## Code of Conduct



This Seaweed Harvesting Code of Conduct applies to Marine Conservation Zones (MCZs), Special Areas of Conservation (SACs) and Special Protection Areas (SPAs) in the Southern IFCA District. The CoC has been adapted from the Natural England CoC for seaweed harvesting (which was developed in conjunction with the Crown Estate, Cornwall and Devon & Severn IFCAs, the National Trust and Cornwall Wildlife Trust) to include reference to relevant features of the District's National Site Network Sites.



1	Ensure you obtain any relevant permissions before undertaking gathering activities, including landowner permission. Natural England should be consulted before harvesting seaweed in a protected site in England.	10	Harvest seaweeds during the active growth season to allow for quicker recovery.*
2	Harvest seaweed only by hand – mechanical methods should not be used. Cut fronds (leaves) well above the point of growth (e.g. the meristem for kelps) and always leave the holdfast attached.	11	Harvest seaweeds after reproduction has occurred if possible and ensure a substantial proportion of mature plants remain.*
3	Do not use vehicles on the foreshore.	12	Take extra care when harvesting invasive non-native seaweeds to ensure that seaweeds or spores are not transferred to other areas. Follow 'Check, Clean, Dry' biosecurity principles, checking, cleaning and drying all equipment and clothing when moving between sites to ensure that invasive species, pests and diseases are not spread to new areas. ** ( <a href="https://www.nonnativespecies.org/what-can-i-do/check-clean-dry/">https://www.nonnativespecies.org/what-can-i-do/check-clean-dry/</a> ). *
4	Avoid disturbing sea birds by keeping an appropriate distance away.	13	Do not collect drift seaweed from the entire length of strandlines – harvest sparsely as this constitutes an important habitat.
5	Avoid or minimise trampling on non-target organisms and avoid taking 'bycatch' such as stalked jellyfish, Peacocks Tail, Pink Sea Fan and Seahorses.	14	Keep records of volumes & weights of each species of seaweed harvested, along with date and location.
6	Collect less than one third of an individual plant to allow for regrowth.	15	Limit harvesting in erosion prone coastal areas (i.e. dunes) where kelp forests dissipate wave energy.
7	Take care to replace any rocks in the position you found them.	16	Please be aware that foreshores can be hazardous. Do not put yourself at risk of injury by collecting seaweed in adverse conditions and be aware of tides.
8	Harvest sparsely, taking only a small percentage of standing stock.*		
9	Rotate harvesting areas to allow ample time for recovery. Harvested areas should be left for up to several years, depending on the species, before harvesting again.*		

\*Consult Natural England for further information/ advice

\*\* For information on how to identify non-native seaweeds, please see the GBNNS website: [www.nonnativespecies.org](http://www.nonnativespecies.org).

Please note that other restrictions/regulations may apply to this activity. Participants should be aware of all relevant regulations.

<p><b>Title:</b> Southern IFCA Shore Gathering Byelaw</p> <p><b>IA No:</b> SIFCA0124</p> <p><b>RPC Reference No:</b> N/A</p> <p><b>Lead department or agency:</b> Southern Inshore Fisheries and Conservation Authority</p> <p><b>Other departments or agencies:</b> Marine Management Organisation, Natural England, Department for the Environment, Food and Rural Affairs (Defra)</p>	<h2 style="margin: 0;">Impact Assessment (IA)</h2>
	<p><b>Date:</b> 08/08/2024</p>
	<p><b>Stage:</b> Development</p>
	<p><b>Source of intervention:</b> Domestic</p>
	<p><b>Type of measure:</b></p> <p>Secondary Legislation</p>
<p><b>Contact for enquiries:</b> Deputy Chief Officer, Dr Sarah Birchenough, Southern Inshore Fisheries and Conservation Authority, 01202 721373, <a href="mailto:enquiries@southern-ifca.gov.uk">enquiries@southern-ifca.gov.uk</a></p>	

<b>Summary: Intervention and Options</b>	<b>RPC Opinion:</b> N/A
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Cost of Preferred (or more likely) Option (in 2019 prices)			
Total Net Present Social Value	Business Net Present Value	Net cost to business per year	Business Impact Target Status
£-700,000	£-700,000	£77,808	Qualifying provision

**What is the problem under consideration? Why is government action or intervention necessary?**

Shore gathering activities such as shellfish gathering, bait digging, push-netting, mechanical harvesting (by hand), crab tilling and seaweed harvesting have the potential to impact certain sensitive features for which MPAs within the National Site Network are designated. Management is required to ensure that the Southern IFCA (SIFCA) can continue to meet its duties under the Marine and Coastal Access Act 2009, the Conservation of Habitats and Species Regulations 2017 and the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 to manage fishing activities in MPAs to ensure features are not adversely affected (Special Areas of Conservation [SACs] and Special Protection Areas [SPAs]), and that Conservation Objectives (Marine Conservation Zones [MCZs]) are furthered. A review of the existing SIFCA management relevant to shore gathering is required as well as consideration of new management interventions to ensure consistent and relevant management for all shore gathering activities in the District in line with Southern IFCA’s legal duties

**What are the policy objectives of the action or intervention and the intended effects?**

- To avoid adverse impact from shore gathering activity on SACs and SPAs, and further the conservation objectives of MCZs in the Southern IFCA District
- To review existing management to ensure that it is based on best available evidence and is relevant and consistent for all shore gathering activities in the District
- To manage activity proportionately by considering management for designated features within MCZs and within or adjacent to SACs and SPAs
- To enhance environmental sustainability within the Southern IFCA District
- Intended effect is protection of designated sensitive features in MPAs (National Site Network sites) from shore gathering activities, success is measured by compliance with regulations, measured through compliance and enforcement outputs and, if required, associated enforcement action.

**What policy options have been considered, including any alternatives to regulation? Please justify preferred option (further details in Evidence Base)**

0. Do nothing.
1. Create a new Southern IFCA Shore Gathering Byelaw in order to introduce relevant, consistent and feature-based management for shore gathering activities in line with Southern IFCA's legal duties for sites under the National Site Network (SACs, SPAs and MCZs).
2. Create a Southern IFCA byelaw to prohibit shore gathering activities within the full extent of all MPAs under the National Site Network (SACs, SPAs and MCZs).
3. Voluntary measures.

The preferred option is **Option 1**:

- The revocation of the:
  - Prohibition of Gathering (Sea Fisheries Resources) in Seagrass Beds Byelaw
  - Poole Harbour Shellfish Hand Gathering Byelaw
  - Periwinkles Byelaw
  - Fishing for Oysters, Mussels and Clams Byelaw
  - Redeposit of Shellfish Byelaw
- The amendment of the Fishing for Cockles Byelaw to remove hand gathering gear restrictions.
- The cessation of the Memorandum of Agreement for Bait Digging in Poole Harbour ('Bait Digging MoA').
- And creation of the Southern IFCA Shore Gathering Byelaw.

Option 1 would best enable Southern IFCA to meet its duties. Spatial management in MPAs utilising a feature-based approach is in line with the current legal duties of the Southern IFCA and is a proportionate response to ensuring appropriate protection of the marine environment from shore gathering activities.

<b>Will the policy be reviewed?</b> It will be reviewed. <b>If applicable, set review date:</b> Review in line with provision (10) of the Shore Gathering Byelaw.				
Is this measure likely to impact on international trade and investment?		No		
Are any of these organisations in scope?	<b>Micro</b>	<b>Small</b>	<b>Medium</b>	<b>Large</b>
	<b>Yes</b>	<b>Yes</b>	<b>No</b>	<b>No</b>
What is the CO <sub>2</sub> equivalent change in greenhouse gas emissions? (Million tonnes CO <sub>2</sub> equivalent)		<b>Traded:</b> N/A	<b>Non-traded:</b> N/A	

***I have read the Impact Assessment and I am satisfied that, given the available evidence, it represents a reasonable view of the likely costs, benefits and impact of the leading options.***

Signed by the responsible CHAIR: ..... Date: .....

Description:

FULL ECONOMIC ASSESSMENT

Base Year 2019	PV Base Year 2020	Period Years 10	Net Benefit (Present Value (PV)) (£)		
			Low: Optional	High: Optional	Best Estimate: £-700,000

COSTS (£)	Total Transition (Constant Price) Years	Average Annual (excl. Transition) (Constant Price)	Total Cost (Present Value)
	Optional	Optional	Optional
	Optional	Optional	Optional
<b>Best Estimate</b>	£1,717	£77,609	£669,750

**Description and scale of key monetised costs by ‘main affected groups’**

The **maximum average** annual cost to the UK shore gathering industry is estimated to £77,609 assuming the proposed closures are accessed **every available day**. These consequences are a result of 3 commercial bait diggers being displaced from Holes Bay in Poole Harbour for two extra months of the year and three commercial bait diggers who currently dig in the River Medina for three months of the year only.

The displacement of these groups will impact local bait and tackle shops, the cost of which is included in the figure above.

It should be noted that based on Southern IFCA records of activity data and observations made by Southern IFCA Officers that bait digging activity has not been observed to occur every day in any location. However, given the potential currently for that activity to occur every day during the referenced period, an estimation of cost has been made on this basis, this is highly likely to be an overestimate.

The total transition cost to Southern IFCA associated with the new measures is estimated to be £1,717 and would come in the first year of the byelaw. This cost is related to the update of current information boards and production of new information resources. Ongoing compliance costs would form part of the normal annual delivery of work by Southern IFCA.

**Other key non-monetised costs by ‘main affected groups’**

As a consequence of loss of access to certain areas, there is the potential for displacement of fishing effort to other areas, potentially creating additional conflict with other users and reducing the sustainability of fisheries and the marine environment. This is unlikely as a targeted engagement exercise showed minimum overlap with activity and prohibited areas besides from the groups mentioned under monetised costs.

BENEFITS (£m)	Total Transition (Constant Price) Years	Average Annual (excl. Transition) (Constant Price)	Total Benefit (Present Value)
Low	n/a	n/a	n/a
High	n/a	n/a	n/a
<b>Best Estimate</b>	n/a	n/a	n/a

**Description and scale of key monetised benefits by ‘main affected groups’**

The removal of restrictions related to the type of tools allowed when gathering shellfish may increase the efficiency of shellfish related shore gathering activity and therefore the profits, however there is existing non-compliance with the gear restrictions in place therefore it is likely that shellfish is already being gathered with implements in some cases reducing the overall benefit by removing this restriction. It is not possible to monetise this benefit with the data available. There are no studies into the efficiency of gathering using hand equipment vs hand picking only.

**Other key non-monetised benefits by 'main affected groups'**

Proposed measures will benefit the sustainability of the marine environment through the protection of sensitive designated features within MCZs and within or adjacent to SACs and SPAs that would otherwise be vulnerable to potentially damaging shore gathering techniques. Certain designated features are also defined as blue carbon habitats contributing to offsetting climate change. Such benefits are difficult to quantify.

<b>Key assumptions/sensitivities/risks</b>	<b>Discount rate (%)</b>	3.5
<p>A key assumption is that the management intervention will be successful in preventing shore gathering activities within prohibited areas and that the exclusion of these activities will lead to maintenance and/or recovery of designated sensitive features.</p> <p>Costs to industry have been calculated using information from Southern IFCA stakeholders gathered during an engagement exercise. Data on economic value of harvested species is lacking in landings data and for certain activities, such as recreational harvesting or bait gathering there is no requirement to report landings. Therefore, direct engagement was the only method of obtaining an assessment of potential costs.</p> <p>Costs was calculated using the <b>maximum</b> volume of catch and financial gain provided through the engagement exercise. This impact assessment estimates the <b>maximum impact</b> to industry on this basis. It should be noted that based on Southern IFCA records of activity data and observations made by Southern IFCA Officers that the levels of effort for relevant activities (bait digging) do not equate to the maximum available period for undertaking this activity and therefore whilst the maximum cost has been calculated, this is highly likely to be an overestimate.</p>		

**BUSINESS ASSESSMENT (Option 1)**

<b>Direct impact on business (Equivalent Annual) £:</b>			<b>Score for Business Impact Target (qualifying provisions only):</b>
Costs: 77,808	Benefits: N/A	Net: 77,808	
			0.389042



# Evidence Base

## 1 Problem under consideration and rationale for intervention

- 1.1 This Impact Assessment (IA) is for the Southern Inshore Fisheries and Conservation Authority (SIFCA) Shore Gathering Byelaw (“the Byelaw”). The Byelaw will manage shore gathering activity in the Southern IFCA District and has been developed through a review of shore gathering activity undertaken by the Southern IFC Authority.
- 1.2 Shore gathering activities such as shellfish gathering, bait digging, push-netting, mechanical harvesting (by hand), crab tilling and seaweed harvesting have the potential to impact certain sensitive features for which MPAs in the National Site Network are designated. Management is required to ensure that the Southern IFCA (SIFCA) can continue to meet its duties under the Marine and Coastal Access Act 2009, The Conservation of Habitats and Species Regulations 2017 and the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 to manage fishing activities in MPAs (National Site Network Sites) to ensure features are not adversely affected (SACs and SPAs), and that Conservation Objectives (MCZs) are furthered. A review of the existing SIFCA management is required to ensure consistent and relevant management for all shore gathering activities in the District.
- 1.3 There have been 1357 occurrences of shore gathering within MPAs (SACs, SPAs and MCZs) recorded by SIFCA between July 2007 and March 2024. These occurrences have been recorded as sightings or inspections by Southern IFCA Officers and further information on activity can be found in the supporting document for the byelaw, the Site-Specific Evidence Document<sup>1</sup>. As Southern IFCA patrols are intelligence led and dictated by resource and activity, this figure will not reflect all shore gathering activity which takes place in the District, however the timeseries dataset gives an overview of preferred areas and seasonal patterns. Levels of shore gathering activities occurring in the Southern IFCA District are deemed to be low based on best available evidence with the most occurrences in a single site in a single month being less than 20.
- 1.4 Shore gathering activity can potentially cause negative outcomes as a result of ‘market failures’. These failures can be described as:
  - **Public goods and services** – a number of goods and services provided by the marine environment such as biological diversity are ‘public goods’ (no-one can be excluded from benefiting from them, but use of the goods does not diminish the goods being available to others). The characteristics of public goods, being available to all but belonging to no-one, mean that individuals do not necessarily have an incentive to voluntarily ensure the continued existence of these goods which can lead to under-protection/provision.
  - **Negative externalities** – Negative externalities occurs when the cost of damage to the marine environment is not fully borne by the users causing the damage. In many cases no monetary value is attached to the goods and services provided by the marine environment, and this can lead to more damage occurring than would occur if the users had to pay the price of damage. Even for those marine harvestable goods that are traded (such as wild fish), market prices often do not reflect the full economic cost of the exploitation or of any damage caused to the environment by that exploitation.
  - **Common goods** – A number of goods and services provided by the marine environment such as populations of wild fish are ‘common goods’ (no-one can be excluded from benefiting from those goods however consumption of the goods does diminish that available to others). The characteristics of common goods (being available but belonging to no-one, and of a diminishing quantity), mean that individuals do not necessarily have an individual economic incentive to ensure the long-term existence of these goods which can lead, in fisheries terms, to potential overfishing. Furthermore, it is in the interest of each individual to catch as much as possible as quickly as

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<sup>1</sup> SIFCA Shore Gathering Site Specific Evidence Document to be linked here

possible so that competitors do not take all the benefits. This can lead to an inefficient amount of effort and unsustainable exploitation

1.5 The Byelaw aims to redress these sources of market failure in the marine environment through the following ways:

- Management measures to ensure that designated features and supporting habitats are not adversely affected (SACs and SPAs) and to ensure that Conservation Objectives are furthered (MCZs) will ensure negative externalities are reduced or suitably mitigated.
- Management measures will support continued existence of public goods in the marine environment, for example conserving the range of biodiversity in the Southern IFC District.
- Management measures will also support continued existence of common goods in the marine environment, for example ensuring the long-term sustainability of stocks of sea fisheries resources in the IFC District.

## 2 Southern IFCA Legal Duties

2.1 Southern IFCA is responsible for the management of fishing activities in the coastal waters of Dorset, Hampshire and the Isle of Wight. These waters contain highly biodiverse and ecologically rich habitats, providing a range of valuable ecosystem services. The value of these habitats and species is recognised through a range of Marine Protected Area (MPA) designations, collectively contributing to the UK's MPA Network ("the National Site Network").

2.2 Southern IFCA has duties under section 154 of the Marine and Coastal Access Act 2009<sup>2</sup> ("the MaCAA") for the protection of features within marine conservation zones as follows:

- (1) The authority for an IFC district must seek to ensure that the conservation objectives of any MCZ in the district are furthered.
- (2) Nothing in section 153(2) is to affect the performance of the duty imposed by this section.
- (3) In this section –
  - a. "MCZ" means a marine conservation zone designated by an order under section 116;
  - b. the reference to the conservation objectives of an MCZ is a reference to the conservation objectives stated for the MCZ under section 117(2)(b)

2.3 Section 125 of the MaCAA also requires that public bodies (which includes the IFCA) exercises its functions in a manner to best further (or, if not possible, least hinder) the conservation objectives for MCZs.

2.4 Southern IFCA has duties under the Conservation of Habitats and Species Regulations 2017<sup>3</sup> and the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019<sup>4</sup> (referred to jointly in this document as the "Conservation Regulations"). The Conservation Regulations transpose the land and marine aspects of the Habitats Directive and Wild Birds Directive into domestic law and outlines how the National Site Network will be managed.

2.5 The National Site Network is a network of protected sites which are designated for rare and threatened species and rare natural habitat types. These sites include Special Areas of Conservation (SACs) and Special Protection Areas (SPAs), designated under the EC Habitats Directive 1992<sup>5</sup> and the EC Birds

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<sup>2</sup> [Marine and Coastal Access Act 2009 \(legislation.gov.uk\)](#)

<sup>3</sup> [The Conservation of Habitats and Species Regulations 2017 \(legislation.gov.uk\)](#)

<sup>4</sup> [The Conservation of Habitats and Species \(Amendment\) \(EU Exit\) Regulations 2019 \(legislation.gov.uk\)](#)

<sup>5</sup> [EUR-Lex - 31992L0043 - EN - EUR-Lex \(europa.eu\)](#)

Directive 2009<sup>6</sup>, respectively. The National Site Network also includes MCZs designated under the MaCAA.

- 2.6 Under Regulation 6 of the Conservation of Habitats and Species Regulations 2017, Southern IFCA, as a named competent authority, must ensure that fishing activity within or adjacent to an SAC or SPA does not damage, disturb or lead to a deterioration of a species which receives protection under the relevant designation, so as to ensure compliance with the Habitats Directive and Birds Directive.
- 2.7 For MCZs, where section 154 of the MaCAA states that an IFCA's performance in meeting the duty to further Conservation Objectives for features within an MCZ should not be affected by anything listed in the general IFCA duties under section 153, this includes social or economic considerations. Likewise, for SACs and SPAs, the overarching legislation does not provide for the consideration of social or economic factors/impacts when making management decisions which are required to ensure that the duty of no adverse effect is met for activity within or adjacent to these sites. Once these duties have been satisfied, if there is a need for further management intervention then this would be developed in consideration of any other relevant material considerations (matters that should be taken into account when making a decision) which includes consideration of socio-economic factors.

### 3 Review of Shore Gathering Activity

- 3.1 Shore gathering is the action of gathering sea fisheries resources in the intertidal or shallow subtidal environment. Activities are carried out on foot and include shellfish gathering, bait digging/collection, shrimp push-netting, crab tilling/collection, mechanical harvesting (by hand) and the harvesting of seaweed by hand from the shore. A selection of shore gathering activities are already managed in the District through a combination of byelaws and non-statutory measures, these measures are:
  - Prohibition of Gathering (Sea Fisheries Resources) in Seagrass Beds Byelaw
  - Poole Harbour Shellfish Hand Gathering Byelaw
  - Periwinkles Byelaw
  - Fishing for Oysters, Mussels and Clams Byelaw
  - Redeposit of Shellfish Byelaw
  - Fishing for Cockles Byelaw
  - The Bait Digging MoA
- 3.2 During 2022, Southern Inshore Fisheries and Conservation Authority (IFCA) commenced a review of management for shore gathering activities in the District, to consider where management may be required for Tranche 3 Marine Conservation Zones (MCZs) and in response to an update to the evidence base provided by the Statutory Nature Conservation Body, Natural England, on the location and extent of designated features. In addition, the review encompassed consideration of existing legislation which relates to shore gathering activities.

This review was further informed in 2023 by the publication of The Environmental Improvement Plan 2023 (EIP)<sup>7</sup>, introduced by Government as the first revision of the 25-Year Environment Plan<sup>8</sup>. The Environment Plan identified the Government's intention to support progress towards the UN's Sustainable Development Goals under the Global Biodiversity Framework which includes protection of 30% of the global ocean by 2030. At a domestic level, the Government aim to achieve this by enhancing protection for MPAs. Under the goal of Thriving Plants and Wildlife in the EIP, there is a target for 70% of designated features in MPAs to be in favourable condition by 2042 with the remainder in recovering condition and a new interim target of 48% of this to be achieved by 31<sup>st</sup> January 2028. The delivery of this is to be supported through strengthened protections in MPAs by 2024. Appropriate regulators, including IFCAs, are required to ensure that management measures are in place for all MPAs by 2024 in order for this interim target to be achieved. For the Southern IFCA, this includes management of shore gathering activities in relevant MPAs. In line with the targets for the EIP, the Shore Gathering Review was re-defined to focus on feature-based management interventions for MPAs: sites designated under the National Site Network (SACs, SPAs and MCZs).

<sup>6</sup> [EUR-Lex - 32009L0147 - EN - EUR-Lex \(europa.eu\)](#)

<sup>7</sup> [Environmental Improvement Plan 2023 - GOV.UK \(www.gov.uk\)](#)

<sup>8</sup> [25 Year Environment Plan - GOV.UK \(www.gov.uk\)](#)

## Conservation Assessments

- 3.3 The evidence to support the outcomes of this review was collated through a series of environmental assessments relevant to shore gathering activities for MCZs, SACs and SPAs. A determination of whether management measures are appropriate to meet the legal duties for relevant sites is made through the completion of an MCZ Assessment (for MCZs) or a Habitats Regulations Assessment (HRA, for SACs and SPAs). For the latter, a duty is placed on Southern IFCA as a competent authority under Article 6(3) of the Habitats Directive, whereby any plan or project likely to have a significant effect on an SPA or SAC within the National Site Network, either individually or in combination with other plans or projects, is to undergo an appropriate assessment, namely a Habitats Regulation Assessment (HRA). The plan or project must be assessed in view of the site's conservation objectives. Accordingly, MCZ Assessments and HRAs were undertaken as part of the review.
- 3.4 The MCZ assessment process is staged, comprising of an initial screening assessment to establish whether an activity occurs or is anticipated to occur/has the potential to occur within the site. Activities which are not screened out are subject to a 'Part A' assessment, akin to the Test of Likely Significant Effect required under the Habitats Directive. The aim of this assessment is to identify pressures capable of significantly affecting designated features or their related processes. Fishing activities and their associated pressures which are not screened out in the Part A assessment are then subject to a more detailed 'Part B' assessment, where assessment is undertaken on a gear type basis. The Part B assessment is akin to the Appropriate Assessment required under the Habitats Directive. The aim of this assessment is to determine whether there is a significant risk of the activity hindering the Conservation Objectives of the MCZ. The Part B assessment assesses the proposed management measures for the relevant activities to determine if the mitigation provided allows the IFCA to meet its legal duties.
- 3.5 MCZ assessments for shore gathering activities were undertaken for the following MCZs in the Southern IFCA District:
- Bembridge MCZ
  - Studland Bay MCZ
  - Yarmouth to Cowes MCZ
  - Purbeck Coast MCZ
  - The Needles MCZ
  - Chesil Beach and Stennis Ledges MCZ
- 3.6 The first stage in the HRA process is a screening of activities (in the same format as for an MCZ assessment), for activities screened in, a Test of Likely Significant Effect (TLSE) is undertaken, which is designed to test whether relevant pressures for an activity are likely to cause a significant effect on the designated features of an SAC or SPA. All the features/sub-features and supporting habitats for a site are subject to the TLSE assessment for relevant activities. Where the potential for a likely significant effect cannot be excluded an Appropriate Assessment must then be undertaken which must consider, in detail, the potential effects of the activity being assessed on any features/sub-features and supporting habitats where a likely significant effect has been identified and determine if proposed mitigation through management measures allows the IFCA to meet its legal duties.
- 3.7 SAC/SPA assessments for shore gathering activities were undertaken for the following SPAs and SACs in the Southern IFCA District:
- Lyme Bay and Torbay SAC
  - Studland to Portland SAC
  - Chesil and the Fleet SAC
  - Solent Maritime SAC

- South Wight Maritime SAC
- Chesil Beach and The Fleet SPA
- Poole Harbour SPA
- Solent and Southampton Water SPA
- Portsmouth Harbour SPA
- Chichester and Langstone Harbours SPA

3.8 Consideration of feature-based management for MPAs is in line with the legal duties of Southern IFCA in relation to the different designations of MPA. In all cases the term 'feature' is used to refer to designated features and supporting habitats for designated features under SPA designations.

3.9 Members of the Southern IFC Authority agreed, through a Working Group in early 2024 and the IFCA Technical Advisory Sub-Committee in May 2024, a set of Management Principles which would underpin the management measures for shore gathering. Defining these principles ensures a transparent approach to management and that this approach is applied consistently across the District.

3.10 The Management Principles are as follows:

1. The best available evidence used to inform feature-based protection for features designated under relevant MCZs, SACs and SPAs is:
  - a. The Natural England (NE) designated features layer provided to Southern IFCA in 2023
  - b. The National Seagrass Layer obtained from the Defra Government Website
  - c. NE (quality assured) commissioned Hampshire and Isle of Wight Wildlife Trust (HIWWT) seagrass data provided to Southern IFCA in 2024
2. Any additional data received after 9<sup>th</sup> May 2024 will be considered during the period of formal consultation and then (subject to byelaw ratification), in subsequent byelaw reviews, as determined by the provisions of the byelaw.
3. For relevant features a GPS buffer of 10m will be incorporated.
4. Prohibition areas will be defined as follows:
  - a. For designated seagrass features within MCZs that occur up to the 2m chart datum contour.
  - b. For seagrass designated as a feature or as a supporting habitat, within or adjacent to SACs and SPAs that occur up to the 2m chart datum contour.
5. Existing Southern IFCA management measures for relevant activities in the Poole Harbour SPA will be combined to create a single management approach.
6. With the exception of seagrass, the extent and distribution of feature-based management in the Solent Maritime SAC and District wide SPAs will be developed using Poole Harbour as a model.
7. In the application of the Poole Harbour model to the Solent Maritime SAC and District wide SPAs, the following approach will be taken:
  - a. Bird Sensitive Areas (BSA) will be used as the basis for spatial management.
  - b. In the absence of BSAs being defined by Natural England in the Solent Maritime SAC and District wide SPAs (excluding Poole Harbour), BSAs will be defined as follows:
    - i. For the Solent Maritime SAC and Solent SPAs, BSAs will be initially defined using areas proposed for management as good examples of estuarine habitat under the Bottom Towed Fishing Gear Byelaw 2023 and adapted to be relevant to shore gathering activity.
    - ii. For the Solent Maritime SAC, Solent SPAs and The Chesil and The Fleet SPA, consideration will be given to aligning BSAs with directions relating to access and shore gathering activities given by other bodies, for example harbour authorities and conservation bodies.

- c. The requirements for seasonal management within BSAs will be considered on the basis of best available evidence.

8. A code of practice will be developed for the gathering of seaweed by hand.

## **4 Rationale and evidence to justify the level of analysis used in the IA (proportionality approach)**

- 4.1 The level of evidence presented through the environmental assessments to inform the appropriateness and robustness of management intervention to meeting the IFCA's legal duties is appropriate to the problem under consideration. These assessments have been based on best available evidence of feature/supporting habitat location and extent in MPAs as provided to the Southern IFCA by Natural England, as the Government's Nature Conservation Advisors, in 2023, supported by data from The National Seagrass Layer (obtained from the Defra Government website) and NE (quality assured) commissioned HIWWT seagrass data provided to Southern IFCA in 2024.
- 4.2 The development of the Shore Gathering Byelaw to consider feature-based management interventions for designated features within MCZs and within and adjacent to SACs and SPAs means that, where management is required to meet the IFCA's relevant legal duties for those sites, the development of management is unable to consider socio-economic factors. Information has been sought from stakeholders to inform the anticipated cost to industry through the implementation of the Byelaw as this is the only method through which data would be available for affected activities as landings/catch data is not available for the relevant activities, however no further data has been sought on socio-economic impacts, due to the inability for the IFCA to consider this information when making feature-based management decisions to satisfy legal duties. The Shore Gathering Byelaw is deemed to satisfy those legal duties and thus does not require any further precautionary interventions, in the event that management interventions had been included which were additional to those required to meet the IFCA's legal duties then further consideration of socio-economic impacts, alongside any other relevant material considerations would have been given.

## **5 Description of options considered**

### **5.1 Option 0: Do nothing**

Under this option, management of Shore Gathering activities would continue under the current legislation, and voluntary codes of practice.

- 5.1.1 This would result in spatial management not being updated to include the current best available evidence on feature location and extent, as well as not introducing management in the relevant Tranche 3 MCZs. Southern IFCA would not fulfil its legal duties of feature-based management for designated features and supporting habitats in SACs, SPAs and MCZs as listed under MaCAA and the Conservation Regulations.

### **5.2 RECOMMENDED OPTION**

**Option 1: Create a new Southern IFCA Shore Gathering Byelaw in order to introduce relevant, consistent and feature-based management for shore gathering activities in line with Southern IFCA's legal duties for sites under the National Site Network (SACs, SPAs and MCZs).**

Under this option a byelaw would be created based on the Management Principles outlined in Section 3.10 to manage shore gathering activities through a single regulatory mechanism, introducing new and revised feature-based spatial and temporal management for shore gathering activities in SACs, SPAs and MCZs.

5.2.1 Under this option, the following byelaws would be revoked:

- Prohibition of Gathering (Sea Fisheries Resources) in Seagrass Beds Byelaw
- Poole Harbour Shellfish Hand Gathering Byelaw
- Periwinkles Byelaw
- Fishing for Oyster mussels and clams Byelaw
- Redeposit of Shellfish Byelaw

5.2.2 This option would require the cessation of the Memorandum of Agreement for Bait Digging in Poole Harbour.

5.2.3 Under this option, the following byelaws would be amended:

- Fishing for Cockles Byelaw

5.2.4 This option would allow Southern IFCA to meet its duties for MCZs under the MaCAA and for SACs and SPAs under the Conservation Regulations. This option, will allow the IFCA to meet the Government target of ensuring that management measures are in place for all MPAs by 2024.

### **5.3 Option 2: Create a Southern IFCA byelaw to prohibit shore gathering activities within the full extent of all MPAs under the National Site Network (SACs, SPAs and MCZs)**

Under this option a single byelaw would be created to prohibit shore gathering activities within the full spatial extent of all MPAs under the National Site Network (SACs, SPAs, MCZs).

5.3.1 This approach would allow Southern IFCA to meet its duties under the MaCAA, however under the Conservation Regulations, Southern IFCA must ensure that fishing activity does not damage, disturb or have an adverse impact upon the features for which an SAC or SPA has been legally protected. As such, full spatial closures of MPAs would be exceeding the legislative requirements upon IFCAs under the Conservation Regulations. Relevant to all National Site Network Sites, this option would be disproportionate to the spatial footprint and level of impact caused by the activities under review and, in going beyond the meeting of IFCA legal duties, would require a full assessment of all relevant material considerations applicable to each site/activity, including balancing the needs of the marine environment with the socio-economics of the fishing industry.

### **5.4 Option 3: Voluntary measures**

5.4.1 Due to the total area and environmental value of the District's SACs, SPAs and MCZs, coupled with the number of different types of shore gathering activity, it is believed that a voluntary agreement would pose too great a risk to the integrity of the environmental designations. In support of this statement, voluntary measures have previously been used to manage bait digging activity within the Poole Harbour SPA under the Bait Digging MoA. Southern IFCA have 81 recorded breaches of the MoA since its introduction in 2013, providing an indication that voluntary measures are no longer suitable to ensure that the appropriate protection is provided to the site.

## **6 Policy objectives**

6.1 The policy objectives of the Shore Gathering Byelaw 2024 are:

- To avoid adverse impact from shore gathering activity on SACs and SPAs, and further the conservation objectives of MCZs in the Southern IFCA District
- To review existing management to ensure that it is based on best available evidence and is relevant and consistent for all shore gathering activities in the District

- To manage activity proportionately by considering management for designated features within MCZs and within or adjacent to SACs and SPAs
- To enhance environmental sustainability within the Southern IFCA District
- Intended effect is protection of designated sensitive features in MPAs (National Site Network sites) from shore gathering activities, success is measured by compliance with regulations, measured through compliance and enforcement outputs and, if required, associated enforcement action

## 7 The Shore Gathering Byelaw

7.1 The Shore Gathering Byelaw provides spatial management for sensitive habitats and species within MCZs and within or adjacent to SACs and SPAs to mitigate potential impacts from shore gathering activities. Spatial management is further defined by prohibition (year-round) or seasonal management, with three types of management areas under the Byelaw:

- Prohibited Areas (year-round)
- Summer Closure Areas (closed 1st March to 31st August)
- Winter Closure Areas (closed 1st November to 31st March)

During those periods of closure, no shore gathering activities will be permitted to take place in accordance with the definitions for shore gathering

7.2 This management is introduced through the following provisions in the Byelaw:

### Prohibitions

- i. No person shall fish for or take sea fisheries resources by hand or with the use of hand operated equipment where the fishing for, or taking is for the purpose of harvesting sea fisheries resources.
- ii. No person shall have with them any hand operated equipment for use in the course of, or in connection with, the fishing for, or taking of sea fisheries resources for the purpose of harvesting.
- iii. No person shall use or deploy any form of artificial habitat, structure or shelter to aid the collection of crab.

The definition of 'harvesting' in relation to the above prohibitions is given as: to remove and retain for the purposes of consumption, selling, displaying, using as part or wholly for a product or service, cultivating, introducing to the sea or using as bait whether carried out for commercial purposes or otherwise.

### Exceptions

- iv. Points (i) and (ii) do not apply to the fishing for or taking of sea fisheries resources using a vessel provided that no part of the vessel's hull is in contact with the seabed
- v. Points (i) and (ii) do not apply when using:
  - a. Hook and line in conjunction with a fishing rod
  - b. Handlines
  - c. Spear gun
  - d. A net other than a push net

These provisions ensure that all relevant activities are covered. The potential impacts which require spatial management are applicable to all types of shore gathering activity and therefore in order to ensure that identified protections for designated features are appropriately mitigating those impacts, there is a need to manage all relevant activities consistently.



- 7.3 The byelaw will have year-round prohibition areas in 43 areas of the District. The area numbers in table 1 align with those in the schedule of the byelaw.

*Table 1 Year-round prohibitions as defined in the Byelaw*

Area of District	Shore Gathering Prohibition Area Number
Chichester Harbour	1 - 2
Langstone Harbour	3 – 12
Portsmouth Harbour	13 – 16
Southampton Water	17 - 18
Beaulieu	19
Isle of Wight	20 – 34
Poole Harbour	35 – 40
Studland Bay	41 - 42
The Fleet	43

- 7.4 The byelaw will have seasonal prohibition between 1<sup>st</sup> November and 31<sup>st</sup> March in 10 areas of the District. The area numbers in table 2 align with those in the schedule of the byelaw.

*Table 2 Seasonal prohibitions between 1<sup>st</sup> November and 31<sup>st</sup> March as defined in the Byelaw*

Area of District	Shore Gathering Prohibition Area Number
Poole Harbour	44 – 53

- 7.5 The byelaw will have seasonal prohibition between 1<sup>st</sup> March and 31<sup>st</sup> August in 8 areas of the District. The area numbers in table 3 align with those in the schedule of the byelaw.

*Table 3 Seasonal prohibitions between 1<sup>st</sup> March and 31<sup>st</sup> August as defined in schedule*

Area of District	Shore Gathering Prohibition Area Number
Southampton Water	54 - 57
Lymington & Keyhaven	58
Isle of Wight	59 - 61

- 7.6 The Byelaw provides for the Authority to issue a written dispensation to any person committing an act which would otherwise constitute an offence against the byelaw if the act is for the purpose of educational, scientific, stocking or breeding purposes, is being undertaken in accordance with that purpose and the dispensation is carried on board and produced for inspection when requested by an IFCO of the Authority or any other person authorised by the Authority to make such a request.

- 7.7 The Byelaw provides for the Authority to review the suitability of the byelaw in accordance with any changes in best available evidence, to include any statutory evidence provided by Natural England or other such bodies, organisations or persons as the Authority deems fit.
- 7.8 The total area closed to shore gathering activity year-round through the proposed closure areas under the Shore Gathering Byelaw is 20.28 km<sup>2</sup> representing 0.74% of the Southern IFCA District. **This is an increase of 4.97 km<sup>2</sup> from the current year-round spatial footprint of the Prohibition of Gathering (Sea Fisheries Resources) in Seagrass Beds Byelaw.** The total area closed to shore gathering activity between the 1<sup>st</sup> November and 31<sup>st</sup> March is 5.27 km<sup>2</sup> representing 0.19% of the Southern IFCA District. **This remains the same as the current 1<sup>st</sup> November to 31<sup>st</sup> March closures under the Poole Harbour Shellfish Hand Gathering Byelaw.** The total area closed to shore gathering activity between the 1<sup>st</sup> March and 31<sup>st</sup> August is 17.26 km<sup>2</sup> representing 0.63% of the Southern IFCA District. **There is currently no shore gathering management in the Southern IFCA District occurring in this period.** The total area of the District closed under both year-round and seasonal closures is 42.81km<sup>2</sup> representing 1.56% of the Southern IFCA District.
- 7.9 In addition to the Byelaw, Southern IFCA have developed the Southern IFCA Seaweed Harvesting Code of Conduct has been developed. The Code of Conduct is in line with other seaweed harvesting CoCs around the UK and has primarily used a CoC developed by Natural England in conjunction with partners including other IFC Authorities as a base with the inclusion of specific provisions relevant to the needs of applicable National Site Network Sites.

The CoC includes voluntary provisions for:

- Obtaining relevant permissions
- Harvesting only by hand
- No use of vehicles
- Avoiding disturbance to sea birds
- Avoiding trampling or taking of non-target species
- Collection of less than 1/3 of an individual plant
- Cutting fronds above the point of growth and leaving the holdfast
- Harvesting sparsely and taking only a small percentage of standing stock
- Rotating harvest areas
- Harvesting during the active growing season
- Harvesting after reproduction has occurred and ensuring a sustainable proportion of mature plants remain
- INIS protocols
- Not collecting drift seaweed from the entire length of stand lines
- Keeping records of volumes of species harvested
- Limiting harvesting in erosion-prone coastal areas where kelp forests dissipate wave energy
- Being aware of hazards on the foreshore

## 8 Consultation

### 8.1 Formal Consultation

- 8.1.1 **To be added following completion of Formal Consultation period.**

## 9 Monetised and non-monetised costs and benefits of each option (including administrative burden)

- 9.1 Option 1 will be analysed in comparison to Option 0.
- 9.2 The creation of the Southern IFCA Shore Gathering Byelaw may result in the following costs:
- Direct costs to the fishing industry as a result of reduced access or loss of access to fishing grounds.
  - Costs to Southern IFCA for information boards to support compliance.
  - Indirect costs to the fishing industry associated with displacement to other fishing grounds.
- 9.3 Costs to the fishing industry from reduced access or loss of access to fishing grounds and compliance costs to Southern IFCA can be monetised and these estimated values have been collated and presented as part of this IA.
- 9.4 Indirect costs to the fishing industry associated with displacement are difficult to value and are therefore described here as non-monetised costs.

## 10 Costs and Benefits to the Fishing Industry

- 10.1 To estimate the economic cost, Southern IFCA undertook a targeted engagement exercise to gather the potential impact of changes to shore gathering management in the District. In the absence of any available catch data from national mechanisms being available for shore gathering activities, targeted engagement was the most appropriate method to gather this information.

Through this exercise it was determined that commercial bait digging participants are expected to incur costs as a result of reduced access or loss of access to fishing grounds within year-round prohibition areas under the Byelaw. These costs will be incurred as a direct result of the closure of the fishing area.

- 10.2 Specifically, it was determined that changes to bait digging management in the southern section of Holes Bay, Poole Harbour would displace 3 commercial bait diggers for two months of the year, this equates to a total **maximum** estimated loss of £14,640 to diggers and £20,496 to merchants if diggers were to **dig every day of each of the two months**. This is based on a maximum of 61 available days, with weight range of 7lbs-8lbs per day and a payment of £10 per lb of bait paid to the digger. Maximum merchant loss is calculated using a sale price of £18 - £24 per lb of bait recognising that the payment to the digger of £10 would need to be removed, making a profit price of £8-14 per lb for a merchant. It should be noted that based on Southern IFCA records of activity data and observations made by Southern IFCA Officers that bait digging activity has not been observed to occur every day in this, or any other location. However, given the potential currently for that activity to occur every day during the referenced period, an estimation of cost has been made on this basis, this is highly likely to be an overestimate.
- 10.3 Changes to bait digging management in the River Medina, Isle of Wight would displace 3 commercial bait diggers for the 'summer months of the year'. Assuming the summer months to be June, July and August, and if diggers were to **dig every day of each of the three months**, there would be a total **maximum** estimated loss of £22,080 to diggers and £30,912 to merchants. This is based on a maximum of 92 available days, with weight range of 7lbs-8lbs per day and a payment of £10 per lb of bait paid to the digger. Maximum merchant loss is calculated using a sale price of £18 - £24 per lb of bait recognising that the payment to the digger of £10 would need to be removed, making a profit price of £8-14 per lb for a merchant. The same note regarding actual versus potential levels of activity applies in this case also.

- 10.4 The removal of gear restrictions on current shellfish harvesting will have a financial benefit to the fishing industry, for example through the ability to gather Manila clam using hand operated equipment rather than by just hand picking. However, it is noted that there has been non-compliance historically with the restriction on Manila clam harvesting being by hand picking only therefore it is likely that a proportion of currently gathered Manila clam is already undertaken using such an implement and thus the benefit to fishers will be lower than if there was full compliance with this regulation. In addition, the gathering for cockles which can take place using a hand-held implement is likely to reveal other shellfish species unintentionally, resulting in their collection, again lessening the potential financial gain by removing this measure. The complexity of the current measure which limits the use of hand operated equipment to certain species provides no additional environmental benefit over that achieved through the proposed spatial restrictions therefore it is proposed to be revoked through the making of the Shore Gathering Byelaw. It is not possible to quantify the potential financial benefit or revoking this measure due to the lack of data available on the efficiency of hand picking vs hand rakes when used in shellfish gathering and the above outlined factors regarding current practice.
- 10.5 The exercise also involved meeting with six commercial shellfish gatherers operating across Poole and the Solent. The proposed closure areas do not affect those operating in Poole as they remain unchanged from current management. There is not expected to be conflict between new proposed closure areas and shellfish gatherers in the Solent which would result in an economic loss.
- 10.6 Due to there being low levels of seaweed gathering, crab tilling and push netting and no recorded instances of mechanical harvesting activity in the District, along with no requirement to provide data to either Southern IFCA or the Marine Management Organisation (MMO) for these activities, there is currently no method of determining participants in this fisheries and thus actively engage to understand any economic impact. However, due to the low levels or absence of activity, participants are not expected to incur a measurable cost.
- 10.7 The total annual cost to the industry (based on quantified **maximum** economic losses defined for bait diggers and merchants in paragraphs 10.2 and 10.3) is £88,128.

## 11 Costs to Southern IFCA

- 11.1 Southern IFCA is anticipating that additional costs for compliance and enforcement as a result of the Byelaw, over and above those already directed towards compliance and enforcement for shore gathering activity as part of business as usual, will be minimal due to the low risk posed by this activity and current low levels of effort across all relevant activities. There is therefore no monetary amount attributed to additional patrol work. Costs will be related to the development of new information resources and updates to current information boards at key areas across the District to support participants in compliance. The costs of which are to be £1,950.
- 11.2 Under section 153 of the MaCAA, Southern IFCA has the lead responsibility of enforcing an IFCA byelaw. The Authority's existing compliance and enforcement strategy would be the most likely and effective method of enforcing the recommended byelaw.
- 11.3 The best form of engagement will be with stakeholders whilst they are participating in shore gathering activities therefore can be incorporated into the above mentioned business as usual patrols related to shore gathering activities.

## 12 Total monetised costs

- 12.1 The Equivalent Annual Net Direct Costs to Business (EANDCB) as a result of the proposed measures are estimated to be a **maximum of £77,808**.

## 13 Non-monetised costs

13.1 There is expected to be displacement of approximately six bait diggers from the previously mentioned areas of Poole Harbour and the River Medina on the Isle of Wight. Relative to the scale of the shore gathering fishery, this number of participants is not significant.

## 14 Non-monetised Benefits

14.1 The creation of the Shore Gathering Byelaw 2024 may result in the following benefits:

- Improved sustainability of the marine environment through the protection of sensitive designated features within MCZs and within or adjacent to SACs and SPAs that would otherwise be vulnerable to potentially damaging fishing techniques.
- A potential increase in the delivery of ecosystem services.
- A potential increase in the sustainability of the fisheries, leading to a socio-economic benefit for fishermen and associated businesses.
- Potential reputational benefits to shore gathering participants and the fishing industry.

14.2 These benefits are difficult to value and therefore described as non-monetised.

14.3 The MCZ and HRA assessments carried out to inform the review of shore gathering activity demonstrate that methods of shore gathering are likely to have a significant effect on certain sensitive features/supporting-habitats for which sites in the District are designated and therefore prevent the furthering of Conservation Objectives for MCZs and lead to an adverse effect on features within or adjacent to SACs and SPAs, in all cases affecting overall site integrity. The creation of prohibited and seasonal management areas under the Byelaw provides a benefit to these MPAs through protection of these sensitive features/supporting-habitats contributing to the achievement of overall site integrity.

14.4 The sensitive habitats and species designated for the National Site Network sites in the Southern IFC District which relate to the assessments for shore gathering activity include: seagrass, reef features, estuarine habitats (i.e. saltmarsh, intertidal sediments), sea-pens and burrowing megafauna, subtidal sediment habitats, native oyster, pink sea fans, peacock's tail, stalked jellyfish spp., seahorse species and bird species with associated supporting habitats. The outputs from the assessments indicate that abrasion, penetration or disturbance of the seabed, removal of non-target and target species, and disturbance of bird species were main pressures which required management consideration.

14.5 The sensitive habitats and species listed above contribute to the biodiversity of the marine environment and provide a variety of roles in supporting food webs, providing areas for feeding, breeding, roosting and protection for species and supporting the development of species communities and characteristic biotopes. These services would be maintained and potentially enhanced by the Byelaw.

14.6 Protection of these features/supporting habitats is also anticipated to deliver additional ecosystem services. The seagrass habitats offer important areas for nutrient cycling, carbon and nitrogen fixing and by protecting areas of sensitive habitat, a natural refuge is created for populations of exploited and bycatch species.

14.7 It is anticipated that the Byelaw will manage the fishery-ecosystem interaction, supporting biodiversity within the prohibited areas. The effective management of shore gathering activity in MPAs demonstrates that these fisheries can be managed in an appropriate way in designated sites. The Byelaw therefore provides these fisheries with the opportunity to demonstrate their environmental credentials. In an ever-more environmentally aware society, this information may

increase consumer confidence in these fisheries which may in turn have associated social and economic benefits.

## **15 Risks and Assumptions**

- 15.1 Cost estimates are based on conversations with fishery participants during a targeted engagement exercise. The values are the maximum estimates based on the figure providers by stakeholders. There is no MMO landings data available for shore gathering activities, therefore there is no way to corroborate the potential financial impact on industry or to provide a value supported by regional/national data collection.
- 15.2 Estimated costs to the fishing industry are likely to be an overestimate, as participants are likely to offset some of the lost revenue by fishing in other areas and current costs are based on daily occurrence of activity at maximum harvest levels which is known not to occur from Southern IFCA data and observation. It is also possible that the increased environmental status within the prohibited areas could coincide with relatively more abundant fishing grounds, and therefore the analysis may have underestimated the value of reduced fishing ground.
- 15.3 The number of participants to be displaced has been obtained through the targeted engagement exercise. There is possibility this number does not reflect the full displacement.
- 15.4 Displacement of fishing effort is difficult to quantify and impossible to predict where activities will be displaced to.

## **16 Impact on small and micro businesses**

- 16.1 The Byelaw will impact on small (<50 employees) and micro (<10 employees) businesses including individual fishery participants and a small but unknown number of bait and tackle shops, through targeted engagement with fishery participants, it is thought that bait harvested supplies up to 10 bait and tackle shops across the District.
- 16.2 Using information provided by commercial bait diggers, the financial cost to all bait shops is estimated to be a maximum of £51,408 per year due to spatial management. This cost however is based on the utilisation of management areas, currently accessible, every day for a defined time period (see section 10.3 and 10.4) which, based on sightings/inspection data and Officer knowledge is unlikely to be the case and in addition does not take into account the ability of participants to relocate to locally available areas not subject to restrictions to undertake activities.
- 16.3 It would not be possible to exempt small and micro businesses from the Byelaw. The approach taken under the Shore Gathering Byelaw is to manage activity by aligning the prohibited areas with the Management Principles developed by the Authority to ensure consistency in approach across the District and ensure that closures are developed for feature-based management within MCZs and within or adjacent to SACs in line with the Southern IFCA duties. This has resulted in some new prohibited areas and extensions to some existing prohibited areas. The spatial footprint of the Byelaw is as follows:
  - Prohibited Areas - Year-round closures: 20.28 km<sup>2</sup>
  - Winter Closure Areas - 1<sup>st</sup> November to 31<sup>st</sup> March: 5.27 km<sup>2</sup>
  - Summer Closure Areas - 1<sup>st</sup> March to 31<sup>st</sup> August: 17.26 km<sup>2</sup>

Through targeted engagement with fishery participants, it is understood that due to current levels of activity and preferred locations, there is minimal overlap between prohibited and seasonal areas and activities therefore the impact of the proposed measures is low.

## 17 Wider impacts (consider the impacts of your proposals)

- 17.1 There is the potential for businesses directly related to fishing to be affected as a result of the proposed measures. This is aimed to be abated through the mitigation to the fishing industry by the relatively small overlap between shore gathering activities and proposed prohibited areas a small increase in size of spatial management compared to existing regulations (3.79km<sup>2</sup> for year-round prohibited areas).
- 17.2 There are potential social implications associated with the proposed byelaw, these have the potential to include the suppliers, fuel costs and time costs associated with sourcing new suppliers, travelling to and utilising alternative fishing grounds.
- 17.3 It is anticipated that the introduction of the proposed measures will achieve the conservation objectives of the MPAs within the District in the National Site Network (SACs, SPAs, MCZs) thus maintaining the overall integrity of these sites.
- 17.4 Decreased disturbance to birds in prohibited areas and nature reserves has the potential to increase site utilization by migratory and nesting birds and increase the related eco-tourism.
- 17.5 Potential increases in the density and biodiversity of species in the prohibited areas could positively contribute towards the health of the marine environment. Additionally, protection of habitats defined as 'blue carbon habitats' could contribute to offsetting climate change.

## 18 South Marine Plan

- 18.1 As per paragraph 58(3) of the MaCAA, Southern IFCA must have regard to the South Marine Plan<sup>9</sup> when undertaking any decision which is not an authorisation or enforcement decision. As per paragraph 58(4), a byelaw would fall under the definition of 'authorisation or enforcement decision'.
- 18.2 That said, the proposed measures ensure compatibility with the following objectives and policies of the South Marine Plan:
- **Objective 3:** To support the diversification of a sustainable fishing industry **S-FISH-1**
  - **Objective 10:** To support marine protected area objectives and a well-managed ecologically coherent network with enhanced resilience and capability to adapt to change **S-MPA-1, S-MPA-4**
  - **Objective 12:** To safeguard space for, and improve the quality of, the natural marine environment, including to enable continued provision of ecosystem goods and services, particularly in relation to coastal and seabed habitats, fisheries and cumulative impacts on highly mobile species **S-BIO-3, S-BIO-4, S-DIST-1, S-FISH-4,**

## 19 Monitoring and Evaluation

- 19.1 The Authority is able to review the suitability of the Byelaw in accordance with any changes in evidence, to include any statutory evidence provided by Natural England or other such bodies, organisations or persons as the Authority deems fit. At the time that any such evidence is available, prior to any review taking place, consideration will be given to the evidence provided in conjunction

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<sup>9</sup> <https://www.gov.uk/government/collections/south-marine-plans>

with the IFCA's priority workstreams, balancing any identified need for a review with resource capacity.

19.2 Monitoring of compliance with the Byelaw will be carried out through the Authority's compliance and enforcement framework<sup>10</sup>.

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<sup>10</sup> [Compliance-and-Enforcement-Framework-2023.pdf \(toolkitfiles.co.uk\)](#)





## **Southern Inshore Fisheries and Conservation Authority**

# **Conservation Assessment Package**

**Supporting Document for  
Shore Gathering Byelaw**

## Document Control

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<b>Author(s)</b>	S Birchenough
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<b>Correspondence</b>	S Birchenough
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Date	Author	Version	Status	Reason	Approver(s)
10/06/24	S Birchenough	1.0	Initial draft	<i>Drafted in full on the basis of the decision at the TAC meeting of May 2024 to proceed with draft measures for shore gathering activities.</i>	P. Bateman
07/08/24	S Birchenough	2.0	Updated draft	<i>Updates made in accordance with: any updates identified through NE Formal Advice updates to byelaw text based on latest version of draft byelaw updates to maps for Solent and Southampton Water SPA to provide more clarity by addition of 'east' and 'west' maps for the site</i>	P. Bateman

## Correspondence History

This document has been distributed for information and comment to:

Organisation	Name	Date Sent	Comments Received
Natural England	Dr Richard Morgan	14 <sup>th</sup> June 2024	26 <sup>th</sup> July 2024 – Formal Advice

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# Section A: Introduction

## 1.0 Shore Gathering Review

During 2022, Southern Inshore Fisheries and Conservation Authority (IFCA) commenced a review of management for shore gathering activities in the District, to consider where management may be required for Tranche 3 Marine Conservation Zones (MCZs) and in response to an update to the evidence base provided by the Statutory Nature Conservation Body, Natural England, on the location and extent of designated features. In addition, the review encompassed consideration of a review of existing legislation which relates to shore gathering activities.

This review was further informed in 2023 by the publication of The Environmental Improvement Plan 2023 (EIP)<sup>1</sup>, introduced by Government as the first revision of the 25-Year Environment Plan<sup>2</sup>. The Environment Plan identified the Government's intention to support progress towards the UN's Sustainable Development Goals under the Global Biodiversity Framework which includes protection of 30% of the global ocean by 2030. At a domestic level, the Government aim to achieve this by enhancing protection for MPAs. Under the goal of Thriving Plants and Wildlife in the EIP, there is a target for 70% of designated features in MPAs to be in favourable condition by 2042 with the remainder in recovering condition and a new interim target of 48% of this to be achieved by 31<sup>st</sup> January 2028. The delivery of this is to be supported through strengthened protections in MPAs by 2024. Appropriate regulators, including IFCAs, are required to ensure that management measures are in place for all MPAs by 2024 in order for this interim target to be achieved. For the Southern IFCA, this includes management of shore gathering activities in relevant MPAs.

In line with the targets for the EIP, the Shore Gathering Review was re-defined to focus on **feature-based management interventions for MPAs: sites designated under the National Site Network (SACs, SPAs and MCZs).**

## 2.0 Scope of Conservation Assessment Package

This Conservation Assessment Package considers the review of shore gathering activities in the Southern IFCA District and the resulting development of management measures in the form of The Shore Gathering Byelaw 2024 and the Southern IFCA Seaweed Harvesting Code of Conduct. The Part B/Appropriate Assessment part of the assessment process reviews these two management measures as providing mitigation against potential impacts for relevant Marine Conservation Zones (MCZs), Special Areas of Conservation (SACs) and Special Protection Areas (SPAs).

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<sup>1</sup> [Environmental Improvement Plan 2023 - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/publications/environmental-improvement-plan-2023)

<sup>2</sup> [25 Year Environment Plan - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/publications/25-year-environment-plan)

Management measures for shore gathering activities must ensure that Southern IFCA is able to meet legal duties under the following legislation:

### ***The Marine and Coastal Access Act 2009 ('the MaCAA')***<sup>3</sup>

Duties under Section 154 of MaCAA

- (1) The authority for an IFC district must seek to ensure that the conservation objectives of any MCZ in the district are furthered
- (2) Nothing in section 153(2) is to affect the performance of the duty imposed by this section

Section 125 of MaCAA also requires that public bodies (which includes IFCA) exercise their functions in a manner to best further (or, if not possible, least hinder) the conservation objectives for MCZs.

### ***The Conservation of Habitats and Species Regulations 2017<sup>4</sup>, as amended by the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019<sup>5</sup> (collectively 'the Conservation Regulations')***

The Conservation of Habitats and Species Regulations 2017, as amended by The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019, ('2019 Regs') transposes the land and marine aspects of the Habitats Directive and the Wild Birds Directive into domestic law and outlines how the National Site Network will be managed and reflect any changes required by EU Exit.

As a competent authority, Southern IFCA must exercise its functions...so as to secure compliance with the requirements of the Habitats Directive and the Wild Birds Directive.

In line with legal duties under the MaCAA in relation to MCZs and the Conservation Regulations for SACs and SPAs, and for feature-based management, the review considered the following:

- Feature-based management for features **within** MCZs
- Feature-based management for features **within or adjacent to** SACs or SPAs<sup>6</sup>

A determination of whether management measures are appropriate to meet the legal duties for relevant sites is made through the completion of an MCZ Assessment (for MCZs) or a Habitats Regulations Assessment (HRA, for SACs and SPAs). For the latter, a duty is placed on Southern IFCA as a competent authority under Article 6(3) of the Habitats Directive, whereby any plan or project likely to have a significant effect on an SPA or SAC within the National Site Network, either individually or in combination with other plans or projects, is to undergo an appropriate assessment, namely a Habitats Regulation Assessment (HRA). The plan or project must be assessed in view of the site's conservation objectives.

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<sup>3</sup> [Marine and Coastal Access Act 2009 \(legislation.gov.uk\)](#)

<sup>4</sup> [The Conservation of Habitats and Species Regulations 2017 \(legislation.gov.uk\)](#)

<sup>5</sup> [The Conservation of Habitats and Species \(Amendment\) \(EU Exit\) Regulations 2019 \(legislation.gov.uk\)](#)

<sup>6</sup> The term 'adjacent' means a feature (to include any buffer) which extends across the boundary of the designated site, to ensure that the integrity of that part of the feature which exists within the boundary of the site is not affected by activity occurring over that same feature where it extends outside the boundary of the site.

Both types of assessment follow a stepwise process:

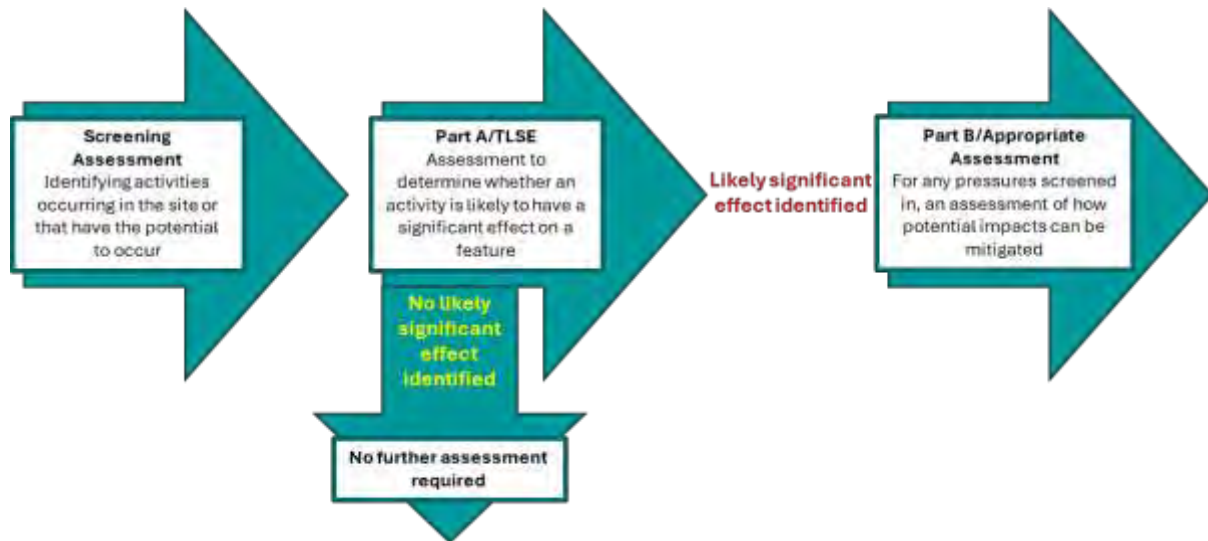


Figure 1: the stepwise process for carrying out an MCZ Assessment or a Habitats Regulations Assessment (HRA). The terms 'Part A' and 'Part B' refer to MCZ Assessments, the terms 'TLSE' and 'Appropriate Assessment' refer to HRAs. TLSE = Test of Likely Significant Effect.

Accordingly, the following relevant Conservation Assessments have been undertaken as part of this package:

- Marine Conservation Zone Assessments
- Habitats Regulations Assessments

### 3.0 Supporting Documentation

This Conservation Assessment Package is to be read in conjunction with the **Shore Gathering Site Specific Evidence Packages** and the **Shore Gathering Literature Review**.

The Assessments in this Package have been informed by<sup>7</sup>:

- The Shore Gathering Site Activity Screening Document
- The Shore Gathering Part A Assessment Package
- The Shore Gathering TLSE Assessment Package

<sup>7</sup> Note that these documents are provided to Natural England in order to inform the provision of Formal Advice on the conclusions of the Conservation Assessments, these documents do not form part of the final Byelaw package but can be made available on request.



## Section B: Relevant Activities

Through the Shore Gathering Review, the following activities have been identified as occurring or having the potential to occur within the Southern IFCA District, these activities are grouped into two types of 'Operation' by Natural England with corresponding 'Advice on Operations' provided. On this basis activities will be referred to by their Advice on Operations heading throughout this document.

Advice on Operations heading: **Shore-based activities**

Relevant activities in the Southern IFCA District:

- Bait digging/collection
- Shellfish gathering
- Crab tiling/collection
- Shrimp push-netting
- Mechanical harvesting (by hand)

Advice on Operations heading: **Seaweed harvesting**

Relevant activities in the Southern IFCA District:

- The harvesting of seaweed by hand from the shore

These activities do not all occur in all designated sites. As part of the stepwise process outlined in Figure 1, the Screening Assessment identified which National Site Network Sites had shore-based activities and/or seaweed harvesting either occur or have the potential to occur. Activities listed as 'occurring' were based on information contained within the **Shore Gathering Site Specific Evidence Packages** supporting document which considers data held by Southern IFCA, this was supplemented by anecdotal knowledge where required. Activities listed as having the 'potential' to occur were based on knowledge of habitats/species which could be found in each site, ability to access the site and local knowledge of the use of other similar sites. Section C1.0 details the outcomes of the Screening Assessment and indicates which National Site Network Sites were taken through to the Part A/TLSE stage of the stepwise process and the relevant Advice on Operations heading which was assessed.

For the activities under consideration in these assessments, method summaries are provided below. Information is also provided in the **Shore Gathering Site Specific Evidence Packages** supporting document on the following:

- Existing Southern IFCA shore gathering management specific to each designated site
- Levels of activity of shore gathering activities for each designated site
- Recorded catches associated with shore gathering activities for each designated site
- Any recorded offences associated with shore gathering activities for each designated site
- Combined summary of activity levels, catches and offences across the District MPAs

## 1.0 Method Summaries

The following sections provide method summaries for each of the above-listed shore gathering activities.

### 1.1 Bait Digging/Collection

Bait digging is carried out in the intertidal zone on mud and sand sediment habitats. The shore is usually accessed by foot, or in less usual cases via a vessel to the intertidal zone. The target species are marine polychaete worms (including *Arenicola marina*, *Hediste diversicolor*, *Alitta virens*).

These species are most often collected using a fork or spade, which is placed in the sediment and used to lift and turn over a pile of sediment. Garden forks and spades which can easily be purchased are typically used. The worms are then removed by hand from the sediment pile. The practice of returning the dug sediment to the hole created (backfilling) is recommended. Marine worms are collected for both commercial and recreational purposes.

### 1.2 Shellfish Gathering

Shellfish gathering is carried out in the intertidal zone on soft to coarse sediment types. The intertidal zone is accessed by foot and shellfish are collected by hand. This activity is carried out for commercial and recreational purposes the extent of which varies dependent upon the time of year. Recreational activity most often occurs in good weather over the summer months, whilst commercial activity can occur in most weathers and more often during periods when other shellfish fisheries are closed.

#### *Manila clam and common cockle*

Clams can be found by identifying their syphon holes in the sediment, and then simply picking the animal out of the sand by the hand or using a small handheld instrument such as a knife to 'pop up' the clam.

Cockles are often also collected when gathering clams by hand. Separately, cockles may be targeted on sandier sediments using either small hand rakes or, garden-sized rakes. These typically have a sediment penetration depth of approximately 10cm.

#### *Oysters*

Pacific oysters, a non-native invasive species to the coasts of the Southern IFC District, are found on the sediment surface (typically coarse sediment) or attached to manmade structures such as sea walls and pontoons. Native oysters are usually found sub-tidally (although may occur intertidally) but due to predominance in the sub-tidal are much less likely to be collected by hand. Pacific oysters are simply picked up by hand without the need for any tools.

#### *Razor clams*

Razor clams are found in sandy sediments at or below the low tide line. They are located by finding the figure eight siphon hole on the sediment surface. Salt (typically fine table salt) is poured over the siphon hole and after a few seconds or minutes, the razor clam pushes up through the salt to clear the hole. The razor clam is then removed by hand.

### 1.3 Crab Tiling/Collection

Crab collection for use as bait for angling is carried out on the shore by foot. Rocks and boulders are overturned to find crabs. Crabs are retained if they are 'soft', having recently moulted their exoskeleton. The most common species targeted is *Carcinus maenas* due to its abundance, but *Necor puber* and *Cancer pagarus* may also be taken if found.

Crab tilling refers to a more targeted process where people place artificial structures, such as tiles, bricks, mats or tyres on the seabed between the high and low water marks. This is more likely to occur in areas where natural structures are not present for example; mud flats, sand flats, or coarse sediment types. The structures are left in place, with persons periodically returning at low water to turn over the objects or look within them and collect crabs which have recently moulted by hand.

### 1.4 Shrimp Push Netting

Shrimp (prawn) push netting is a recreational activity in which a person pushes a small hand-held net along the seabed in shallow water. The net mouth is approximately 1m x 0.5m in width and height, with a straight bar at the bottom. The net skims the surface of the sediment collecting the shrimp (*Palaemon* spp.) in the back of the net. This activity can only occur on large spring tides for approximately an hour at low water. Shrimp are usually found near rocks or algae covered areas. Push netting has been stated to occur primarily between July to mid-September.

### 1.5 Mechanical Harvesting

Mechanical collection refers to the use of machines or basic mechanics to gather or extract shore-based resources such as animals or plants, from their natural environment. This method is often used to increase efficiency and productivity compared to manual collection which typically uses simple tools (e.g., a rake, spade, etc.). The most common type of mechanical harvesting is through bait pumps.

#### *Bait Pump*

A specialised pump that collects sand or mud from the exposed shoreline at low tide and filters it to collect target species such as lugworm (*Arenicola marina*). Bait pumping originated in the 1800s with British fishermen using a hand-operated mechanism to extract bait from the sand. This evolved into the first mechanical pump in the early 1900s.

### 1.6 Seaweed Harvesting

Seaweeds are typically gathered by accessing rocky shores as the tide falls. Parts of the seaweed plant are cut off using scissors. Typically, the holdfast of the plant is left attached to the rock, and only a small number of the plant fronds are cut with scissors by hand. Loose seaweed may also be taken from the drift line along sandy or less rocky shores.

All seaweeds in the UK are described as edible, however some have become more popular due to taste, and texture including, *Fucus vesiculosus*, *Chondrus crispus*, *Palmaria palmata*, *Himanthalia elongate*, *Ulva* species, and *kelp* species. Seaweeds may also be collected for a specific purpose including for use in animal feed, cosmetics and pharmaceuticals.

## Section C: National Site Network Sites

The following section details each of the National Site Network Sites relevant to the management of shore gathering activities, based on the outputs of the Screening Assessment and thus the sites which were taken forward to the Part A/TLSE stage.

### 1.0 Screening Assessment Outcomes

The Shore Gathering Review considered the need for feature-based management across all National Site Network Sites within the Southern IFCA District, therefore all MCZs, SACs and SPAs in the District were subject to the Screening Assessment. The outcome of the Screening Assessment required the following sites to be subject to a Part A Assessment (Section 1.1) or a Test of Likely Significant Effect (TLSE) (Section 1.2).

#### 1.1 MCZs

Six MCZs were determined to require Part A Assessment from the outcomes of the Screening Assessment.

MCZ Site Name	Relevant Advice on Operations
Chesil Beach and Stennis Ledges	<ul style="list-style-type: none"><li>• Shore-based activities</li><li>• Seaweed harvesting</li></ul>
Purbeck Coast	<ul style="list-style-type: none"><li>• Shore-based activities</li><li>• Seaweed harvesting</li></ul>
Studland Bay	<ul style="list-style-type: none"><li>• Shore-based activities</li><li>• Seaweed harvesting</li></ul>
The Needles	<ul style="list-style-type: none"><li>• Shore-based activities</li><li>• Seaweed harvesting</li></ul>
Yarmouth to Cowes	<ul style="list-style-type: none"><li>• Shore-based activities</li><li>• Seaweed harvesting</li></ul>
Bembridge	<ul style="list-style-type: none"><li>• Shore-based activities</li><li>• Seaweed harvesting</li></ul>

It was determined that the following sites would not be taken forward to a Part A Assessment on the basis that they are entirely subtidal, and are not able to be accessed for activities operating from the shore, therefore there is no potential for overlap between either of the Advice on Operations headings and the features of these sites:

- South of Portland MCZ
- Poole Rocks MCZ
- Southbourne Rough MCZ

#### 1.2 SACs and SPAs

Five SACs and five SPAs were determined to require a TLSE Assessment from the outcomes of the Screening Assessment.

Site Name	Relevant Advice on Operations
Lyme Bay and Torbay SAC	<ul style="list-style-type: none"> <li>• Seaweed harvesting</li> </ul>
Chesil and The Fleet SAC	<ul style="list-style-type: none"> <li>• Shore-based activities</li> <li>• Seaweed harvesting</li> </ul>
Studland to Portland SAC	<ul style="list-style-type: none"> <li>• Seaweed harvesting</li> </ul>
Solent Maritime SAC	<ul style="list-style-type: none"> <li>• Shore-based activities</li> </ul>
South Wight Maritime SAC	<ul style="list-style-type: none"> <li>• Shore-based activities</li> <li>• Seaweed harvesting</li> </ul>
Chesil Beach and The Fleet SPA	<ul style="list-style-type: none"> <li>• Shore-based activities</li> <li>• Seaweed harvesting</li> </ul>
Poole Harbour SPA	<ul style="list-style-type: none"> <li>• Shore-based activities</li> <li>• Seaweed harvesting</li> </ul>
Solent and Southampton Water SPA	<ul style="list-style-type: none"> <li>• Shore-based activities</li> <li>• Seaweed harvesting</li> </ul>
Portsmouth Harbour SPA	<ul style="list-style-type: none"> <li>• Shore-based activities</li> <li>• Seaweed harvesting</li> </ul>
Chichester and Langstone Harbours SPA	<ul style="list-style-type: none"> <li>• Shore-based activities</li> <li>• Seaweed harvesting</li> </ul>

For Lyme Bay and Torbay SAC where only one Advice on Operations heading is applicable, this is due to there being no suitable habitat in that site for the excluded AoO and therefore no potential for overlap or impact. For the Solent Maritime SAC it is recognised that the site overlaps with other designated sites which may have features that are suitable for seaweed gathering. However, there are no features designated under the Solent Maritime SAC itself which would support the target species for seaweed harvesting therefore when assessing this site on its own this activity can be screened out as not requiring a Part A Assessment, risks to habitats within designated sites where seaweed harvesting could occur that may overlap with the Solent Maritime SAC will be considered under the Part A Assessment for each relevant other site.

It was determined that the Solent and Isle of Wight Lagoons SAC would not be taken forward to a TLSE Assessment as all the lagoons designated for the site are in areas which are not accessible to shore gathering activities and are also not target habitats for the relevant activities. It was also determined that the Solent and Dorset Coast SPA would not be taken forward for a TLSE Assessment as the features of the site are breeding summer birds which interact with the water column (feeding) and shingle habitats (breeding). The areas where the birds may be using shingle habitats are identified as being within the Poole Harbour SPA, Solent and Southampton Water SPA and the Chichester and Langstone Harbours SPA therefore the assessments for these species will be undertaken through the assessments for those relevant SPAs.

## 2.0 Information on Designated Sites

### 2.1 Marine Conservation Zones

For each site, detail is provided on the location and the location of designated features within the site. Detail of the designated features is provided along with the assigned General Management Approach, listed as either 'recover' or 'maintain', the GMA indicates what is required to achieve the Conservation Objectives for the site.

For sites with designated habitats, the conservation objectives are that the protected habitats:

1. are maintained in favourable condition if they are already in favourable condition
2. be brought into favourable condition if they are not already in favourable condition

For each protected feature, favourable condition means that, within an MCZ:

1. its extent is stable or increasing
2. its structure and functions, its quality, and the composition of its characteristic biological communities (including diversity and abundance of species forming part of inhabiting the habitat) are sufficient to ensure that its condition remains healthy and does not deteriorate.

Any temporary deterioration in condition is to be disregarded if the habitat is sufficiently healthy and resilient to enable its recovery.

For each species of marine fauna, favourable condition means that the population within a zone is supported in numbers which enable it to thrive, by maintaining:

1. the quality and quantity of its habitat
2. the number, age and sex ratio of its population. Any temporary reduction of numbers of a species is to be disregarded if the populations is sufficiently thriving and resilient to enable its recovery.

Any alteration to a feature brought about entirely by natural processes is to be disregarded when determining whether a protected feature is in favourable condition.

### 2.1.1 Chesil Beach and Stennis Ledges MCZ

The Chesil Beach to Stennis Ledges MCZ covers an area of 37 km<sup>2</sup> running along the coastline of Chesil Beach. The area covers a variety of rocky and sediment habitats and includes the Pink Sea Fan as a designated feature.

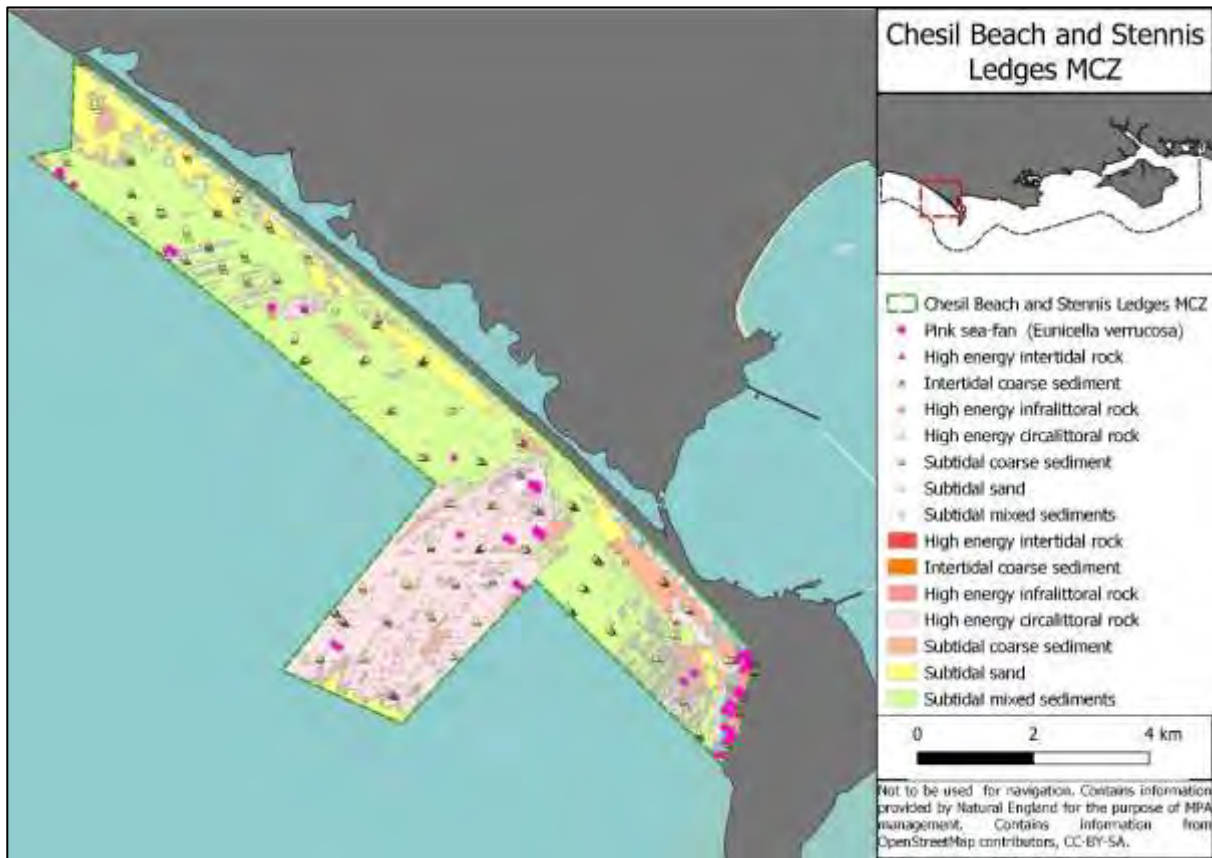


Figure 2: The location and extent of the supporting habitats of the Chesil Beach and Stennis Ledges MCZ (boundary shown by the dashed green line).

Table 1: Designated features of the Chesil Beach and Stennis Ledges MCZ.

Designated features	General management approach
High-energy circalittoral rock	Recover
High-energy infralittoral rock	Maintain
High-energy intertidal rock	Maintain
Intertidal coarse sediment	Maintain
Native oyster ( <i>Ostrea edulis</i> )	Recover
Pink sea fan ( <i>Eunicella verrucosa</i> )	Recover
Subtidal coarse sediment	Maintain
Subtidal mixed sediments	Maintain
Subtidal sand	Maintain

### 2.1.2 Purbeck Coast MCZ

The Purbeck Coast MCZ covers an area of 282 km<sup>2</sup>. The MCZ covers the area of coastline from Ringstead Bay in the West to north of Swanage Bay in the East. The Purbeck Coast MCZ is designated for a range of intertidal and subtidal habitats and species.

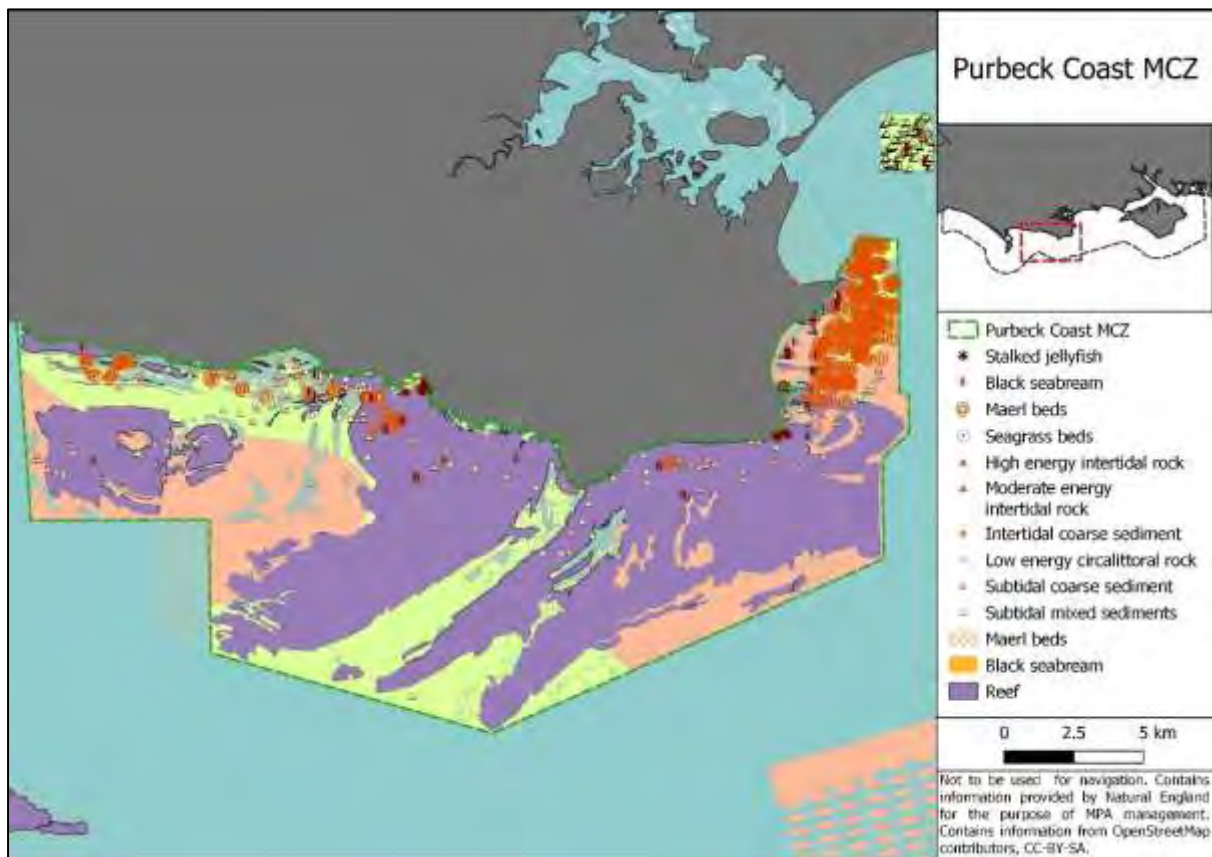


Figure 3: The location and extent of the supporting habitats of the Purbeck Coast MCZ (boundary shown by the dashed green line).

Table 2: Designated features of the Purbeck Coast MCZ.

Designated features	General management approach
Black seabream ( <i>Spondylisoma cantharus</i> )	Recover
High-energy intertidal rock	Maintain
Intertidal coarse sediment	Maintain
Maerl beds	Recover
Moderate energy intertidal rock	Maintain
Peacock's Tail ( <i>Padina pavocina</i> )	Maintain
Stalked jellyfish ( <i>Haliclystus spp</i> )	Maintain
Subtidal coarse sediment	Maintain
Subtidal mixed sediments	Maintain



### 2.1.3 Studland Bay MCZ

The Studland Bay MCZ is approximately 4 km<sup>2</sup> and relatively sheltered from prevailing south westerly winds by Ballard Down.

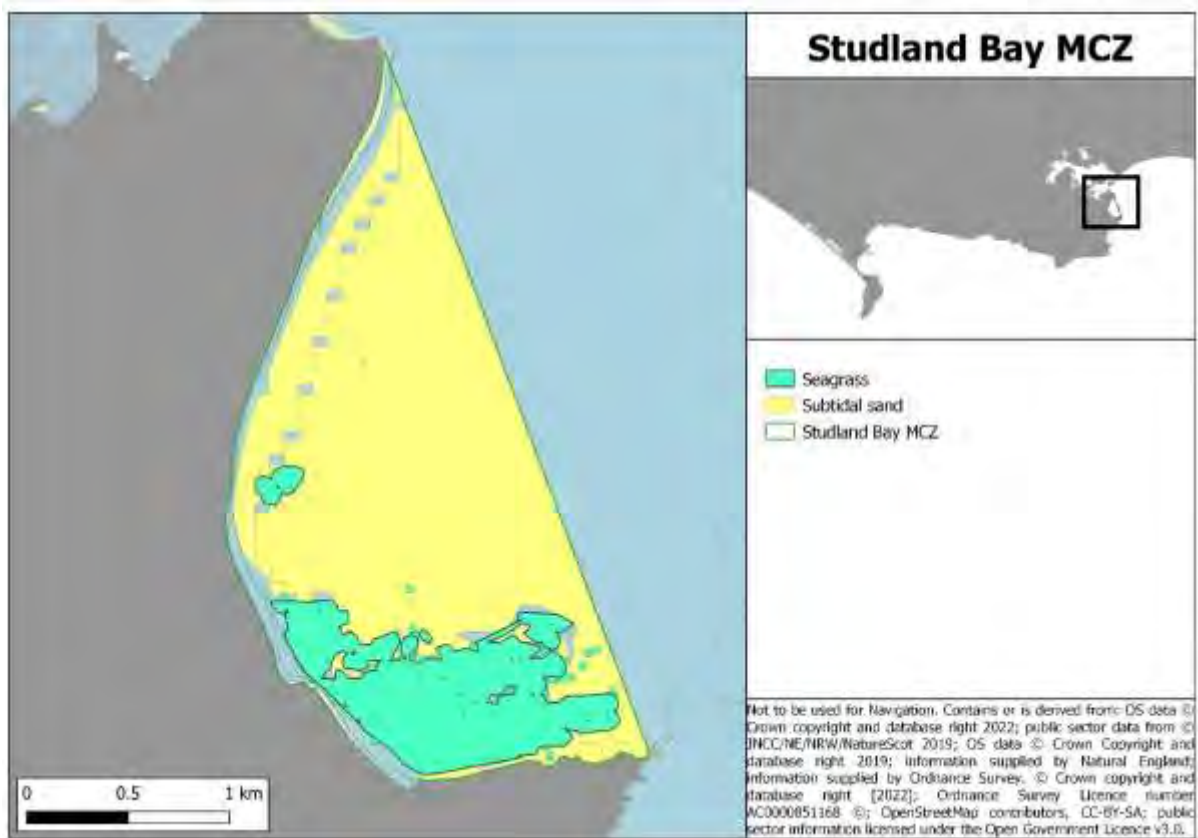


Figure 4: The location and extent of the supporting habitats of the Studland Bay MCZ (boundary shown by the dashed green line).

Table 3: Designated features of the Studland Bay MCZ.

Designated features	General management approach
Intertidal coarse sediment	Maintain
Long snouted seahorse ( <i>Hippocampus guttulatus</i> )	Maintain
Seagrass beds	Recover
Subtidal sand	Maintain

### 2.1.4 The Needles MCZ

The Needles MCZ is located on the west coast of the Isle of Wight and covers an area of 11 km<sup>2</sup>. The MCZ covers the coastline from Fort Albert down to the Needles Geological feature along the mean high-water mark and extends up to 3 km from the shoreline.

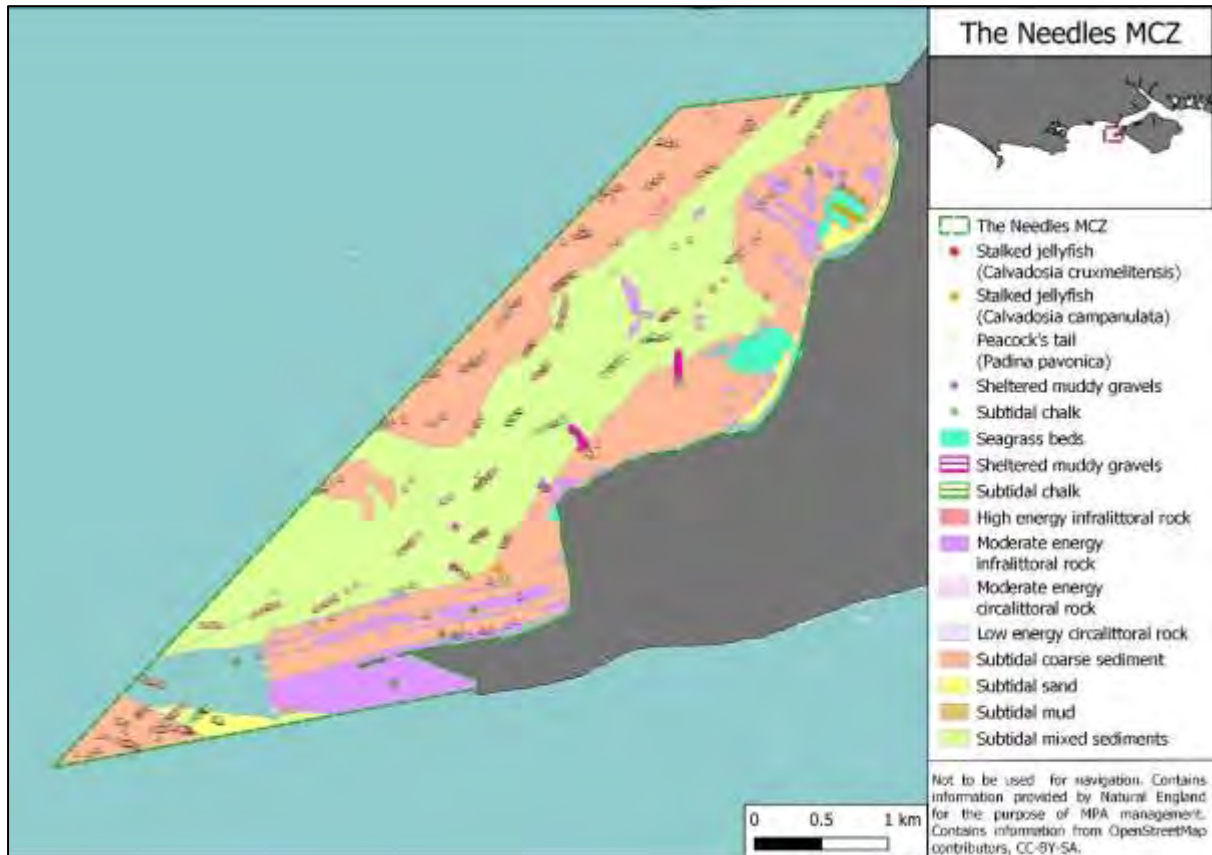


Figure 5: The location and extent of the supporting habitats of The Needles MCZ (boundary shown by the dashed green line).

Table 4: Designated features of The Needles MCZ.

Designated features	General management approach
High-energy infralittoral rock	Maintain
Moderate-energy circalittoral rock	Maintain
Moderate-energy infralittoral rock	Maintain
Native oyster ( <i>Ostrea edulis</i> )	Recover
Peacock's Tail ( <i>Padina pavocina</i> )	Recover
Seagrass beds	Recover
Sheltered muddy gravels	Recover
Stalked jellyfish ( <i>Calvdosia campanulata</i> )	Maintain
Subtidal chalk	Recover
Subtidal coarse sediments	Recover
Subtidal mixed sediments	Recover
Subtidal mud	Recover
Subtidal sand	Recover

### 2.1.5 Yarmouth to Cowes MCZ

The Yarmouth to Cowes MCZ covers 16 km<sup>2</sup> and stretches from Gurnard in the east, a village west of Cowes, to Yarmouth pier in the West and extends to the edge of the Western Solent deep water channel.

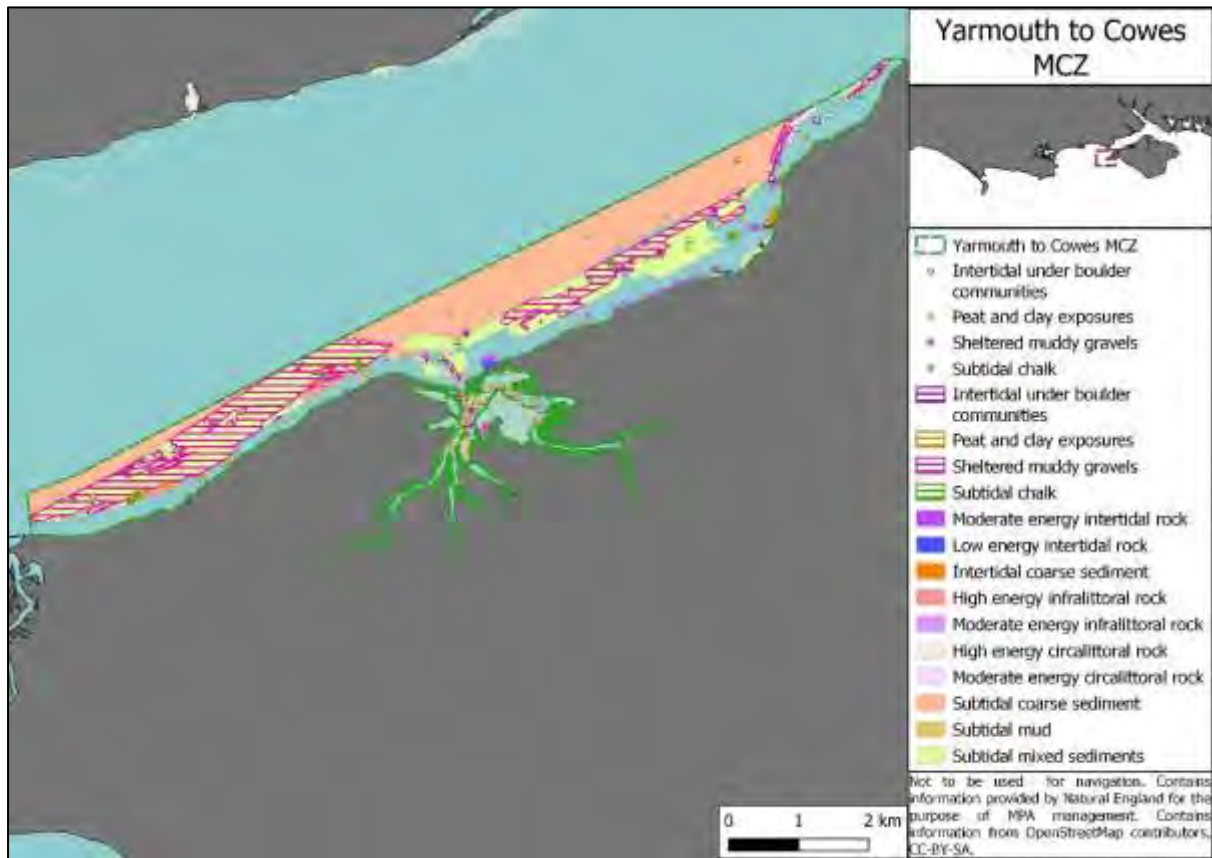


Figure 6: The location and extent of the supporting habitats of the Yarmouth to Cowes MCZ (boundary shown by the dashed green line).

Table 5: Designated features of the Yarmouth to Cowes MCZ.

Designated features	General management approach
Bouldnor Cliff geological feature	Maintain
Estuarine rocky habitats	Maintain
High-energy circalittoral rock	Recover
High-energy infralittoral rock	Recover
Intertidal coarse sediment	Maintain
Intertidal under boulder communities	Maintain
Littoral chalk communities	Maintain
Low energy intertidal rock	Maintain
Moderate energy circalittoral rock	Recover
Moderate energy infralittoral rock	Recover
Moderate energy intertidal rock	Maintain
Native oyster ( <i>Ostrea edulis</i> )	Recover
Peat and clay exposures	Recover
Sheltered muddy gravels	Recover
Subtidal chalk	Recover

Subtidal coarse sediments	Maintain
Subtidal mixed sediments	Recover
Subtidal mud	Recover

### 2.1.6 Bembridge MCZ

The Bembridge MCZ covers an area of 75 km<sup>2</sup> and stretches southwards from Nettlestone Point in the North, to Ventnor in the South, and stretches to the edge of the deep-water channel in the Eastern Solent.

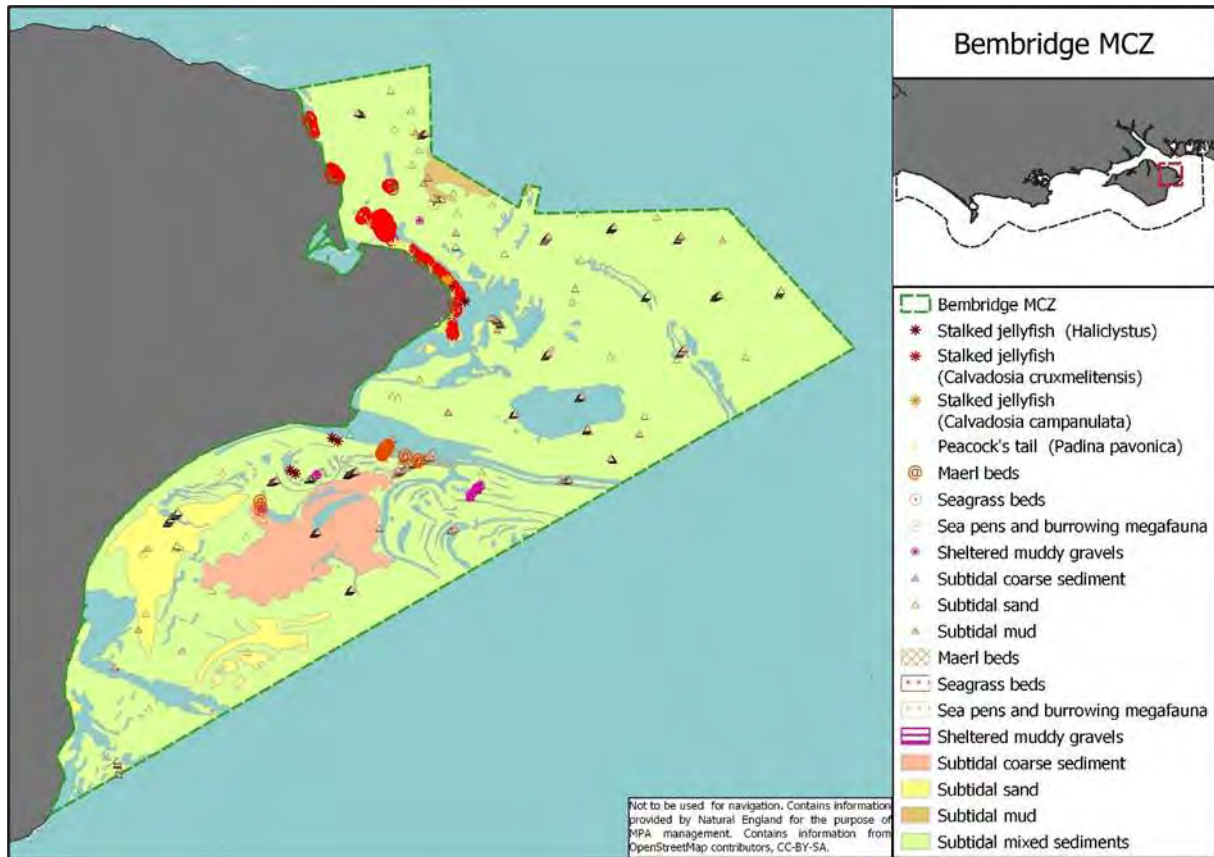


Figure 7: The location and extent of the supporting habitats of the Bembridge MCZ (boundary shown by the dashed green line).

Table 6: Designated features of the Bembridge MCZ.

Designated features	General management approach
Maerl beds	Recover
Native oyster ( <i>Ostrea edulis</i> )	Recover
Peacock's Tail ( <i>Padina pavocina</i> )	Recover
Seagrass beds	Recover
Sea-pen and burrowing megafauna communities	Recover
Sheltered muddy gravels	Maintain
Short snouted seahorse ( <i>Hippocampus hippocampus</i> )	Maintain
Stalked jellyfish ( <i>Calvadosia campanulata</i> )	Maintain
Stalked jellyfish ( <i>Haliclystus spp</i> )	Maintain
Subtidal coarse sediments	Maintain
Subtidal mixed sediments	Recover
Subtidal mud	Recover
Subtidal sand	Maintain



## 2.2 Special Areas of Conservation

For the SACs, information is provided on the location and the location of qualifying features within the site as well as details on the qualifying features under the designation.

The Conservation Objectives for all sites are the same. The objectives are to ensure that, subject to natural change, the integrity of the site is maintained or restored as appropriate, and that the site contributes to achieving the Favourable Condition Status of its qualifying features by maintaining or restoring:

- The extent and distribution of qualifying natural habitats and habitats of the qualifying species
- The structure and function (including typical species) of qualifying natural habitats
- The structure and function of the habitats of the qualifying species
- The supporting processes on which qualifying natural habitats and the habitats of qualifying species rely
- The populations of each of the qualifying species
- The distribution of qualifying species within the site

### 2.2.1 Lyme Bay and Torbay SAC

The Lyme Bay and Torbay SAC cover an area of 31 km<sup>2</sup>; the SAC overlays the Devon & Severn and Southern IFCA boundary. The area within the Southern IFCA District encloses the Lyme Bay Reefs.

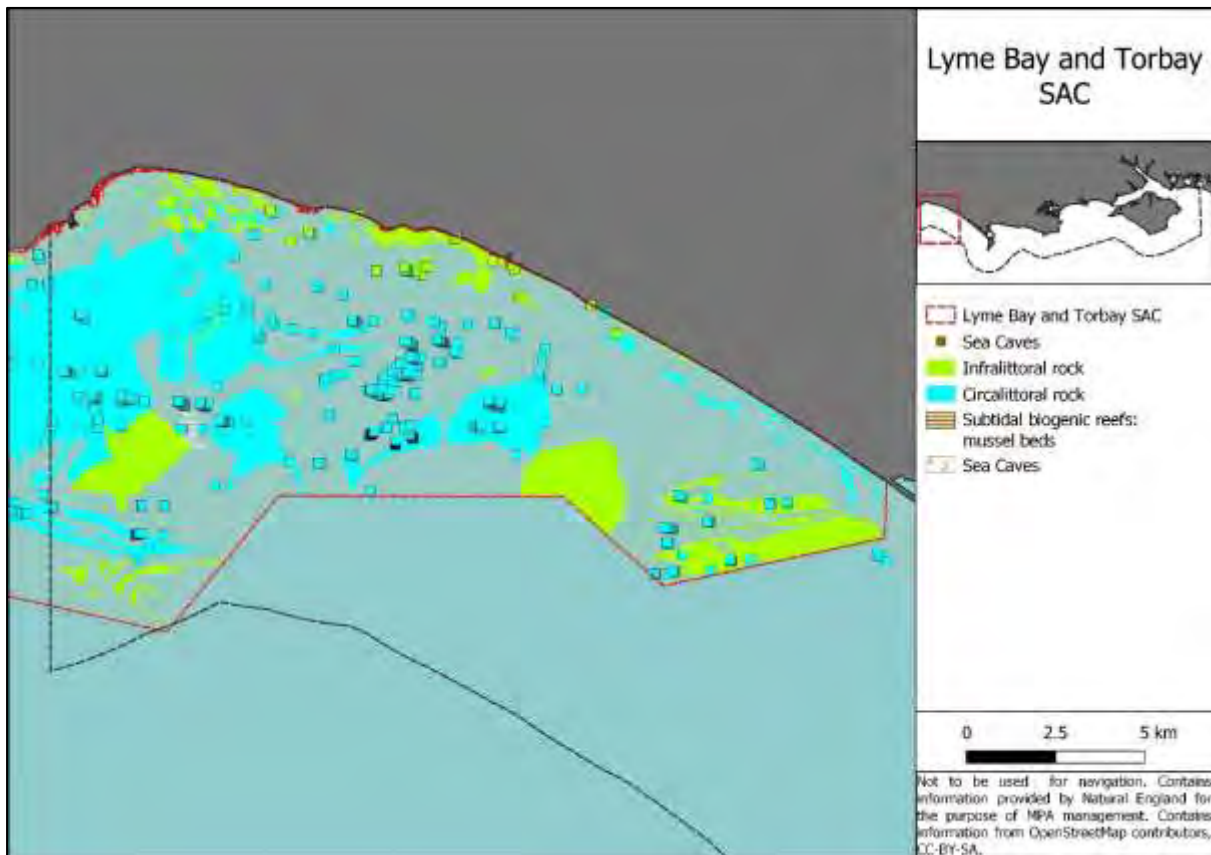


Figure 8: The location and extent of the supporting habitats of the Lyme Bay and Torbay SAC (boundary shown by the dashed red line).

Table 7: Qualifying features for Lyme Bay and Torbay SAC.

Qualifying features	Reefs
	Submerged or partially submerged sea caves

### 2.2.2 Chesil and The Fleet SAC

The Chesil and the Fleet SAC covers an area of 16 km<sup>2</sup>. The Fleet supports the largest diversity of species and habitat of any coastal lagoon in the UK and aside from the entrance at the southeastern end, The Fleet is largely sheltered from waves and tidal processes.

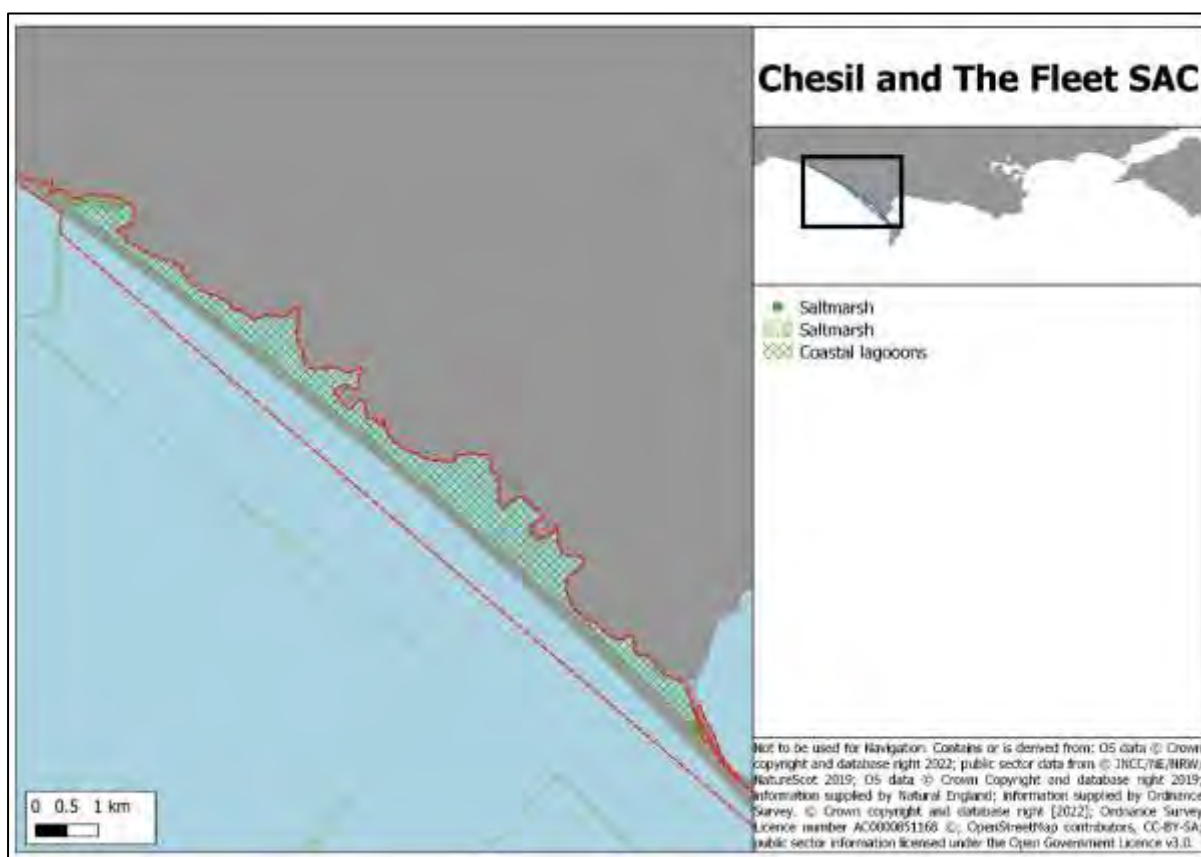


Figure 9: The location and extent of the supporting habitats of the Chesil and The Fleet SAC (boundary shown by the dashed red line).

Table 8: Qualifying features of the Chesil and The Fleet SAC.

Qualifying Features	Annual vegetation of drift lines
	Atlantic salt meadows ( <i>Glauco-Puccinellietalia maritimae</i> )
	Coastal lagoons
	Mediterranean and thermo-Atlantic halophilous scrubs ( <i>Sarcocornetea fruticosi</i> )
	Perennial vegetation of stony banks

### 2.2.3 Studland to Portland SAC

The Studland to Portland SAC covers the area from Studland Bay to Ringstead Bay as well as the area covering the Portland Reefs. The total area covered by the SAC is 332 km<sup>2</sup>.

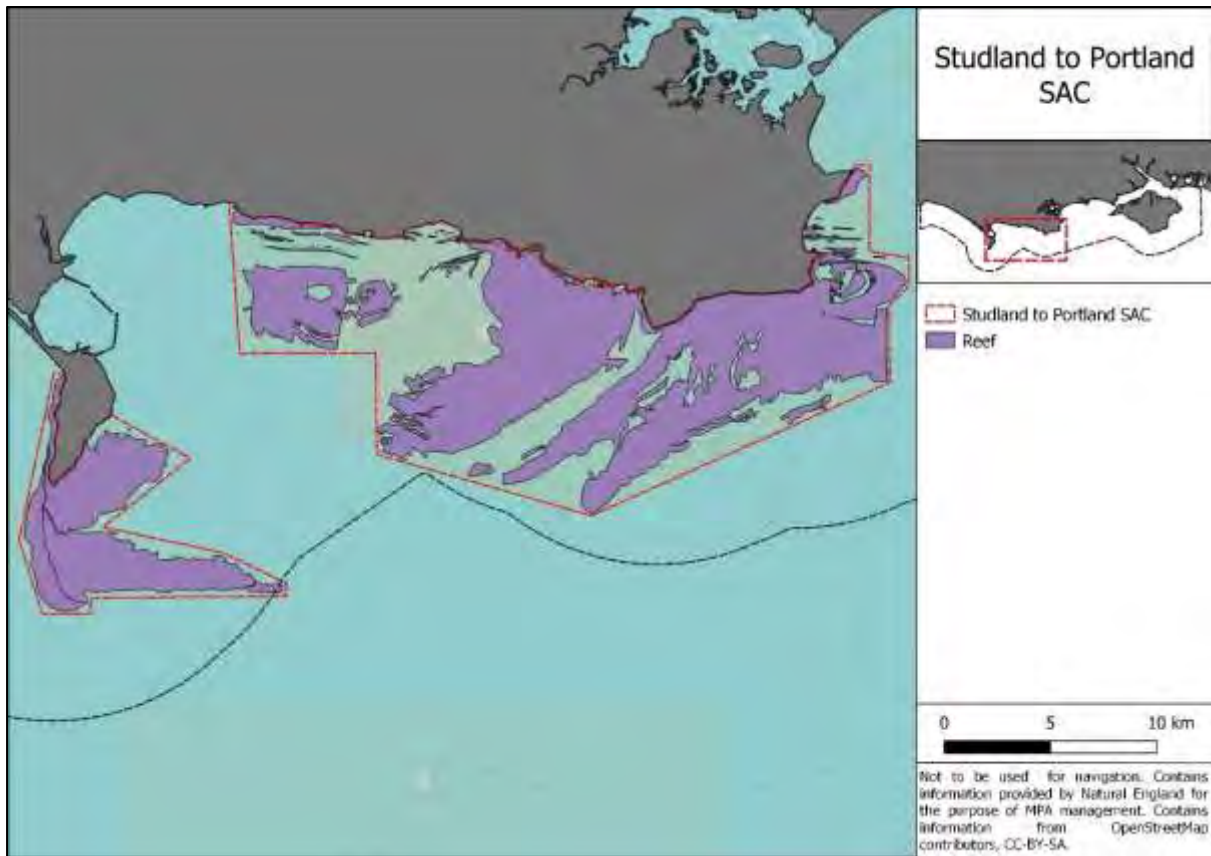


Figure 10: The location and extent of the supporting habitats of the Studland to Portland SAC (boundary shown by the dashed red line).

Table 9: Qualifying features of the Studland to Portland SAC.

Qualifying Features	Reefs
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### 2.2.4 Solent Maritime SAC

The Solent Maritime SAC covers a broad range of estuarine and marine habitats and an area of 113 km<sup>2</sup>.

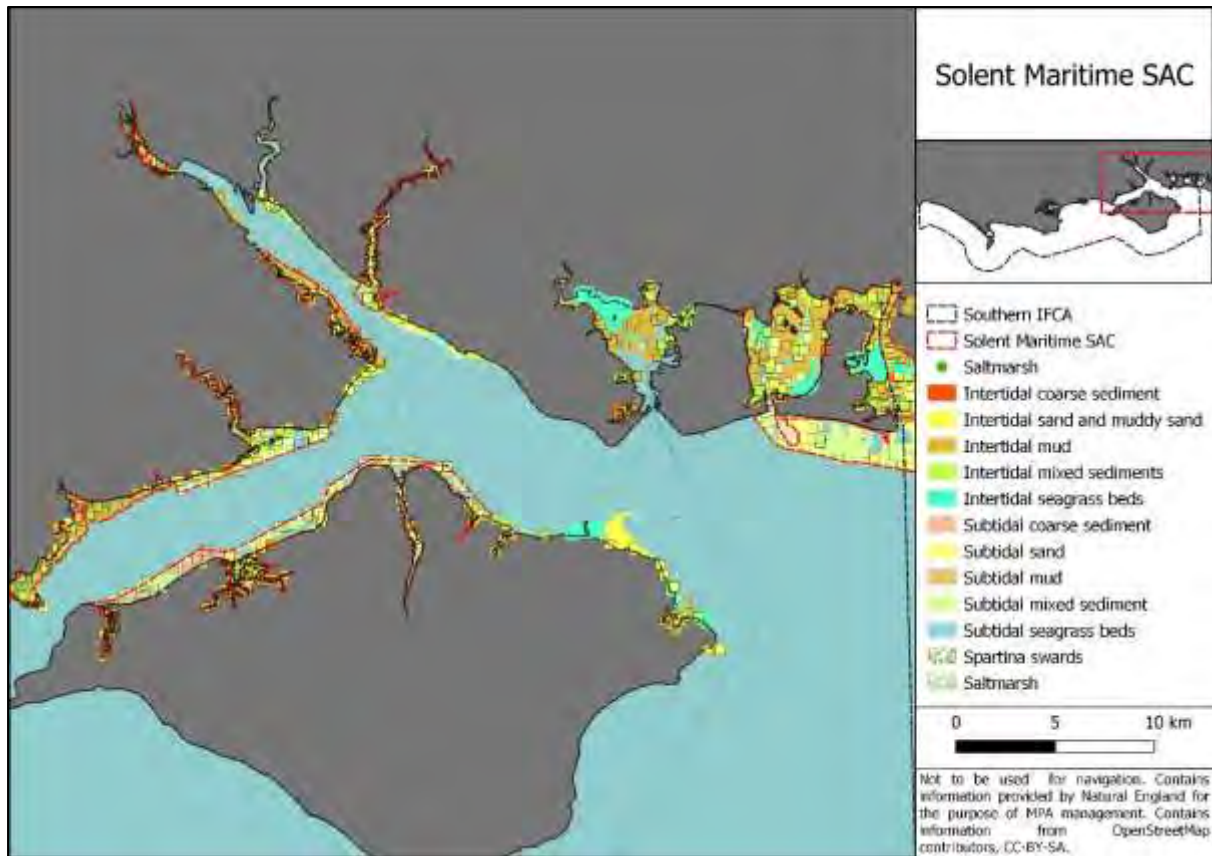


Figure 11: The location and extent of the supporting habitats of the Solent Maritime SAC (boundary shown by the dashed red line).

Table 10: Qualifying features of the Solent Maritime SAC.

Qualifying Features	Annual vegetation of drift lines
	Atlantic salt meadows ( <i>Glauco-Puccinellietalia maritimae</i> )
	Coastal Lagoons
	Desmoulin's Whorl Snail ( <i>Vertigo moulinsiana</i> )
	Estuaries
	Mudflats and sandflats not covered by seawater at low tide
	Perennial vegetation of stony banks
	Salicornia and other annuals colonising mud and sand
	Sandbanks which are slightly covered by sea water all the time
	Shifting dunes along the shoreline with <i>Ammophila arenaria</i> ("White Dunes")
Spartina swards ( <i>Spartinion maritimae</i> )	

### 2.2.5 South Wight Maritime SAC

The South Wight Maritime SAC covers an area of 199 km<sup>2</sup>, running the full length of the south coast of the Isle of Wight from The Needles to Bembridge. The area covers extensive reef and sea cave systems.

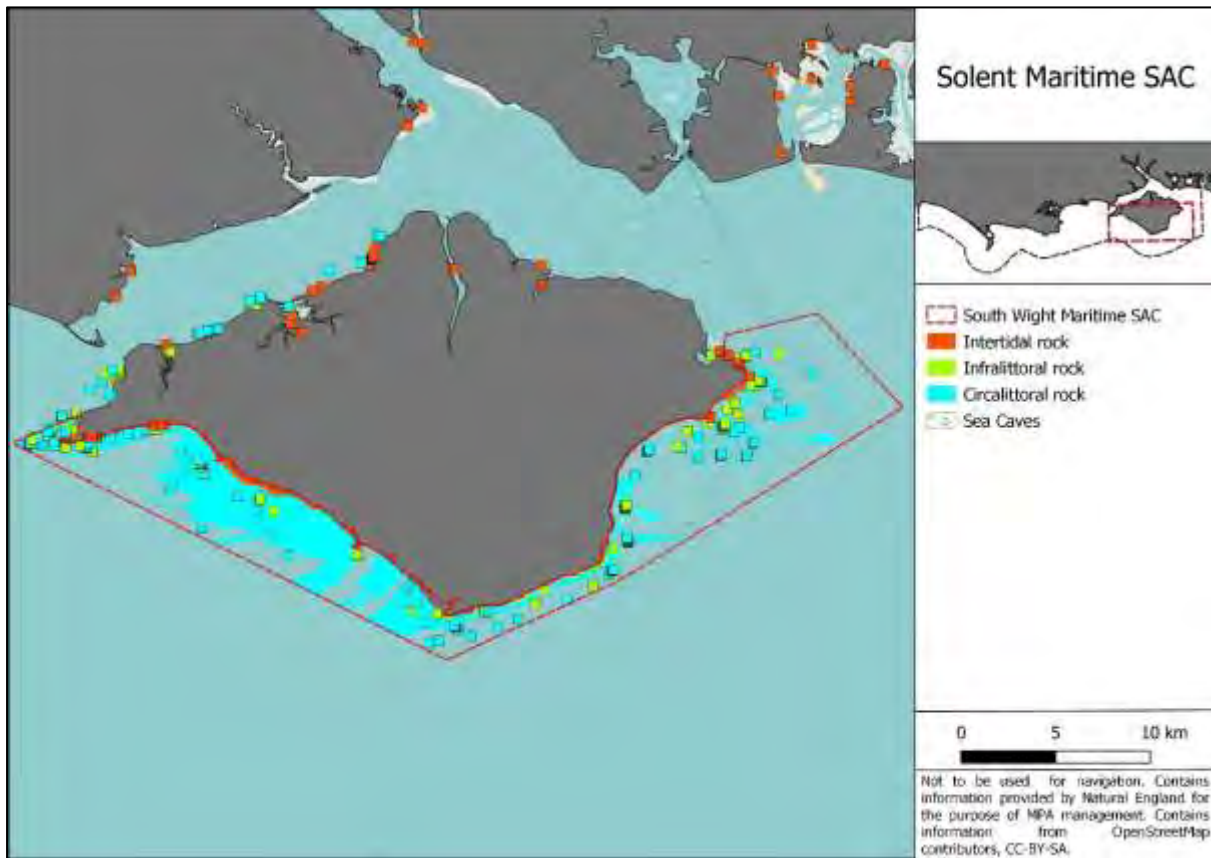


Figure 12: The location and extent of the supporting habitats of the South Wight Maritime SAC (boundary shown by the dashed red line).

Table 11: Qualifying features of the South Wight Maritime SAC.

Qualifying Features	Submerged or partially submerged sea caves
	Vegetated sea cliffs of the Atlantic and Baltic coasts
	Circalittoral rock
	Infralittoral rock
	Intertidal rock
	Subtidal stony reef

## 2.3 Special Protection Areas

For the SPAs, information is provided on the location and the location of qualifying features within the site and supporting habitats. Detail is provided in tables for each site on the qualifying features and the associated supporting habitats.

The Conservation Objectives are the same for all sites and apply to the site and the individual species and/or assemblage of species for which the site has been classified. The objectives are to ensure that, subject to natural change, the integrity of the site is maintained or restored as appropriate, and that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring:

- The extent and distribution of the habitats of the qualifying features
- The structure and function of the habitats of the qualifying features
- The supporting processes on which the habitats of the qualifying features rely
- The populations of each of the qualifying features
- The distribution of qualifying features within the site

### 2.3.1 Chesil Beach and The Fleet SPA

The Chesil Beach and the Fleet SPA covers an area of 7 km<sup>2</sup>. The Fleet supports the largest diversity of species and habitat of any coastal lagoon in the UK and aside from the entrance at the southeastern end, The Fleet is largely sheltered from waves and tidal processes.

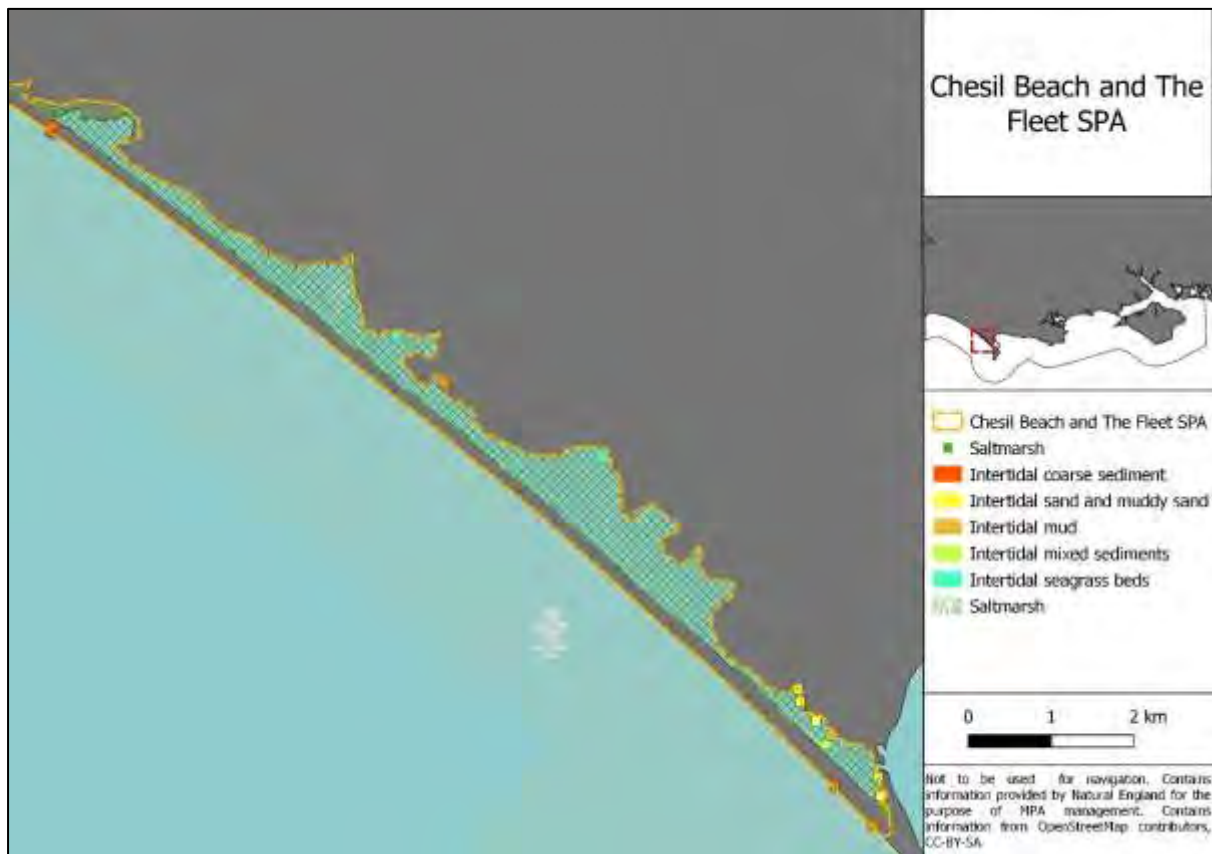


Figure 13: The location and extent of the supporting habitats of the Chesil Beach and The Fleet SPA (boundary shown by the dashed yellow line).

Table 12: Qualifying features and supporting habitats of the Chesil Beach and The Fleet SPA.

Qualifying Features	Little tern ( <i>Sternula albifrons</i> ), Breeding
	Wigeon ( <i>Mareca Penelope</i> ), Non-breeding
Supporting Habitats	Coastal lagoons
	Intertidal coarse sediment
	Intertidal mixed sediment
	Intertidal sand and muddy sand
	Intertidal seagrass beds
	Intertidal mud
	Water column

### 2.3.2 Poole Harbour SPA

Poole Harbour SPA comprises of large tidal mudflats, saltmarsh, and seagrass beds. The SPA covers an area of 42 km<sup>2</sup> and is an important feeding habitat for migratory birds.

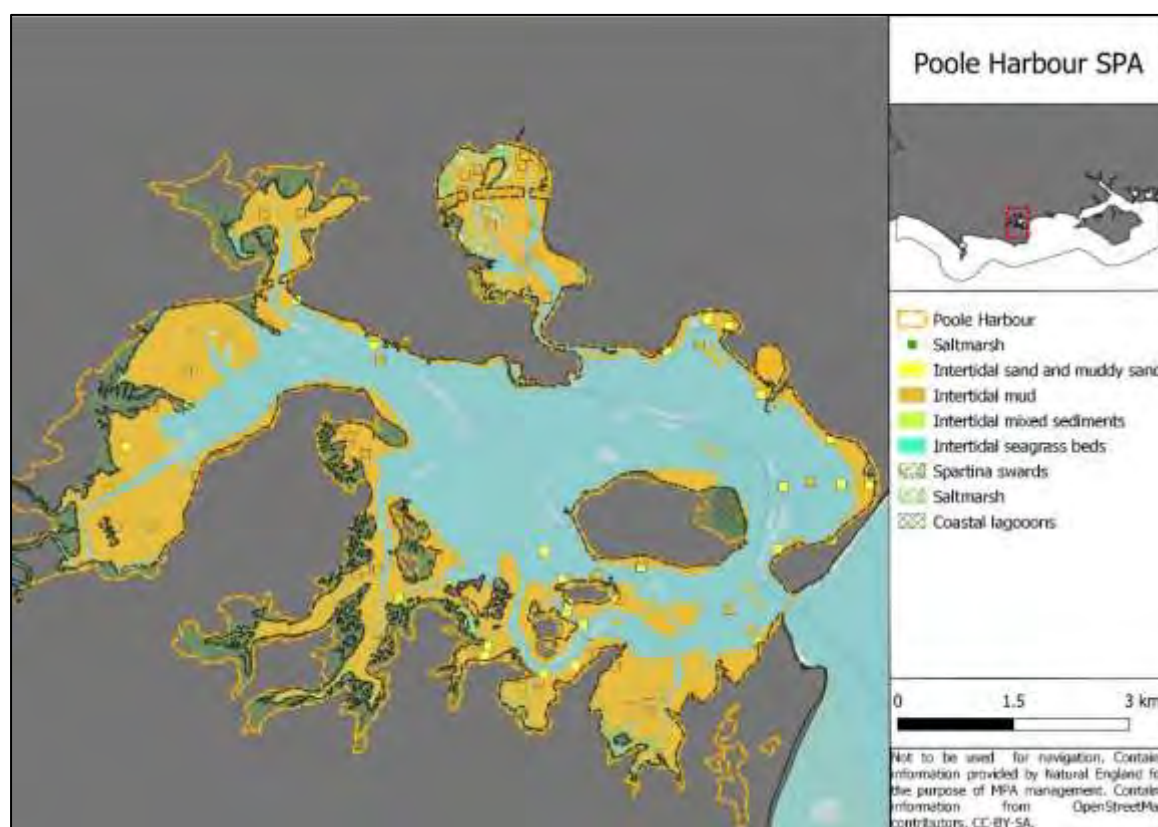


Figure 14: The location and extent of the supporting habitats of the Poole Harbour SPA (boundary shown by the dashed yellow line).

Table 13: Qualifying features and supporting habitats of the Poole Harbour SPA.

Qualifying Features	Avocet ( <i>Recurvirostra avosetta</i> ), Non-breeding
	Black-tailed godwit ( <i>Limosa limosa islandica</i> ), Non-breeding
	Common tern ( <i>Sterna hirundo</i> ), Breeding
	Little egret ( <i>Egretta garzetta</i> ), Non-breeding
	Mediterranean gull ( <i>Ichthyaeus melanocephalus</i> ), Breeding



	Sandwich tern ( <i>Thalasseus sandvicensis</i> ), Breeding
	Shelduck ( <i>Tadorna tadorna</i> ), Non-breeding
	Spoonbill ( <i>Platalea leucorodia</i> ), Non-breeding
	Waterbird assemblage, Non-breeding
Supporting Habitats	Coastal lagoon
	Coastal reedbed
	Freshwater and coastal grazing marsh
	Mediterranean and thermo-Atlantic halophilous scrubs
	Salicornia and other annuals colonising mud and sand
	Atlantic salt meadows
	Spartina swards
	Intertidal seagrass beds
	Intertidal mixed sediments
	Intertidal mud
	Intertidal sand and muddy sand
	Water column

### 2.3.3 Solent and Southampton Water SPA

The Solent and Southampton Water SPA reaches from Hurst Spit in the West to Hill Head in the East, covering sections of the Hampshire coastline and the north coast of the Isle of Wight. The SPA covers 54 km<sup>2</sup> of estuarine habitats that support a range of invertebrates and migratory birds.

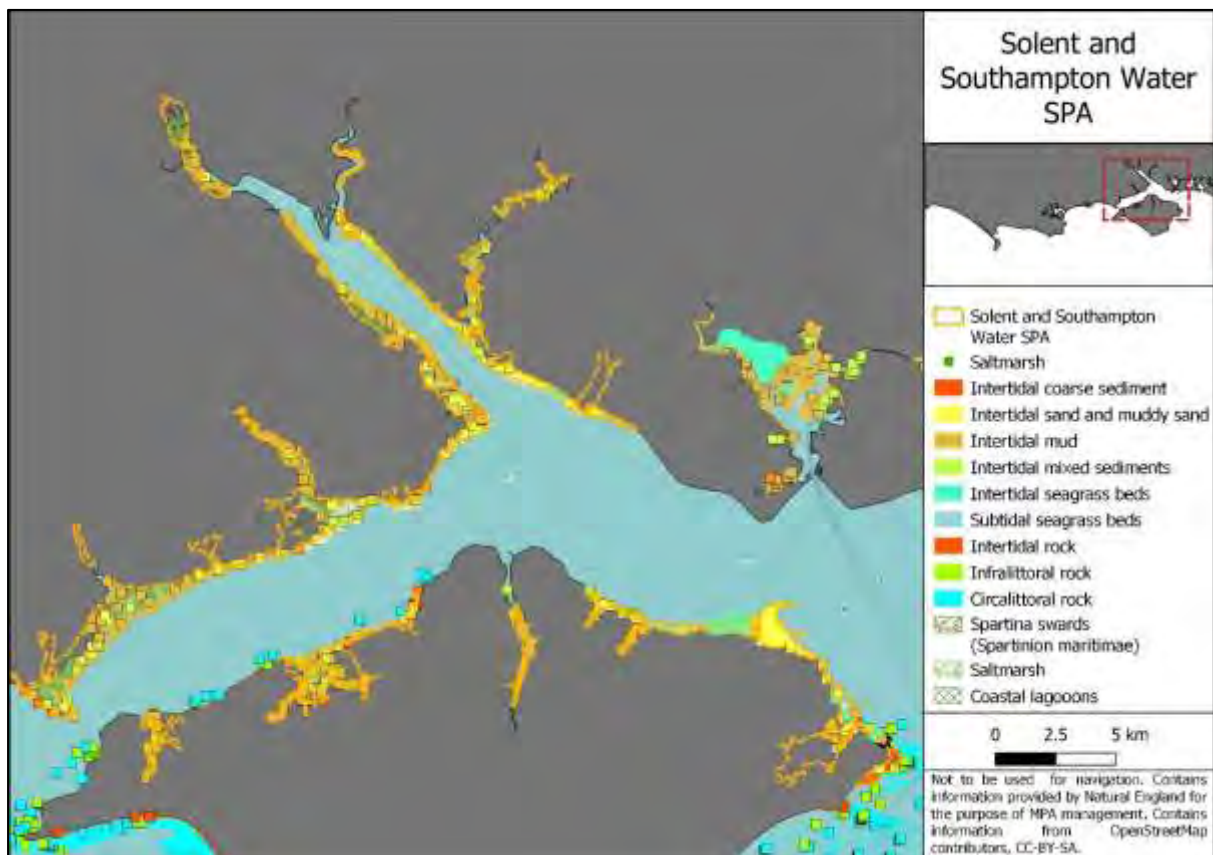


Figure 15: The location and extent of the supporting habitats of the Solent and Southampton Water SPA (boundary shown by the dashed yellow line).

Table 14: Qualifying features and supporting habitats of the Solent and Southampton Water SPA.

Qualifying Features	Black-tailed godwit ( <i>Limosa limosa islandica</i> ), Non-breeding
	Common tern ( <i>Sterna hirundo</i> ), Breeding
	Dark-bellied brent goose ( <i>Branta bernicla bernicla</i> ), Non-breeding
	Little tern ( <i>Sternula albifrons</i> ), Breeding
	Mediterranean gull ( <i>Ichthyaetus melanocephalus</i> ), Breeding
	Ringed plover ( <i>Charadrius hiaticula</i> ), Non-breeding
	Roseate tern ( <i>Sterna dougallii</i> ), Breeding
	Sandwich tern ( <i>Thalasseus sandvicensis</i> ), Breeding
	Teal ( <i>Anas crecca</i> ), Non-breeding
	Waterbird assemblage, Non-breeding
Supporting Habitats	Coastal lagoon
	Coastal reedbed
	Freshwater and coastal grazing marsh
	Salicornia and other annuals colonising mud and sand
	Atlantic salt meadows
	Spartina swards
	Intertidal seagrass beds
	Intertidal rock
	Intertidal coarse sediment
	Intertidal mixed sediments
	Intertidal mud
	Intertidal sand and muddy sand
	Infralittoral rock
	Subtidal seagrass beds
	Circolittoral rock
Water column	

### 2.3.4 Portsmouth Harbour SPA

Portsmouth Harbour is an important habitat for large numbers of nationally and internationally important bird species. The SPA covers 13 km<sup>2</sup>.

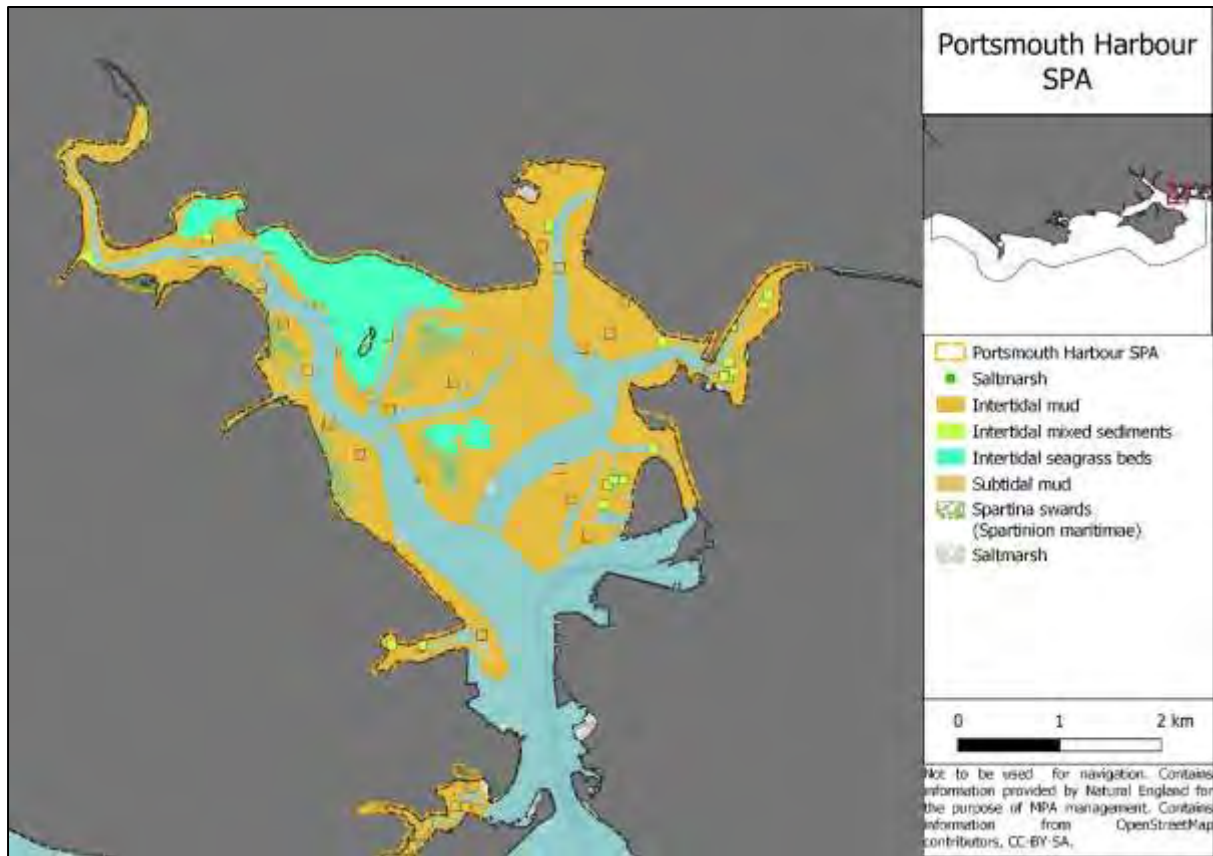


Figure 16: The location and extent of the supporting habitats of the Portsmouth Harbour SPA (boundary shown by the dashed yellow line).

Table 15: Qualifying features and supporting habitats of the Portsmouth Harbour SPA.

Qualifying Features	Black-tailed godwit ( <i>Limosa limosa islandica</i> ), Non-breeding
	Dark-bellied brent goose ( <i>Branta bernicla bernicla</i> ), Non-breeding
	Dunlin ( <i>Calidris alpina alpina</i> ), Non-breeding
	Red-breasted merganser ( <i>Mergus serrator</i> ), Non-breeding
Supporting Habitats	Coastal lagoon
	Freshwater and coastal grazing marsh
	Salicornia and other annuals colonising mud and sand
	Atlantic salt meadows
	Spartina swards
	Intertidal seagrass beds
	Intertidal mixed sediments
	Intertidal mud
	Subtidal mud
Water column	

### 2.3.5 Chichester and Langstone Harbours SPA

Chichester and Langstone Harbour cover two estuary basins with large mudflats and sandflats. The habitats support large numbers of overwintering birds with the SPA covering an area of 58 km<sup>2</sup>.

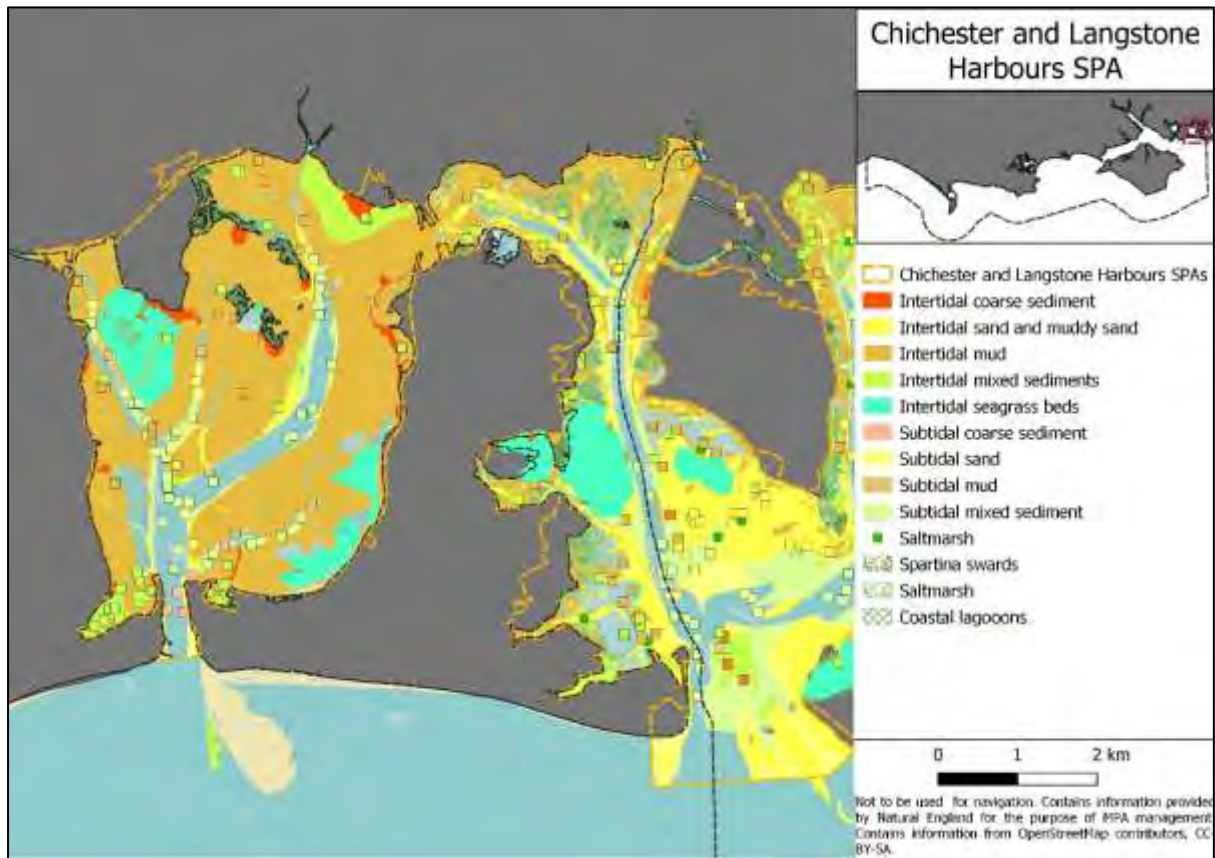


Figure 17: The location and extent of the supporting habitats of the Chichester and Langstone Harbour SPA (boundary shown by the dashed yellow line).

Table 16: Qualifying features and supporting habitats of the Chichester and Langstone Harbours SPA.

Qualifying Features	Bar-tailed godwit ( <i>Limosa lapponica</i> ), Non-breeding
	Common tern ( <i>Sterna hirundo</i> ), Breeding
	Curllew ( <i>Numenius arquata</i> ), Non-breeding
	Dark-bellied brent goose ( <i>Branta bernicla bernicla</i> ), Non-breeding
	Dunlin ( <i>Calidris alpina alpina</i> ), Non-breeding
	Grey plover ( <i>Pluvialis squatarola</i> ), Non-breeding
	Little tern ( <i>Sternula albifrons</i> ), Breeding
	Pintail ( <i>Anas acuta</i> ), Non-breeding
	Red-breasted merganser ( <i>Mergus serrator</i> ), Non-breeding
	Redshank ( <i>Tringa totanus</i> ), Non-breeding
	Ringed plover ( <i>Charadrius hiaticula</i> ), Non-breeding
	Sanderling ( <i>Calidris alba</i> ), Non-breeding
	Sandwich tern ( <i>Thalasseus sandvicensis</i> ), Breeding
	Shelduck ( <i>Tadorna tadorna</i> ), Non-breeding
	Shoveler ( <i>Spatula clypeata</i> ), Non-breeding
	Teal ( <i>Anas crecca</i> ), Non-breeding
Turnstone ( <i>Arenaria interpres</i> ), Non-breeding	



	Waterbird assemblage, Non-breeding
	Wigeon ( <i>Mareca penelope</i> ), Non-breeding
	Shoveler ( <i>Spatula clypeata</i> ), Non-breeding
Supporting Habitats	Coastal lagoon
	Coastal reedbed
	Freshwater and coastal grazing marsh
	Salicornia and other annuals colonising mud and sand
	Atlantic salt meadows
	Spartina swards
	Intertidal seagrass beds
	Intertidal rock
	Intertidal coarse sediment
	Intertidal mixed sediments
	Intertidal mud
	Intertidal sand and muddy sand
	Subtidal coarse sediment
	Subtidal mixed sediment
	Subtidal mud
	Subtidal sand
Water column	

## Section D: Part A and TLSE Assessments

For the sites listed in Section C above which were identified through the Screening Assessment as needing to progress to the next stage, Part A Assessments were carried out for MCZs and TLSE Assessments for the SACs and SPAs.

For both types of assessment, each type of activity was assessed with respect to the potential pressures which may be exerted on designated features. The assessment was undertaken using the Advice on Operations and Supplementary Advice provided by Natural England for each site. The Advice on Operations provides a broad-scale assessment of the sensitivity of designated features to different activity-derived pressures, using nationally available evidence on their resilience (ability to recover) and resistance (the level of tolerance) to physical, chemical and biological pressures. The broad-scale assessment of sensitivity to the pressures is measured against a benchmark. It should be noted that these benchmarks are representative of the likely intensity of a pressure caused by typical activities, and do not represent a threshold of an 'acceptable' intensity of a pressure. It is therefore necessary to consider the specifics of the activity being assessed as they are relevant to the Southern IFCA District, i.e., assessing the potential for a significant effect of a pressure on a feature using knowledge on activity levels, occurrence, intensity, gear type, operation etc. The determination of whether a pressure/feature interaction needed to be carried forward to the Part B/Appropriate Assessment stage considered this site and District-specific detail alongside the broader Advice on Operations.

The two relevant Advice on Operations are:

- Shore-based activities
- Seaweed harvesting

## 1.0 Part A Assessments

Part A Assessments were carried out for sites listed in Section C2.1.

The outcomes of the Part A Assessments identified the following pressures as having a potential likely significant impact:

### Shore-based activities

- Abrasion/disturbance of the substrate on the surface of the seabed
- Penetration and/or disturbance of the substratum below the surface of the seabed, including abrasion
- Removal of non-target species
- Removal of target species
- Visual disturbance

### Seaweed harvesting

- Abrasion/disturbance of the substrate on the surface of the seabed
- Removal of non-target species
- Removal of target species
- Visual disturbance

Tables 17-18 below provide a summary of the outputs of these assessments for each site, indicating the pressures which may exert a significant impact, the designated features relevant to each pressure, the MCZ for which that pressure/feature combination is applicable, the rationale for screening into the next stage in the assessment process, and the relevant attributes listed by Natural England in the Supplementary Advice for designated sites which may be affected by the exertion of that pressure on that feature.

(\*) note that not all relevant attributes will apply to all features, however information is provided on all applicable relevant attributes as they apply to habitats, seagrass and species.

Table 17: Summary of outcomes for the Part A Assessments for shore-based activities.

Advice on Operations: Shore-based activities				
Potential Pressure	Relevant Designated Features	Relevant MCZ	Rationale	Relevant Attributes (*)
Abrasion/disturbance of the substrate on the surface of the seabed	High-energy intertidal rock	<ul style="list-style-type: none"> <li>Chesil Beach and Stennis Ledges</li> </ul>	<p>Shore-based gathering of mussels has the potential to take place over intertidal rock causing an abrasion risk - however this activity is not currently documented as occurring in the Southern IFCA Distict.</p> <p>Species associated with rock habitats may also be subject to abrasion from trampling.</p> <p>Where seagrass beds overlap with the presence of the target species there is a risk of abrasion. There is also a risk of abrasion from trampling.</p> <p>There is a risk to species associated with seagrass habitats from damage to the habitat by abrasion.</p>	<p><b>For Habitats:</b></p> <p>Distribution: presence and spatial distribution of biological communities Extent and distribution Structure and function: presence and abundance of key structural and influential species Structure: physical structure of rocky substrate Structure: sediment composition and distribution Structure: species composition of component communities</p> <p><b>Specific for seagrass:</b></p> <p>Structure: biomass Structure: rhizome structure and biomass</p> <p><b>For Species:</b></p> <p>Population: abundance Population: population size</p>
	Moderate-energy intertidal rock	<ul style="list-style-type: none"> <li>Purbeck Coast</li> <li>Yarmouth to Cowes</li> </ul>		
	Low-energy intertidal rock	<ul style="list-style-type: none"> <li>Yarmouth to Cowes</li> </ul>		
	Seagrass beds	<ul style="list-style-type: none"> <li>Studland Bay</li> <li>The Needles</li> <li>Bembridge</li> </ul>		
	Peacock's Tail	<ul style="list-style-type: none"> <li>Purbeck Coast</li> <li>The Needles</li> <li>Bembridge</li> </ul>		
	Stalked jellyfish ( <i>Haliclystus</i> spp)	<ul style="list-style-type: none"> <li>Purbeck Coast</li> <li>Bembridge</li> </ul>		
	Stalked jellyfish ( <i>Calvadosia campanulate</i> )	<ul style="list-style-type: none"> <li>The Needles</li> <li>Bembridge</li> </ul>		
	Long snouted seahorse	<ul style="list-style-type: none"> <li>Studland Bay</li> </ul>		
Short snouted seahorse	<ul style="list-style-type: none"> <li>Bembridge</li> </ul>			
Penetration and/or disturbance of the substratum below the	Seagrass beds	<ul style="list-style-type: none"> <li>Studland Bay</li> <li>The Needles</li> <li>Bembridge</li> </ul>	Shore-based activities could cause penetration in seagrass beds where the feature overlaps	

surface of the seabed, including abrasion	Stalked jellyfish ( <i>Haliclystus</i> spp)	<ul style="list-style-type: none"> <li>• Bembridge</li> </ul>	<p>with the presence of target species.</p> <p>Shore based activities could cause abrasion to seagrass beds and thus stalked jellyfish where the feature overlaps with the location of the target species.</p>	<p>Population: recruitment and reproductive capability</p> <p>Presence and spatial distribution of the species</p> <p>Supporting habitat: extent and distribution</p>
	Stalked jellyfish ( <i>Calvadosia campanulate</i> )	<ul style="list-style-type: none"> <li>• The Needles</li> <li>• Bembridge</li> </ul>		
Removal of non-target species	Seagrass beds	<ul style="list-style-type: none"> <li>• Studland Bay</li> <li>• The Needles</li> <li>• Bembridge</li> </ul>	<p>Overlap between seagrass beds and the target species risks the removal of non-target species associated with seagrass beds or removal of seagrass blades.</p>	
	Long snouted seahorse	<ul style="list-style-type: none"> <li>• Studland Bay</li> </ul>		
	Short snouted seahorse	<ul style="list-style-type: none"> <li>• Bembridge</li> </ul>		
	Stalked jellyfish ( <i>Haliclystus</i> spp)	<ul style="list-style-type: none"> <li>• Bembridge</li> </ul>		
	Stalked jellyfish ( <i>Calvadosia campanulate</i> )	<ul style="list-style-type: none"> <li>• The Needles</li> <li>• Bembridge</li> </ul>		
Removal of target species	Seagrass beds	<ul style="list-style-type: none"> <li>• Studland Bay</li> <li>• The Needles</li> <li>• Bembridge</li> </ul>	<p>Overlap between seagrass beds and the target species introduces a risk to the feature through the removal of the target species.</p>	
Visual disturbance	Long snouted seahorse	<ul style="list-style-type: none"> <li>• Studland Bay</li> </ul>	<p>The only activity which would occur below the level of the water is push netting, activity levels are very low however this is the potential for a visual disturbance.</p>	
	Short snouted seahorse	<ul style="list-style-type: none"> <li>• Bembridge</li> </ul>		

Table 18: Summary of outcomes for the Part A Assessments for Seaweed Harvesting.

Advice on Operations: Seaweed harvesting				
Potential Pressure	Relevant Designated Features	Relevant MCZ	Rationale	Relevant Attributes (*)
Abrasion/disturbance of the substrate on the surface of the seabed	High-energy intertidal rock	<ul style="list-style-type: none"> <li>Chesil Beach and Stennis Ledges</li> <li>Purbeck Coast</li> </ul>	There is potential for abrasion to be caused by seaweed harvesting on suitable habitats or trampling in order to reach suitable habitats.	<p><b>For Habitats:</b>            Distribution: presence and spatial distribution of biological communities            Extent and distribution            Structure and function: presence and abundance of key structural and influential species            Structure: physical structure of rocky substrate            Structure: sediment composition and distribution            Structure: species composition of component communities</p> <p><b>Specific for seagrass:</b>            Structure: biomass            Structure: rhizome structure and biomass</p> <p><b>For Species:</b>            Population: abundance            Population: population size            Population: recruitment and reproductive capability            Presence and spatial distribution of the species            Supporting habitat: extent and distribution</p>
	Moderate-energy intertidal rock	<ul style="list-style-type: none"> <li>Purbeck Coast</li> <li>Yarmouth to Cowes</li> </ul>		
	Low-energy intertidal rock	<ul style="list-style-type: none"> <li>Yarmouth to Cowes</li> </ul>	For species which are found in rocky habitats, there is the risk of abrasion due to the action of seaweed harvesting.	
	High-energy infralittoral rock	<ul style="list-style-type: none"> <li>Chesil Beach and Stennis Ledges</li> <li>Purbeck Coast</li> <li>The Needles</li> <li>Yarmouth to Cowes</li> </ul>	If seaweed removal / the removal of seaweed occurred within seagrass beds where there is an impact to the bed from abrasion, there could be further impacts to associated species.	
	Moderate-energy infralittoral rock	<ul style="list-style-type: none"> <li>The Needles</li> <li>Yarmouth to Cowes</li> </ul>		
	High-energy circalittoral rock	<ul style="list-style-type: none"> <li>Chesil Beach and Stennis Ledges</li> <li>Yarmouth to Cowes</li> </ul>		
	Moderate-energy circalittoral rock	<ul style="list-style-type: none"> <li>The Needles</li> <li>Yarmouth to Cowes</li> </ul>		
	Littoral chalk communities	<ul style="list-style-type: none"> <li>Yarmouth to Cowes</li> </ul>		
	Subtidal coarse sediment	<ul style="list-style-type: none"> <li>Chesil Beach and Stennis Ledges</li> <li>Purbeck Coast</li> <li>The Needles</li> </ul>		

		<ul style="list-style-type: none"> <li>• Yarmouth to Cowes</li> </ul>		
	Subtidal mixed sediments	<ul style="list-style-type: none"> <li>• Chesil Beach and Stennis Ledges</li> <li>• Purbeck Coast</li> <li>• The Needles</li> <li>• Yarmouth to Cowes</li> </ul>		
	Subtidal sand	<ul style="list-style-type: none"> <li>• Chesil Beach and Stennis Ledges</li> <li>• Studland Bay</li> <li>• The Needles</li> <li>• Bembridge</li> </ul>		
	Subtidal mud	<ul style="list-style-type: none"> <li>• The Needles</li> </ul>		
	Seagrass beds	<ul style="list-style-type: none"> <li>• Studland Bay</li> <li>• The Needles</li> <li>• Bembridge</li> </ul>		
	Native oyster	<ul style="list-style-type: none"> <li>• Chesil Beach and Stennis Ledges</li> <li>• The Needles</li> <li>• Yarmouth to Cowes</li> <li>• Bembridge</li> </ul>		
	Pink-sea fan	<ul style="list-style-type: none"> <li>• Chesil Beach and Stennis Ledges</li> </ul>		
	Peacock's Tail	<ul style="list-style-type: none"> <li>• Purbeck Coast</li> <li>• The Needles</li> <li>• Bembridge</li> </ul>		
	Stalked jellyfish ( <i>Haliclystus</i> spp)	<ul style="list-style-type: none"> <li>• Purbeck Coast</li> <li>• Bembridge</li> </ul>		
	Stalked jellyfish ( <i>Calvadosia campanulata</i> )	<ul style="list-style-type: none"> <li>• The Needles</li> <li>• Bembridge</li> </ul>		
	Long snouted seahorse	<ul style="list-style-type: none"> <li>• Studland Bay</li> </ul>		

	Short snouted seahorse	<ul style="list-style-type: none"> <li>• Bembridge</li> </ul>		
Removal of target species	High-energy intertidal rock	<ul style="list-style-type: none"> <li>• Chesil Beach and Stennis Ledges</li> <li>• Purbeck Coast</li> </ul>	Removal of seaweeds may impact the structure/function of rock habitats.	
	Moderate-energy intertidal rock	<ul style="list-style-type: none"> <li>• Purbeck Coast</li> <li>• Yarmouth to Cowes</li> </ul>	Removal of seaweeds may impact seagrass beds if found in the same locations.	
	Low-energy intertidal rock	<ul style="list-style-type: none"> <li>• Yarmouth to Cowes</li> </ul>		
	High-energy infralittoral rock	<ul style="list-style-type: none"> <li>• Chesil Beach and Stennis Ledges</li> <li>• Purbeck Coast</li> <li>• The Needles</li> <li>• Yarmouth to Cowes</li> </ul>	Where seaweeds are found in habitats used by designated species, there is a risk that removal could apply pressure to the community left behind.	
	Moderate-energy infralittoral rock	<ul style="list-style-type: none"> <li>• The Needles</li> <li>• Yarmouth to Cowes</li> </ul>		
	High-energy circalittoral rock	<ul style="list-style-type: none"> <li>• Chesil Beach and Stennis Ledges</li> <li>• Yarmouth to Cowes</li> </ul>		
	Moderate-energy circalittoral rock	<ul style="list-style-type: none"> <li>• The Needles</li> <li>• Yarmouth to Cowes</li> </ul>		
	Littoral chalk communities	<ul style="list-style-type: none"> <li>• Yarmouth to Cowes</li> </ul>		
	Subtidal mixed sediments	<ul style="list-style-type: none"> <li>• Chesil Beach and Stennis Ledges</li> <li>• Purbeck Coast</li> <li>• The Needles</li> <li>• Yarmouth to Cowes</li> </ul>		
	Subtidal sand	<ul style="list-style-type: none"> <li>• Chesil Beach and Stennis Ledges</li> <li>• Studland Bay</li> </ul>		

		<ul style="list-style-type: none"> <li>• The Needles</li> <li>• Bembridge</li> </ul>		
	Peacock's Tail	<ul style="list-style-type: none"> <li>• Purbeck Coast</li> <li>• The Needles</li> <li>• Bembridge</li> </ul>		
	Seagrass beds	<ul style="list-style-type: none"> <li>• Studland Bay</li> <li>• The Needles</li> <li>• Bembridge</li> </ul>		
	Long snouted seahorse	<ul style="list-style-type: none"> <li>• Studland Bay</li> </ul>		
	Short snouted seahorse	<ul style="list-style-type: none"> <li>• Bembridge</li> </ul>		
Removal of non-target species	Seagrass beds	<ul style="list-style-type: none"> <li>• Studland Bay</li> <li>• The Needles</li> <li>• Bembridge</li> </ul>	<p>Although seaweed harvesting by hand is very selective and seaweeds can be harvested without the accidental harvest of non-target species by careful review of fronds when harvesting, if the harvester is unfamiliar with the species there is the risk of accidental removal of certain designated species as a non-target species.</p> <p>If removal of seaweed occurs within a seagrass bed there is the potential for an impact to the seagrass feature through disturbance/removal of associated species as non-target species. It is noted that seaweed harvesting is very selective and accidental harvest of non-target species is low so risk relates to</p>	
	Peacock's Tail	<ul style="list-style-type: none"> <li>• Purbeck Coast</li> <li>• The Needles</li> <li>• Bembridge</li> </ul>		
	Stalked jellyfish ( <i>Haliclystus</i> spp)	<ul style="list-style-type: none"> <li>• Purbeck Coast</li> <li>• Bembridge</li> </ul>		
	Stalked jellyfish ( <i>Calvadosia campanulata</i> )	<ul style="list-style-type: none"> <li>• The Needles</li> <li>• Bembridge</li> </ul>		



			small, difficult to see non-target species associated with seagrass communities or associated sediment communities.	
Visual disturbance	Long snouted seahorse	<ul style="list-style-type: none"> <li>• Studland Bay</li> </ul>	Seaweed harvesting may occur in the shallow subtidal/below the level of the water therefore there is the potential for visual disturbance.	
	Short snouted seahorse	<ul style="list-style-type: none"> <li>• Bembridge</li> </ul>		

## 2.0 TLSE Assessments

TLSE Assessments were carried out for sites listed in Sections C2.2 and C2.3.

The outcomes of the TLSE Assessments identified the following pressures as having a potential likely significant impact:

### SACs

#### **Shore-based activities**

- Abrasion/disturbance of the substrate on the surface of the seabed
- Penetration and/or disturbance of the substratum below the surface of the seabed, including abrasion
- Removal of non-target species
- Removal of target species

#### **Seaweed harvesting**

- Abrasion/disturbance of the substrate on the surface of the seabed
- Removal of target species

### SPAs

#### **Shore-based activities**

- Abrasion/disturbance of the substrate on the surface of the seabed
- Penetration and/or disturbance of the substratum below the surface of the seabed, including abrasion
- Removal of non-target species
- Removal of target species
- Visual disturbance

#### **Seaweed harvesting**

- Abrasion/disturbance of the substrate on the surface of the seabed
- Removal of target species
- Removal of non-target species
- Visual disturbance

Tables 19-20 (SACs) and 21-22 (SPAs) below provide a summary of the outputs of these assessments for each site, indicating the pressures which may exert a significant impact, the designated features relevant to each pressure, the SAC/SPA for which that pressure/feature combination is applicable, the rationale for screening into the next stage in the assessment process and the relevant attributes, listed by Natural England in the Supplementary Advice for designated sites which may be affected by the exertion of that pressure on that feature.

(\*) note that not all relevant attributes will apply to all features, however information is provided on all applicable relevant attributes as they apply to habitats, seagrass and species.

## 2.1 SAC TLSE Assessments

Table 19: Summary of outcomes for the TLSE Assessments for SACs for shore-based activities.

Advice on Operations: Shore-based activities				
Potential Pressure	Relevant Designated Features	Relevant SAC	Rationale	Relevant Attributes (*)
Abrasion/disturbance of the substrate on the surface of the seabed	Annual vegetation of drift lines	<ul style="list-style-type: none"> <li>Chesil and The Fleet</li> <li>Solent Maritime</li> </ul>	Shore gathering activities can exert an abrasion/disturbance pressure on the seabed.	Distribution of the feature, including associated transitional habitats, within the site Distribution: presence and spatial distribution of biological communities Extent and distribution Extent of support habitat (habitat) Extent of the feature within the site Future extent of habitat within the site and ability to respond to seasonal changes Structure and function (including typical species): key structural, influential and distinctive species Structure and function: presence and abundance of key structural and influential species Structure and function: sediment size and availability Structure: sediment composition and distribution Structure: biomass Structure: species composition of component communities Structure: physical structure of rocky substrate.
	Perennial vegetation of stony banks	<ul style="list-style-type: none"> <li>Chesil and The Fleet</li> <li>Solent Maritime</li> </ul>	For saltmarshes, shore-based activities will not directly interact with the feature as it is not the target habitat type. However, saltmarsh may be trampled when gaining access to the target habitats.	
	Coastal lagoons	<ul style="list-style-type: none"> <li>Chesil and The Fleet</li> </ul>		
	Mediterranean and thermo-Atlantic halophilous scrubs	<ul style="list-style-type: none"> <li>Chesil and The Fleet</li> </ul>	Where seagrass overlaps with areas where target species are found there is a risk of abrasion from shore-based activities. There is also a trampling risk in accessing areas for target species.	
	Atlantic salt meadows	<ul style="list-style-type: none"> <li>Chesil and The Fleet</li> <li>Solent Maritime</li> </ul>		
	Salicornia and other annuals colonising mud and sand	<ul style="list-style-type: none"> <li>Solent Maritime</li> </ul>	For subtidal seagrass the only activity which would take place is push netting, there is the potential for trampling of seagrass whilst undertaking this activity.	
	Spartina swards	<ul style="list-style-type: none"> <li>Solent Maritime</li> </ul>		
	Intertidal seagrass beds	<ul style="list-style-type: none"> <li>Solent Maritime</li> </ul>		
	Intertidal mixed sediments	<ul style="list-style-type: none"> <li>Solent Maritime</li> </ul>		
	Intertidal mud	<ul style="list-style-type: none"> <li>Solent Maritime</li> </ul>		

	Intertidal sand and muddy sand	• Solent Maritime		
	Subtidal seagrass beds	• Solent Maritime		
Penetration and/or disturbance of the substratum below the surface of the seabed, including abrasion	Coastal lagoons	• Chesil and The Fleet	Shore-based activities could cause penetration to the seabed.	
	Intertidal seagrass beds	• Solent Maritime	Shore-based activities could cause penetration and disturbance to seagrass beds where the feature overlaps with the location of target species.	
	Intertidal mixed sediments	• Solent Maritime		
	Intertidal mud	• Solent Maritime		
	Intertidal sand and muddy sand	• Solent Maritime		
Removal of target species	Intertidal seagrass beds	• Solent Maritime	If there is an overlap between the location of the target species and seagrass beds, there is a risk that removal of the target species would impact the seagrass feature.	
	Intertidal mixed sediments	• Solent Maritime		
	Intertidal mud	• Solent Maritime	From shore-based activities removal of target species may occur and exert this pressure.	
	Intertidal sand and muddy sand	• Solent Maritime		
	Subtidal seagrass beds	• Solent Maritime		
Removal of non-target species	Intertidal seagrass beds	• Solent Maritime	If there is overlap between the location of the target species and seagrass beds there is a risk of removal of non-target species associated with seagrass communities or removal of seagrass itself accidentally.	
	Subtidal seagrass beds	• Solent Maritime		

Table 20: Summary of outcomes for the TLSE Assessments for SACs for seaweed harvesting.

Advice on Operations: Shore-based activities				
Potential Pressure	Relevant Designated Features	Relevant SAC	Rationale	Relevant Attributes (*)
Abrasion/disturbance of the substrate on the surface of the seabed	Annual vegetation of drift lines	<ul style="list-style-type: none"> <li>Chesil and The Fleet</li> </ul>	There is the potential for abrasion to be caused during seaweed harvesting for suitable habitats where target species occur and during trampling when accessing sites.	Distribution: presence and spatial distribution of biological communities Structure and function: presence and abundance of key structural and influential species Structure: physical structure of rocky substrate Structure: species composition of component communities
	Perennial vegetation of stony banks	<ul style="list-style-type: none"> <li>Chesil and The Fleet</li> </ul>		
	Infralittoral rock	<ul style="list-style-type: none"> <li>Lyme Bay and Torbay</li> <li>Studland to Portland</li> <li>South Wight Maritime</li> </ul>		
	Circalittoral rock	<ul style="list-style-type: none"> <li>Lyme Bay and Torbay</li> <li>Studland to Portland</li> <li>South Wight Maritime</li> </ul>		
	Subtidal stony reef	<ul style="list-style-type: none"> <li>Studland to Portland</li> <li>South Wight Maritime</li> </ul>		
	Submerged or partially submerged sea caves	<ul style="list-style-type: none"> <li>South Wight Maritime</li> </ul>		
	Intertidal rock	<ul style="list-style-type: none"> <li>South Wight Maritime</li> </ul>		
	Coastal lagoons	<ul style="list-style-type: none"> <li>Chesil and The Fleet</li> </ul>		
	Mediterranean and thermo-Atlantic halphilous scrubs	<ul style="list-style-type: none"> <li>Chesil and The Fleet</li> </ul>		
	Atlantic salt meadows	<ul style="list-style-type: none"> <li>Chesil and The Fleet</li> </ul>		

Removal of target species	Coastal lagoons	<ul style="list-style-type: none"> <li>Chesil and The Fleet</li> </ul>	<p>For coastal lagoons, removal of seaweeds may impact the structure/function of the habitat but only where suitable habitat is found within lagoons, i.e. - cobbles and coarse sediments.</p> <p>Removal of seaweeds may impact the structure/function of the rock habitat.</p>	
	Infralittoral rock	<ul style="list-style-type: none"> <li>Lyme Bay and Torbay</li> <li>Studland to Portland</li> <li>South Wight Maritime</li> </ul>		
	Circalittoral rock	<ul style="list-style-type: none"> <li>Lyme Bay and Torbay</li> <li>Studland to Portland</li> <li>South Wight Maritime</li> </ul>		
	Subtidal stony reef	<ul style="list-style-type: none"> <li>Studland to Portland</li> <li>South Wight Maritime</li> </ul>		
	Submerged or partially submerged sea caves	<ul style="list-style-type: none"> <li>South Wight Maritime</li> </ul>		
	Intertidal rock	<ul style="list-style-type: none"> <li>South Wight Maritime</li> </ul>		

## 2.2 SPA TLSE Assessments

Table 21: Summary of outcomes for the TLSE Assessments for SPAs for shore-based activities.

Advice on Operations: Shore-based activities				
Potential Pressure	Relevant Designated Features	Relevant SPA	Rationale	Relevant Attributes (*)
Abrasion/disturbance of the substrate on the surface of the seabed	Coastal lagoons	<ul style="list-style-type: none"> <li>Chesil Beach and The Fleet</li> </ul>	<p>Shore gathering activities can exert an abrasion/disturbance pressure on the seabed.</p> <p>For saltmarsh and reedbeds, shore-based activities will not directly interact with the feature as it is not the target habitat type. However,</p>	<p>Disturbance caused by human activity; Non-breeding population: abundance; Supporting habitat: extent, distribution and availability of supporting habitat for the non-breeding season;</p>
	Coastal reedbeds	<ul style="list-style-type: none"> <li>Poole Harbour</li> <li>Solent and Southampton Water</li> <li>Chichester and Langstone Harbours</li> </ul>		
	Atlantic salt meadows	<ul style="list-style-type: none"> <li>Chesil Beach and The Fleet</li> </ul>		

		<ul style="list-style-type: none"> <li>• Solent and Southampton Water</li> <li>• Portsmouth Harbour</li> <li>• Chichester and Langstone Harbours</li> </ul>	<p>saltmarsh may be trampled when gaining access to the target habitats.</p> <p>Where seagrass overlaps with areas where target species are found there is a risk of abrasion from shore-based activities. There is also a trampling risk in accessing areas for target species.</p> <p>For subtidal seagrass the only activity which would take place is push netting, there is the potential for trampling of seagrass whilst undertaking this activity.</p>	Supporting habitat: food availability (bird)
Freshwater and coastal grazing marsh	<ul style="list-style-type: none"> <li>• Poole Harbour</li> <li>• Solent and Southampton Water</li> <li>• Portsmouth Harbour</li> <li>• Chichester and Langstone Harbours</li> </ul>			
Mediterranean and thermo-Atlantic halophilous scrubs	<ul style="list-style-type: none"> <li>• Poole Harbour</li> </ul>			
Salicornia and other annuals colonising mud and sand	<ul style="list-style-type: none"> <li>• Poole Harbour</li> <li>• Solent and Southampton Water</li> <li>• Portsmouth Harbour</li> <li>• Chichester and Langstone Harbours</li> </ul>			
Spartina swards	<ul style="list-style-type: none"> <li>• Poole Harbour</li> <li>• Solent and Southampton Water</li> <li>• Portsmouth Harbour</li> <li>• Chichester and Langstone Harbours</li> </ul>			
Intertidal seagrass beds	<ul style="list-style-type: none"> <li>• Chesil Beach and The Fleet</li> <li>• Poole Harbour</li> <li>• Solent and Southampton Water</li> <li>• Portsmouth Harbour</li> </ul>			

		<ul style="list-style-type: none"> <li>• Chichester and Langstone Harbours</li> </ul>		
	Intertidal mixed sediments	<ul style="list-style-type: none"> <li>• Chesil Beach and The Fleet</li> <li>• Poole Harbour</li> <li>• Solent and Southampton Water</li> <li>• Portsmouth Harbour</li> <li>• Chichester and Langstone Harbours</li> </ul>		
	Intertidal mud	<ul style="list-style-type: none"> <li>• Chesil Beach and The Fleet</li> <li>• Poole Harbour</li> <li>• Solent and Southampton Water</li> <li>• Portsmouth Harbour</li> <li>• Chichester and Langstone Harbours</li> </ul>		
	Intertidal sand and muddy sand	<ul style="list-style-type: none"> <li>• Chesil Beach and The Fleet</li> <li>• Poole Harbour</li> <li>• Solent and Southampton Water</li> <li>• Chichester and Langstone Harbours</li> </ul>		
	Intertidal rock	<ul style="list-style-type: none"> <li>• Solent and Southampton Water</li> <li>• Chichester and Langstone Harbours</li> </ul>		
	Subtidal seagrass beds	<ul style="list-style-type: none"> <li>• Solent and Southampton Water</li> </ul>		
Penetration and/or disturbance of the substratum below the surface of the seabed, including abrasion	Coastal lagoons	<ul style="list-style-type: none"> <li>• Chesil Beach and The Fleet</li> </ul>	Shore-based activities could cause penetration to the seabed.	
	Intertidal seagrass beds	<ul style="list-style-type: none"> <li>• Chesil Beach and The Fleet</li> <li>• Poole Harbour</li> <li>• Solent and Southampton Water</li> </ul>		



		<ul style="list-style-type: none"> <li>• Portsmouth Harbour</li> <li>• Chichester and Langstone Harbours</li> </ul>	overlaps with the location of target species.	
	Intertidal mixed sediments	<ul style="list-style-type: none"> <li>• Chesil Beach and The Fleet</li> <li>• Poole Harbour</li> <li>• Solent and Southampton Water</li> <li>• Portsmouth Harbour</li> <li>• Chichester and Langstone Harbours</li> </ul>		
	Intertidal mud	<ul style="list-style-type: none"> <li>• Chesil Beach and The Fleet</li> <li>• Poole Harbour</li> <li>• Solent and Southampton Water</li> <li>• Portsmouth Harbour</li> <li>• Chichester and Langstone Harbours</li> </ul>		
	Intertidal sand and muddy sand	<ul style="list-style-type: none"> <li>• Chesil Beach and The Fleet</li> <li>• Poole Harbour</li> <li>• Solent and Southampton Water</li> <li>• Chichester and Langstone Harbours</li> </ul>		
	Subtidal seagrass beds	<ul style="list-style-type: none"> <li>• Solent and Southampton Water</li> </ul>		
Removal of non-target species	Intertidal seagrass beds	<ul style="list-style-type: none"> <li>• Chesil Beach and The Fleet</li> <li>• Poole Harbour</li> <li>• Solent and Southampton Water</li> <li>• Portsmouth Harbour</li> <li>• Chichester and Langstone Harbours</li> </ul>	If there is overlap between the location of the target species and seagrass beds there is a risk of removal of non-target species associated with seagrass communities or removal of seagrass itself accidentally.	
	Subtidal seagrass beds	<ul style="list-style-type: none"> <li>• Solent and Southampton Water</li> </ul>		

Removal of target species	Intertidal seagrass beds	<ul style="list-style-type: none"> <li>• Chesil Beach and The Fleet</li> <li>• Poole Harbour</li> <li>• Solent and Southampton Water</li> <li>• Portsmouth Harbour</li> <li>• Chichester and Langstone Harbours</li> </ul>	<p>From shore-based activities removal of target species may occur and exert this pressure.</p> <p>If there is an overlap between the location of the target species and seagrass beds, there is a risk that removal of the target species would impact the seagrass feature.</p>
	Intertidal mixed sediments	<ul style="list-style-type: none"> <li>• Chesil Beach and The Fleet</li> <li>• Poole Harbour</li> <li>• Solent and Southampton Water</li> <li>• Portsmouth Harbour</li> <li>• Chichester and Langstone Harbours</li> </ul>	
	Intertidal mud	<ul style="list-style-type: none"> <li>• Chesil Beach and The Fleet</li> <li>• Poole Harbour</li> <li>• Solent and Southampton Water</li> <li>• Portsmouth Harbour</li> <li>• Chichester and Langstone Harbours</li> </ul>	
	Intertidal sand and muddy sand	<ul style="list-style-type: none"> <li>• Chesil Beach and The Fleet</li> <li>• Poole Harbour</li> <li>• Solent and Southampton Water</li> <li>• Chichester and Langstone Harbours</li> </ul>	
Visual disturbance	Bird species	<ul style="list-style-type: none"> <li>• Chesil Beach and The Fleet</li> <li>• Poole Harbour (except common tern, sandwich tern and Mediterranean gull)</li> <li>• Solent and Southampton Water</li> <li>• Portsmouth Harbour</li> </ul>	<p>Shore gathering may result in a visual disturbance to the feature.</p> <p>The exceptions listed are as a result of:</p> <ul style="list-style-type: none"> <li>• Poole Harbour – habitats used by these species are not</li> </ul>

		<ul style="list-style-type: none"> <li>Chichester and Langstone Harbours (except shoveler)</li> </ul>	<p>suitable or accessible for shore gathering</p> <ul style="list-style-type: none"> <li>Chichester and Langstone Harbours – the feature is not sensitive to the pressure.</li> </ul>	
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Table 22: Summary of outcomes for the TLSE Assessments for SPAs for seaweed harvesting.

Advice on Operations: Seaweed harvesting				
Potential Pressure	Relevant Designated Features	Relevant SPA	Rationale	Relevant Attributes (*)
Abrasion/disturbance of the substrate on the surface of the seabed	Coastal lagoons	<ul style="list-style-type: none"> <li>Chesil Beach and The Fleet</li> </ul>	There is the potential for abrasion to be caused during seaweed harvesting and during trampling when accessing sites.	Disturbance caused by human activity; Non-breeding population: abundance; Supporting habitat: extent, distribution and availability of supporting habitat for the non-breeding season; Supporting habitat: food availability (bird)
	Coastal reedbeds	<ul style="list-style-type: none"> <li>Poole Harbour</li> <li>Solent and Southampton Water</li> <li>Chichester and Langstone Harbours</li> </ul>		
	Atlantic salt meadows	<ul style="list-style-type: none"> <li>Chesil Beach and The Fleet</li> <li>Solent and Southampton Water</li> <li>Portsmouth Harbour</li> <li>Chichester and Langstone Harbours</li> </ul>	Although sediment habitats are not the target habitat, there is a risk of trampling to gain access to habitats suitable for seaweed harvesting.	
	Freshwater and coastal grazing marsh	<ul style="list-style-type: none"> <li>Poole Harbour</li> <li>Solent and Southampton Water</li> <li>Portsmouth Harbour</li> <li>Chichester and Langstone Harbours</li> </ul>	Activity has the potential to cause abrasion by the removal of seaweeds or trampling to reach seaweed harvesting areas.	

	Mediterranean and thermo-Atlantic halophilous scrubs	<ul style="list-style-type: none"> <li>• Poole Harbour</li> </ul>		
	Salicornia and other annuals colonising mud and sand	<ul style="list-style-type: none"> <li>• Poole Harbour</li> <li>• Solent and Southampton Water</li> <li>• Portsmouth Harbour</li> <li>• Chichester and Langstone Harbours</li> </ul>		
	Spartina swards	<ul style="list-style-type: none"> <li>• Poole Harbour</li> <li>• Solent and Southampton Water</li> <li>• Portsmouth Harbour</li> <li>• Chichester and Langstone Harbours</li> </ul>		
	Intertidal seagrass beds	<ul style="list-style-type: none"> <li>• Chesil Beach and The Fleet</li> <li>• Poole Harbour</li> <li>• Solent and Southampton Water</li> <li>• Portsmouth Harbour</li> <li>• Chichester and Langstone Harbours</li> </ul>		
	Subtidal seagrass beds	<ul style="list-style-type: none"> <li>• Solent and Southampton Water</li> </ul>		
	Intertidal mixed sediments	<ul style="list-style-type: none"> <li>• Chesil Beach and The Fleet</li> <li>• Poole Harbour</li> <li>• Solent and Southampton Water</li> <li>• Portsmouth Harbour</li> <li>• Chichester and Langstone Harbours</li> </ul>		
	Intertidal mud	<ul style="list-style-type: none"> <li>• Chesil Beach and The Fleet</li> </ul>		

		<ul style="list-style-type: none"> <li>• Poole Harbour</li> <li>• Solent and Southampton Water</li> <li>• Portsmouth Harbour</li> <li>• Chichester and Langstone Harbours</li> </ul>		
	Intertidal sand and muddy sand	<ul style="list-style-type: none"> <li>• Chesil Beach and The Fleet</li> <li>• Poole Harbour</li> <li>• Solent and Southampton Water</li> <li>• Chichester and Langstone Harbours</li> </ul>		
	Intertidal rock	<ul style="list-style-type: none"> <li>• Solent and Southampton Water</li> <li>• Chichester and Langstone Harbours</li> </ul>		
	Infralittoral rock	<ul style="list-style-type: none"> <li>• Solent and Southampton Water</li> </ul>		
	Circalittoral rock	<ul style="list-style-type: none"> <li>• Solent and Southampton Water</li> </ul>		
	Subtidal coarse sediment	<ul style="list-style-type: none"> <li>• Chichester and Langstone Harbours</li> </ul>		
	Subtidal mixed sediments	<ul style="list-style-type: none"> <li>• Portsmouth Harbour</li> <li>• Chichester and Langstone Harbours</li> </ul>		
	Subtidal sand	<ul style="list-style-type: none"> <li>• Chichester and Langstone Harbours</li> </ul>		
	Subtidal mud	<ul style="list-style-type: none"> <li>• Portsmouth Harbour</li> </ul>		
Removal of non-target species	Intertidal seagrass beds	<ul style="list-style-type: none"> <li>• Chesil Beach and The Fleet</li> <li>• Poole Harbour</li> <li>• Solent and Southampton Water</li> <li>• Portsmouth Harbour</li> </ul>	If removal of seaweed occurs within a seagrass bed there is the potential for an impact to the seagrass feature through disturbance/removal of associated species as non-target species. It is noted that	

		<ul style="list-style-type: none"> <li>Chichester and Langstone Harbours</li> </ul>	<p>seaweed harvesting is very selective and accidental harvest of non-target species is low so risk relates to small, difficult to see non-target species associated with seagrass communities or associated sediment communities.</p>	
	Subtidal seagrass beds	<ul style="list-style-type: none"> <li>Solent and Southampton Water</li> </ul>		
Removal of target species	Coastal lagoons	<ul style="list-style-type: none"> <li>Chesil Beach and The Fleet</li> </ul>	<p>If removal of seaweed occurs within a seagrass bed there is the potential for an impact to the seagrass feature.</p> <p>Removal of seaweeds may impact the structure/function of the rock habitat.</p> <p>If removal of seaweed occurs within relevant rock or sediment habitats there is the potential for an impact to the feature.</p> <p>Removal of seaweeds may impact the structure/function of coastal lagoon habitat but only where suitable habitat is found within lagoons, i.e. - cobbles and coarse sediments.</p>	
	Intertidal seagrass beds	<ul style="list-style-type: none"> <li>Chesil Beach and The Fleet</li> <li>Poole Harbour</li> <li>Solent and Southampton Water</li> <li>Portsmouth Harbour</li> <li>Chichester and Langstone Harbours</li> </ul>		
	Subtidal seagrass beds	<ul style="list-style-type: none"> <li>Solent and Southampton Water</li> </ul>		
	Intertidal mixed sediments	<ul style="list-style-type: none"> <li>Chesil Beach and The Fleet</li> <li>Poole Harbour</li> <li>Solent and Southampton Water</li> <li>Portsmouth Harbour</li> <li>Chichester and Langstone Harbours</li> </ul>		
	Intertidal rock	<ul style="list-style-type: none"> <li>Solent and Southampton Water</li> <li>Chichester and Langstone Harbours</li> </ul>		
	Infralittoral rock	<ul style="list-style-type: none"> <li>Solent and Southampton Water</li> </ul>		
	Circalittoral rock	<ul style="list-style-type: none"> <li>Solent and Southampton Water</li> </ul>		

	Subtidal mixed sediments	<ul style="list-style-type: none"> <li>• Portsmouth Harbour</li> <li>• Chichester and Langstone Harbours</li> </ul>		
Visual disturbance	Bird species	<ul style="list-style-type: none"> <li>• Chesil Beach and The Fleet</li> <li>• Poole Harbour (except common tern, sandwich tern and Mediterranean gull)</li> <li>• Solent and Southampton Water</li> <li>• Portsmouth Harbour</li> <li>• Chichester and Langstone Harbours (except shoveler)</li> </ul>	<p>Seaweed harvesting may result in a visual disturbance to the feature.</p> <p>The exceptions listed are as a result of:</p> <ul style="list-style-type: none"> <li>• Poole Harbour – habitats used by these species are not suitable or accessible for shore gathering</li> <li>• Chichester and Langstone Harbours – the feature is not sensitive to the pressure.</li> </ul>	

## Section E: Management

In consideration of the identified potential pressure/feature interactions through the Part A/TLSE Assessment process, definitions for shore gathering activity and a set of Management Principles were developed to underpin management development.

The Management Principles were reviewed through a Southern IFCA Authority Members Working Group and agreed at the meeting of the Technical Advisory Sub-Committee in May 2024. Draft management measures were developed underpinned by the Management Principles.

### 1.0 Management Principles

The Management Principles which underpin the management measures for shore gathering (as outlined in Sections E2.0 and E3.0) are given in Figure 18. Management Principles 1 and 2 refer to the evidence used to inform the development of measures, Principles 3-8 refer to the development of management under two measures, a byelaw and a code of conduct.

There are two management measures developed for shore gathering activities:

- The Shore Gathering Byelaw
  - Management under this Byelaw is in line with Management Principles 3-7
- The Southern IFCA Seaweed Harvesting Code of Conduct
  - Management under the CoC is in line with Management Principle 8



1. The best available evidence used to inform feature-based protection for features designated under relevant MCZs, SACs and SPAs is:
  - a. The Natural England (NE) designated features layer provided to Southern IFCA in 2023
  - b. The National Seagrass Layer obtained from the Defra Government Website
  - c. NE (quality assured) commissioned Hampshire and Isle of Wight Wildlife Trust (HIWWT) seagrass data provided to Southern IFCA in 2024
2. Any additional data received after **9<sup>th</sup> May 2024** will be considered during the period of formal consultation and then (subject to byelaw ratification), in subsequent byelaw reviews, as determined by the provisions of the byelaw.
3. For relevant features a GPS buffer of 10m will be incorporated.
4. Prohibition areas will be defined as follows:
  - a. For designated seagrass features within MCZs that occur up to the 2m chart datum contour
  - b. For seagrass designated as a feature or as a supporting habitat, within or adjacent to SACs and SPAs that occur up to the 2m chart datum contour
5. Existing Southern IFCA Management measures for relevant activities in the Poole Harbour SPA will be combined to create a single management approach.
6. With the exception of seagrass, the extent and distribution of feature-based management in the Solent Maritime SAC and district wide SPAs will be developed using Poole Harbour as a model.
7. In the application of the Poole Harbour model to the Solent Maritime SAC and district wide SPAs, the following approach will be taken:
  - a. Bird Sensitive Areas (BSA) will be used as the basis for spatial management
  - b. In the absence of BSAs being defined by Natural England in the Solent Maritime SAC and district wide SPAs (excluding Poole Harbour), BSAs will be defined as follows:
    - i. For the Solent Maritime SAC and Solent SPAs, BSAs will be initially defined using areas proposed for management as good examples of estuarine habitat under the Bottom Towed Fishing Gear Byelaw 2023 and adapted to be relevant to shore gathering activity
    - ii. For the Solent Maritime SAC, Solent SPAs and The Chesil and The Fleet SPA, consideration will be given to aligning BSAs with directions relating to access and shore gathering activities given by other bodies, for example harbour authorities and conservation bodies
  - c. The requirements for seasonal management within BSAs will be considered on the basis of best available evidence
8. A code of practice will be developed for the gathering of seaweed by hand.

*Figure 18: Management Principles for shore gathering activities which underpin management measures.*

## 2.0 Shore Gathering Byelaw

### 2.1 Spatial Management

The Shore Gathering Byelaw provides spatial management for sensitive habitats and species within MCZs, SACs and SPAs to mitigate potential impacts from shore gathering activities. Spatial management is further defined by prohibition (year-round) or seasonal management, with three types of management areas under the Byelaw:

- **Prohibited Areas** (year-round)
- **Summer Closure Areas** (closed 1<sup>st</sup> March to 31<sup>st</sup> August)
- **Winter Closure Areas** (closed 1<sup>st</sup> November to 31<sup>st</sup> March)

During those periods of closure, no shore gathering activities will be permitted to take place in accordance with the definitions for shore gathering given in Section E2.2.

The detail of the location of each type of management area is provided in Table 23 below and shown in relation to the relevant designated sites (note that some sites overlap) in Annex 1.

*Table 23: Location and number of types of management area within relevant areas of the District.*

Area	Type of Management Area	No. of Each Type in the Site
Chichester Harbour	Prohibited Area	2
Langstone Harbour	Prohibited Area	10
Portsmouth Harbour	Prohibited Area	4
Southampton Water	Prohibited Area	2
	Summer Restricted Area	4
Beaulieu	Prohibited Area	1
Lymington and Keyhaven	Summer Restricted Area	1
Isle of Wight	Prohibited Area	15
	Summer Restricted Area	3
Poole Harbour	Prohibited Area	6
	Winter Restricted Area	10
Studland Bay	Prohibited Area	2
The Fleet	Prohibited Area	1

### 2.2 Prohibitions

The prohibitions under the Shore Gathering Byelaw are given as follows. These are applicable to all three types of management area during the relevant closed period.

- No person shall fish for or take sea fisheries resources by hand or with the use of hand operated equipment where the fishing for, or taking is for the purpose of harvesting sea fisheries resources.
- No person shall have with them any hand operated equipment for use in the course of, or in connection with, the fishing for, or taking of sea fisheries resources for the purpose of harvesting.
- No person shall use or deploy any form of artificial habitat, structure or shelter to aid the collection of crab.

The definition of 'harvesting' in relation to the above prohibitions is given as: *to remove and retain for the purposes of consumption, selling, displaying, using as part or wholly for a product*

*or service, cultivating, introducing to the sea or using as bait whether carried out for commercial purposes or otherwise.*

The Byelaw provides two exceptions:

- Points (i) and (ii) do not apply to the fishing for or taking of sea fisheries resources using a vessel provided that no part of the vessel's hull is in contact with the seabed.
- Points (i) and (ii) do not apply when using:
  - a. Hook and line in conjunction with a fishing rod
  - b. Handlines
  - c. Spear gun
  - d. A net other than a push net

These definitions ensure that all relevant activities are covered. The potential impacts which require spatial management are applicable to all types of shore gathering activity and therefore in order to ensure that identified protections for designated features are appropriately mitigating those impacts, there is a need to manage all relevant activities consistently.

### **3.0 Seaweed Harvesting Code of Conduct**

For the management of seaweed harvesting outside of the management areas defined in the Shore Gathering Byelaw, the Southern IFCA Seaweed Harvesting Code of Conduct has been developed. The Code of Conduct is in line with other seaweed harvesting CoCs around the UK and has primarily used a CoC developed by Natural England in conjunction with partners including other IFC Authorities as a base with the inclusion of specific provisions relevant to the needs of applicable National Site Network Sites.

The CoC is provided as Annex 2.

The CoC includes voluntary provisions for:

- Obtaining relevant permissions
- Harvesting only by hand
- No use of vehicles
- Avoiding disturbance to sea birds
- Avoiding trampling or taking of non-target species
- Collection of less than 1/3 of an individual plant
- Replacing any rocks removed
- Cutting fronds above the point of growth and leaving the holdfast
- Harvesting sparsely and taking only a small percentage of standing stock
- Rotating harvest areas
- Harvesting during the active growing season
- Harvesting after reproduction has occurred and ensuring a sustainable proportion of mature plants remain
- INIS protocols
- Not collecting drift seaweed from the entire length of stand lines
- Keeping records of volumes and weights of species harvested
- Limiting harvesting in erosion-prone coastal areas where kelp forests dissipate wave energy
- Being aware of hazards on the foreshore

## 4.0 Other Applicable Southern IFCA Management

In addition to the management assessed in this document, the following Southern IFCA management will also apply to shore gathering activities:

- **Minimum Conservation Reference Size Byelaw** – MCRS set for a variety of species, applicable to commercial and recreational participants and throughout the supply chain
- **Oyster Close Season Byelaw** – defines a period during which no person may take native oysters of between 1<sup>st</sup> March and 31<sup>st</sup> October in any year, both days inclusive
- **Temporary Closure of Shellfish Beds Byelaw** – where any shellfish bed is depleted and requires closure to recover, the Committee may establish a temporary shellfish bed closure, wherein no person may take shellfish from the defined shellfish bed
- **Scallop Fishing Byelaw 2019** – sets a daily time period during which scallops can be fished for or taken of between 0700 and 1900 local time
- **Oysters Byelaw** – defines the MCRS for native oyster of 70mm
- **Mussels Byelaw** – defines the MCRS for mussels of 50mm

The Southern IFCA Fishing for Cockles Byelaw will be amended along with the introduction of the Shore Gathering Byelaw, the amended Byelaw will contain the provisions for a closed season for fishing for cockles of between 1<sup>st</sup> February and 30<sup>th</sup> April inclusive and the MCRS for cockle, stated as a person must not take from a fishery a cockle which will pass through a gauge having a square opening measuring 23.8mm along each side.

## Section F: Part B Assessments and Appropriate Assessments

The aim of the Part B Assessments (MCZs) and Appropriate Assessments (SACs and SPAs) is to ensure that the activities will not prevent the furthering of Conservation Objectives or have an adverse effect on designated features respectively.

The following evidence was used to carry out the required Part B Assessments/Appropriate Assessments. Table 24 indicates where this evidence can be found in supporting documentation.

Evidence Type	Relevant Document
<b>Site Specific</b>	
Feature location and extent	<b>Site Specific Evidence Packages</b>
Existing shore gathering management	
Records of shore gathering activities	
Records of catches of target species from shore gathering activities	
Records of offences related to shore gathering activities	
For SPAs, evidence on seasonality and prey preferences of designated bird species	<b>Provided as Annex 3 to this document</b>
<b>General</b>	
Evidence from peer-reviewed literature on activities and potential impacts	<b>Literature Review</b>
Methods for relevant shore gathering activities	<b>Listed in Section B1.0 of this document</b>
Existing management which applies across the Southern IFCA District	<b>Site Specific Evidence Packages</b>
Existing management for shore gathering activities from other authorities	

Consideration was also given to the relative sensitivities of different habitats to different pressures, fishing activities and access to the intertidal areas. This work has been carried out over several years through a number of studies looking to map sensitivities for designated habitats (Tillin *et al.*, 2010<sup>8</sup>; Hall *et al.*, 2008<sup>9</sup>; Tyler-Walters & Arnold, 2008<sup>10</sup>). These sensitivity analyses identify that the sensitivity of a particular habitat is reduced for more dynamic habitats, with lower levels of activity and the frequency of activity occurring over the same area. For all habitats analysed, seagrass beds showed the highest sensitivity with the

<sup>8</sup> Tillin, H.M., Hull, S.C. & Tyler-Walters, H. 2010. Development of a Sensitivity Matrix (pressures-MCZ/MPA features). Report to the Department of Environment, Food and Rural Affairs (DEFRA) from ABPMer, Southampton and the Marine Life Information Network (MarLIN) Plymouth: Marine Biological Association of the UK. Defra Contract No. MB0102 Task 3A, Report No. 22. 947 pp.

<sup>9</sup> Hall, S.J. & Harding, M.J.C. 1997. Physical disturbance and marine benthic communities: the effects of mechanical harvesting of cockles on non-target benthic infauna. *J. App. Ecol.*, 34, 497-517.

<sup>10</sup> Tyler-Walters, H. & Arnold, C. 2008. Sensitivity of intertidal benthic habitats to impacts caused by access to fishing grounds. CCW Policy Research Report No. 08/13.

sensitivity analysis by Tillin *et al.* (2010) showing a high sensitivity, particularly to abrasion impacts with a high confidence in the analysis outcome.

The below table lists Management Principles 3-8, the resulting management and how these relate to ensuring that the IFCA is meeting its legal duties in relation to the relevant protected sites.

<b>Management Principle</b>	
(3) For relevant features a GPS buffer of 10m will be incorporated.	The use of a GPS buffer ensures that potential impacts from accidental trampling are reduced and increases protection for relevant features from accidental incursions. The size of the buffer is relevant to the use of hand-held GPS units and the nature of the activity being undertaken; i.e. hand-held equipment operated by a single operative.
(4) Prohibition areas will be defined as follows: a. For designated seagrass features within MCZs that occur up to the 2m chart datum contour. b. For seagrass designated as a feature or as a supporting habitat, within or adjacent to SACs and SPAs that occur up to the 2m chart datum contour.	<p>Seagrass is identified as the habitat with the highest sensitivity to shore gathering activities with significant impacts possible from low levels of activity. This impact is applicable year-round. Prohibition areas for identified designated seagrass features within MCZs and within or adjacent to SACs and SPAs up to the 2m chart datum contour provide protection to this feature year-round ensuring that activities such as push netting which have the potential to occur subtidally are managed within a distance from the shore which is proportionate in relation to where the activity can take place.</p> <p>The identification of seagrass as both a designated feature (MCZs and SACs) and a supporting habitat (SPAs) necessitates prohibited areas for all National Site Network Sites where this habitat is designated. This protection also addresses potential impacts to designated species which may be associated with seagrass beds; stalked jellyfish species and seahorse species.</p>
(5) Existing Southern IFCA Management measures for relevant activities in the Poole Harbour SPA will be combined to create a single management approach.	<p>Combining seasonal (1<sup>st</sup> November to 31<sup>st</sup> March) prohibition areas for shellfish harvesting which are based on the advice received from NE on Bird Sensitive Areas (BSA) within Poole Harbour with areas currently managed under a Memorandum of Agreement for Bait Digging will provide protection to both the designated features and supporting habitats of the Poole Harbour SPA from all shore gathering activities.</p> <p>The measures will address non-compliance which is currently observed in relation to the MoA for bait digging and align seasonal closures through a regulatory mechanism. This provides additional protection against bait collection activity and, in line with the definition, recognises that the impacts from identified pressures are the same for all shore gathering activities and therefore appropriate protections require management of all relevant activities in the same way.</p> <p>Consistency in management from previous measures will aid understanding from stakeholders which will encourage greater levels of compliance. In addition, considering the relatively low levels of activity (maximum 35 occurrences of one activity spread over a single month) utilising the identified BSAs as areas of importance for designated features is a proportionate approach to management</p>

	which allows the achievement of relevant conservation objectives.
<p>(6) With the exception of seagrass, the extent and distribution of feature-based management in the Solent Maritime SAC and district-wide SPAs will be developed using Poole Harbour as a model.</p> <p>(7) In the application of the Poole Harbour model to the Solent Maritime SAC and district-wide SPAs, the following approach will be taken:</p> <p>a. Bird Sensitive Areas (BSA) will be used as the basis for spatial management.</p>	<p>Due to the absence of advice on key BSAs and the identification of low levels of shore gathering activity in the District SPAs (&lt;20 sightings in a single month) and the Solent Maritime SAC (max. 6 sightings in a single month), a proportionate approach to meeting the relevant conservation objective is necessary.</p> <p>The Poole Harbour model utilises BSAs as an identification of key areas for designated features and supporting habitats within the site and management on this basis has been in place since 2015. NE have supported the management as appropriate in meeting the legal duties of Southern IFCA in relation to the site.</p> <p>The application of this approach to the District SPAs and Solent Maritime SAC will allow key areas for designated features to be protected; encompassing bird features, supporting habitats and designated estuarine and sediment habitats under the Solent Maritime SAC.</p>
<p>b. In the absence of BSAs being defined by Natural England in the Solent Maritime SAC and district-wide SPAs (excluding Poole Harbour), BSAs will be defined as follows:</p> <p>i. For the Solent Maritime SAC and Solent SPAs, BSAs will be initially defined using areas proposed for management as good examples of estuarine habitat under the Bottom Towed Fishing Gear Byelaw 2023 and adapted to be relevant to shore gathering activity.</p> <p>ii. For the Solent Maritime SAC, Solent SPAs and The Chesil and The Fleet SPA, consideration will be given to aligning BSAs with directions relating to access and shore gathering activities given by other bodies, for example harbour authorities and conservation bodies.</p>	<p>Consideration of existing measures and alignment with areas already identified for protection provides a robust method of defining areas which are most likely to be key to designated features/supporting habitats in the absence of advice on where BSAs occur in SPAs other than Poole Harbour.</p> <p>This approach ensures the appropriate protections can be provided to address the pressure/feature interactions identified for designated bird features, supporting habitats and estuarine and sediment habitats under the Solent Maritime SAC; whilst also ensuring consistency with the management of other fishing activities in the District and recognising the different level of effort and impact resulting from different types of fishing activity.</p> <p>Utilising areas afforded protection from other gear types increases the overall level of cumulative protection.</p> <p>Where existing measures are in place under other bodies/authorities, alignment provides the ability to increase the overall cumulative protection afforded to a particular feature, build on existing evidence as to which areas are key for designated features and support consistency for stakeholders with the aim of increasing compliance through improved understanding and stakeholder buy in.</p> <p>Whilst the Solent Maritime SAC does not have bird species as a designated feature, the designated estuarine and sediment features align with supporting habitats for the overlapping SPAs. Protecting these habitats through the identification of BSAs for the SPAs addresses the impacts to the features of this site in a proportionate way to the activity being managed.</p> <p>The alignment of spatial management in The Fleet with existing closures under other authorities combined with the required spatial management for seagrass provides a</p>

	<p>year-round prohibition in this site, addressing potential adverse impacts to all relevant designated features under the SAC, SPA and MCZ covering this site.</p>
<p>c. The requirements for seasonal management within BSAs will be considered on the basis of best available evidence.</p>	<p>Based on the availability of evidence for designated bird features in the Solent SPAs and a consideration of proportionality reflecting the low levels of activity. The draft measures have set seasonal management of BSAs as follows:</p> <p><b>Langstone Harbour: year-round closures</b></p> <ul style="list-style-type: none"> <li>• This provides protection for the months where &gt;50% of designated bird species are present and accounts for the presence of tern species during the summer months</li> <li>• A seasonal closure on the basis of only using &gt;50% of the designated bird species being present would only provide a single month's protection for each of the designated tern bird species therefore a year-round closure is required as the areas utilised by these species have the potential to overlap with shore gathering activities. <i>(note that in other locations where bird species are designated the seasonality and access to locations where terns may be breeding differ therefore different management is applied)</i></li> </ul> <p><b>Solent and Southampton Water SPA: 1st March to 31<sup>st</sup> August</b></p> <ul style="list-style-type: none"> <li>• This covers 100% of the seasonal period where &gt;50% of designated bird species are present.</li> </ul> <p>Prohibition of all shore gathering activities within the BSA during these periods will mitigate impacts of disturbance and impacts to supporting habitats during the period when they are most important to designated species.</p> <ul style="list-style-type: none"> <li>• There are two bird species: Dark-Bellied Brent Goose and Teal which, based on seasonality information provided by NE, would have only one month of overlap with the closed season (seasonality October to March).</li> <li>• Considering the specific species, dark-bellied brent goose is noted to roost on the water overnight and during the day will roost close to preferred feeding areas, given as seagrass beds and areas of green algae. <ul style="list-style-type: none"> <li>○ Under the Byelaw, all seagrass beds will be protected as year-round prohibited areas providing protection to these species when they are feeding and roosting during the day.</li> <li>○ Roosting overnight on the water removes the potential for interaction with the activities being assessed and managed through this Byelaw.</li> </ul> </li> <li>• For Teal, the species roosts on the open water and feeds in saltmarsh, creeks and mudflats with Southampton Water and Newtown Creek highlighted as important areas. <ul style="list-style-type: none"> <li>○ Roosting on the open water removes the potential for interaction with the activities being assessed and managed through this Byelaw.</li> </ul> </li> </ul>



	<ul style="list-style-type: none"> <li>○ Saltmarsh is not a target habitat for shore-based activities or seaweed harvesting and therefore whilst there may be access, the levels of activity observed and the fact that operations will not be taking place in this habitat limiting the time a person would be there is deemed to not significantly affect the ability to feed in this habitat.</li> <li>○ The greatest number of records observed in a single month for shore-based activities is less than 20, with large areas of the site having no observed shore-based activities recorded. Newtown Creek has no recorded occurrences of shore-based activities.</li> <li>● The proposal for summer closure areas in line with the Principles for the SG Review allows Southern IFCA to meet its legal duties for designated sites, considering the specifics of the behaviours of relevant designated features, whilst being proportionate to the risk posed by shore-based activities based on levels of activity and how those activities are conducted.</li> </ul> <p><b>Chichester Harbour and Portsmouth Harbour:</b> there are no additional areas identified for protection beyond the permanent closures associated with seagrass beds. Utilising work undertaken in defining potential BSA through the BTFG Review, there were no areas identified as requiring additional protection in these sites. For Chichester Harbour, only a small portion of the Harbour sits within the Southern IFCA District. In both these Harbours, within the Southern IFCA District, there are large areas closed for seagrass habitat which will provide additional protection to sediments and for disturbance from birds, outside of these areas the occurrence of shore gathering activities is further limited by access. Based on the low levels of activity observed (no activity observed in Chichester Harbour and max. 8 occurrences per month in Portsmouth Harbour – all in areas proposed to be closed through seagrass closures), it is determined that no additional seasonal management is required.</p> <p>For the Solent Maritime SAC, year-round protection to identified key areas of designated habitat is provided for bottom towed fishing gear (BTFG). Protections afforded for shore gathering overlap with Solent SPAs and are thus subject to the above seasonal restrictions, however given the low levels of activity for relevant shore gathering operations and the nature/degree of impact compared to other fishing methods (BTFG) the impacts are deemed to not cause an adverse impact to the features of the SAC under the Shore Gathering 2024 Byelaw.</p>
<p>(8) A code of practice will be developed for the gathering of seaweed by hand.</p>	<p>Consideration of the levels of activity which are currently seen in the Southern IFCA District for seaweed harvesting does not currently indicate that a regulatory approach to management is required.</p> <p>The identified pressures in relation to rocky habitats and associated species (including designated species for</p>

	<p>MCZs of peacocks tail, stalked jellyfish species and seahorse species) can be addressed through a code of practice, the provisions of which have been developed to include mitigation for trampling, abrasion, awareness of associated species and good practice, to address impacts to the target species.</p> <p>The code of practice has been developed in line with other codes of practice, including those developed by NE in conjunction with other IFCA's. This ensures a consistency in approach and ease of understanding for stakeholders which will help increase voluntary compliance.</p>
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**Note:** the management for shore gathering by Southern IFCA does not remove or supersede existing measures relevant to shore gathering activities which are enforced/monitored by other relevant bodies/regulatory authorities. Stakeholders undertaking shore gathering activities will need to ensure that they are abiding by all relevant regulations and/or voluntary measures and will need to seek guidance from the appropriate body for any regulations which are under the remit of that body.

Examples include:

- Statutory Nature Conservation Order – Fareham Creek, Portsmouth Harbour
- Landowner permission to harvest bait commercially
- SSSI consent from Natural England
- Harbour authority regulations for digging around moorings, jetties etc.
- National and regional codes of best practice for bait digging

Southern IFCA measures such as Minimum Conservation Reference Size will continue to be enforced under the relevant legislation, applicable to recreational and commercial shore gathering activities. The combination of management created by the measures considered in this assessment and maintained existing measures strengthens the level of protection afforded to designated sites.

## Section G: Conclusion

Based on the information presented in this document, and the consideration of available evidence in the form of designated feature location and extent, current & historic levels of activity, the potential for impact from shore gathering activities considering gear type and method of operation, the evidence provided in literature and NE advice on designated sites, it is concluded that the management under the Shore Gathering Byelaw, in combination with the Southern IFCA Seaweed Harvesting Code of Practice and existing or amended Southern IFCA Byelaws will provide suitable and appropriate mitigation to ensure that the Conservation Objectives of relevant MCZs can be furthered and that there will be no adverse effect on designated features of relevant SACs or SPAs.

## Section H: In-Combination Assessment

As part of the assessment process, Southern IFCA is required to consider the in-combination effect of draft measures with other fishing activities and also other non-fishing plans/projects in relevant areas.

For fishing activities, the appropriate conservation assessments have been completed for the management of activities identified as having a potential impact on National Site Networks within the District. These include:

- Bottom towed fishing gear
  - This encompasses specific assessments relevant to management of dredge fishing in Poole Harbour and the Solent
- Net fishing

These assessments concluded, with appropriate management in place, that there will be no adverse effect or no impact to the furthering of conservation objectives.

For other activities, there are no potential in combination effects identified for the relevant pressure/feature interactions:

- Pot/trap fishing
- Rod and line angling

Considering non-fishing plans or projects, the Southern IFCA is a consultee in the marine licencing process administered by the MMO. Southern IFCA reviews relevant applications for works taking place in the marine environment and through this process identifies whether there is likely to be an overlap with fishing activity. From the marine licence applications reviewed from March 2023 to date, there is no identified in combination effect.

## Section I: Integrity Test

**On the basis that the management in the form of the Shore Gathering Byelaw, the Southern IFCA Seaweed Harvesting Code of Conduct and existing and amended Southern IFCA Byelaws is concluded to provide suitable and appropriate mitigation to ensure that the Conservation Objectives of relevant MCZs can be furthered and that there will be no adverse effect on designated features of relevant SACs or SPAs, and in the absence of any identified in-combination effect, the integrity test is passed.**

# Annex 1: Maps of designated sites with spatial management areas under the Shore Gathering Byelaw 2024

## Marine Conservation Zones

- For Chesil Beach and Stennis Ledges MCZ spatial management is defined for the Chesil Beach and The Fleet SPA and Chesil and The Fleet SAC, being relevant to the designated features of those sites, maps are therefore provided under these sites.
- There are no management areas defined under the Byelaw for:
  - Purbeck Coast MCZ

## Special Areas of Conservation

- There are no management areas defined under the Byelaw for:
  - Lyme Bay and Torbay SAC
  - Studland to Portland SAC
  - South Wight Maritime SAC

For these sites, suitable mitigation is provided through the Southern IFCA Seaweed Harvesting Code of Conduct for relevant designated habitats/species.

## Studland Bay MCZ

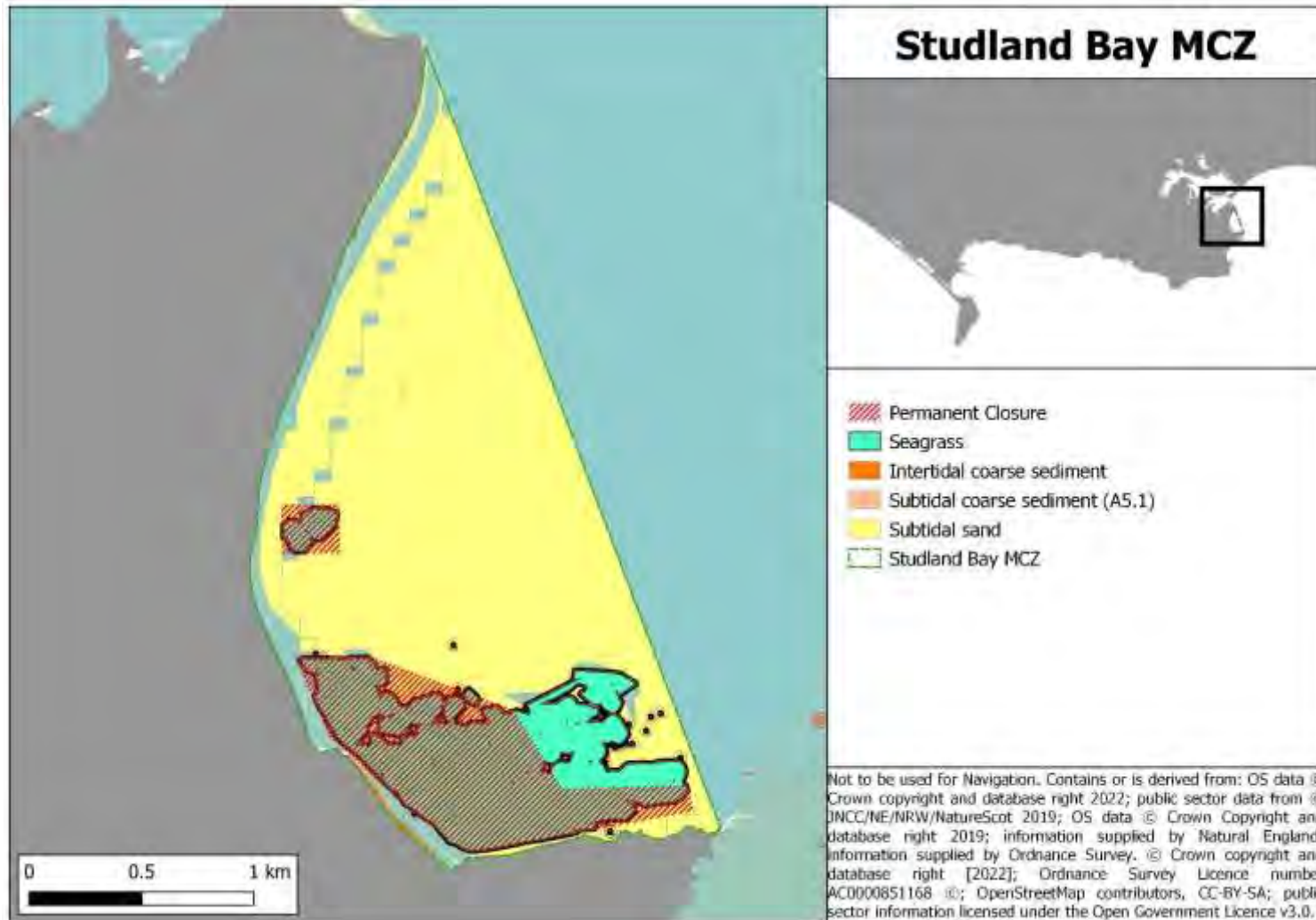


Figure 19: Studland Bay MCZ showing designated features and spatial management under the Shore Gathering Byelaw 2024.

## The Needles MCZ

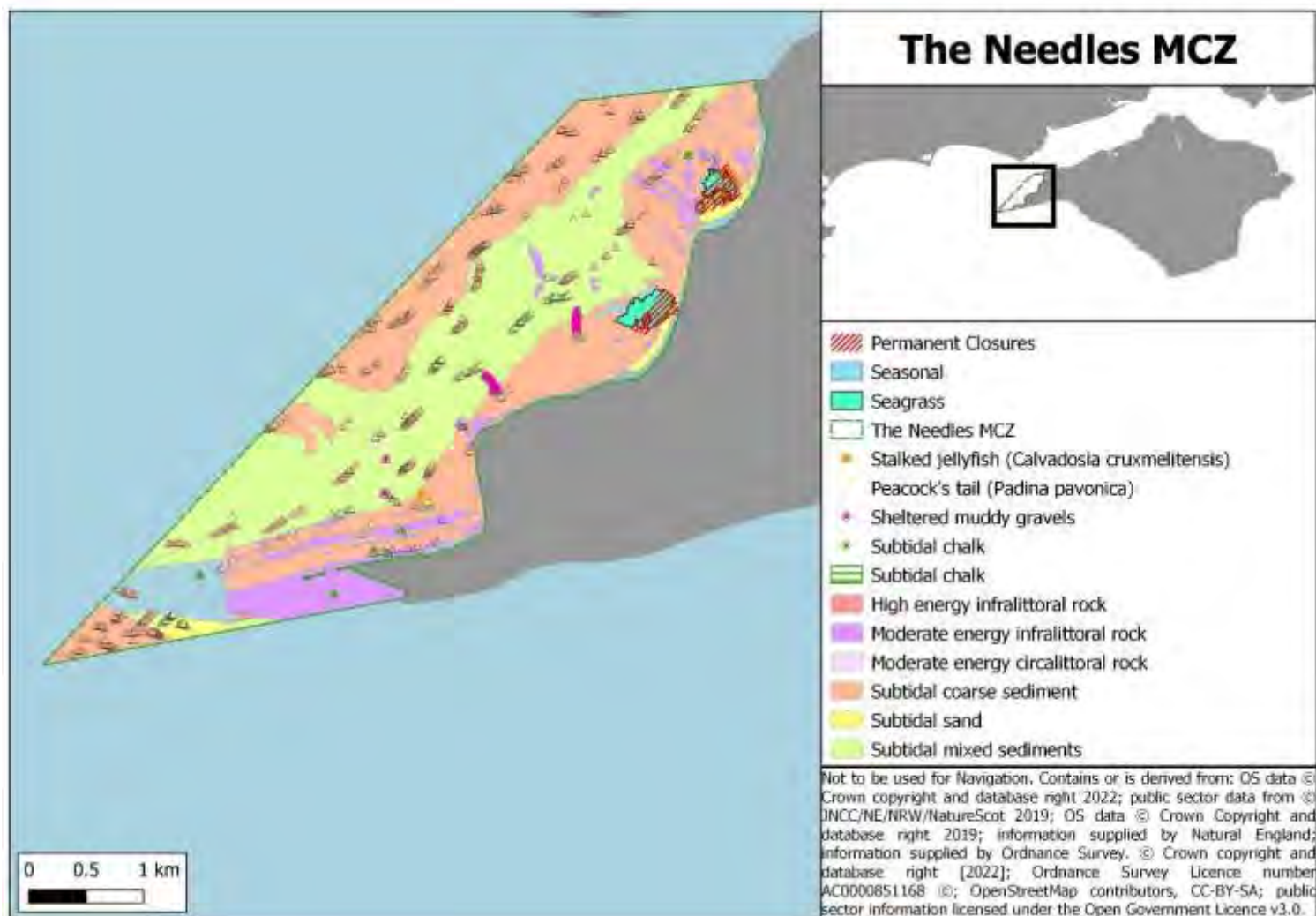


Figure 20: The Needles MCZ showing designated features and spatial management under the Shore Gathering Byelaw 2024.



## Yarmouth to Cowes MCZ

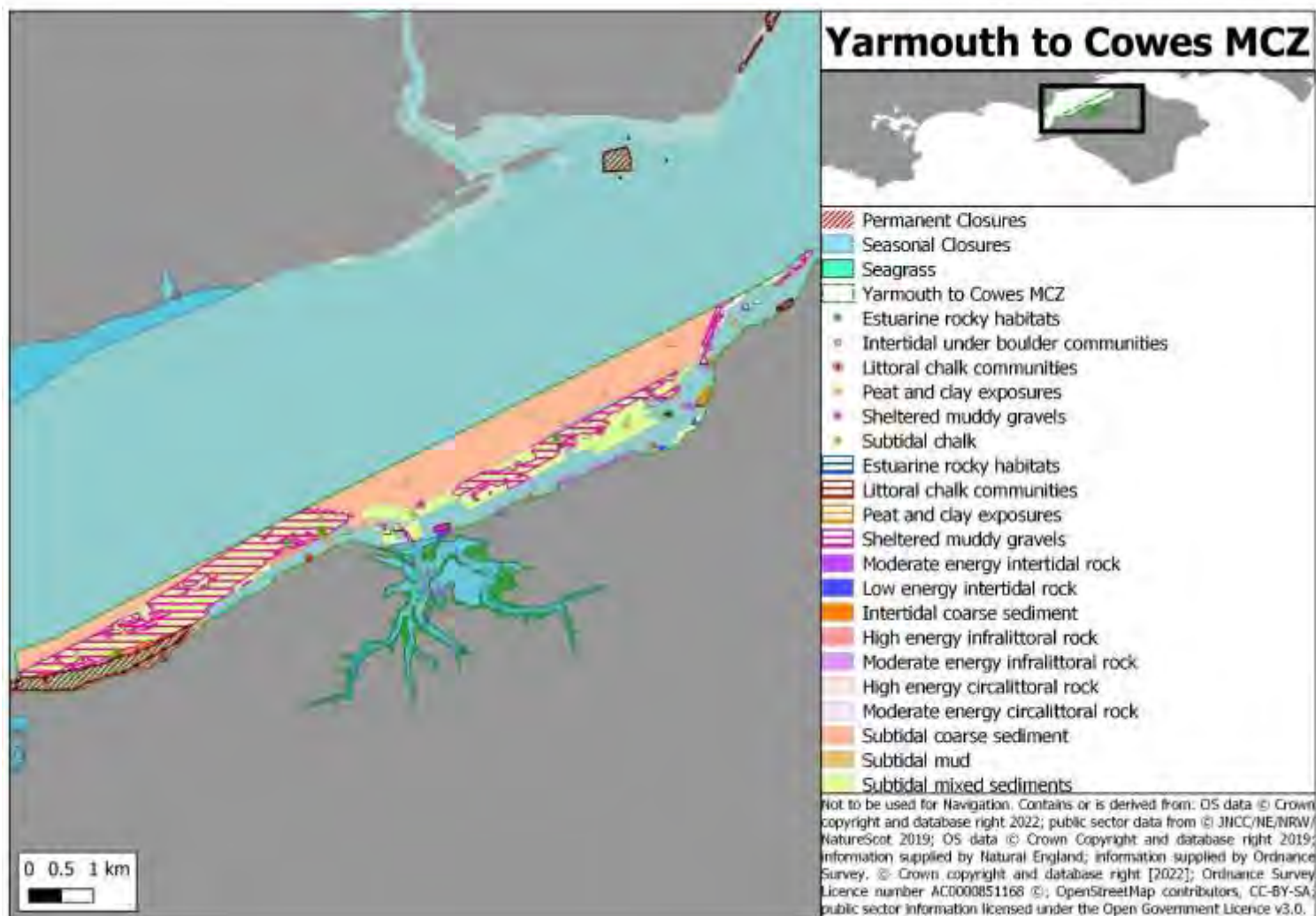


Figure 21: Yarmouth to Cowes MCZ showing designated features and spatial management under the Shore Gathering Byelaw 2024.

## Bembridge MCZ

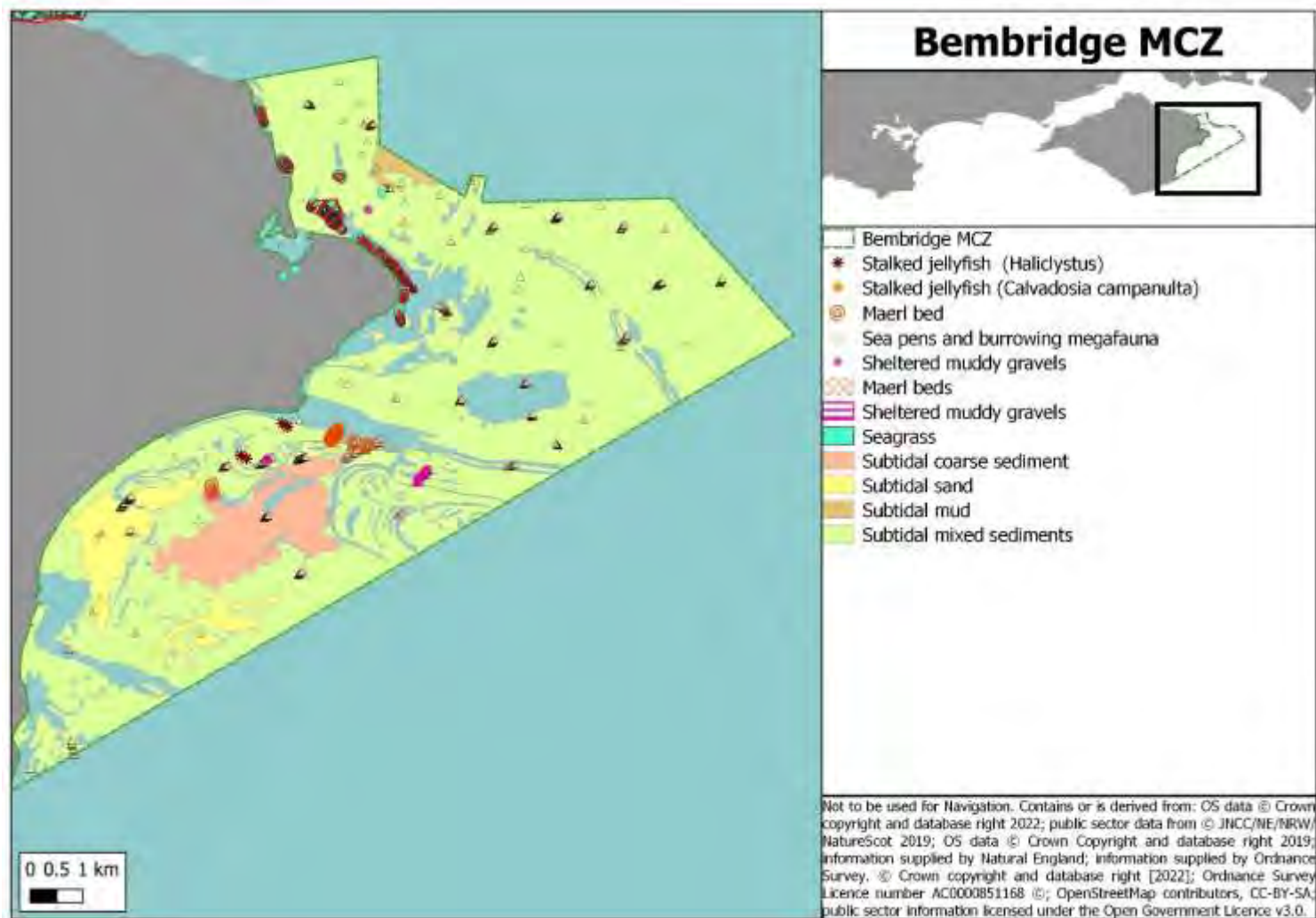


Figure 22: Bembridge MCZ showing designated features and spatial management under the Shore Gathering Byelaw 2024.



## Chesil and The Fleet SAC

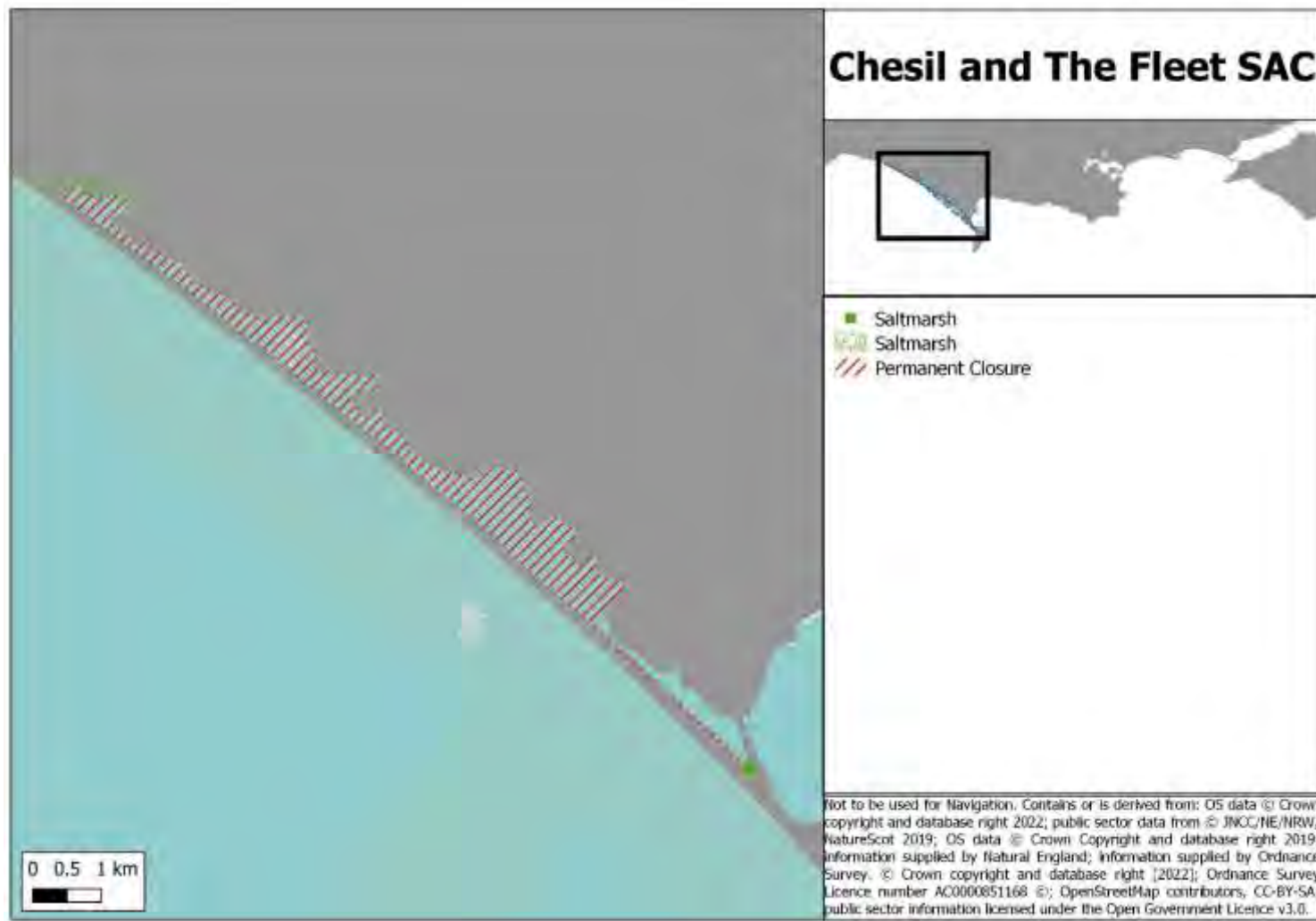


Figure 23: Chesil and The Fleet SAC showing designated features and spatial management under the Shore Gathering Byelaw 2024.

## Solent Maritime SAC

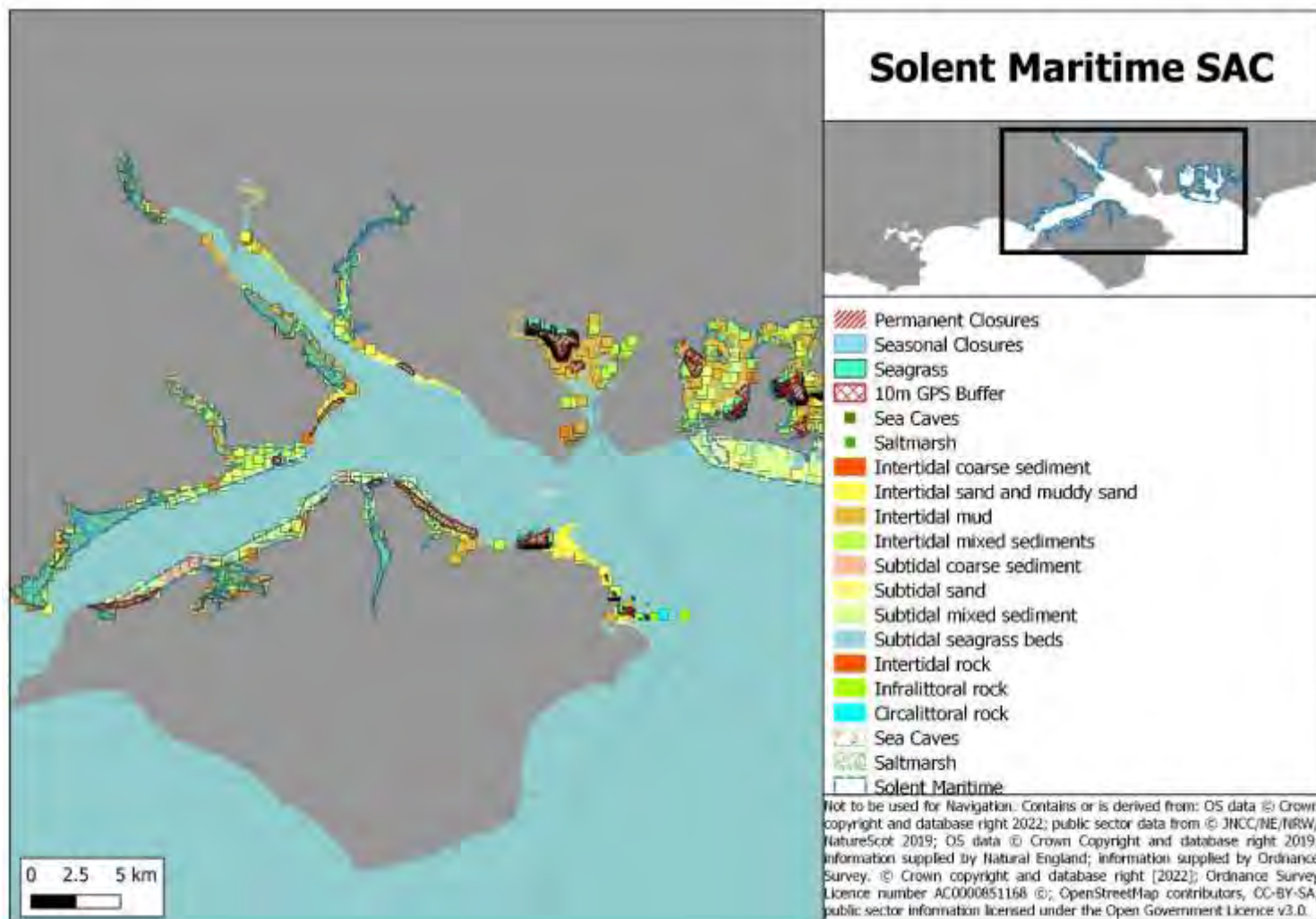


Figure 24: Solent Maritime SAC showing designated features and spatial management under the Shore Gathering Byelaw 2024.

## Chesil Beach and The Fleet SPA

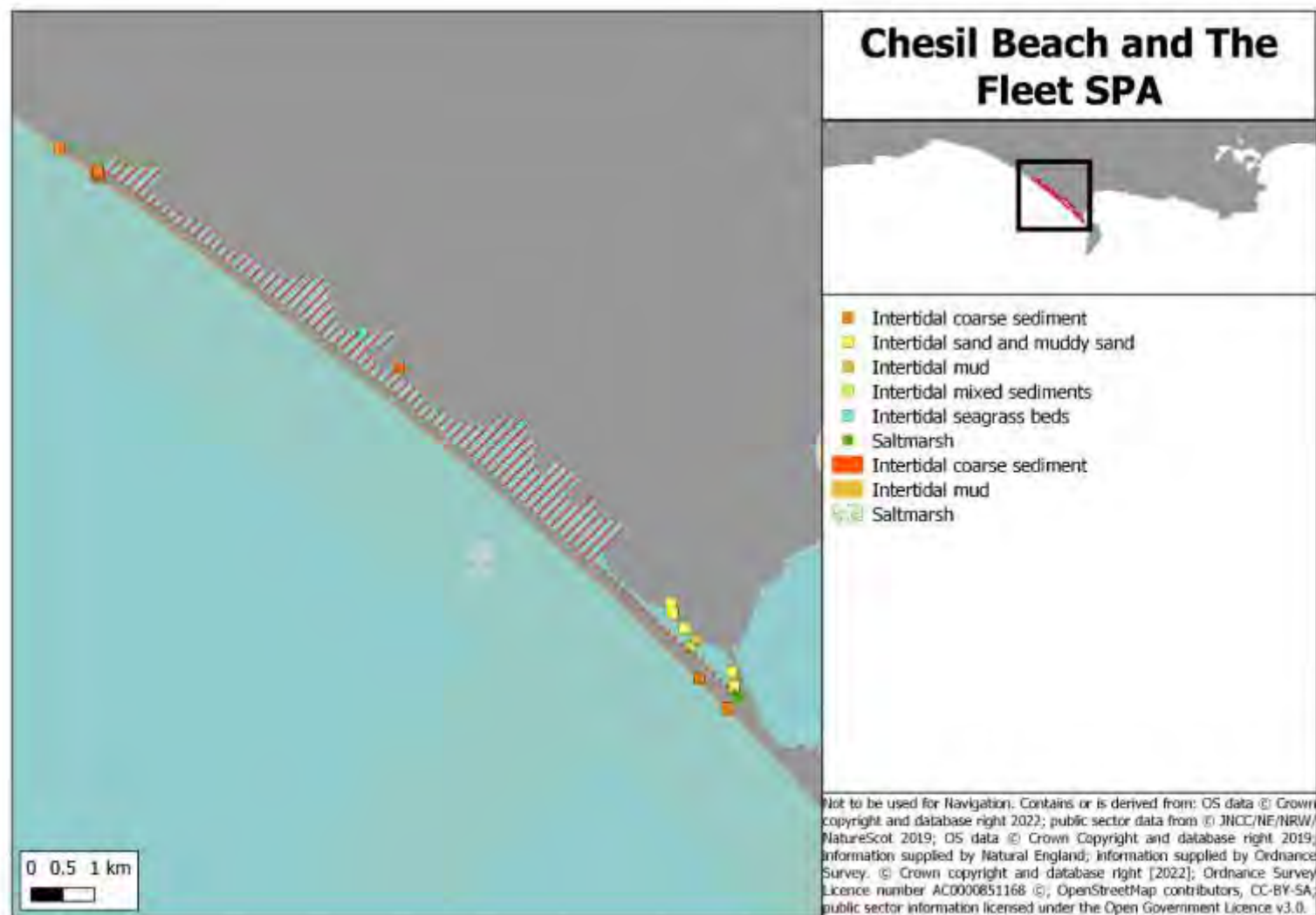


Figure 25: Chesil Beach and The Fleet SPA showing designated features and spatial management under the Shore Gathering Byelaw 2024.

## Poole Harbour SPA

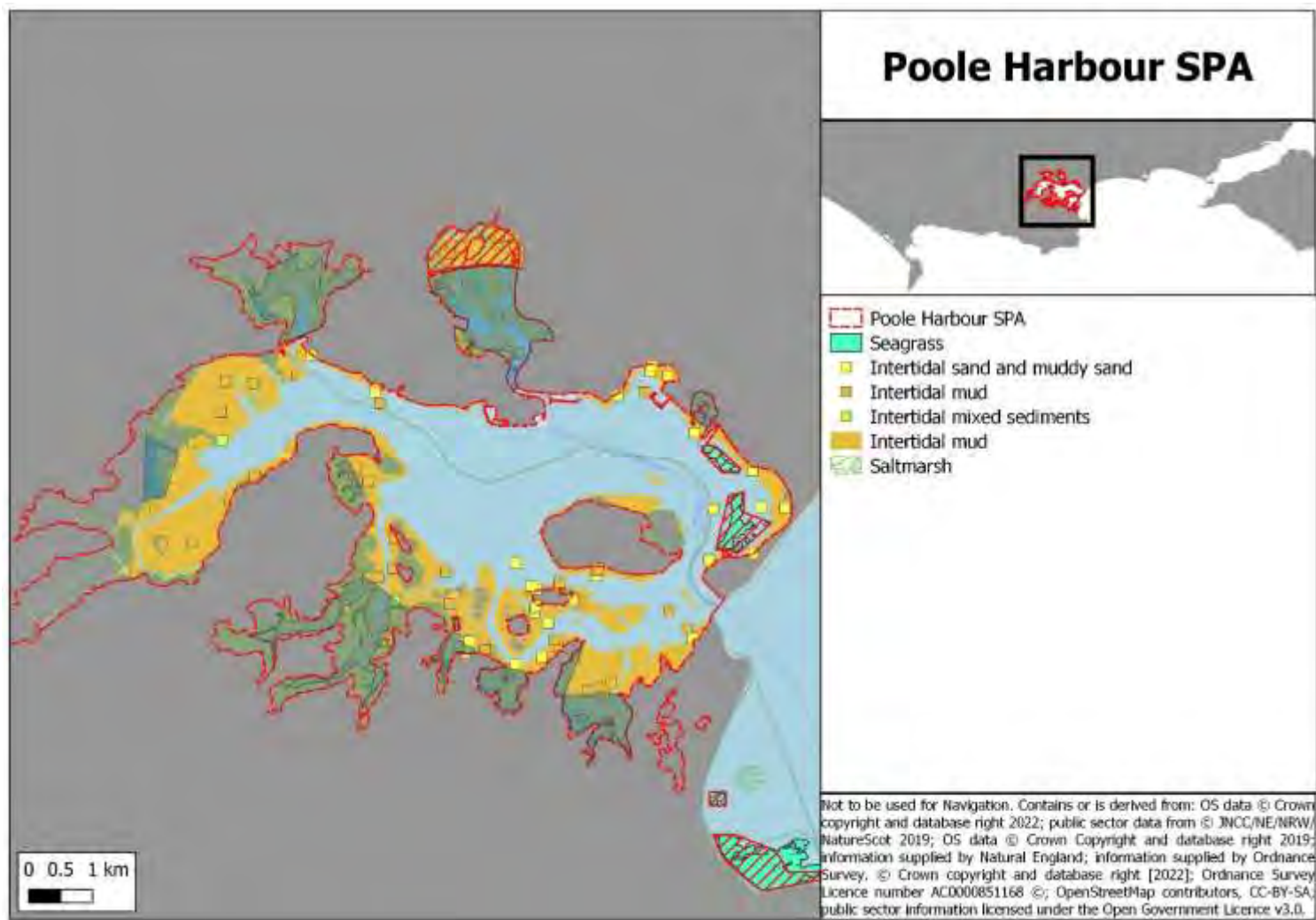


Figure 26: Poole Harbour SPA showing designated features and spatial management under the Shore Gathering Byelaw 2024.

## Solent and Southampton Water SPA

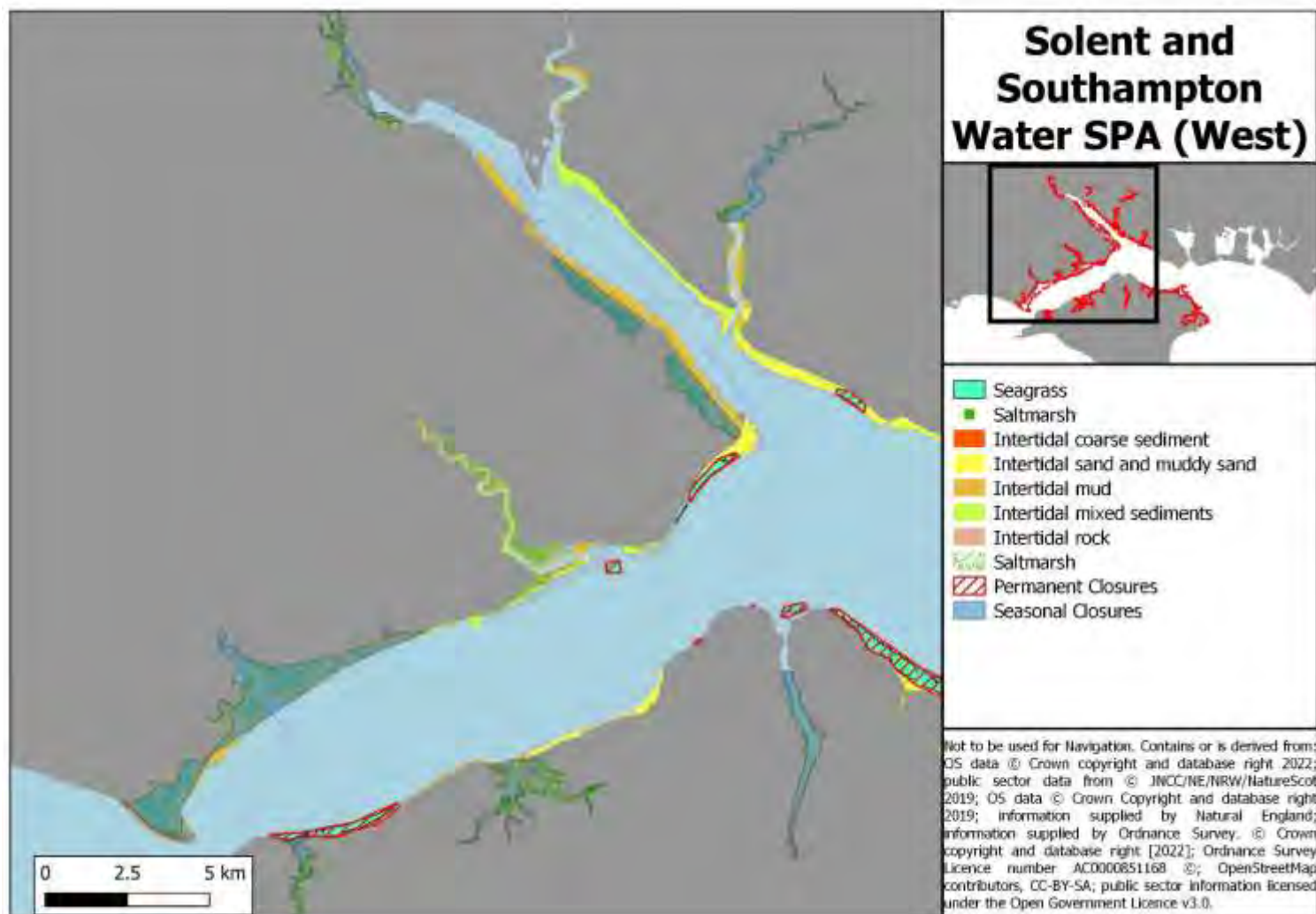


Figure 27: Solent and Southampton Water SPA (West) showing designated features and spatial management under the Shore Gathering Byelaw 2024.



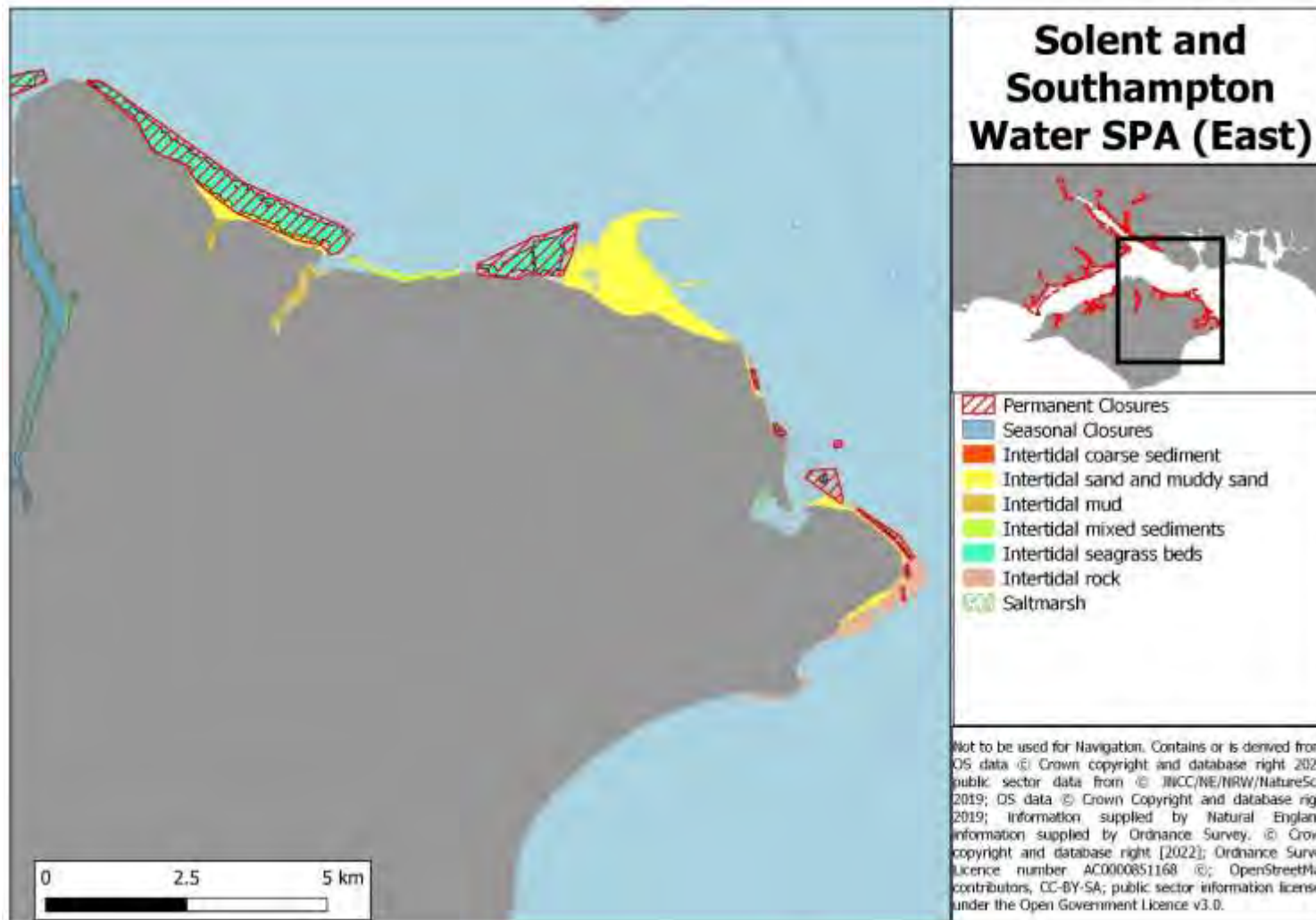


Figure 28 Solent and Southampton Water SPA (East) showing designated features and spatial management under the Shore Gathering Byelaw 2024.

## Portsmouth Harbour SPA

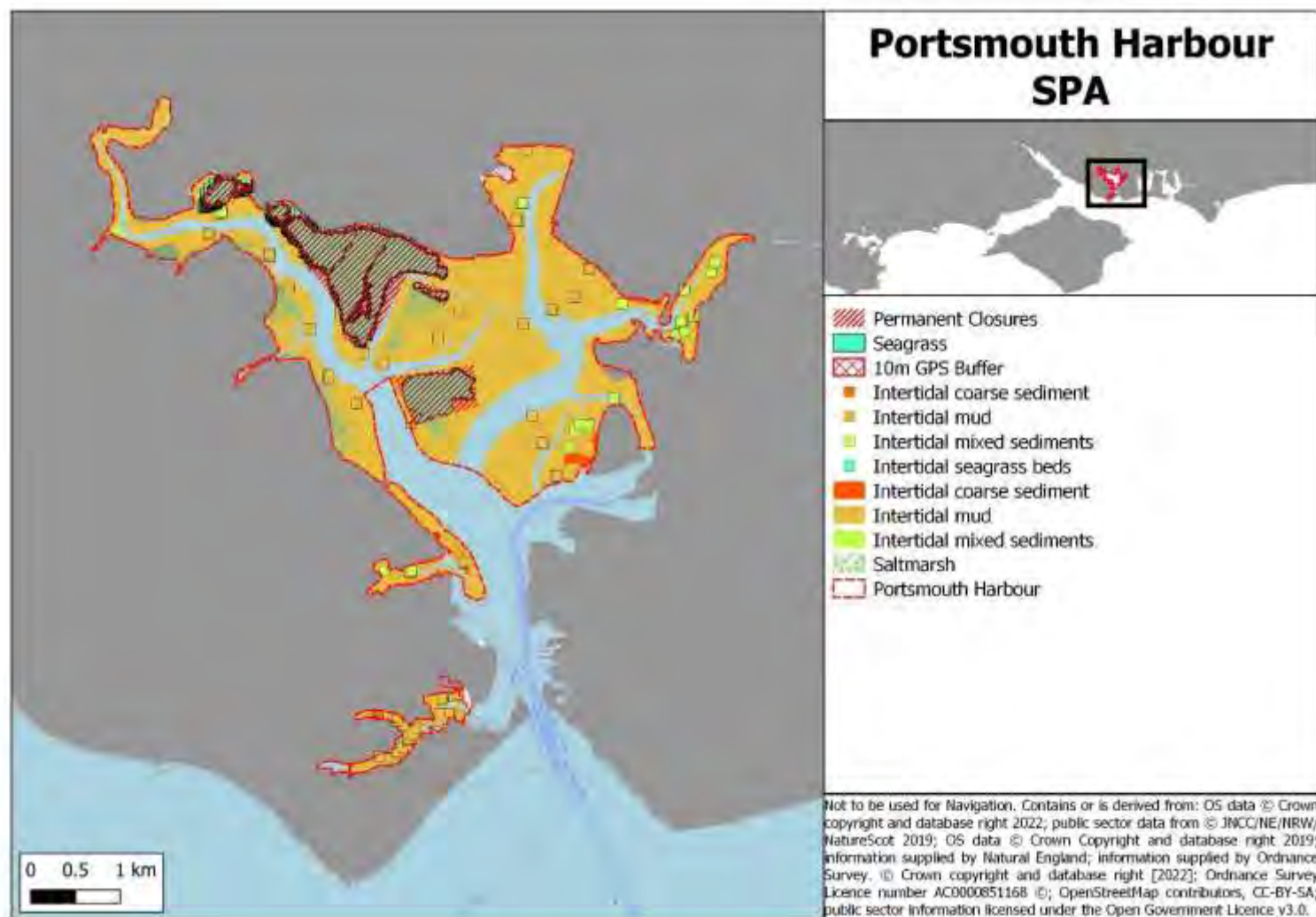


Figure 29: Portsmouth Harbour SPA showing designated features and spatial management under the Shore Gathering Byelaw 2024.

## Chichester and Langstone Harbours SPA

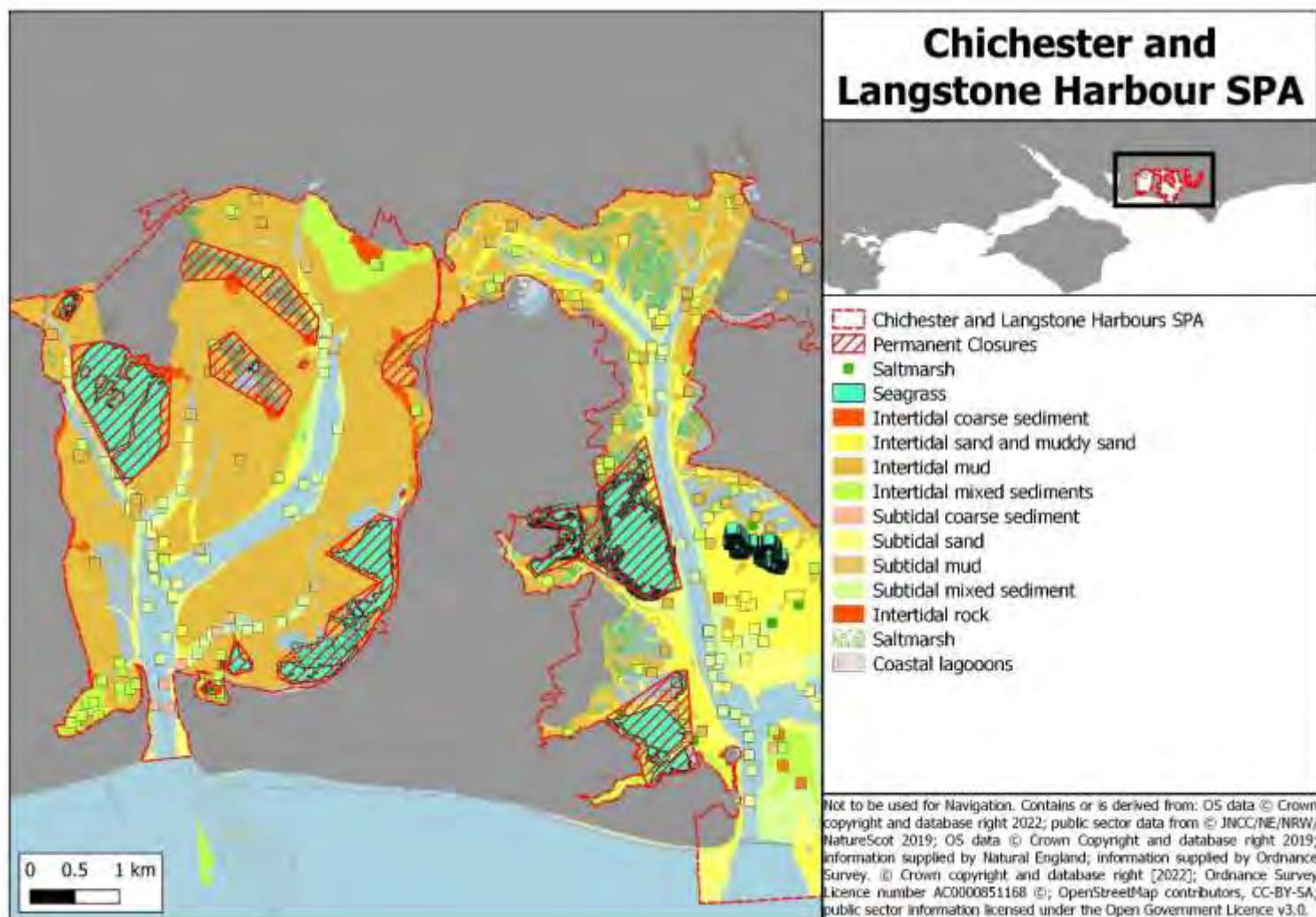





Figure 30: Chichester and Langstone Harbours SPA showing designated features and spatial management under the Shore Gathering Byelaw 2024.



## Annex 2: Southern IFCA Seaweed Harvesting Code of Conduct

	<h3>Seaweed Harvesting Code of Conduct</h3>	<p>MARKED B_ANNEX 3</p> 
<p>This Seaweed Harvesting Code of Conduct applies to Marine Conservation Zones (MCZs), Special Areas of Conservation (SACs) and Special Protection Areas (SPAs) in the Southern IFCA District. The CoC has been adapted from the Natural England CoC for seaweed harvesting (which was developed in conjunction with the Crown Estate, Cornwall and Devon &amp; Severn IFCAs, the National Trust and Cornwall Wildlife Trust) to include reference to relevant features of the District's National Site Network Sites.</p>		
		
<p>1</p> <p>Ensure you obtain any relevant permissions before undertaking gathering activities, including landowner permission. Natural England should be consulted before harvesting seaweed in a protected site in England.</p>	<p>10</p> <p>Harvest seaweeds during the active growth season to allow for quicker recovery.*</p>	
<p>2</p> <p>Harvest seaweed only by hand – mechanical methods should not be used. Cut fronds (leaves) well above the point of growth (e.g. the meristem for kelps) and always leave the holdfast attached.</p>	<p>11</p> <p>Harvest seaweeds after reproduction has occurred if possible and ensure a substantial proportion of mature plants remain.*</p>	
<p>3</p> <p>Do not use vehicles on the foreshore.</p>	<p>12</p> <p>Take extra care when harvesting invasive non-native seaweeds to ensure that seaweeds or spores are not transferred to other areas. Follow 'Check, Clean, Dry' biosecurity principles, checking, cleaning and drying all equipment and clothing when moving between sites to ensure that invasive species, pests and diseases are not spread to new areas. ** (<a href="https://www.nonnativespecies.org/what-can-i-do/check-clean-dry/">https://www.nonnativespecies.org/what-can-i-do/check-clean-dry/</a>). *</p>	
<p>4</p> <p>Avoid disturbing sea birds by keeping an appropriate distance away.</p>	<p>13</p> <p>Do not collect drift seaweed from the entire length of strandlines – harvest sparsely as this constitutes an important habitat.</p>	
<p>5</p> <p>Avoid or minimise trampling on non-target organisms and avoid taking 'bycatch' such as stalked jellyfish, Peacocks Tail, Pink Sea Fan and Seahorses.</p>	<p>14</p> <p>Keep records of volumes &amp; weights of each species of seaweed harvested, along with date and location.</p>	
<p>6</p> <p>Collect less than one third of an individual plant to allow for regrowth.</p>	<p>15</p> <p>Limit harvesting in erosion prone coastal areas (i.e. dunes) where kelp forests dissipate wave energy.</p>	
<p>7</p> <p>Take care to replace any rocks in the position you found them.</p>	<p>16</p> <p>Please be aware that foreshores can be hazardous. Do not put yourself at risk of injury by collecting seaweed in adverse conditions and be aware of tides.</p>	
<p>8</p> <p>Harvest sparsely, taking only a small percentage of standing stock.*</p>		
<p>9</p> <p>Rotate harvesting areas to allow ample time for recovery. Harvested areas should be left for up to several years, depending on the species, before harvesting again.*</p>		
<p>Please note that other restrictions/regulations may apply to this activity. Participants should be aware of all relevant regulations.</p> <p>*Consult Natural England for further information/ advice ** For information on how to identify non-native seaweeds, please see the GBNNSS website: <a href="http://www.nonnativespecies.org">www.nonnativespecies.org</a>.</p>		

# Annex 3: Seasonality & Prey Tables for Designated Bird Species

Seasonality data on designated bird species for the Southern IFCA District Special Protection Areas (SPAs) as provided by Natural England through their Designated Sites database. Green months indicate where >50% of the designated species are present within each area.

SPA	Month												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Chesil Beach and The Fleet	Wigren (NB)	Wigren (NB)	Wigren (NB)	Wigren (NB)	Wigren (NB)	Wigren (NB)	Wigren (NB)	Wigren (NB)	Wigren (NB)	Wigren (NB)	Wigren (NB)	Wigren (NB)	
Chichester and Langstone Harbours (18)	Wentletrap gull (NB)	Wentletrap gull (NB)	Wentletrap gull (NB)	Wentletrap gull (NB)	Wentletrap gull (NB)	Wentletrap gull (NB)	Wentletrap gull (NB)	Wentletrap gull (NB)	Wentletrap gull (NB)	Wentletrap gull (NB)	Wentletrap gull (NB)	Wentletrap gull (NB)	
	Curlew (NB)	Curlew (NB)	Curlew (NB)	Curlew (NB)	Curlew (NB)	Curlew (NB)	Curlew (NB)	Curlew (NB)	Curlew (NB)	Curlew (NB)	Curlew (NB)	Curlew (NB)	
	Dark-bellied Brent gull (NB)	Dark-bellied Brent gull (NB)	Dark-bellied Brent gull (NB)	Dark-bellied Brent gull (NB)	Dark-bellied Brent gull (NB)	Dark-bellied Brent gull (NB)	Dark-bellied Brent gull (NB)	Dark-bellied Brent gull (NB)	Dark-bellied Brent gull (NB)	Dark-bellied Brent gull (NB)	Dark-bellied Brent gull (NB)	Dark-bellied Brent gull (NB)	
	Dunlin (NB)	Dunlin (NB)	Dunlin (NB)	Dunlin (NB)	Dunlin (NB)	Dunlin (NB)	Dunlin (NB)	Dunlin (NB)	Dunlin (NB)	Dunlin (NB)	Dunlin (NB)	Dunlin (NB)	
	Grey Plover (NB)	Grey Plover (NB)	Grey Plover (NB)	Grey Plover (NB)	Grey Plover (NB)	Grey Plover (NB)	Grey Plover (NB)	Grey Plover (NB)	Grey Plover (NB)	Grey Plover (NB)	Grey Plover (NB)	Grey Plover (NB)	
	Wren (NB)	Wren (NB)	Wren (NB)	Wren (NB)	Wren (NB)	Wren (NB)	Wren (NB)	Wren (NB)	Wren (NB)	Wren (NB)	Wren (NB)	Wren (NB)	
	Red-breasted Merganser (NB)	Red-breasted Merganser (NB)	Red-breasted Merganser (NB)	Red-breasted Merganser (NB)	Red-breasted Merganser (NB)	Red-breasted Merganser (NB)	Red-breasted Merganser (NB)	Red-breasted Merganser (NB)	Red-breasted Merganser (NB)	Red-breasted Merganser (NB)	Red-breasted Merganser (NB)	Red-breasted Merganser (NB)	
	Worm-eating Warbler (NB)	Worm-eating Warbler (NB)	Worm-eating Warbler (NB)	Worm-eating Warbler (NB)	Worm-eating Warbler (NB)	Worm-eating Warbler (NB)	Worm-eating Warbler (NB)	Worm-eating Warbler (NB)	Worm-eating Warbler (NB)	Worm-eating Warbler (NB)	Worm-eating Warbler (NB)	Worm-eating Warbler (NB)	
	Whimbrel (NB)	Whimbrel (NB)	Whimbrel (NB)	Whimbrel (NB)	Whimbrel (NB)	Whimbrel (NB)	Whimbrel (NB)	Whimbrel (NB)	Whimbrel (NB)	Whimbrel (NB)	Whimbrel (NB)	Whimbrel (NB)	
	Shelduck (NB)	Shelduck (NB)	Shelduck (NB)	Shelduck (NB)	Shelduck (NB)	Shelduck (NB)	Shelduck (NB)	Shelduck (NB)	Shelduck (NB)	Shelduck (NB)	Shelduck (NB)	Shelduck (NB)	
	Grebe (NB)	Grebe (NB)	Grebe (NB)	Grebe (NB)	Grebe (NB)	Grebe (NB)	Grebe (NB)	Grebe (NB)	Grebe (NB)	Grebe (NB)	Grebe (NB)	Grebe (NB)	
	Teal (NB)	Teal (NB)	Teal (NB)	Teal (NB)	Teal (NB)	Teal (NB)	Teal (NB)	Teal (NB)	Teal (NB)	Teal (NB)	Teal (NB)	Teal (NB)	
	Turnstone (NB)	Turnstone (NB)	Turnstone (NB)	Turnstone (NB)	Turnstone (NB)	Turnstone (NB)	Turnstone (NB)	Turnstone (NB)	Turnstone (NB)	Turnstone (NB)	Turnstone (NB)	Turnstone (NB)	
	Wigren (NB)	Wigren (NB)	Wigren (NB)	Wigren (NB)	Wigren (NB)	Wigren (NB)	Wigren (NB)	Wigren (NB)	Wigren (NB)	Wigren (NB)	Wigren (NB)	Wigren (NB)	
	Poole Harbour (8)	Wren (NB)	Wren (NB)	Wren (NB)	Wren (NB)	Wren (NB)	Wren (NB)	Wren (NB)	Wren (NB)	Wren (NB)	Wren (NB)	Wren (NB)	Wren (NB)
		Black-headed gull (NB)	Black-headed gull (NB)	Black-headed gull (NB)	Black-headed gull (NB)	Black-headed gull (NB)	Black-headed gull (NB)	Black-headed gull (NB)	Black-headed gull (NB)	Black-headed gull (NB)	Black-headed gull (NB)	Black-headed gull (NB)	Black-headed gull (NB)
		Little Egret (NB)	Little Egret (NB)	Little Egret (NB)	Little Egret (NB)	Little Egret (NB)	Little Egret (NB)	Little Egret (NB)	Little Egret (NB)	Little Egret (NB)	Little Egret (NB)	Little Egret (NB)	Little Egret (NB)
		Wentletrap gull (NB)	Wentletrap gull (NB)	Wentletrap gull (NB)	Wentletrap gull (NB)	Wentletrap gull (NB)	Wentletrap gull (NB)	Wentletrap gull (NB)	Wentletrap gull (NB)	Wentletrap gull (NB)	Wentletrap gull (NB)	Wentletrap gull (NB)	Wentletrap gull (NB)
Shelduck (NB)		Shelduck (NB)	Shelduck (NB)	Shelduck (NB)	Shelduck (NB)	Shelduck (NB)	Shelduck (NB)	Shelduck (NB)	Shelduck (NB)	Shelduck (NB)	Shelduck (NB)	Shelduck (NB)	
Spoonbill (NB)		Spoonbill (NB)	Spoonbill (NB)	Spoonbill (NB)	Spoonbill (NB)	Spoonbill (NB)	Spoonbill (NB)	Spoonbill (NB)	Spoonbill (NB)	Spoonbill (NB)	Spoonbill (NB)	Spoonbill (NB)	
Portsmouth Harbour (4)	Black-headed gull (NB)	Black-headed gull (NB)	Black-headed gull (NB)	Black-headed gull (NB)	Black-headed gull (NB)	Black-headed gull (NB)	Black-headed gull (NB)	Black-headed gull (NB)	Black-headed gull (NB)	Black-headed gull (NB)	Black-headed gull (NB)	Black-headed gull (NB)	
	Dark-bellied Brent gull (NB)	Dark-bellied Brent gull (NB)	Dark-bellied Brent gull (NB)	Dark-bellied Brent gull (NB)	Dark-bellied Brent gull (NB)	Dark-bellied Brent gull (NB)	Dark-bellied Brent gull (NB)	Dark-bellied Brent gull (NB)	Dark-bellied Brent gull (NB)	Dark-bellied Brent gull (NB)	Dark-bellied Brent gull (NB)	Dark-bellied Brent gull (NB)	
	Red-breasted Merganser (NB)	Red-breasted Merganser (NB)	Red-breasted Merganser (NB)	Red-breasted Merganser (NB)	Red-breasted Merganser (NB)	Red-breasted Merganser (NB)	Red-breasted Merganser (NB)	Red-breasted Merganser (NB)	Red-breasted Merganser (NB)	Red-breasted Merganser (NB)	Red-breasted Merganser (NB)		
Solent and Southampton Water (9)	Black-headed gull (NB)	Black-headed gull (NB)	Black-headed gull (NB)	Black-headed gull (NB)	Black-headed gull (NB)	Black-headed gull (NB)	Black-headed gull (NB)	Black-headed gull (NB)	Black-headed gull (NB)	Black-headed gull (NB)	Black-headed gull (NB)	Black-headed gull (NB)	
	Dark-bellied Brent gull (NB)	Dark-bellied Brent gull (NB)	Dark-bellied Brent gull (NB)	Dark-bellied Brent gull (NB)	Dark-bellied Brent gull (NB)	Dark-bellied Brent gull (NB)	Dark-bellied Brent gull (NB)	Dark-bellied Brent gull (NB)	Dark-bellied Brent gull (NB)	Dark-bellied Brent gull (NB)	Dark-bellied Brent gull (NB)	Dark-bellied Brent gull (NB)	
	Ringed Plover (NB)	Ringed Plover (NB)	Ringed Plover (NB)	Ringed Plover (NB)	Ringed Plover (NB)	Ringed Plover (NB)	Ringed Plover (NB)	Ringed Plover (NB)	Ringed Plover (NB)	Ringed Plover (NB)	Ringed Plover (NB)	Ringed Plover (NB)	
	Teal (NB)	Teal (NB)	Teal (NB)	Teal (NB)	Teal (NB)	Teal (NB)	Teal (NB)	Teal (NB)	Teal (NB)	Teal (NB)	Teal (NB)	Teal (NB)	
	Wentletrap gull (NB)	Wentletrap gull (NB)	Wentletrap gull (NB)	Wentletrap gull (NB)	Wentletrap gull (NB)	Wentletrap gull (NB)	Wentletrap gull (NB)	Wentletrap gull (NB)	Wentletrap gull (NB)	Wentletrap gull (NB)	Wentletrap gull (NB)	Wentletrap gull (NB)	
	Worm-eating Warbler (NB)	Worm-eating Warbler (NB)	Worm-eating Warbler (NB)	Worm-eating Warbler (NB)	Worm-eating Warbler (NB)	Worm-eating Warbler (NB)	Worm-eating Warbler (NB)	Worm-eating Warbler (NB)	Worm-eating Warbler (NB)	Worm-eating Warbler (NB)	Worm-eating Warbler (NB)	Worm-eating Warbler (NB)	

	> half of the potential species present
	< half of the potential species present
	none of the potential species present
	Breeding population present
	Non-breeding population present

Prey preference data for designated bird species for the Southern IFCA District Special Protection Areas (SPAs) as provided by Natural England through their Designated Sites database and species profiles available on the RSPB website.

Feature	Prey (as relevant to shoregathering activities)	Feature	Prey (as relevant to shoregathering activities)
<b>Avocet</b> ( <i>Recurvirostra avosetta</i> )	crustaceans worms	<b>Ringer Plover</b> ( <i>Charadrius hiaticula</i> )	marine worms crustaceans molluscs
<b>Bar-tailed Godwit</b> ( <i>Limosa lapponica</i> )	shellfish marine snails marine worms shrimps	<b>Roseate Tern</b> ( <i>Sterna Dougallii</i> )	fish
<b>Black-tailed Godwit</b> ( <i>Limosa limosa islandica</i> )	worms	<b>Sanderling</b> ( <i>Calidris alba</i> )	marine worms crustaceans molluscs
<b>Curlew</b> ( <i>Numenius arquata</i> )	shellfish shrimps worms	<b>Sandwich Tern</b> ( <i>Thalasseus sandvicensis</i> )	fish incl. sandeels, sprats, whiting
<b>Common Tern</b> ( <i>Sterna hirundo</i> )	fish	<b>Shelduck</b> ( <i>Tadorna tadorna</i> )	small shellfish aquatic snails
<b>Dark-bellied Brent Goose</b> ( <i>Branta bernicla bernicla</i> )	eel-grass	<b>Shoveler</b> ( <i>Spatula clypeata</i> )	plant matter sifted from the water
<b>Dunlin</b> ( <i>Calidris alpina alpina</i> )	worms	<b>Spoonbill</b> ( <i>Platalea leucorodia</i> )	small fish
<b>Grey Plover</b> ( <i>Pluvialis squatarola</i> )	shellfish worms	<b>Teal</b> ( <i>Anas crecca</i> )	NA
<b>Little Egret</b> ( <i>Egretta garzetta</i> )	fish	<b>Turnstone</b> ( <i>Arenaria interpres</i> )	crustaceans molluscs
<b>Little Tern</b> ( <i>Sternula albifrons</i> )	fish	<b>Wigeon</b> ( <i>Mareca penelope</i> )	aquatic plants
<b>Mediterranean Gull</b> ( <i>Ichthyaeetus melanocephalus</i> )	fish		
<b>Pintail</b> ( <i>Anas acuta</i> )	NA		
<b>Red-breasted Merganser</b> ( <i>Mergus serrator</i> )	fish		
<b>Redshank</b> ( <i>Tringa totanus</i> )	molluscs crustaceans		





# **Southern Inshore Fisheries and Conservation Authority**

## **Shore Gathering Site Specific Evidence Packages**

**Supporting Document for the  
Shore Gathering Byelaw**

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This document provides site specific evidence for Marine Conservation Zones (MCZs), Special Areas of Conservation (SACs) and Special Protection Areas (SPAs) in the Southern IFCA District relevant to the Shore Gathering Review.

Note that information provided on shore gathering activity within each site is based on Southern IFCA sightings data. This data is collected during Southern IFCA patrols and therefore is not a true representation of overall effort for a particular activity as observations will only have been made when a patrol is operating in the relevant area, however the nature of Southern IFCA patrols and the cumulative analysis of data from multiple years allows for an indicative picture of activity occurring within the relevant sites.

## Section A: MPAs in the Scope of the Shore Gathering Review

Table 1 displays the National Site Network Sites relevant to the Shore Gathering Review. Site specific evidence for each of these sites is provided in Section 0 – Section 3.

**Table 1 MPAs within the Southern IFCA District included in the Shore Gathering Review.**

<b>MCZs</b>	<b>SPAs</b>	<b>SACs</b>
Bembridge	Chesil Beach and the Fleet	Chesil and the Fleet
Chesil Beach and Stennis Ledges	Chichester and Langstone Harbour	Lyme Bay and Torbay
Purbeck Coast	Poole Harbour	Solent Maritime
Studland Bay	Portsmouth Harbour	South Wight Maritime
The Needles	Solent and Southampton Water	Studland to Portland
Yarmouth to Cowes		

National Site Network Sites which are not included in the Shore Gathering Review are those which are entirely subtidal and therefore are not able to be subject to shore gathering activities.

# 1.0 Marine Conservation Zones (MCZs)

## 1.0 Chesil Beach and Stennis Ledges MCZ

### 1.0.1 Designated Features of the MCZ

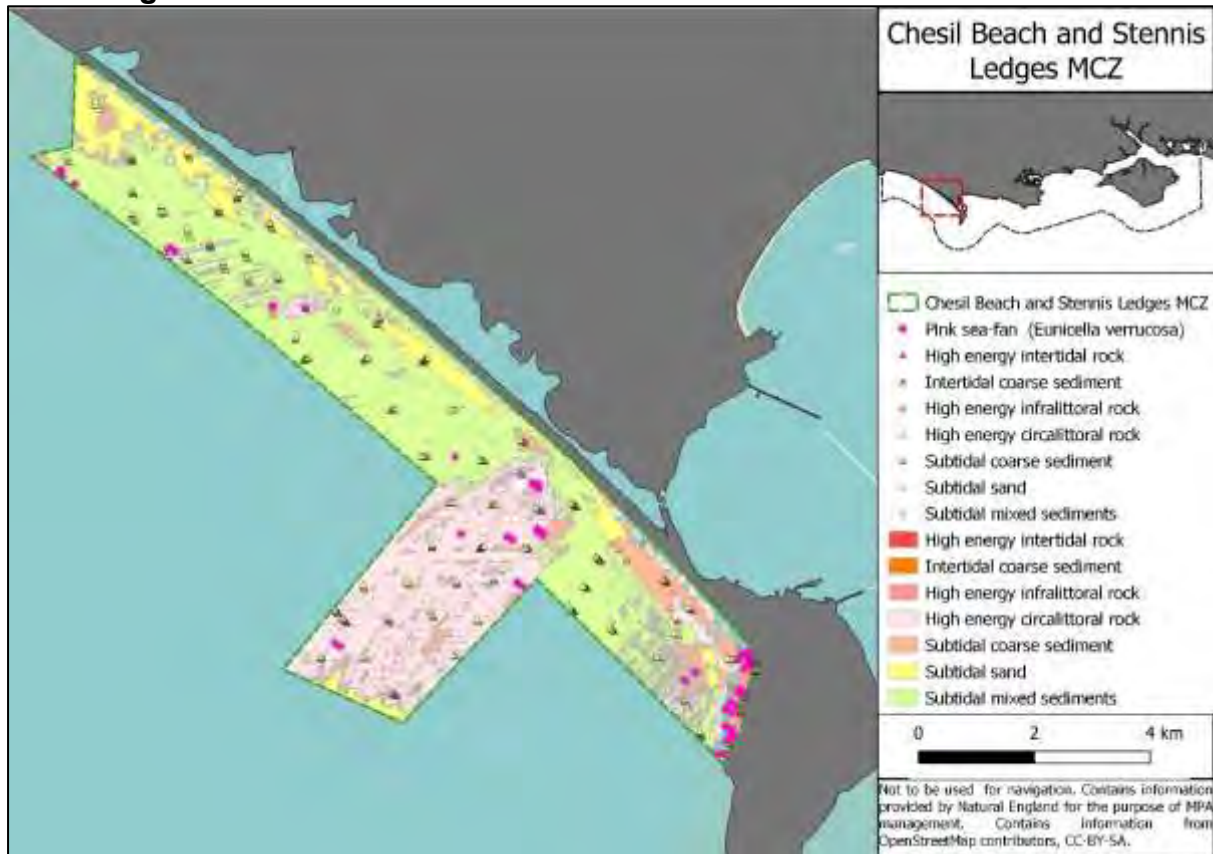


Figure 1 The location and extent of the supporting habitats of the Chesil Beach and Stennis Ledges MCZ (boundary shown by the dashed green line).

The Chesil Beach to Stennis Ledges MCZ covers an area of 37 km<sup>2</sup> running along the coastline of Chesil Beach. The area covers a variety of rocky and sediment habitats and includes the Pink Sea fan as a designated feature<sup>1</sup>. The designated features of the MCZ are displayed in Figure 1 and Table 2.

Table 2 Designated features of the Chesil Beach and Stennis Ledges MCZ.

Designated Features	High-energy circalittoral rock
	High-energy infralittoral rock
	High-energy intertidal rock
	Intertidal coarse sediment
	Native oyster ( <i>Ostrea edulis</i> )
	Pink sea-fan ( <i>Eunicella verrucosa</i> )
	Subtidal coarse sediment
	Subtidal mixed sediments
Subtidal sand	

<sup>1</sup> <https://designatedsites.naturalengland.org.uk/>

### 1.0.2 Shore Gathering activity in the MCZ – Southern IFCA Sightings Data

As of October 2023, there has been no evidence available on the location of shore gathering activities occurring in the Chesil Beach and Stennis Ledges MCZ.

### 1.0.3 Recorded catches within the MCZ

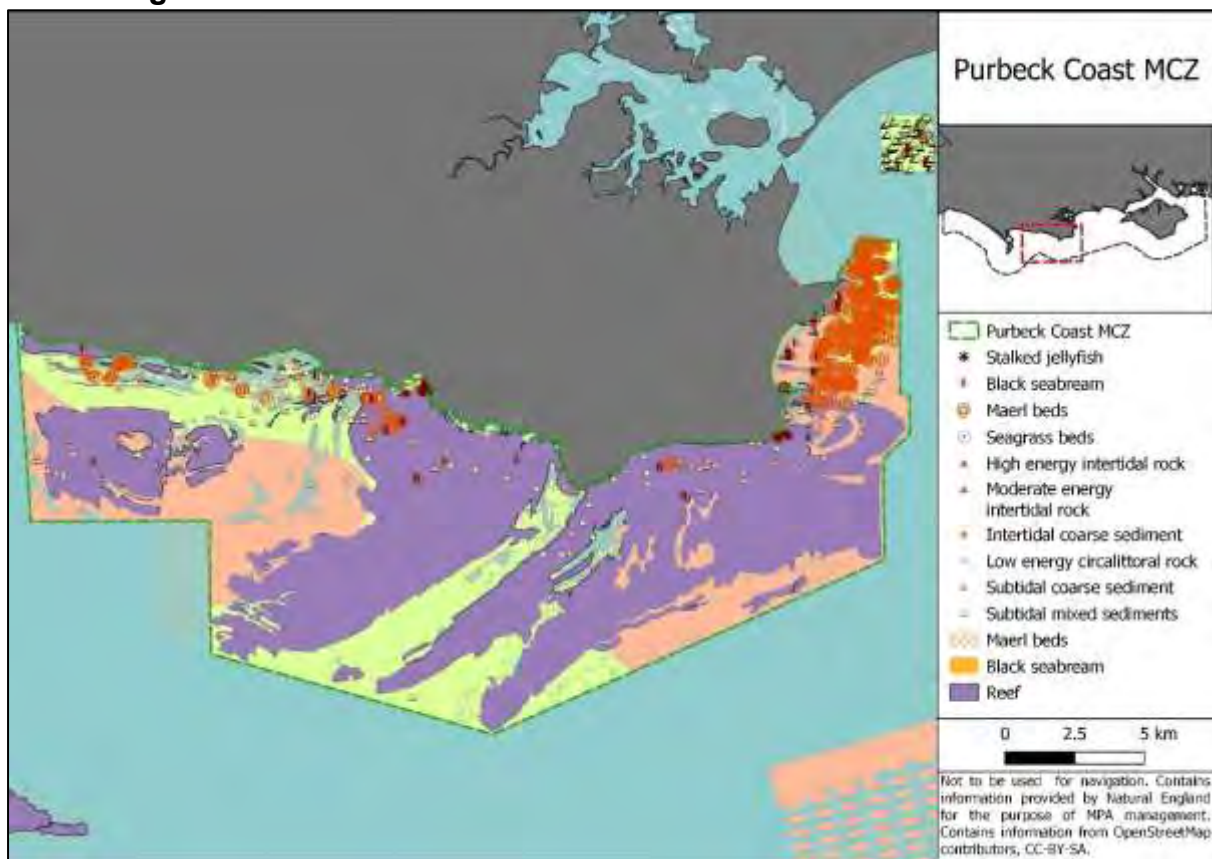
As of October 2023, there has been no evidence available on the catch composition of shore gathering activities occurring in Chesil Beach and Stennis Ledges MCZ.

### 1.0.4 Recorded Offences within the MCZ

As of October 2023, there have been no recorded offences linked to shore gathering activities occurring in Chesil Beach and Stennis Ledges MCZ.

## 1.1 Purbeck Coast MCZ

### 1.1.1 Designated Features of the MCZ



**Figure 2 The location and extent of the supporting habitats of the Purbeck Coast MCZ (boundary shown by the dashed green line).**

The Purbeck Coast MCZ covers an area of 282 km<sup>2</sup>. The MCZ covers the area of coastline from Ringstead Bay in the West to north of Swanage Bay in the East<sup>2</sup>. The Purbeck Coast MCZ is designated for a range of intertidal and subtidal habitats and species as displayed in Figure 2 and Table 3.

<sup>2</sup> <https://designatedsites.naturalengland.org.uk/>

**Table 3 Designated features of the Purbeck Coast MCZ**

Designated Features	Black Seabream ( <i>Spondylisoma cantharus</i> )
	High Energy Intertidal Rock
	Intertidal Coarse Sediment
	Maerl Beds
	Moderate Energy Intertidal rock
	Peacock's tail ( <i>Padina Pavocina</i> )
	Stalked Jellyfish ( <i>Haliclystus spp</i> )
	Subtidal Coarse Sediment
	Subtidal Mixed Sediments

**1.1.2 Shore Gathering activity in the MCZ – Southern IFCA Sightings Data**

As of October 2023, there has been no evidence available on the location of shore gathering activities occurring in the Purbeck Coast MCZ.

**1.1.3 Recorded catches within the MCZ**

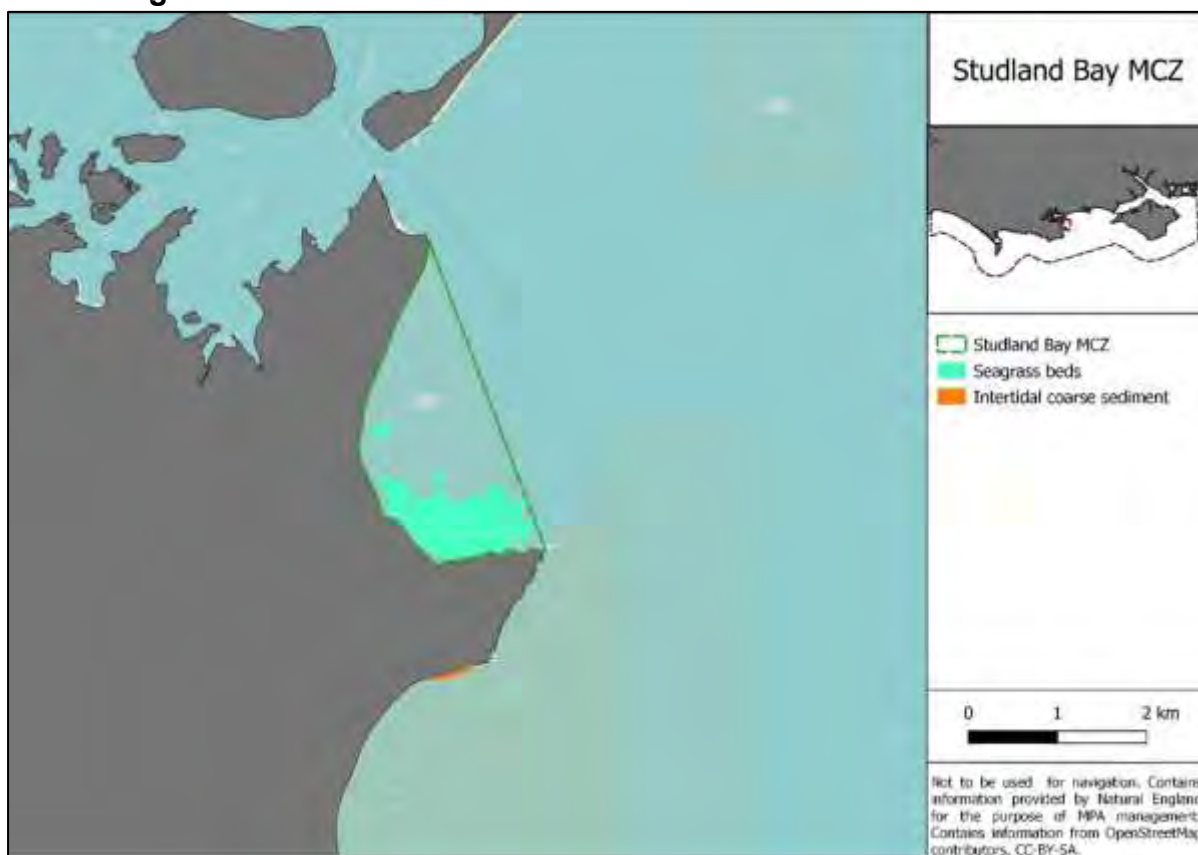
As of October 2023, there has been no evidence available on the catch composition of shore gathering activities occurring in the Purbeck Coast MCZ.

**1.1.4 Recorded Offences within the MCZ**

As of October 2023, there have been no recorded offences linked to shore gathering activities occurring in Purbeck Coast MCZ.

## 1.2 Studland Bay MCZ

### 1.2.1 Designated Features of the MCZ



**Figure 3** The location and extent of the supporting habitats of the Studland Bay MCZ (boundary shown by the dashed green line).

The Studland Bay MCZ is approximately 4 km<sup>2</sup> and relatively sheltered from prevailing southwesterly winds by Ballard Down<sup>3</sup>. The designated features of the Studland Bay MCZ are displayed in Figure 3 and Table 4

**Table 4** Designated features of the Studland Bay MCZ

Designated Features	Intertidal coarse sediment
	Long snouted seahorse ( <i>Hippocampus guttulatus</i> )
	Seagrass beds
	Subtidal sand

### 1.2.2 Shore Gathering activity in the MCZ – Southern IFCA Sightings Data

As of October 2023, there has been no evidence available on the location of shore gathering activities occurring in the Studland Bay MCZ.

Information provided to Southern IFCA from an MMO call for evidence on non-licensable activities indicated that push-netting for prawns has occurred in this site.

<sup>3</sup> <https://designatedsites.naturalengland.org.uk/>



### 1.2.3 Recorded catches within the MCZ

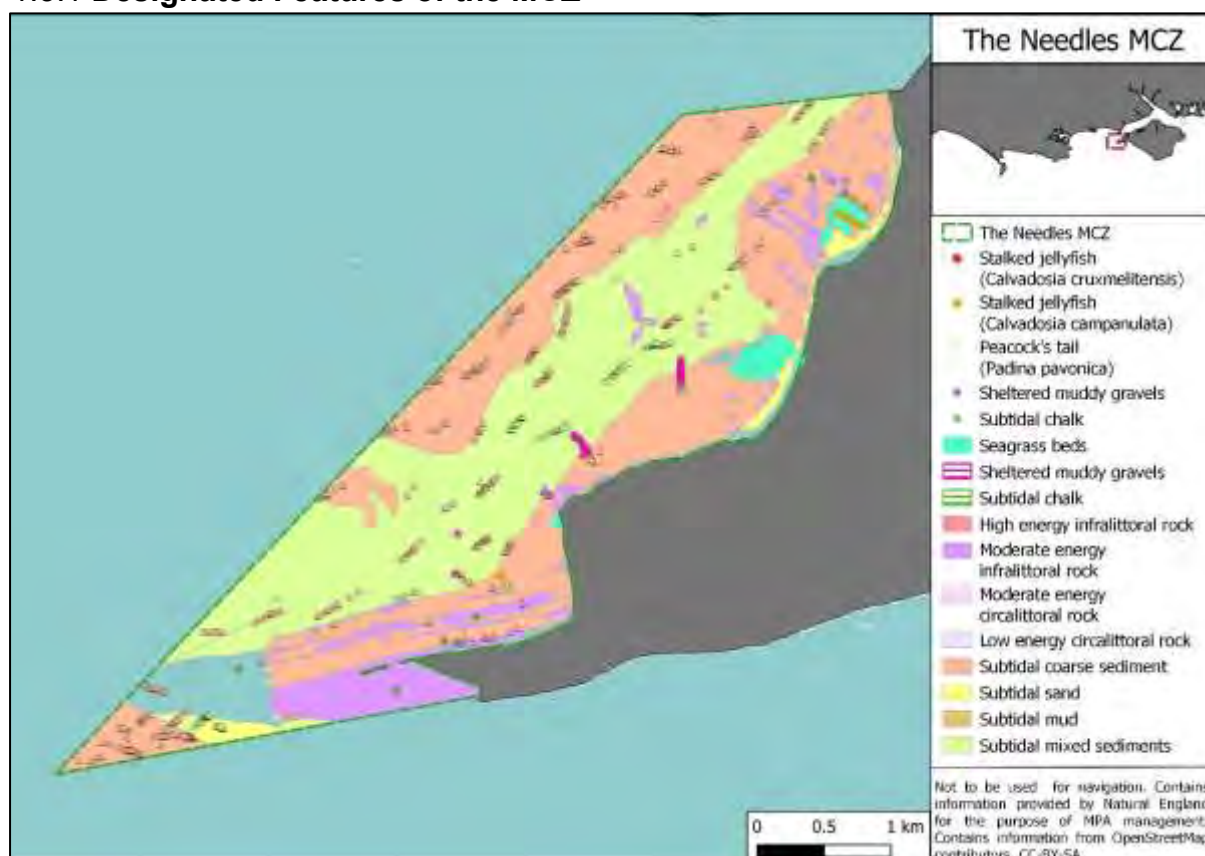
As of October 2023, there has been no evidence available on the catch composition of shore gathering activities occurring in the Studland Bay MCZ.

### 1.2.4 Recorded Offences within the MCZ

As of October 2023, there have been no recorded offences linked to shore gathering activities occurring in Studland Bay MCZ.

## 1.3 The Needles MCZ

### 1.3.1 Designated Features of the MCZ



**Figure 4** The location and extent of the supporting habitats of The Needles MCZ (boundary shown by the dashed green line).

The Needles MCZ is located on the west coast of the Isle of Wight and covers an area of 11 km<sup>2</sup>. The MCZ covers the coastline from Fort Albert down to the Needles Geological feature along the mean high-water mark and extends up to 3 km from the shoreline. The designated features of the MCZ are displayed in Figure 4 and Table 5.

**Table 5** Designated features of The Needles MCZ

Designated Features	High Energy Infralittoral Rock
	Moderate Energy Circalittoral Rock
	Moderate Energy Infralittoral Rock
	Native Oyster ( <i>Ostrea edulis</i> )
	Peacock's tail ( <i>Padina Pavocina</i> )
	Seagrass Beds
Sheltered Muddy Gravels	

	Stalked Jellyfish ( <i>Calvadosia campanulata</i> )
	Subtidal Chalk
	Subtidal Coarse Sediments
	Subtidal Mixed Sediments
	Subtidal Mud
	Subtidal Sand

### 1.3.2 Shore Gathering activity in the MCZ – Southern IFCA Sightings Data

As of October 2023, there has been no evidence available on the location of shore gathering activities occurring in The Needles MCZ.

### 1.3.3 Recorded catches within the MCZ

As of October 2023, there has been no evidence available on the catch composition of shore gathering activities occurring in The Needles MCZ.

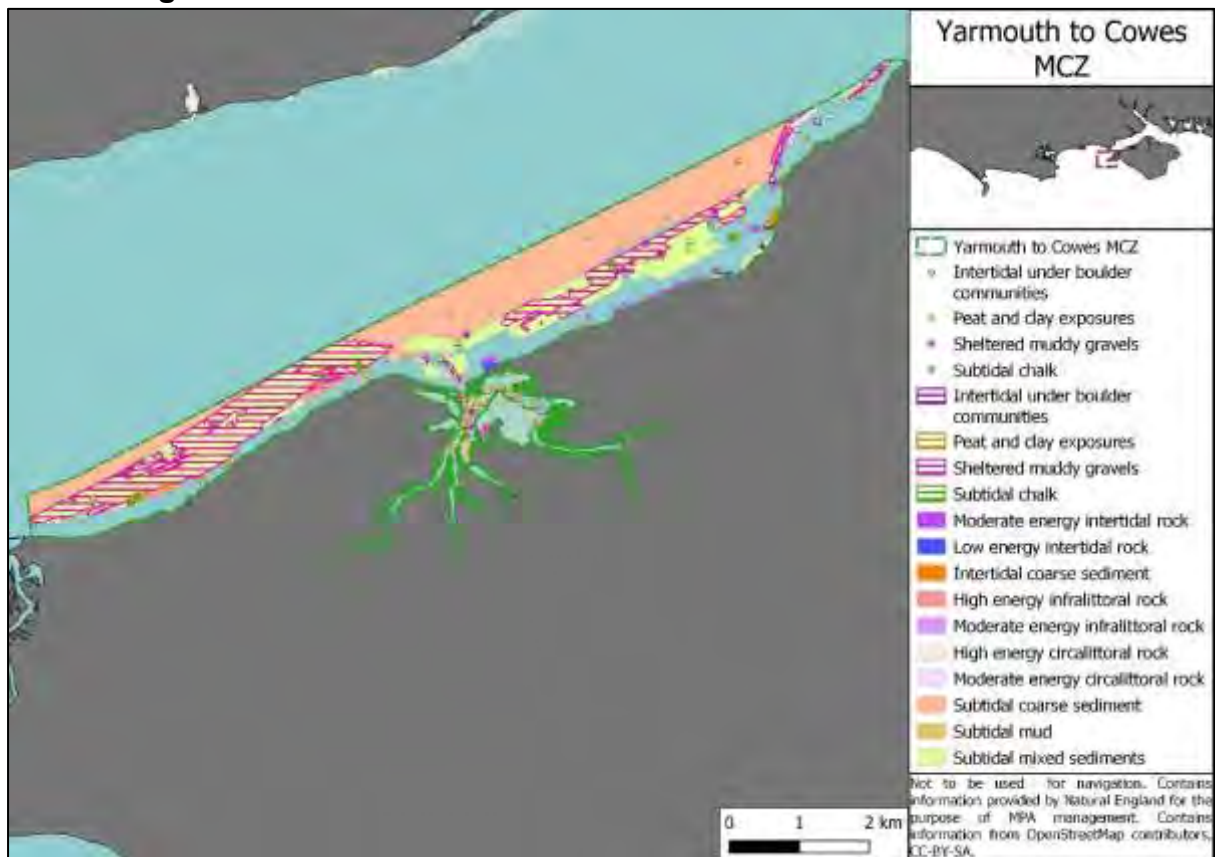
### 1.3.4 Recorded Offences within the MCZ

As of October 2023, there have been no recorded offences linked to shore gathering activities occurring in The Needles MCZ.



## 1.4 Yarmouth to Cowes MCZ

### 1.4.1 Designated Features of the MCZ



**Figure 5** The location and extent of the supporting habitats of the Yarmouth to Cowes MCZ (boundary shown by the dashed green line).

The Yarmouth to Cowes MCZ covers 16 km<sup>2</sup> and stretches from Gurnard in the east, a village west of Cowes, to Yarmouth pier in the West and extends to the edge of the Western Solent deep water channel. The designated features of the Yarmouth to Cowes MCZ are displayed in Figure 5 and Table 6.

**Table 6** The designated features of the Yarmouth to Cowes MCZ.

Designated Features	Bouldnor Cliff geological feature
	Estuarine rocky habitats
	High-Energy Circalittoral Rock
	High-Energy Infralittoral Rock
	Intertidal coarse sediment
	Intertidal under boulder communities
	Littoral chalk communities
	Low-energy intertidal rock
	Moderate Energy Circalittoral Rock
	Moderate Energy Infralittoral Rock
	Moderate energy intertidal rock
	Native Oyster ( <i>Ostrea Edulis</i> )
	Peat and Clay Exposures
	Sheltered Muddy Gravels

	Subtidal Chalk
	Subtidal Coarse Sediments
	Subtidal Mixed Sediments
	Subtidal Mud

### 1.4.2 Existing Shore Gathering Management Specific to the MCZ

The Prohibition of Gathering (Sea Fisheries Resources) in Seagrass Beds Byelaw defines a schedule of twenty-nine prohibited areas within the district to protect seagrass beds. No person shall dig for or take sea fisheries resources from any prohibited area. Area 25 is within the Yarmouth to Cowes MCZ.

### 1.4.3 Shore Gathering activity in the MCZ – Southern IFCA Sightings Data

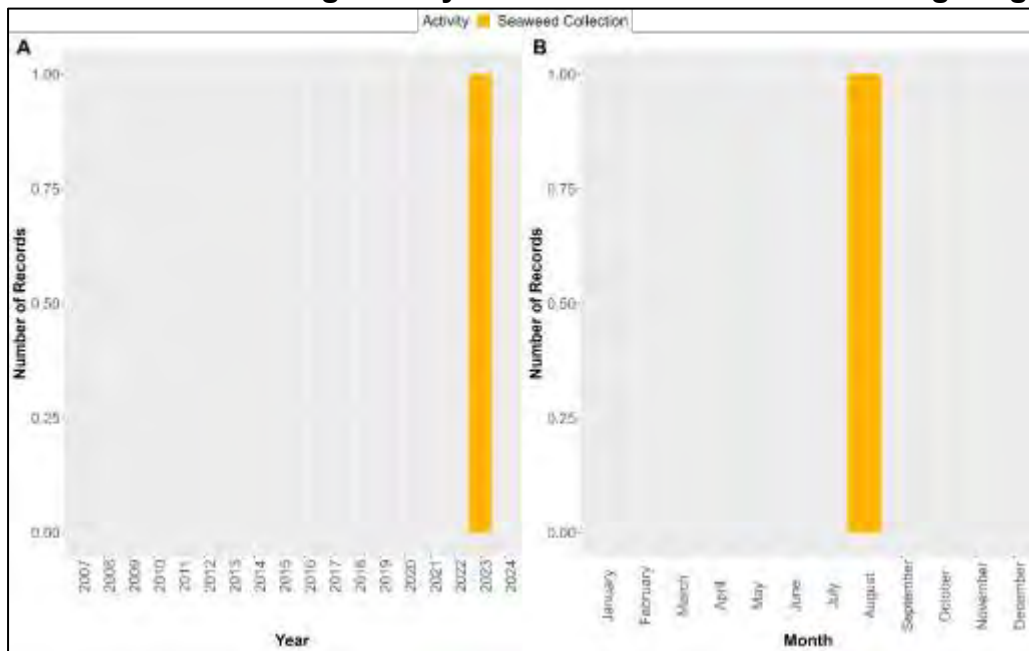
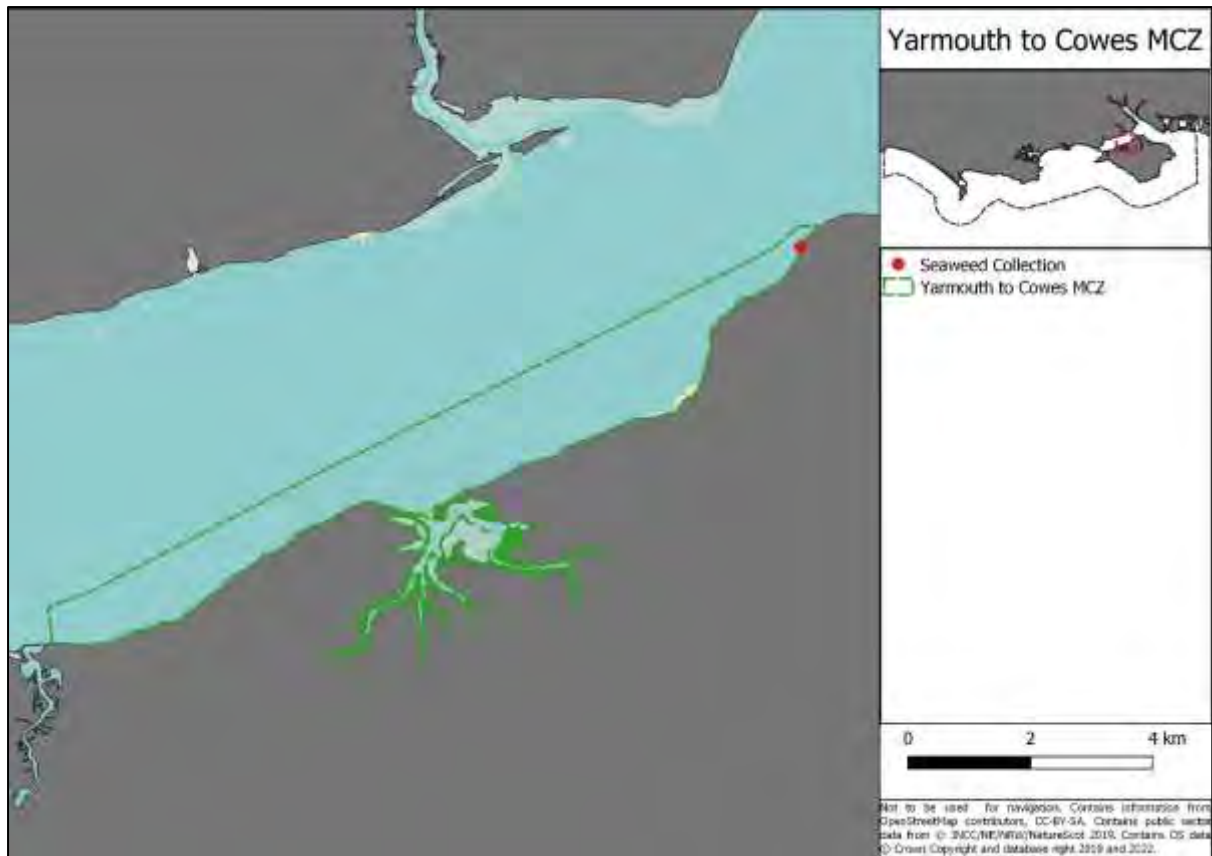


Figure 6 Records of shore gathering activity occurring in the Yarmouth to Cowes MCZ.

Figure 6 displays the only recorded occurrence of shore gathering activity in the Yarmouth to Cowes MCZ and Figure 7 the spatial distribution. The activity recorded was seaweed gathering and was observed in January 2023.



**Figure 7 Spatial distribution of all shore gathering activity observed by Southern IFCA in the Yarmouth to Cowes MCZ (boundary shown by the dashed green line).**

**1.4.4 Recorded catches within the MCZ**

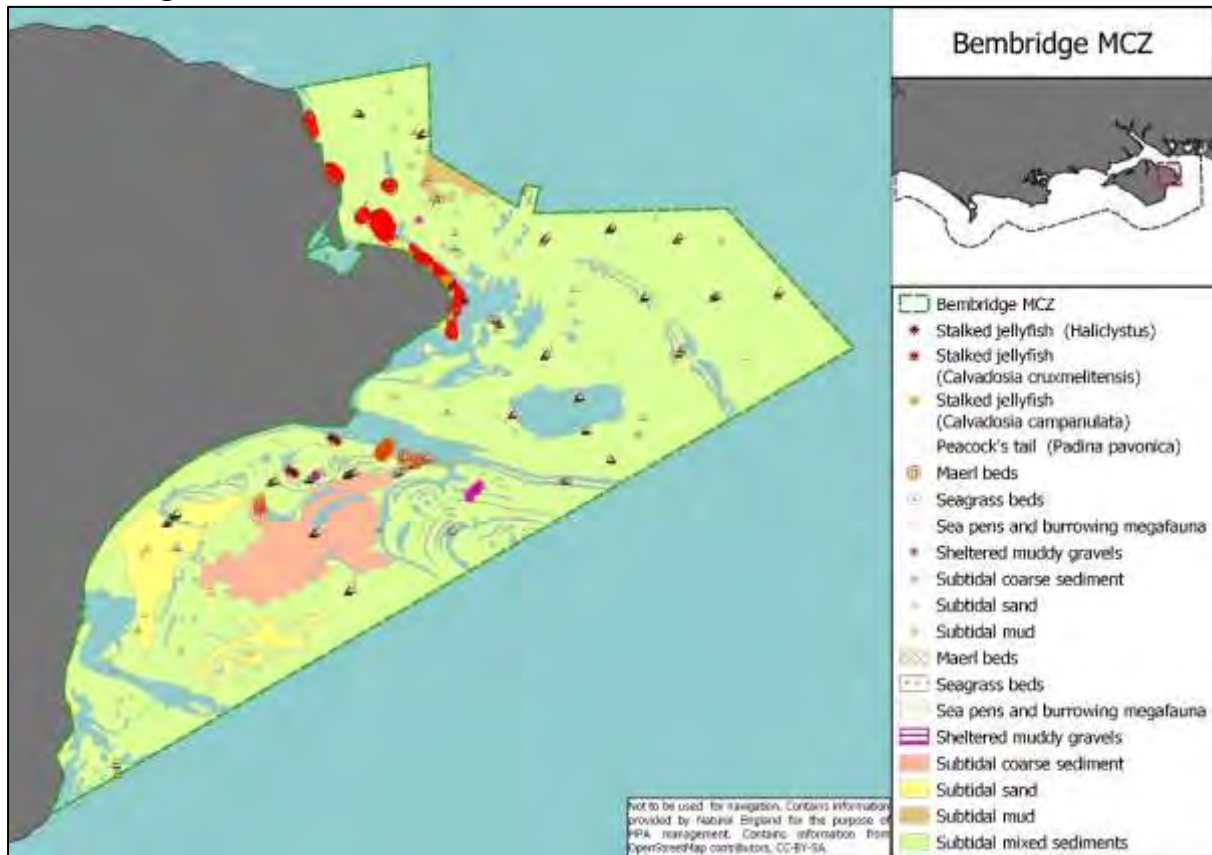
As of October 2023, there has been no evidence available on the catch composition of shore gathering activities occurring in the Yarmouth to Cowes MCZ.

**1.4.5 Recorded Offences within the MCZ**

As of October 2023, there has been no recorded offences linked to shore gathering activities occurring in the Yarmouth to Cowes MCZ.

## 1.5 Bembridge MCZ

### 1.5.1 Designated Features of the MCZ



**Figure 8** The location and extent of the supporting habitats of the Bembridge MCZ (boundary shown by the dashed green line).

The Bembridge MCZ covers an area of 75 km<sup>2</sup> and stretches southwards from Nettlestone Point in the North to Ventnor in the South and stretch to the edge of the deep-water channel in the Eastern Solent. The designated features are displayed in Figure 8 and Table 7.

**Table 7** The designated features of Bembridge MCZ

Designated Features	Maerl Beds
	Native Oyster ( <i>Ostrea Edulis</i> )
	Peacock's tail ( <i>Padina Pavocina</i> )
	Seagrass beds
	Sea-pen and burrowing megafauna communities
	Sheltered Muddy Gravels
	Short Snouted Seahorse ( <i>Hippocampus hippocampus</i> )
	Stalked Jellyfish ( <i>Calvadosia campanulata</i> )
	Stalked Jellyfish ( <i>Haliclystus spp</i> )
	Subtidal Coarse Sediments
	Subtidal Mixed Sediments
	Subtidal Mud
	Subtidal Sand

### **1.5.2 Existing Shore Gathering Management Specific to the MCZ**

The Prohibition of Gathering (Sea Fisheries Resources) in Seagrass Beds Byelaw defines a schedule of twenty-nine prohibited areas within the district to protect seagrass beds. No person shall dig for or take sea fisheries resources from any prohibited area nor be in the prohibited areas with a rake, spade, fork, or similar tool. Areas 17-21 are within the Bembridge MCZ.

### **1.5.3 Shore Gathering activity in the MCZ**

As of October 2023, there has been no evidence available on the location of shore gathering activities occurring in the Bembridge MCZ.

### **1.5.4 Recorded catches within the MCZ**

As of October 2023, there has been no evidence available on the catch composition of shore gathering activities occurring in the Bembridge MCZ.

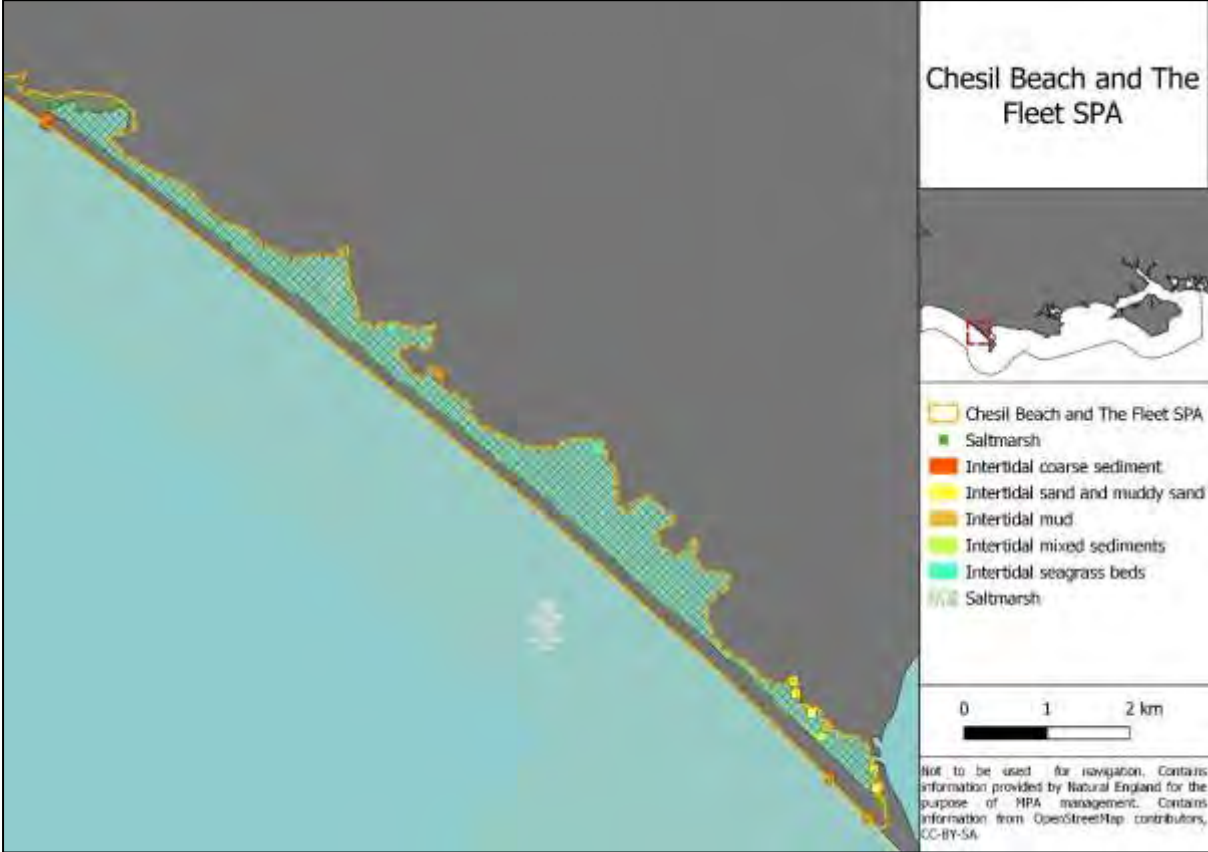
### **1.5.5 Recorded Offences within the MCZ**

As of October 2023, there has been no recorded offences linked to shore gathering activities occurring in the Bembridge MCZ.

# 2. Special Protection Areas (SPAs)

## 2.0 Chesil Beach and the Fleet SPA

### 2.0.1 Designated Features of the SPA



**Figure 9** The location and extent of the supporting habitats of the Chesil Beach and The Fleet SPA (boundary shown by the dashed yellow line).

The Chesil Beach and the Fleet SPA covers an area of 7 km<sup>2</sup>. The Fleet supports the largest diversity of species and habitat of any coastal lagoon in the UK <sup>4</sup> and aside from the entrance at the southeastern end, The Fleet is largely sheltered from waves and tidal processes<sup>5</sup>. The qualifying features and their supporting habitats are displayed in Figure 9 and Table 8.

**Table 8** Qualifying features and their supporting habitats in the Chesil Beach and The Fleet SPA.

Qualifying Features	Little Tern ( <i>Sternula albifrons</i> ), Breeding
	Wigeon ( <i>Mareca Penelope</i> ), Non-breeding
Supporting Habitats	Coastal Lagoons
	Intertidal Coarse Sediment
	Intertidal Mixed Sediment
	Intertidal Sand and Muddy Sand
	Intertidal Seagrass beds
	Intertidal Mud
	Water Column

<sup>4</sup> Bamber, R. N. 1997. Assessment of saline lagoons within Special Areas of Conservation (SACs). Peterborough: English Nature.

<sup>5</sup> <https://designatedsites.naturalengland.org.uk/>

### **2.0.2 Existing Shore Gathering Management Specific to the SPA**

The Prohibition of Gathering (Sea Fisheries Resources) in Seagrass Beds Byelaw defines a schedule of twenty-nine prohibited areas within the district to protect seagrass beds. No person shall dig for or take sea fisheries resources from any prohibited area nor be in the prohibited areas with a rake, spade, fork, or similar tool. Areas 29 are within the Chesil Beach and the Fleet SPA.

### **2.0.3 Shore Gathering activity in the SPA**

As of October 2023, there has been no evidence available on the location of shore gathering activities occurring in the Chesil Beach and The Fleet SPA.

Information provided by Natural England indicates that bait digging, cockle raking, and crab tiling have taken place within the site. No information is provided on the specific location or date when this activity was observed.

### **2.0.4 Recorded catches within the SPA**

As of October 2023, there has been no evidence available on the catch composition of shore gathering activities occurring in the Chesil Beach and The Fleet SPA.

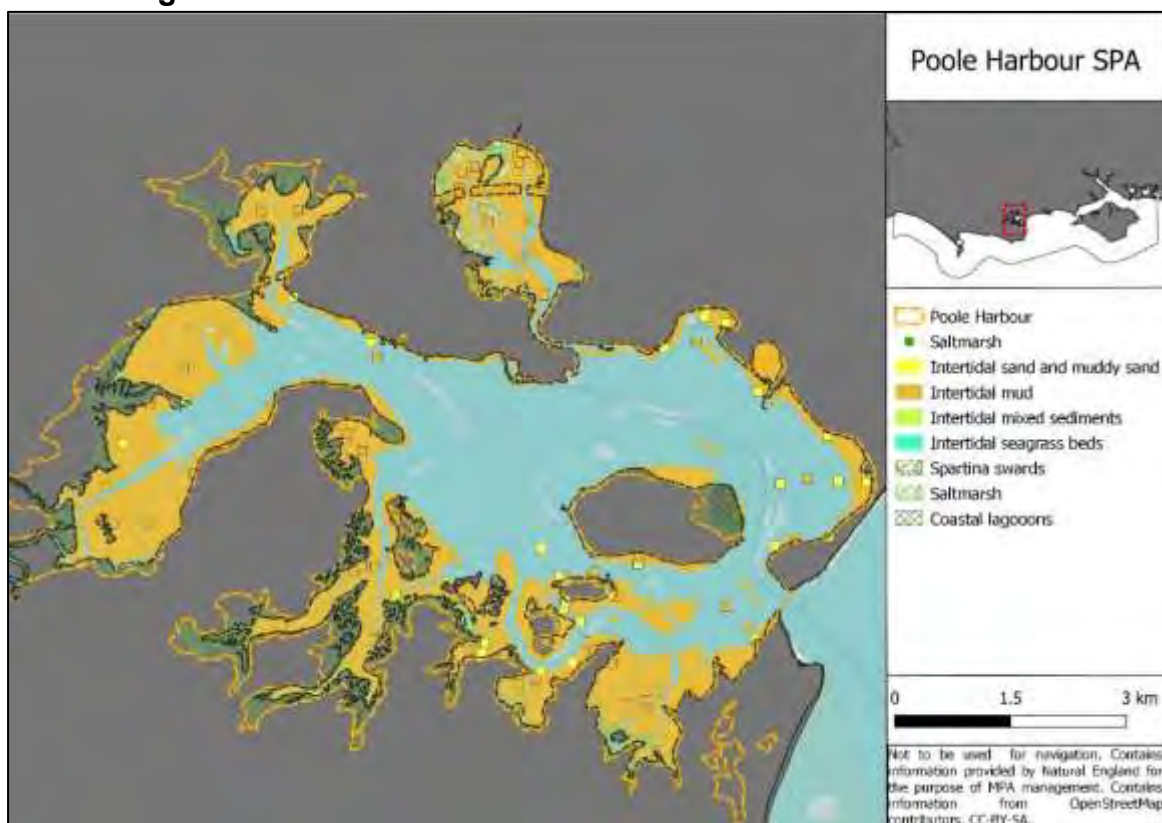
### **2.0.5 Recorded Offences within the SPA**

As of October 2023, there has been no recorded offences linked to shore gathering activities occurring in the Chesil Beach and The Fleet SPA.



## 2.1 Poole Harbour SPA

### 2.1.1 Designated Features of the SPA



**Figure 10** The location and extent of the supporting habitats of the Poole Harbour SPA (boundary shown by the dashed yellow line).

Poole Harbour SPA comprises of large tidal mudflats, saltmarsh, and seagrass beds. The SPA covers an area of 42 km<sup>2</sup> and is an important feeding habitat for migratory birds<sup>6</sup>. The qualifying features and their supporting habitats are displayed in Figure 10 and Table 9.

**Table 9** Qualifying features and their supporting habitats in the Poole Harbour SPA.

Qualifying Features	Avocet ( <i>Recurvirostra avosetta</i> ), Non-breeding
	Black-tailed godwit ( <i>Limosa limosa islandica</i> ), Non-breeding
	Common tern ( <i>Sterna hirundo</i> ), Breeding
	Little egret ( <i>Egretta garzetta</i> ), Non-breeding
	Mediterranean gull ( <i>Ichthyaetus melanocephalus</i> ), Breeding
	Sandwich tern ( <i>Thalasseus sandvicensis</i> ), Breeding
	Shelduck ( <i>Tadorna tadorna</i> ), Non-breeding
	Spoonbill ( <i>Platalea leucorodia</i> ), Non-breeding
	Waterbird assemblage, Non-breeding
	Coastal lagoon
Supporting Habitats	coastal reedbed
	freshwater and coastal grazing marsh
	Mediterranean and thermo- Atlantic Halophilous scrubs
	Salicornia and other annuals colonising mud and sand
	Atlantic salt meadows
	Spartina swards

<sup>6</sup> <https://designatedsites.naturalengland.org.uk/>



	Intertidal seagrass beds
	Intertidal mixed sediments
	Intertidal mud
	Intertidal sand and muddy sand
	Water column

### 2.1.2 Existing Shore Gathering Management Specific to the SPA

The Prohibition of Gathering (Sea Fisheries Resources) in Seagrass Beds Byelaw defines a schedule of twenty-nine prohibited areas within the district to protect seagrass beds. No person shall dig for or take sea fisheries resources from any prohibited area nor be in the prohibited areas with a rake, spade, fork, or similar tool. Areas 26-28 are within the Poole Harbour SPA.

Poole Harbour is subject to the Poole Harbour Shellfish Hand Gathering Byelaw. From the 1<sup>st</sup> of November to 31<sup>st</sup> March, both days inclusive, a person must not take from a fishery, shellfish of any kind by hand gathering or with the use of a hand tool, in the defined areas within Poole Harbour.

The Poole Harbour Bait Digging Memorandum of Agreement (MoA) was produced in partnership with industry, other authorities, NGOs, and other bodies. The agreement sets out a range of voluntary permanent and seasonal spatial closures, in addition to provisions on backfilling holes, avoiding taking green spawning worms, keeping to access paths, avoiding digging around moorings, slipways and sea walls, being aware of the use of torch lights to disturb roosting birds and keeping to all local byelaws and regulations.

### 2.1.3 Shore Gathering activity in the SPA

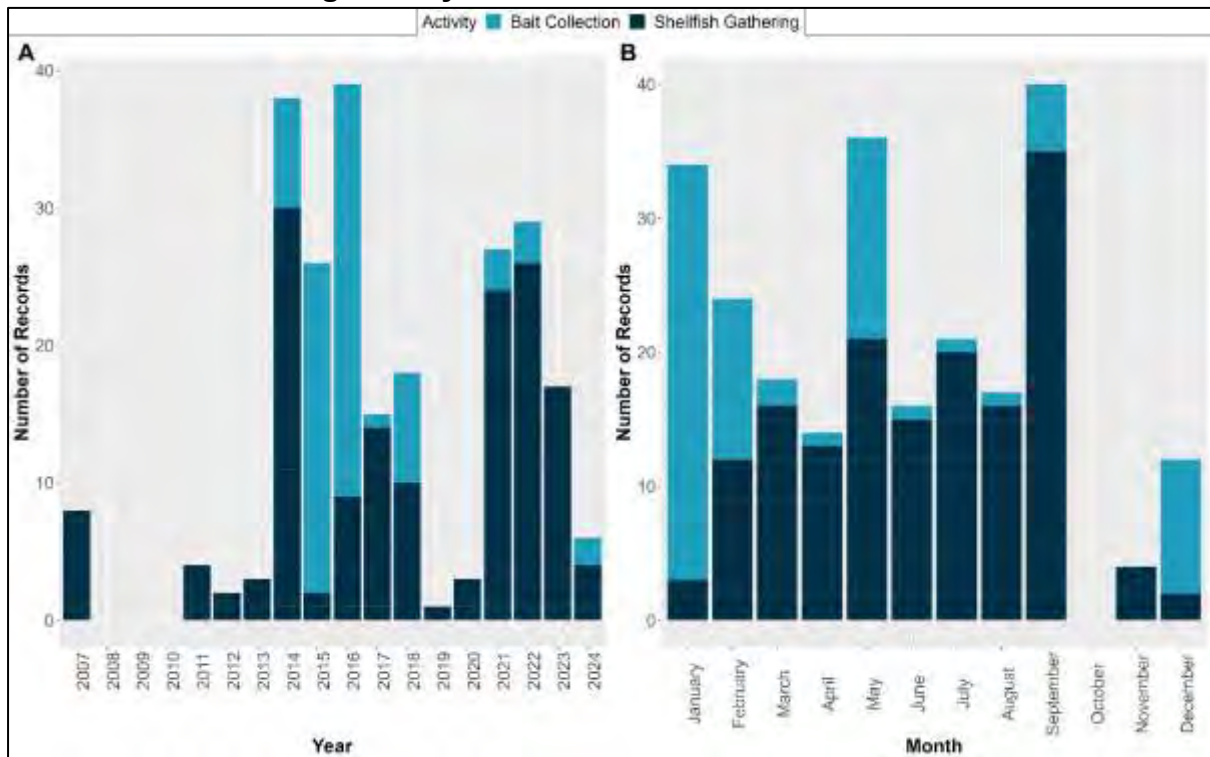


Figure 11 Records of shore gathering activity occurring in the Poole Harbour SPA.

Records of shore gathering activity in the Poole Harbour SPA date back to 2007 and are comprised of bait collection and shellfish gathering and are displayed in Figure 11A. Bait

digging activity appears to peak in 2015 and 2016 with 24 and 30 records respectively. However, this should be viewed with the understand that the data is based on Southern IFCA sightings data. Bait digging appears to mostly occur from December to January (Figure 11B) however this should also be considered in line with the data source.

Shellfish gathering peaked in 2014 with 30 records. Similar but lower levels were observed in 2021 and 2022 with 24 and 26 records respectively. Monthly records remain relatively consistent from February to August with a with between 12 and 20 records. Shellfish gathering peaks in September with a total of 35 records.

Spatial distribution is displayed in Figure 12. High density areas of shellfish gathering include Whitley Lake, Arne Bay, and Rockley Spit (East to West). High density areas of Bait collection include Blue Lagoon and Holes Bay (East to West). Note that some records will represent activity prior to the introduction of existing management measures.

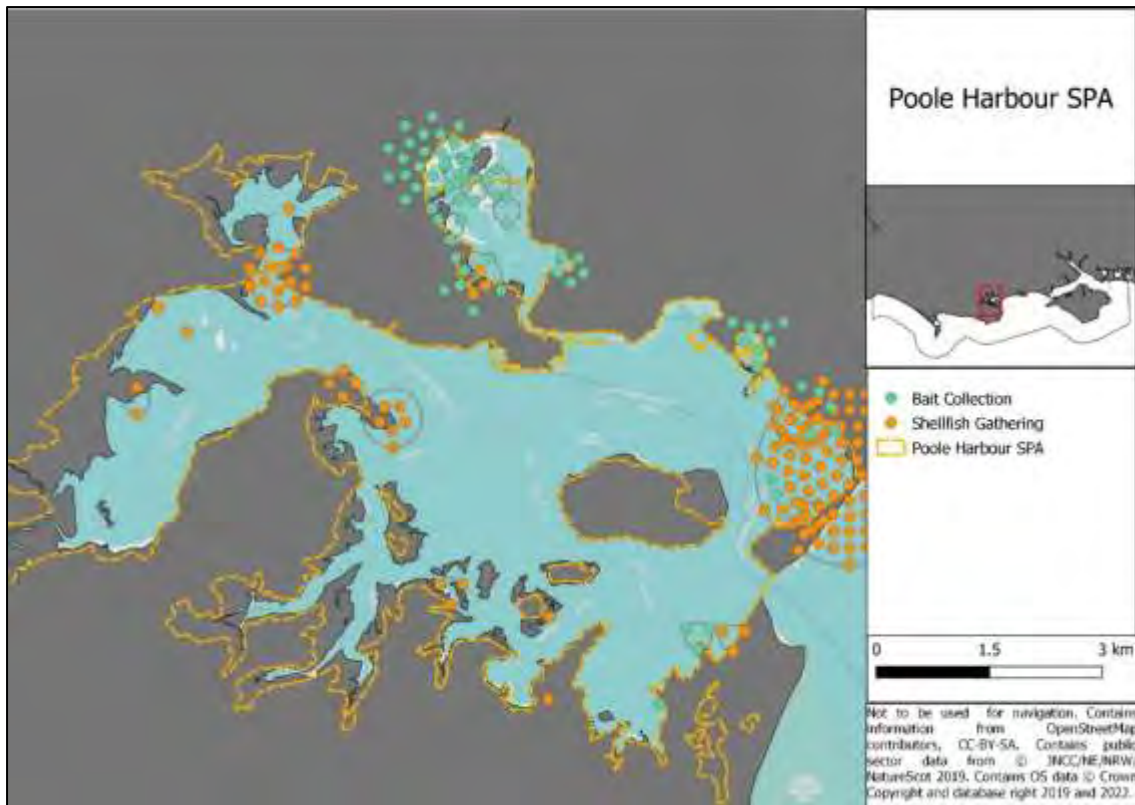


Figure 12 Spatial distribution of all shore gathering activity observed by Southern IFCA in the Poole Harbour SPA (boundary shown by the dashed yellow line) as of October 2023.

#### 2.1.4 Recorded catches within the SPA

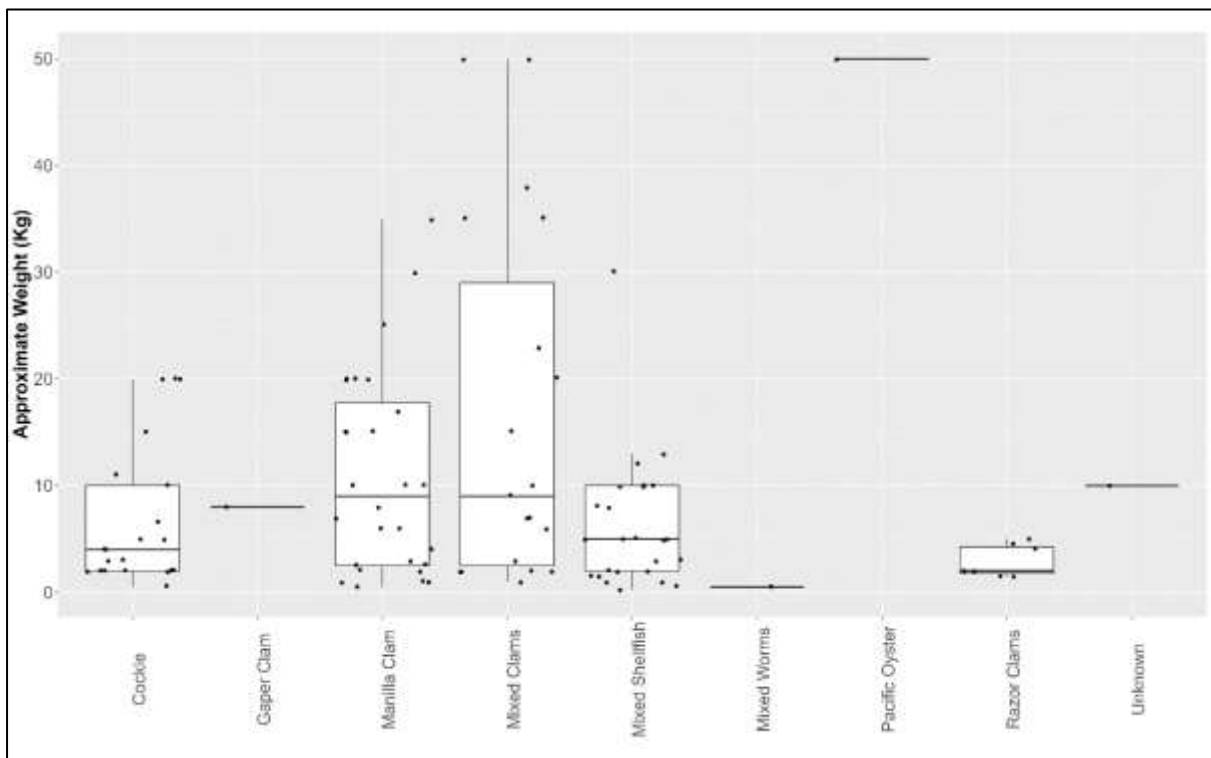


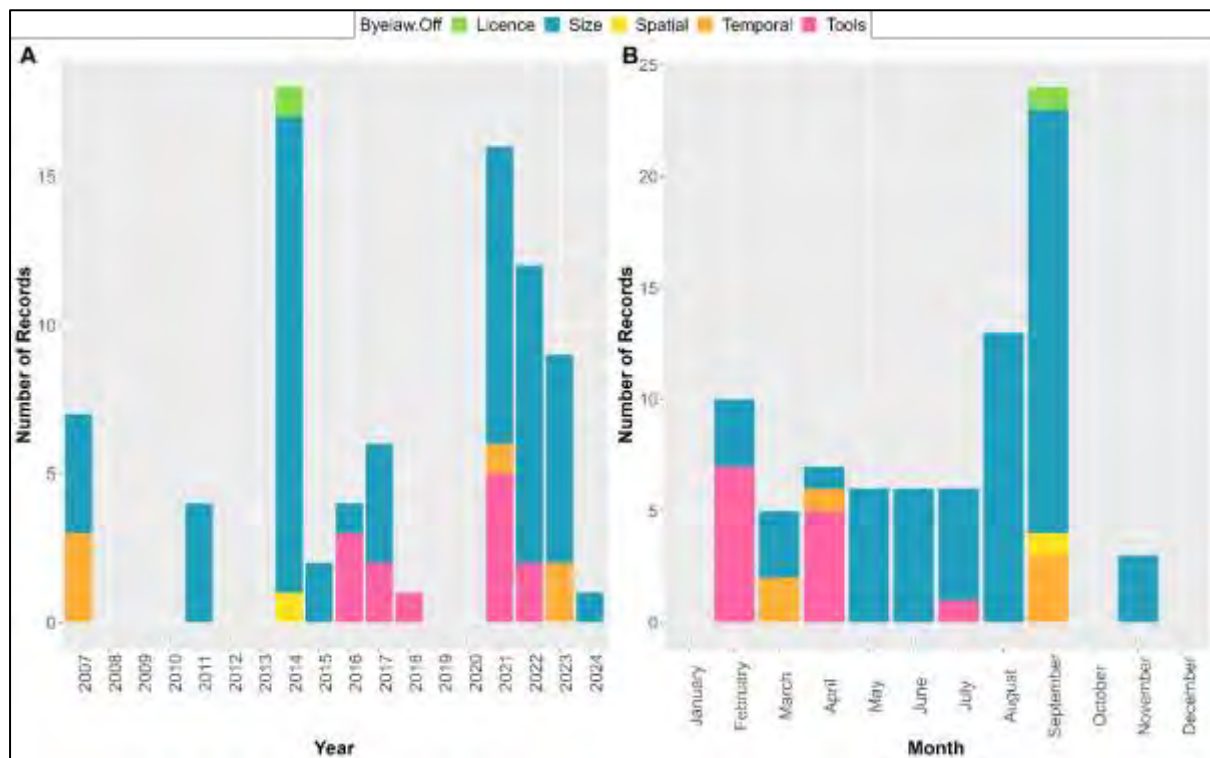
Figure 13 Approximate weight of catch associated with shore gathering activity in the Poole Harbour SPA.

Figure 13 displays the range of weights recorded on Southern IFCA search records of species caught through shore gathering activity (shellfish) in Poole Harbour SPA since 2007. Table 10 displays the mean weight for each species.

**Table 10 The mean weight of recorded catches associated with shore gathering activity in the Poole Harbour SPA.**

Species	Mean Weight (kg)
Cockle	6.71
Gaper Clam	8.00
Manila Clam	11.01
Mixed Clams	16.68
Mixed Shellfish	6.14
Mixed Worms	0.50
Pacific Oyster	50.00
Razor Clams	2.93
Unknown	10.00

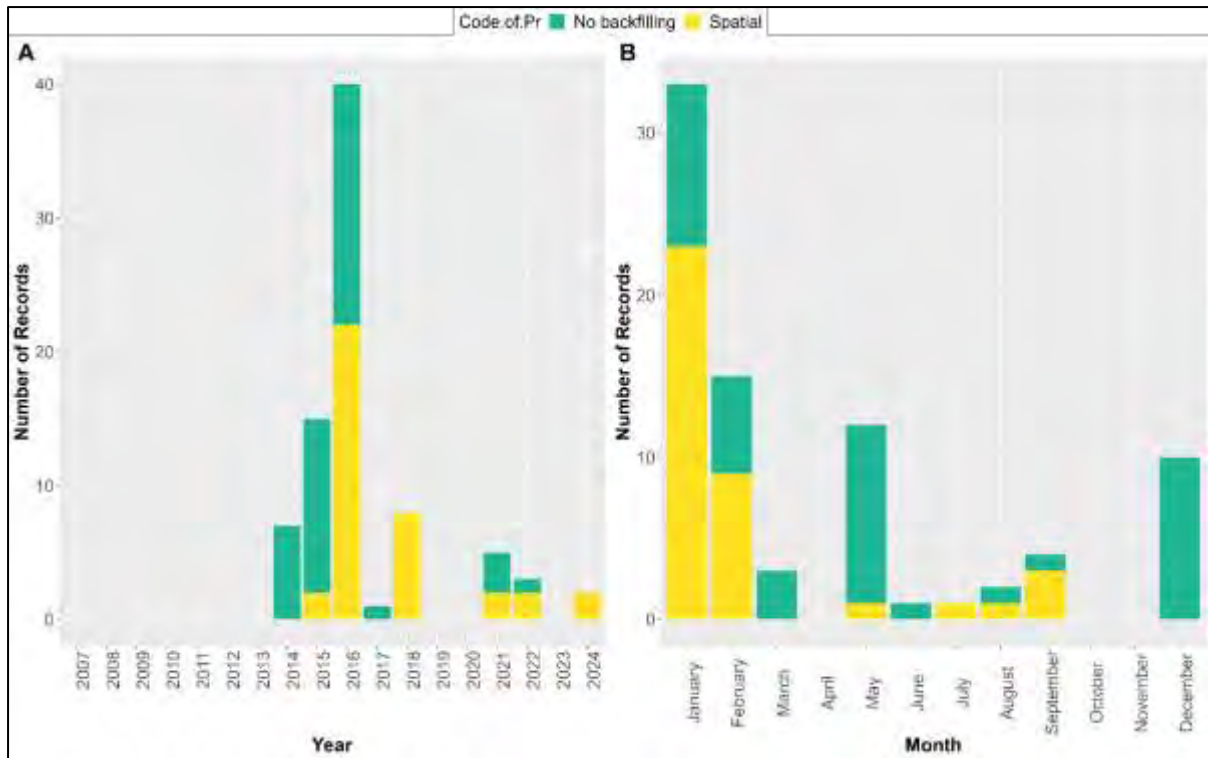
### 2.1.5 Recorded Offences within the SPA



**Figure 14 Recorded offences and the theme of infringement in the Poole Harbour SPA.**

Figure 14 A and B display the yearly and monthly trends in offences related to shore gathering activity within the Poole Harbour SPA since 2007. Offences peaked in 2014 with 18 records. Similar to the levels of activity discussed in section 2.1.3, offences peak at the end of the summer. In this case it is likely due to targeted patrol work occurring in September 2014.

Infringements relating to undersized species occur most frequently, followed by the use of tools. A summary of current shore gathering related management can be found in Sections 2.1.2 and 5.

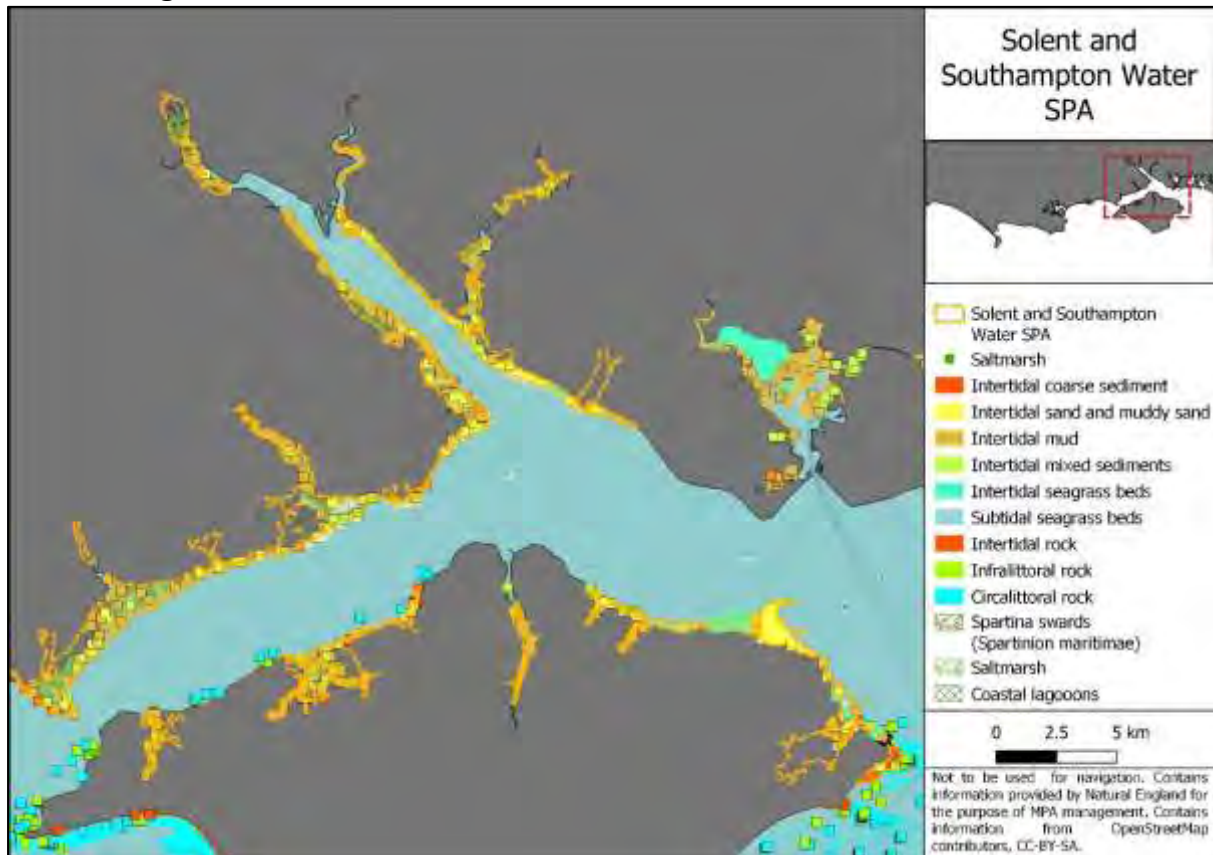


**Figure 15 Poole Harbour Bait Memorandum of Agreement infringements by theme**

There are 81 recorded infringements of the Pool Harbour MoA recorded in IFCA search and intelligence records. The majority of recorded infringements relate to digging in permanent or seasonal spatial closures and are displayed in Figure 15.

## 2.2 Solent and Southampton Water SPA

### 2.2.1 Designated Features of the SPA



**Figure 16** The location and extent of the supporting habitats of the Solent and Southampton Water SPA (boundary shown by the dashed yellow line).

The Solent and Southampton Water SPA reaches from Hurst Spit in the West to Hill Head in the East, covering sections of the Hampshire coastline and the north coast of the Isle of Wight. The SPA covers 54 km<sup>2</sup> of estuarine habitats that support a range of invertebrates and migratory birds<sup>7</sup>. The qualifying features and their supporting habitats are displayed in Figure 16 and Table 11.

**Table 11** Qualifying features and their supporting habitats in the Solent and Southampton Water SPA

Qualifying Features	Black-tailed godwit ( <i>Limosa limosa islandica</i> ), Non-breeding
	Common tern ( <i>Sterna hirundo</i> ), Breeding
	Dark-bellied brent goose ( <i>Branta bernicla bernicla</i> ), Non-breeding
	Little tern ( <i>Sternula albifrons</i> ), Breeding
	Mediterranean gull ( <i>Ichthyaeus melanocephalus</i> ), Breeding
	Ringed plover ( <i>Charadrius hiaticula</i> ), Non-breeding
	Roseate tern ( <i>Sterna dougallii</i> ), Breeding
	Sandwich tern ( <i>Thalasseus sandvicensis</i> ), Breeding
	Teal ( <i>Anas crecca</i> ), Non-breeding
	Waterbird assemblage, Non-breeding
Supporting Habitats	Coastal Lagoon
	Coastal Reedbed

<sup>7</sup> <https://designatedsites.naturalengland.org.uk/>

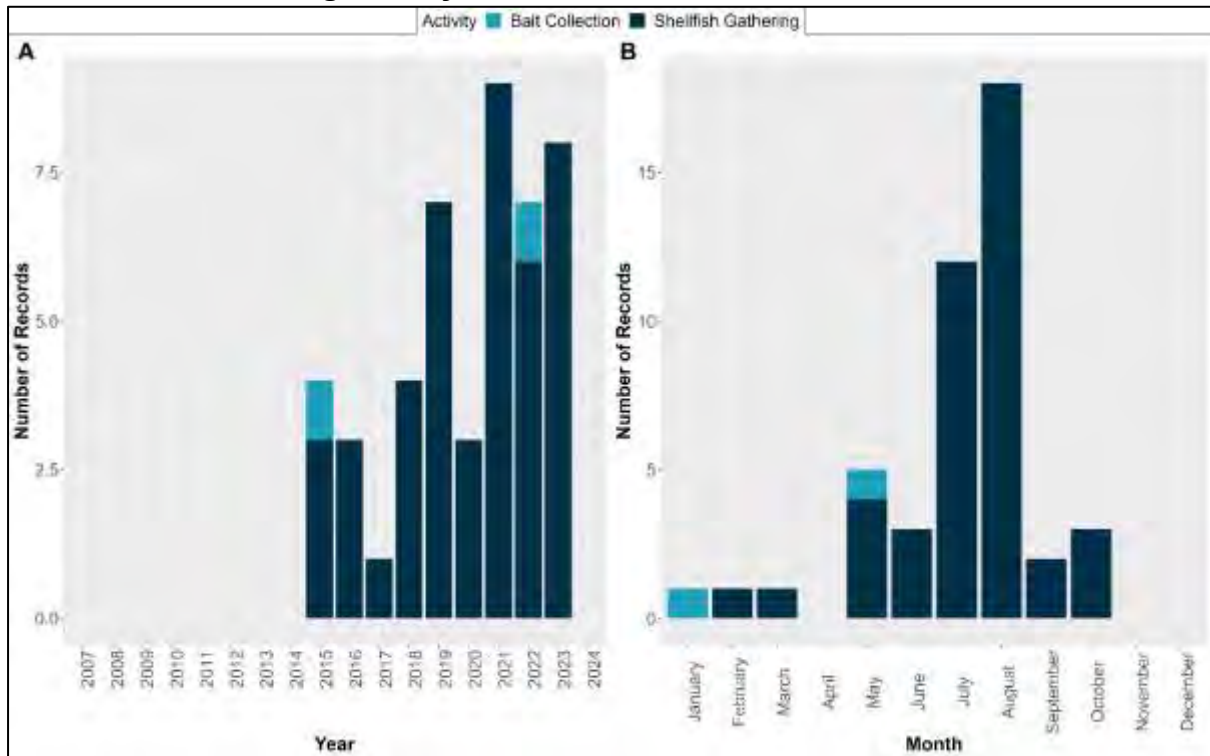


Freshwater And Coastal Grazing Marsh
Salicornia And Other Annuals Colonising Mud And Sand
Atlantic Salt Meadows
Spartina Swards
Intertidal Seagrass Beds
Intertidal Rock
Intertidal Coarse Sediment
Intertidal Mixed Sediments
Intertidal Mud
Intertidal Sand And Muddy Sand
Infralittoral Rock
Subtidal Seagrass Beds
Cirralittoral Rock
Water Column

### 2.2.2 Existing Shore Gathering Management Specific to the SPA

The Prohibition of Gathering (Sea Fisheries Resources) in Seagrass Beds Byelaw defines a schedule of 29 prohibited areas within the district to protect seagrass beds. No person shall dig for or take sea fisheries resources from any prohibited area nor be in the prohibited areas with a rake, spade, fork, or similar tool. Areas 15-23 and area 25 overlap with the Solent and Southampton Water SPA.

### 2.2.3 Shore Gathering activity in the SPA



**Figure 17 Records of shore gathering activity occurring in the Solent and Southampton Water SPA.**

Figure 17 displays records of shore gathering activity occurring in the Solent and Southampton Water SPA. Shellfish gathering is the most commonly occurring activity in the Solent and Southampton Water SPA. With Peaks occurring in 2021 and in the months of July and August.

Figure 18 displays the spatial distribution of all shore gathering activity observed by Southern IFCA in the Solent and Southampton Water SPA. The area of highest levels of activity is Hill Head.

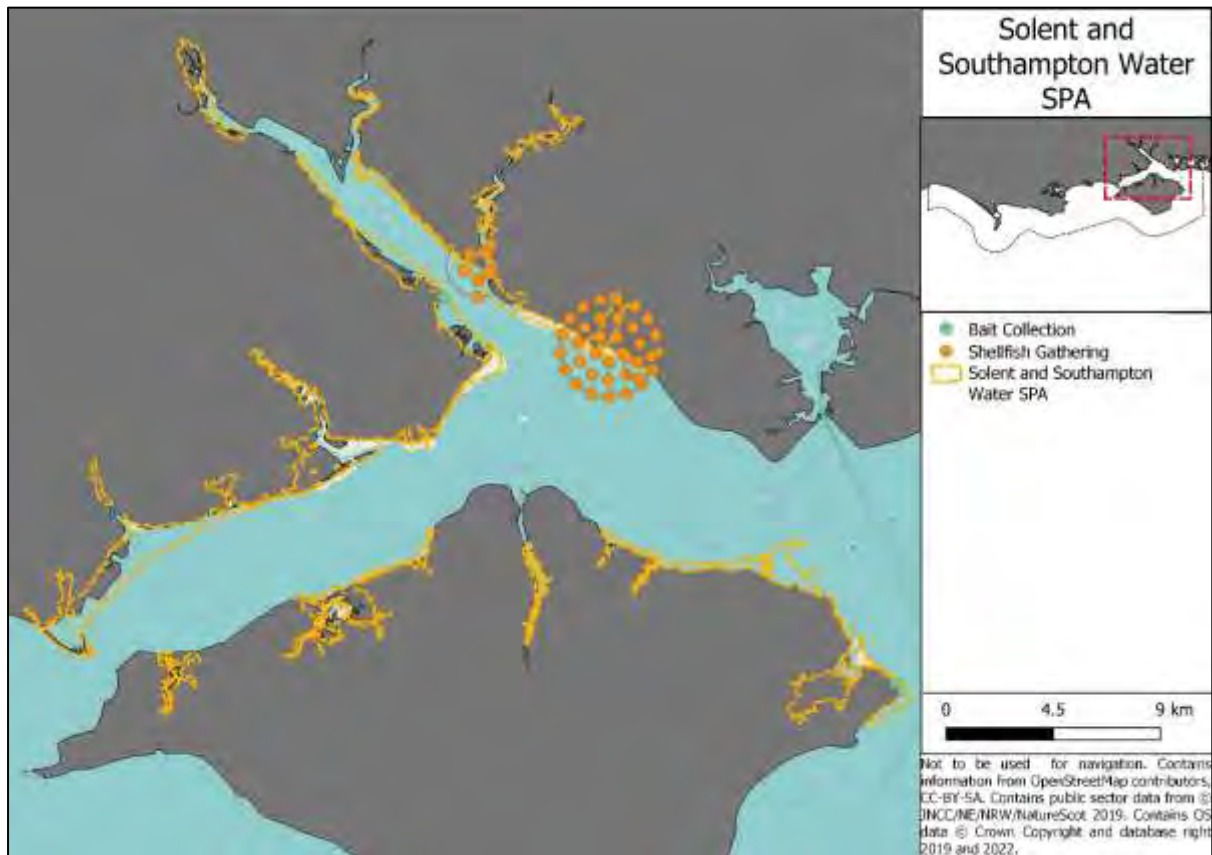
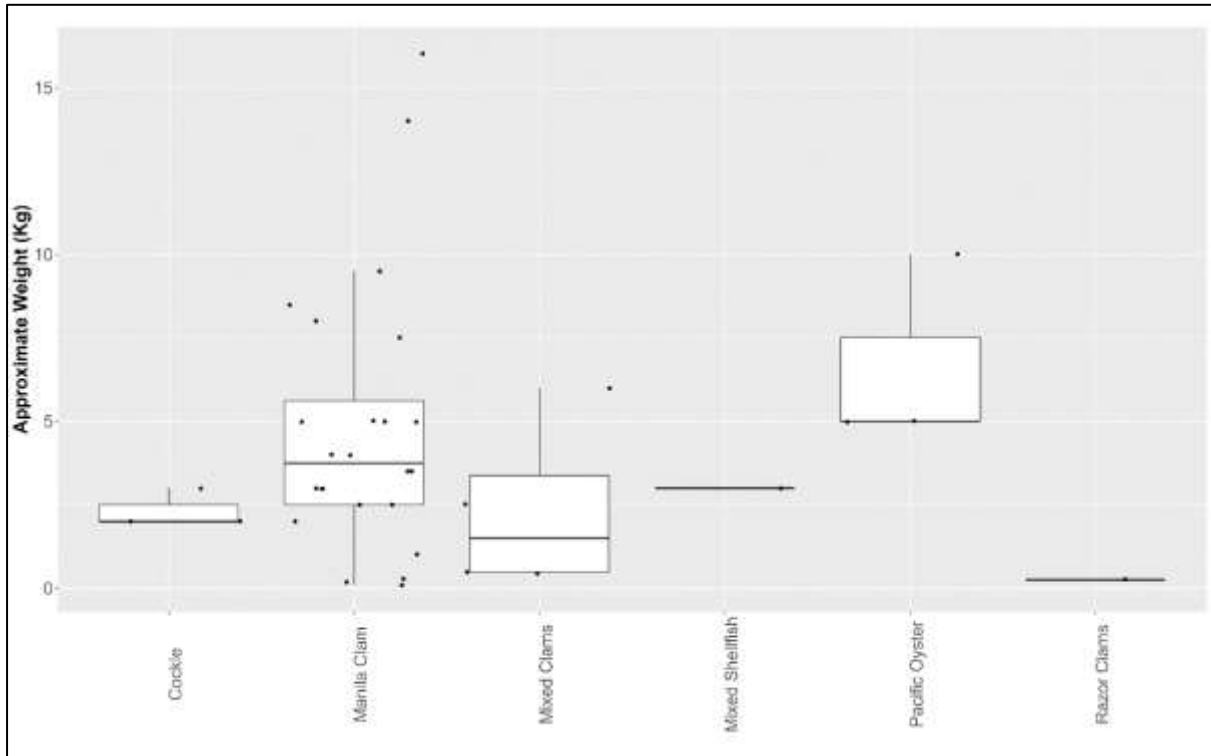


Figure 18 Spatial distribution of all shore gathering activity observed by Southern IFCA in the Solent and Southampton Water SPA (boundary shown by the dashed yellow line) as of October 2023.



## 2.2.4 Recorded catches within the SPA



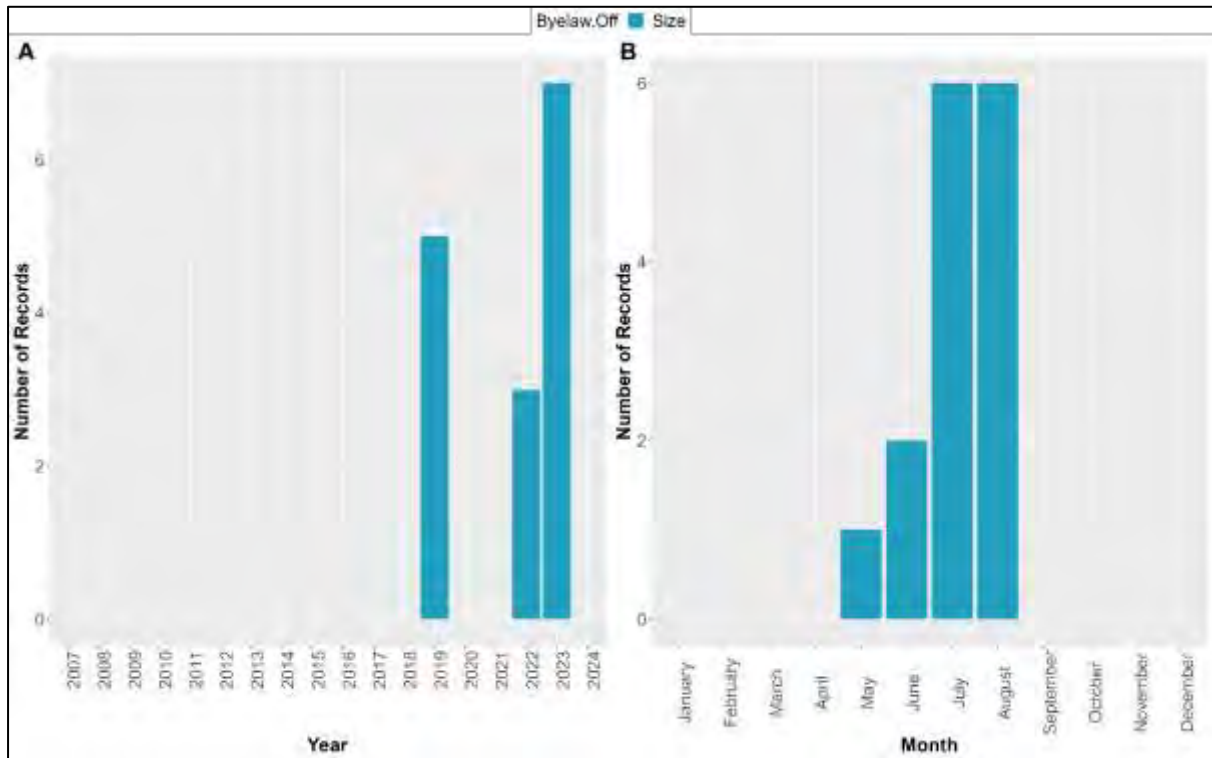
**Figure 19** Approximate weight of catch associated with shore gathering activity in the Solent and Southampton Water SPA.

Figure 19 displays the range of weights recorded on Southern IFCA search records carried out in the Solent and Southampton Water SPA since 2015. Table 12 displays the mean weight for each species.

**Table 12** The mean weight of recorded catches associated with shore gathering activity in the Solent and Southampton Water SPA.

Species	Mean Weight (kg)
Cockle	2.33
Manila Clam	4.83
Mixed Clams	2.36
Mixed Shellfish	3.00
Pacific Oyster	6.67
Razor Clams	0.25

### 2.2.5 Recorded Offences within the SPA

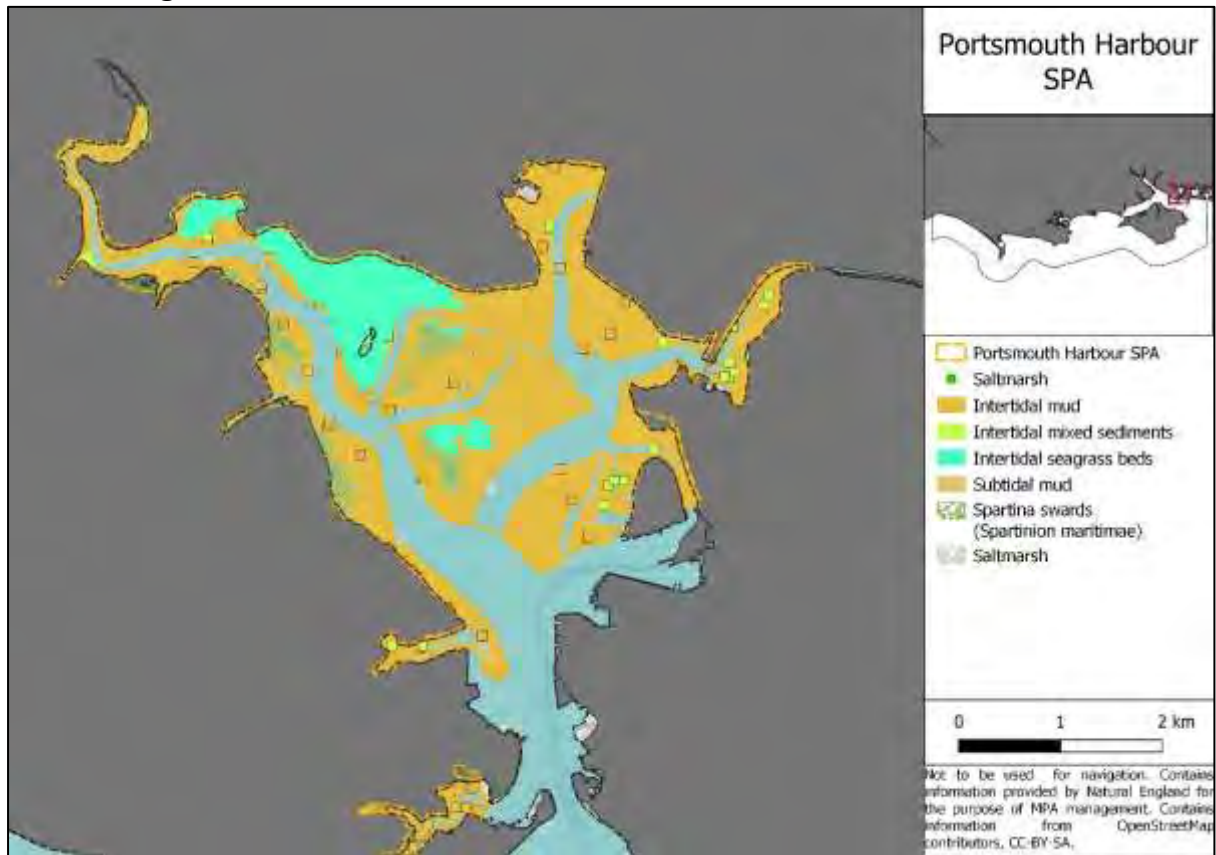


**Figure 20 Recorded offences and the theme of infringement in the Solent and Southampton Water SPA.**

Figure 20 displays recorded offences related to shore gathering activity within the Solent and Southampton Water SPA. All records of offences relating to shore gathering activities in the Solent and Southampton Water SPA have been in relation to Minimum Conservation Reference Size. With the peak number of offences occurring in 2023.

## 2.3 Portsmouth Harbour SPA

### 2.3.1 Designated Features of the SPA



**Figure 21** The location and extent of the supporting habitats of the Portsmouth Harbour SPA (boundary shown by the dashed yellow line).

Portsmouth Harbour is important habitat for large numbers of nationally and internationally important bird species. The SPA covers 13 km<sup>2</sup> and the qualifying features and their supporting habitats are displayed in Figure 21 and Table 13<sup>8</sup>.

**Table 13** The qualifying features and supporting habitats of the Portsmouth Harbour SPA.

Qualifying Features	Black-tailed godwit ( <i>Limosa limosa islandica</i> ), Non-breeding
	Dark-bellied brent goose ( <i>Branta bernicla bernicla</i> ), Non-breeding
	Dunlin ( <i>Calidris alpina alpina</i> ), Non-breeding
	Red-breasted merganser ( <i>Mergus serrator</i> ), Non-breeding
Supporting Habitats	Coastal Lagoon
	Freshwater And Coastal Grazing Marsh
	Salicornia And Other Annuals Colonising Mud And Sand
	Atlantic Salt Meadows
	Spartina Swards
	Intertidal Seagrass Beds
	Intertidal Mixed Sediments
	Intertidal Mud
	Subtidal Mud
Water Column	

<sup>8</sup> <https://designatedsites.naturalengland.org.uk/>

### 2.3.2 Existing Shore Gathering Management Specific to the SPA

The Prohibition of Gathering (Sea Fisheries Resources) in Seagrass Beds Byelaw defines a schedule of 29 prohibited areas within the district to protect seagrass beds. No person shall dig for or take sea fisheries resources from any prohibited area nor be in the prohibited areas with a rake, spade, fork, or similar tool. Areas 8-14 are within the Portsmouth Harbour SPA.

### 2.3.3 Shore Gathering activity in the SPA

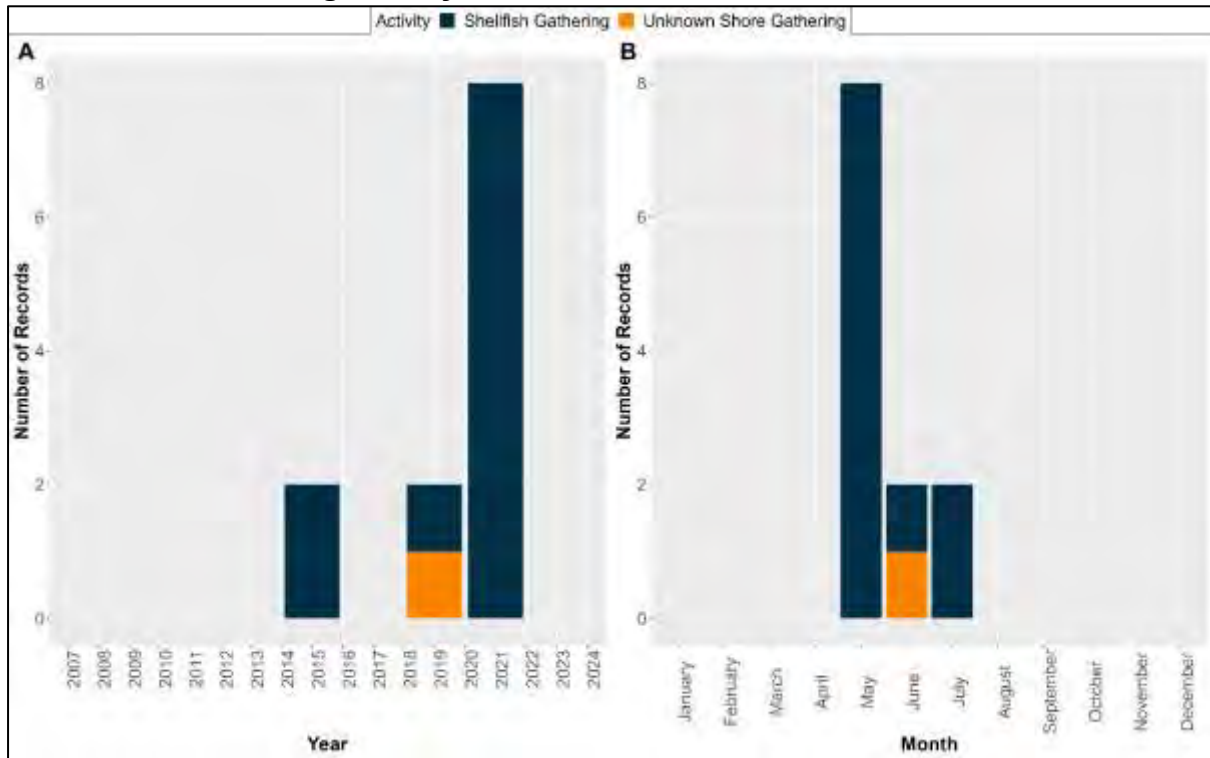


Figure 22 Records of shore gathering activity occurring in the Portsmouth Harbour SPA.

Figure 22 displays annual and monthly trends in shore gathering activity within the Portsmouth Harbour SPA. The majority of shore gathering records indicate shellfish gathering is the most common shore gathering activity occurring in the Portsmouth Harbour SPA.

Figure 23 displays the spatial distribution of all shore gathering activity observed by Southern IFCA in the Portsmouth Harbour SPA as of October 2023. The area with the highest density of activity is to the west of Portchester Castle.

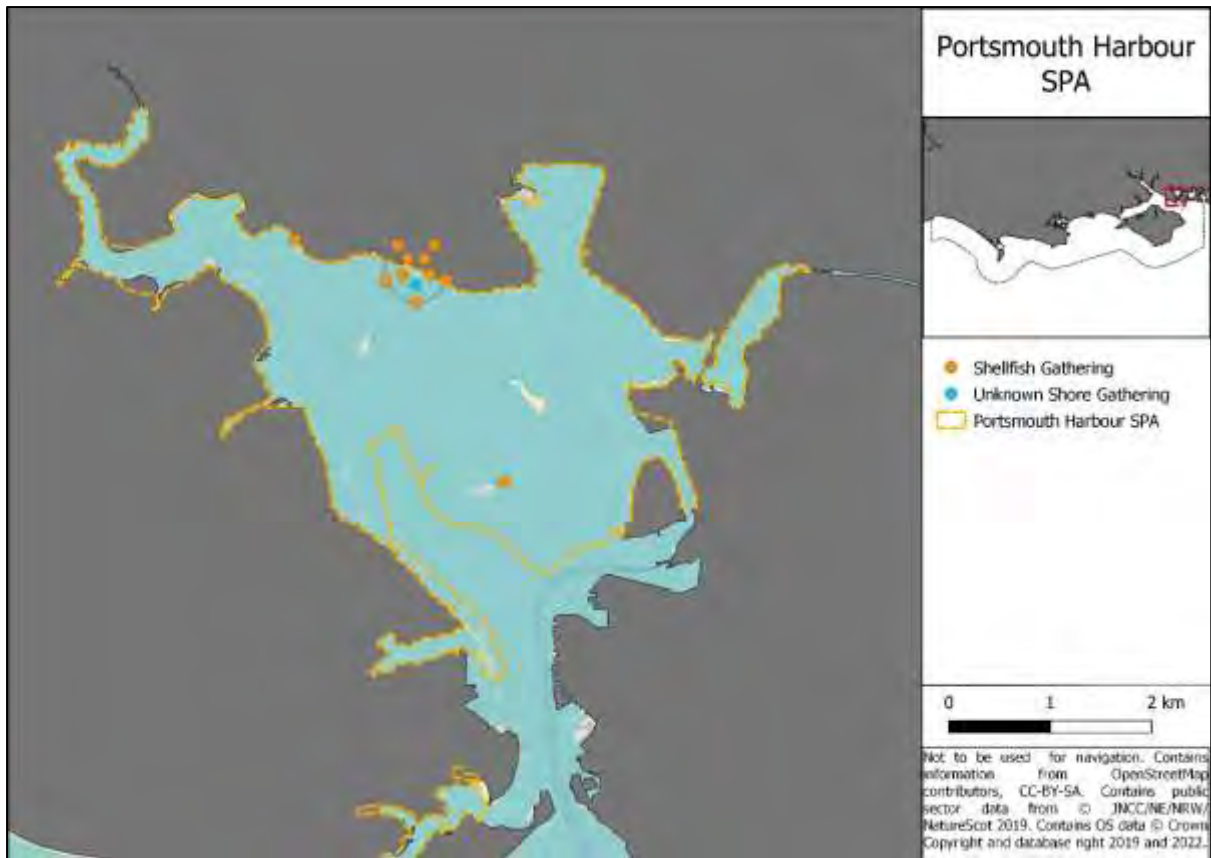


Figure 23 Spatial distribution of all shore gathering activity observed by Southern IFCA in the Portsmouth Harbour SPA (boundary shown by the dashed yellow line) as of October 2023.

#### 2.3.4 Recorded catches within the SPA

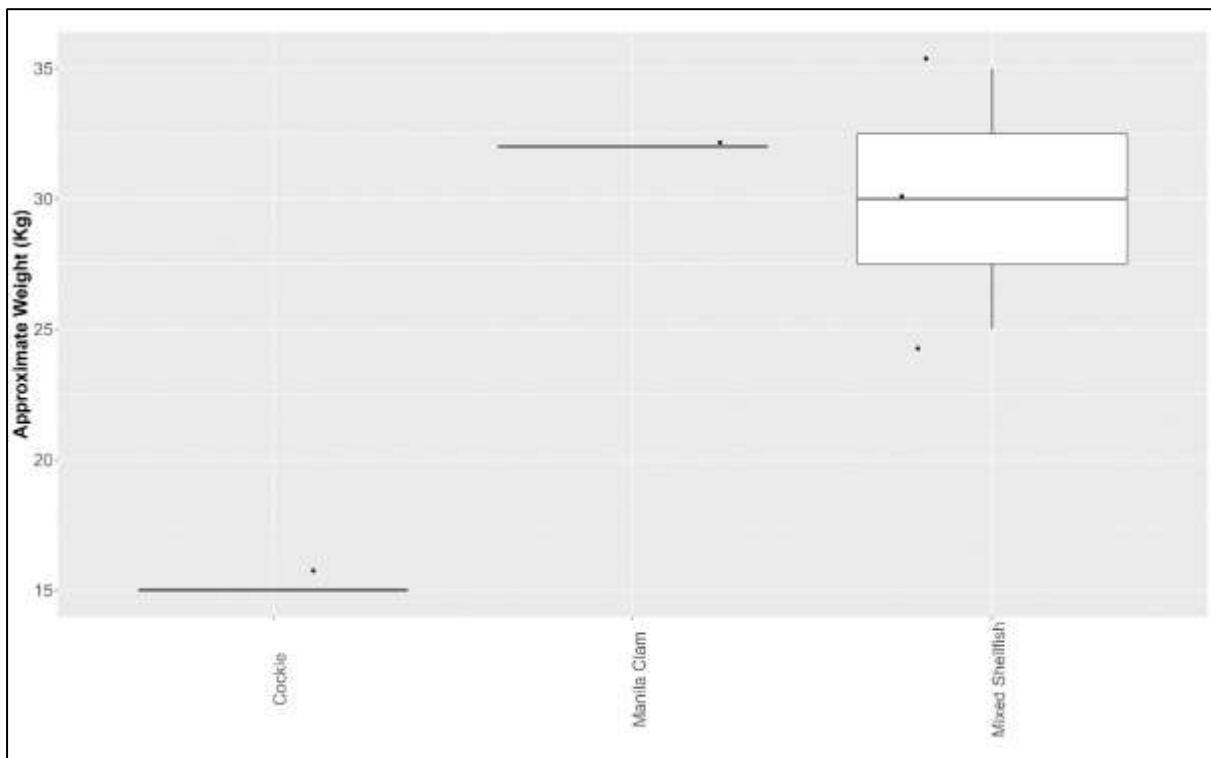


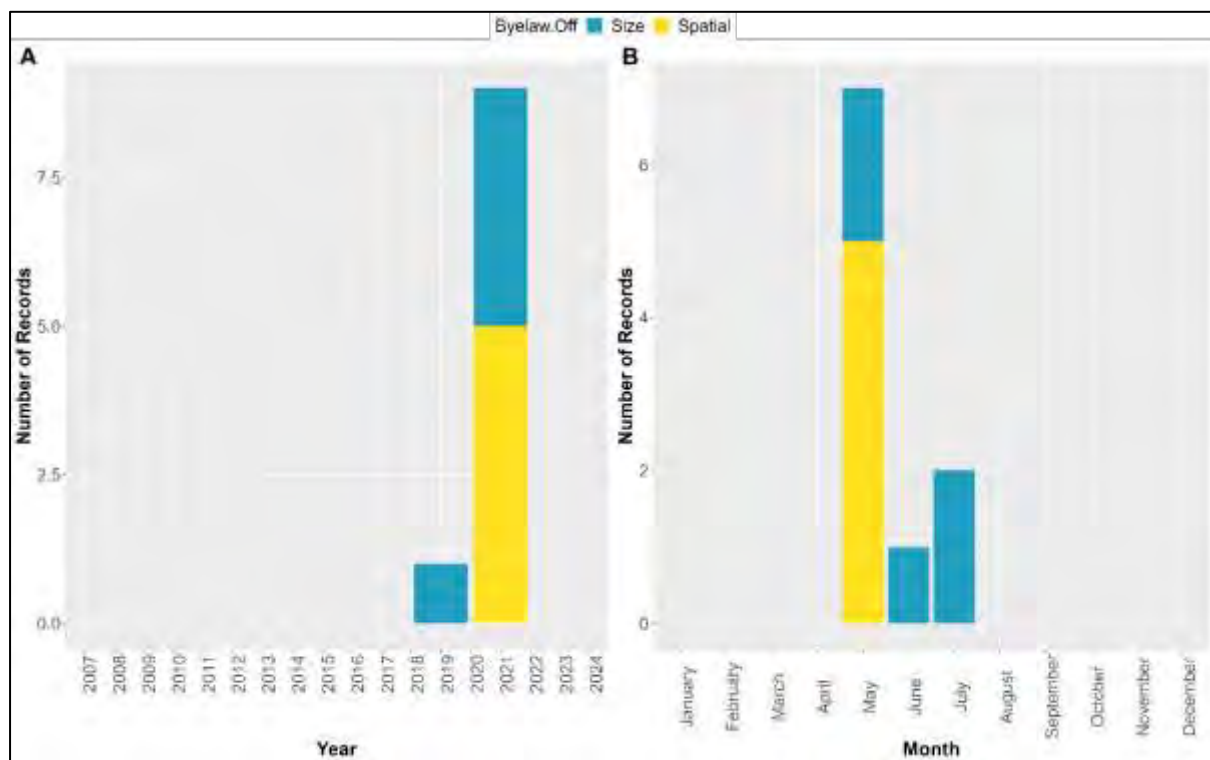
Figure 24 Approximate weight of catch associated with shore gathering activity in the Portsmouth Harbour SPA.

There are limited records on weights of catch from shore gathering activities however the limited records indicate generally higher means than other MPAs. The range of weights and mean weights are displayed in Figure 24 and Table 14 respectively.

**Table 14 The mean weight of recorded catches associated with shore gathering activity in the Portsmouth Harbour SPA.**

Species	Mean Weight (kg)
Cockle	15.00
Manila Clam	32.00
Mixed Shellfish	30.00

### 2.3.5 Recorded Offences within the SPA



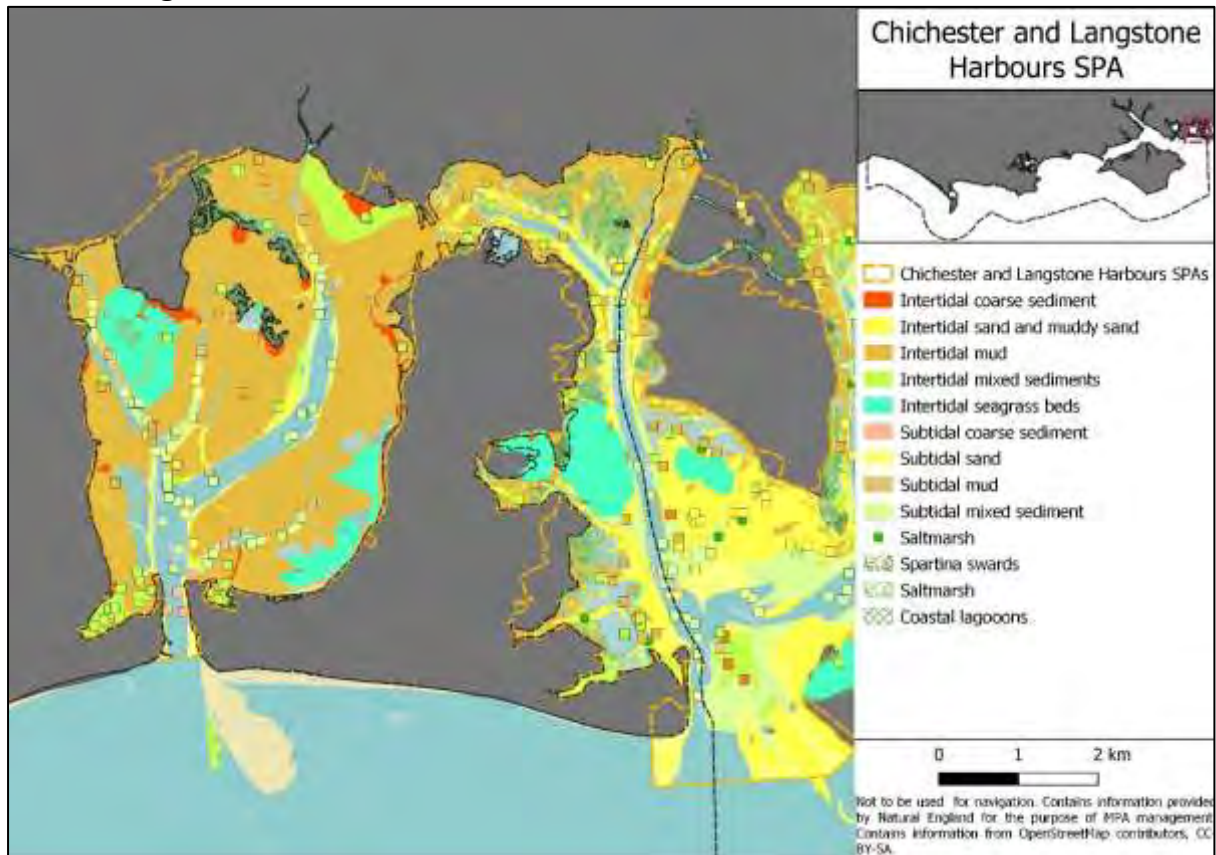
**Figure 25 Recorded offences and the theme of infringement in the Portsmouth Harbour SPA.**

Figure 25 displays all recorded offences related to shore gathering activity within the Portsmouth Harbour SPA. A peak record of offences occurred in 2021, 5 spatial and 4 MCRS offences. Regulations relating to shore gathering activity in the Portsmouth Harbour SPA are discussed in section 2.3.2 and 5.



## 2.4 Chichester and Langstone Harbour SPA

### 2.4.1 Designated Features of the SPA



**Figure 26** The location and extent of the supporting habitats of the Chichester and Langstone Harbour SPA (boundary shown by the dashed yellow line).

Chichester and Langstone Harbour covers two estuary basins with large mudflats and sandflats. The habitats support large numbers of overwintering birds with the SPA covering an area of 58 km<sup>2</sup>. The qualifying features and supporting habitats are displayed in Figure 26 and Table 15.

**Table 15** Qualifying habitats and their supporting habitats within Chichester and Langstone SPA.

Qualifying Features	Bar-tailed godwit ( <i>Limosa lapponica</i> ), Non-breeding
	Common tern ( <i>Sterna hirundo</i> ), Breeding
	Curlew ( <i>Numenius arquata</i> ), Non-breeding
	Dark-bellied brent goose ( <i>Branta bernicla bernicla</i> ), Non-breeding
	Dunlin ( <i>Calidris alpina alpina</i> ), Non-breeding
	Grey plover ( <i>Pluvialis squatarola</i> ), Non-breeding
	Little tern ( <i>Sternula albifrons</i> ), Breeding
	Pintail ( <i>Anas acuta</i> ), Non-breeding
	Red-breasted merganser ( <i>Mergus serrator</i> ), Non-breeding
	Redshank ( <i>Tringa totanus</i> ), Non-breeding
	Ringed plover ( <i>Charadrius hiaticula</i> ), Non-breeding
	Sanderling ( <i>Calidris alba</i> ), Non-breeding
	Sandwich tern ( <i>Thalasseus sandvicensis</i> ), Breeding
	Shelduck ( <i>Tadorna tadorna</i> ), Non-breeding
	Shoveler ( <i>Spatula clypeata</i> ), Non-breeding

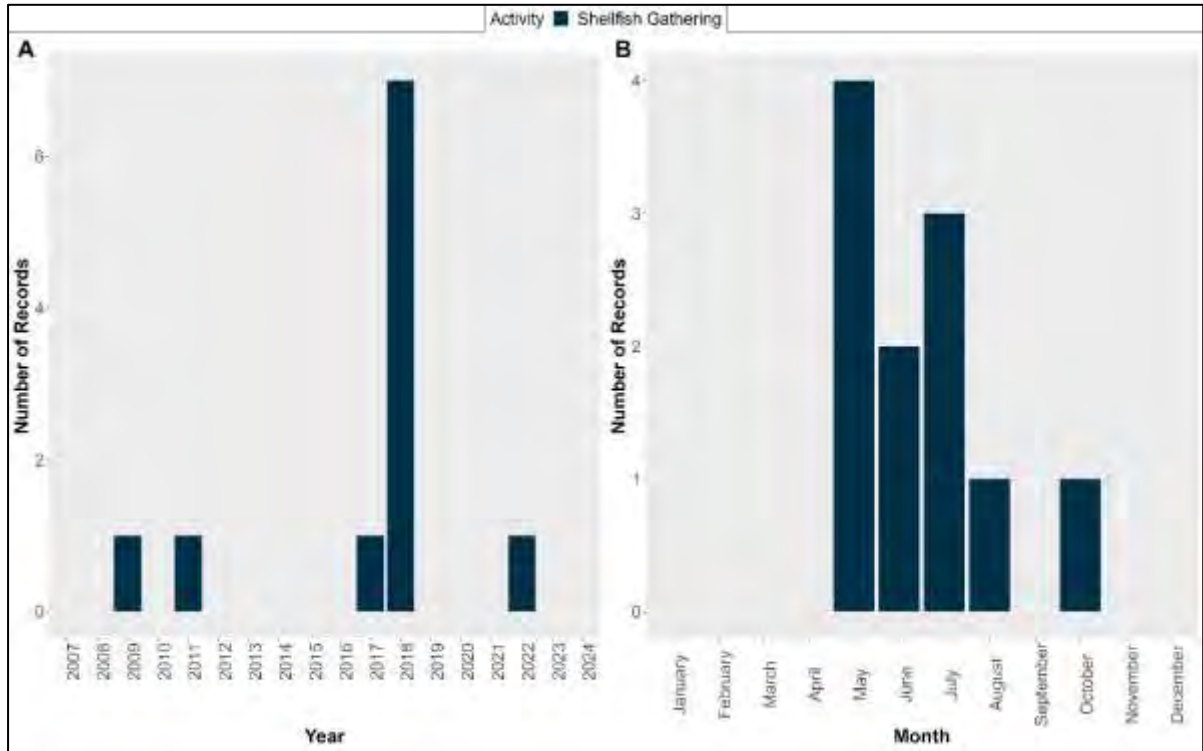
	Teal ( <i>Anas crecca</i> ), Non-breeding
	Turnstone ( <i>Arenaria interpres</i> ), Non-breeding
	Waterbird assemblage, Non-breeding
	Wigeon ( <i>Mareca penelope</i> ), Non-breeding
	Shoveler ( <i>Spatula clypeata</i> ), Non-breeding
Supporting Habitats	Coastal Lagoon
	Coastal Reedbed
	Freshwater and Coastal Grazing Marsh
	Salicornia and Other Annuals Colonising Mud and Sand
	Atlantic Salt Meadows
	Spartina Swards
	Intertidal Seagrass Beds
	Intertidal Rock
	Intertidal Coarse Sediment
	Intertidal Mixed Sediments
	Intertidal Mud
	Intertidal Sand and Muddy Sand
	Subtidal Coarse Sediment
	Subtidal Mixed Sediment
	Subtidal Mud
	Subtidal Sand
Water Column	

#### 2.4.2 Existing Shore Gathering Management Specific to the SPA

The Prohibition of Gathering (Sea Fisheries Resources) in Seagrass Beds Byelaw defines a schedule of 29 prohibited areas within the district to protect seagrass beds. No person shall dig for or take sea fisheries resources from any prohibited area nor be in the prohibited areas with a rake, spade, fork or similar tool. Areas 1-7 are within the Chichester and Langstone Harbours SPA.

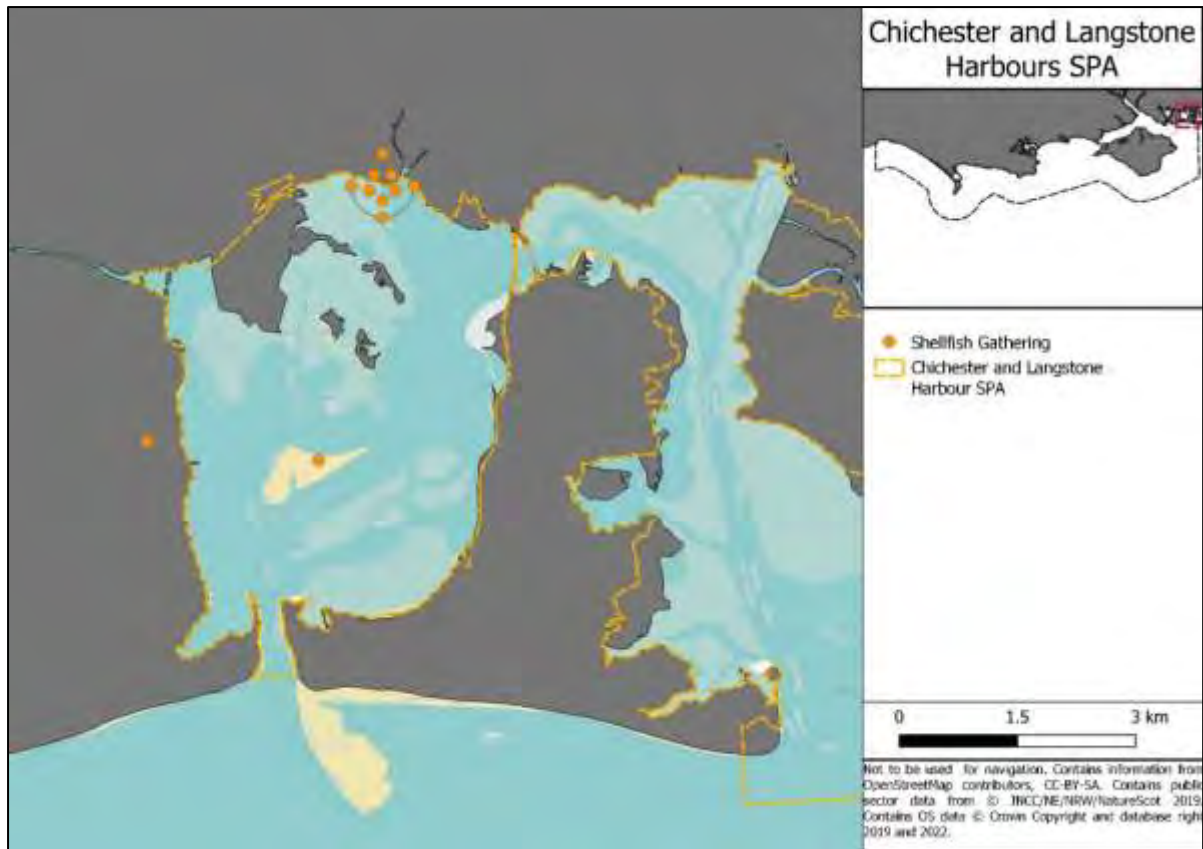


### 2.4.3 Shore Gathering activity in the SPA



**Figure 27 Records of shore gathering activity occurring in the Chichester and Langstone Harbour SPA.**

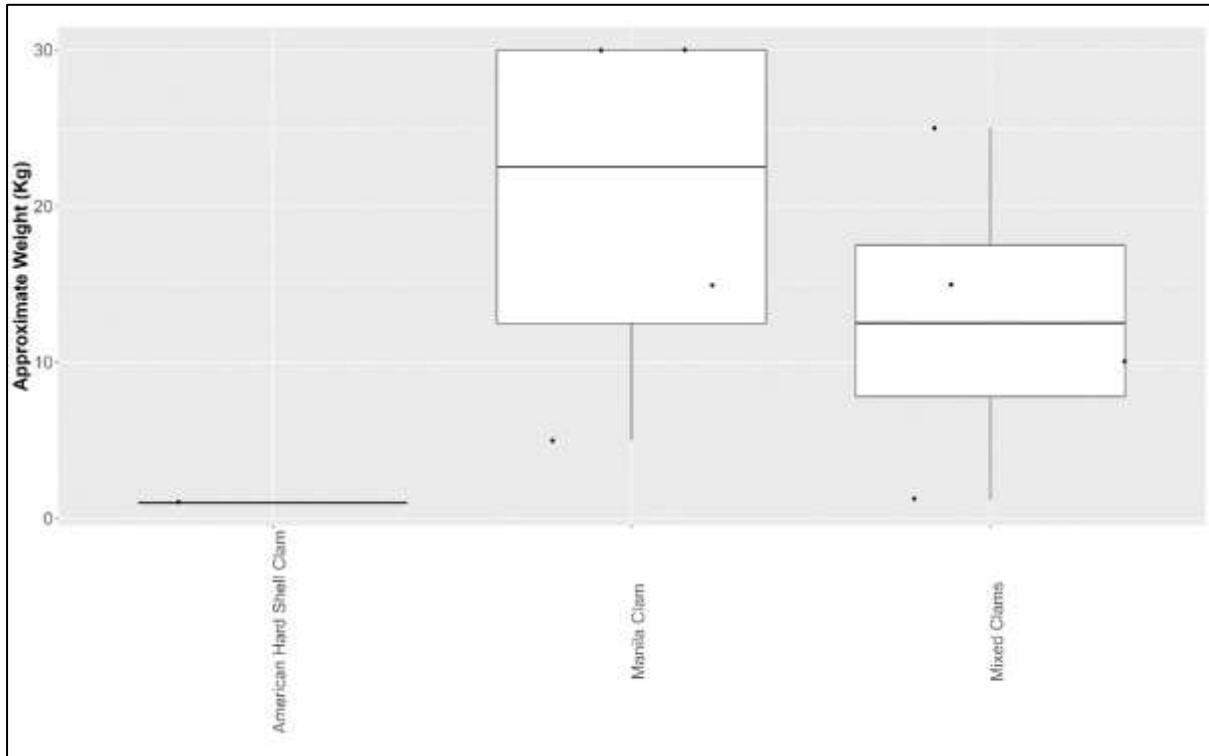
Figure 27 displays all records of shore gathering activity occurring within the Chichester and Langstone Harbour SPA. Activity in the Chichester and Langstone Harbours SPA is limited to shellfish gathering with a peak in 2018 of 6 records.



**Figure 28 Spatial distribution of all shore gathering activity observed by Southern IFCA in the Chichester and Langstone Harbour SPA (boundary shown by the dashed yellow line) as of October 2023.**

Figure 28 displays the Spatial distribution of all shore gathering activity observed by Southern IFCA in the Chichester and Langstone Harbours SPA. The area with the highest density of activity is between Chaldock Lake and Broadmarsh Coastal Park.

#### 2.4.4 Recorded catches within the SPA



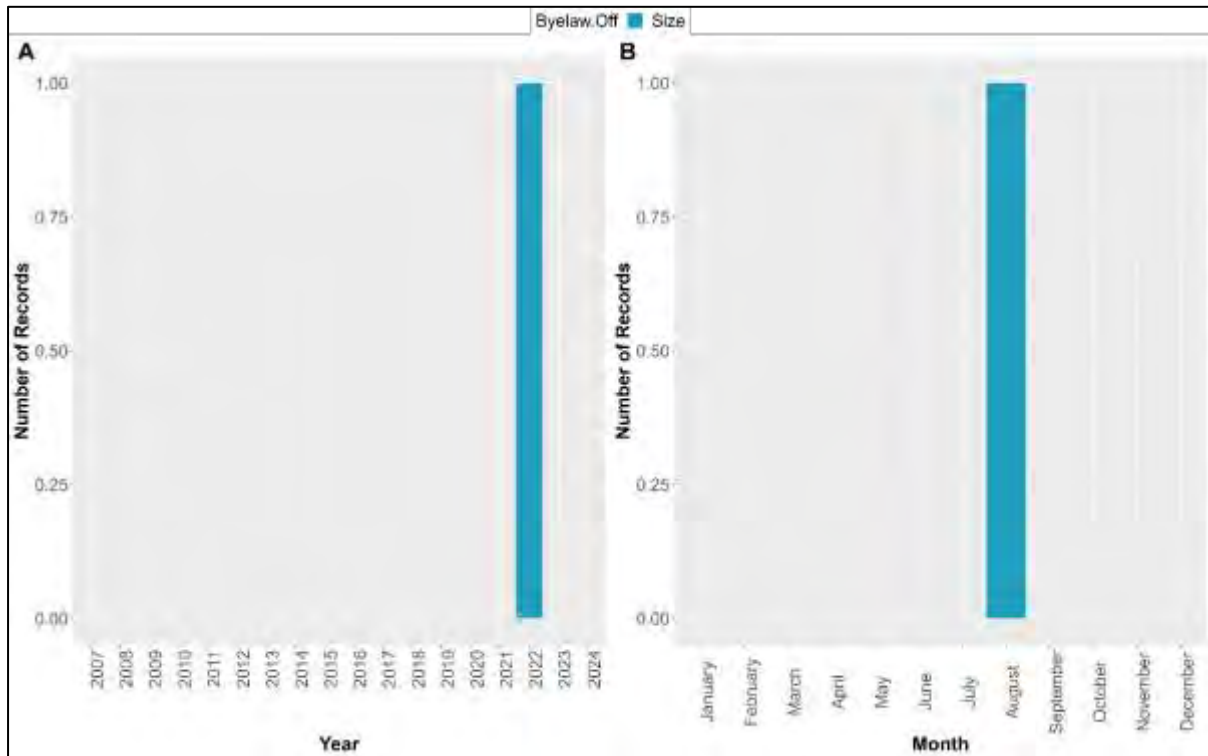
**Figure 29** Approximate weight of catch associated with shore gathering activity in the Chichester and Langstone Harbour SPA.

Figure 29 and Table 16 display a summary of recorded catch weights from shore gathering activity within the Chichester and Langstone Harbour SPA.

**Table 16** The mean weight of recorded catches associated with shore gathering activity in the Chichester and Langstone Harbour SPA.

Species	Mean Weight (kg)
American Hard-Shell Clam	1.00
Manila Clam	20.00
Mixed Clams	12.80

### 2.4.5 Recorded Offences within the SPA



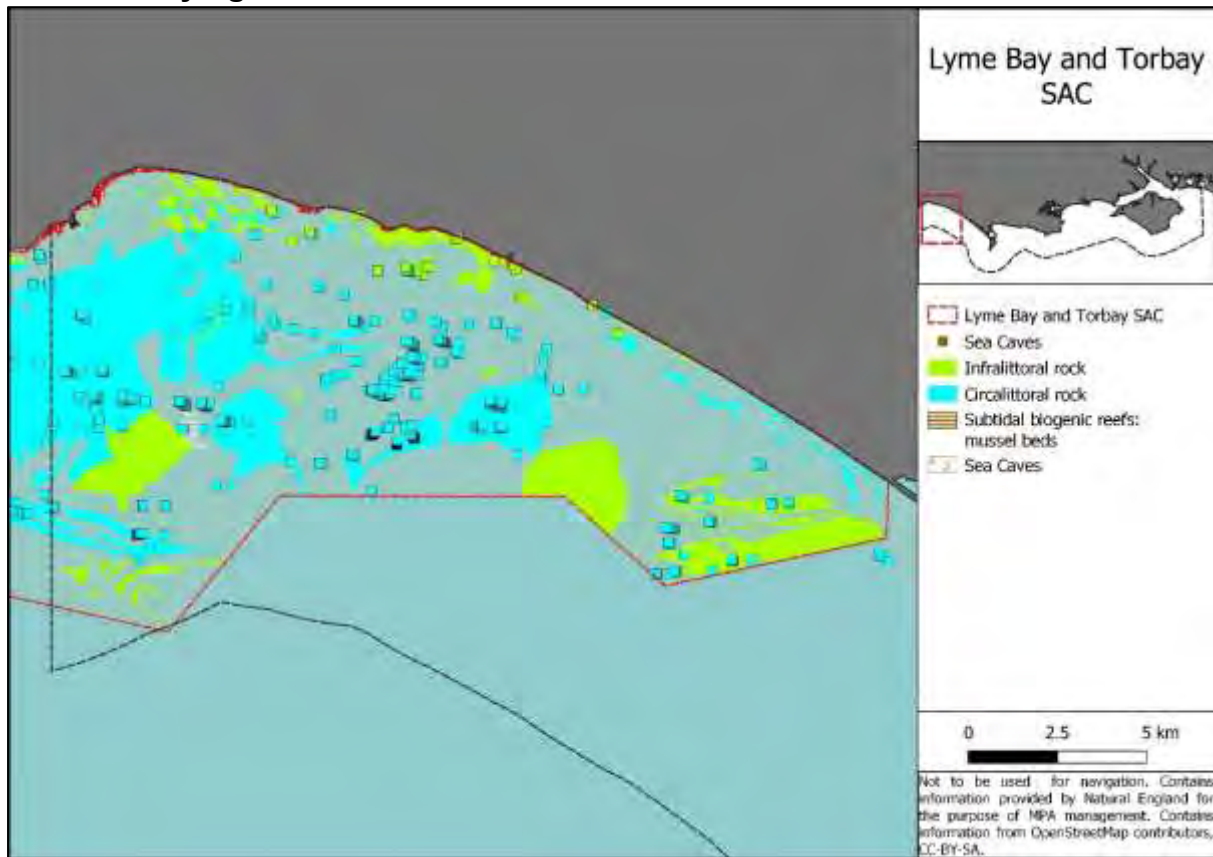
**Figure 30 Recorded offences and the theme of infringement in the Chichester and Langstone Harbour SPA.**

There has been only one recorded offence associated with shore gathering activity in the Chichester and Langstone Harbour SPA. The offence is displayed in Figure 30 and relates to a MCRS infringement.

### 3. Special Areas of Conservation (SAC)

#### 3.0 Lyme Bay and Torbay SAC

##### 3.0.1 Qualifying Features of the SAC



**Figure 31** The location and extent of the supporting habitats of the Lyme Bay and Torbay SAC (boundary shown by the dashed red line).

The Lyme Bay and Torbay SAC cover an area of 31 km<sup>2</sup>; the SAC overlays the Devon & Severn and Southern IFCA boundary. The area within the Southern IFCA district encloses the Lyme Bay Reefs<sup>9</sup>. The qualifying features of the SAC are displayed in Figure 31 and Table 17.

**Table 17** Qualifying Features of the Lyme Bay and Torbay SAC.

Qualifying Features	Reefs
	Submerged or Partially submerged sea caves

##### 3.0.2 Shore Gathering activity in the SAC

As of October 2023, there has been no evidence available on the location of shore gathering activities occurring in the Lyme Bay and Torbay SAC.

<sup>9</sup> <https://designatedsites.naturalengland.org.uk/>

### 3.0.3 Recorded catches within the SAC

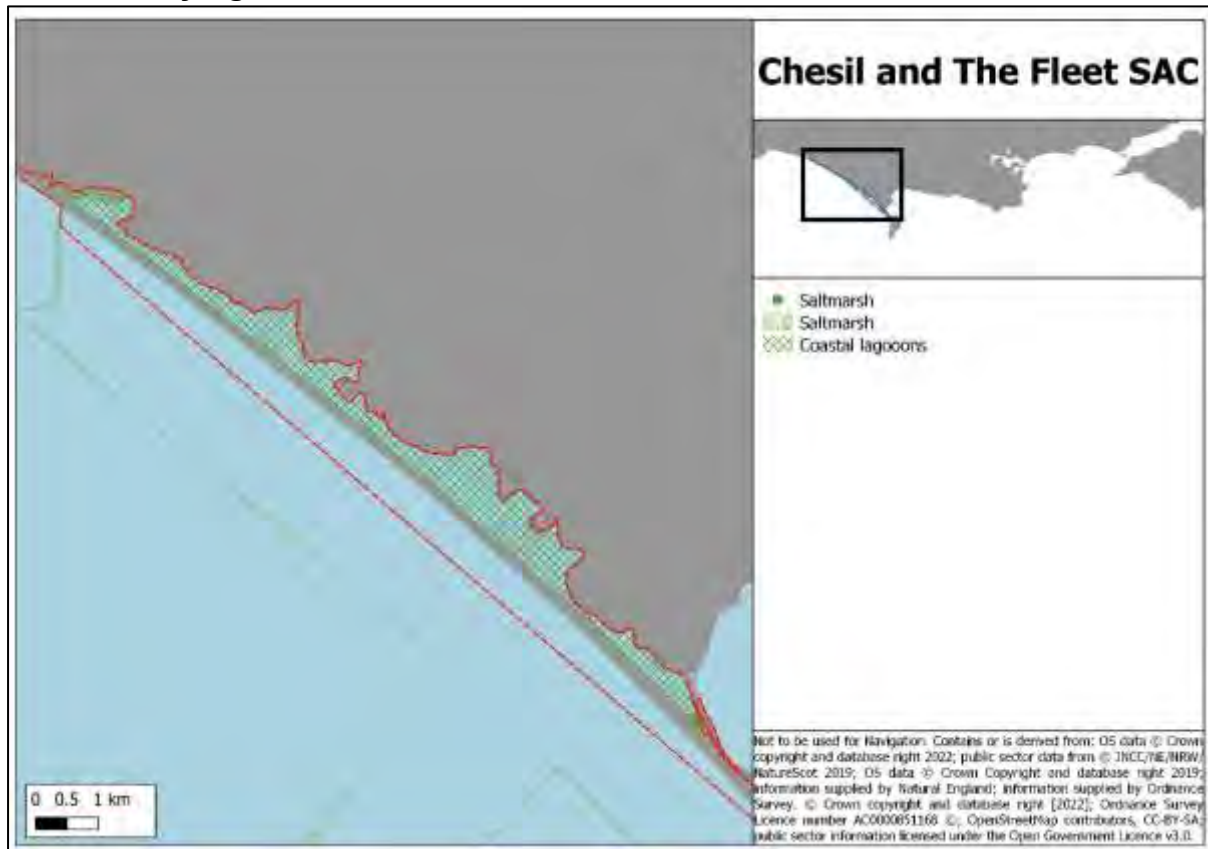
As of October 2023, there has been no evidence available on the catch composition of shore gathering activities occurring in the Lyme Bay and Torbay SAC.

### 3.0.4 Recorded Offences within the SAC

As of October 2023, there has been no recorded offences linked to shore gathering activities occurring in Lyme Bay and Torbay SAC.

## 3.1 Chesil and the Fleet SAC

### 3.1.1 Qualifying Features of the SAC



**Figure 32 The location and extent of the supporting habitats of the Chesil and The Fleet SAC (boundary shown by the dashed red line).**

The Chesil and the Fleet SAC covers an area of 16 km<sup>2</sup>. The Fleet supports the largest diversity of species and habitat of any coastal lagoon in the UK <sup>10</sup> and aside from the entrance at the southeastern end, The Fleet is largely sheltered from waves and tidal processes<sup>11</sup>. The qualifying features and their supporting habitats are displayed in Figure 32 and Table 18.

<sup>10</sup> Bamber, R. N. 1997. Assessment of saline lagoons within Special Areas of Conservation (SACs). Peterborough: English Nature.

<sup>11</sup> <https://designatedsites.naturalengland.org.uk/>

**Table 18 The qualifying features of Chesil and the Fleet SAC.**

Qualifying Features	Annual vegetation of drift lines
	Atlantic salt meadows (Glaucopuccinellietalia maritimae)
	Coastal lagoons
	Mediterranean and thermo-Atlantic halophilous scrubs (Sarcocornetea fruticosi)
	Perennial vegetation of stony banks

### 3.1.2 Existing Shore Gathering Management Specific to the SAC

The Prohibition of Gathering (Sea Fisheries Resources) in Seagrass Beds Byelaw defines a schedule of 29 prohibited areas within the district to protect seagrass beds. No person shall dig for or take sea fisheries resources from any prohibited area nor be in the prohibited areas with a rake, spade, fork, or similar tool. Areas 29 are within the Chesil and the Fleet SAC.

### 3.1.3 Shore Gathering activity in the SAC

As of October 2023, there has been no evidence available on the location of shore gathering activities occurring in the Chesil and The Fleet SAC.

Information provided by Natural England indicates that bait digging, cockle raking, and crab tiling have taken place within the site. No information is provided on the specific location or date when this activity was observed.

### 3.1.4 Recorded catches within the SAC

As of October 2023, there has been no evidence available on the level of catch associated with shore gathering activities occurring in the Chesil and The Fleet SAC.

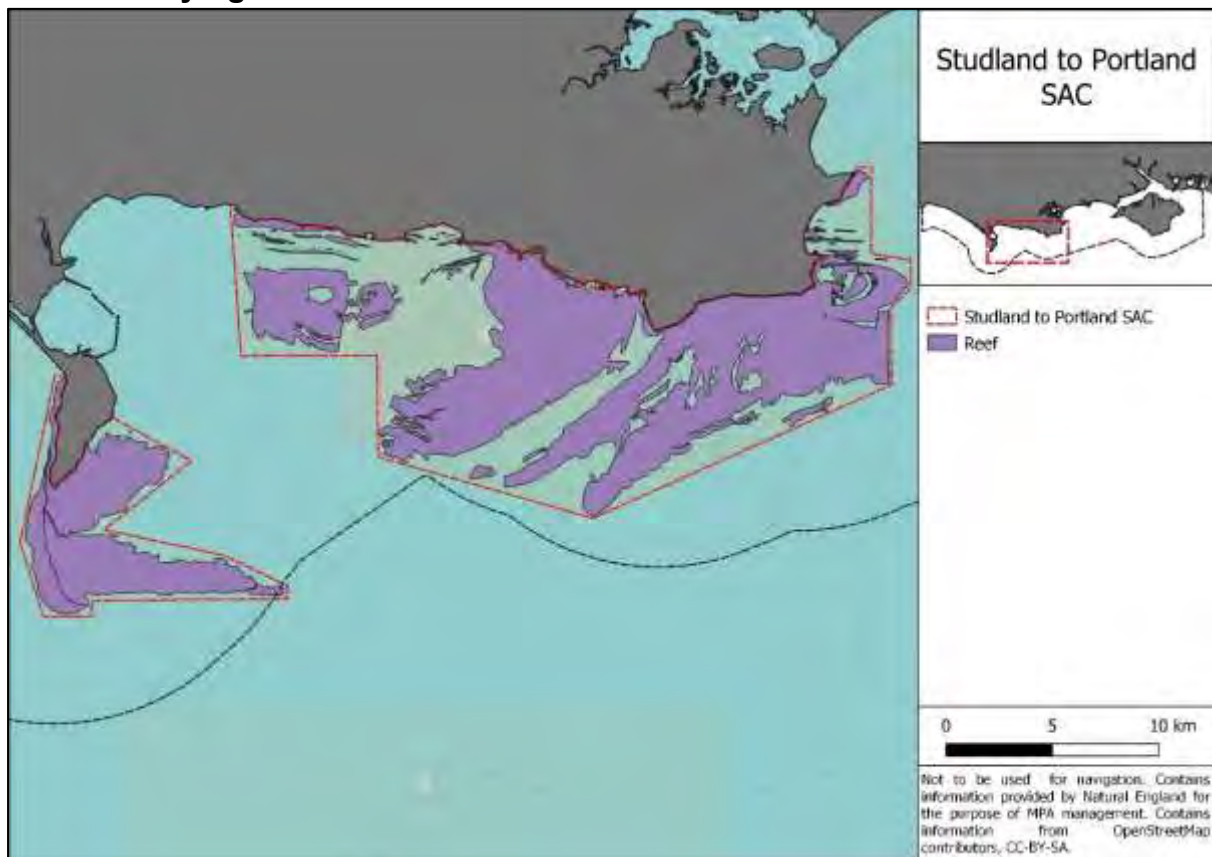
### 3.1.5 Recorded Offences within the SAC

As of October 2023, there have been no recorded offences related to shore gathering activities in the Chesil and The Fleet SAC.



## 3.2 Studland to Portland SAC

### 3.2.1 Qualifying Features of the SAC



**Figure 33** The location and extent of the supporting habitats of the Studland to Portland SAC (boundary shown by the dashed red line).

The Studland to Portland SAC covers the area from Studland Bay to Ringstead Bay as well as the area covering the Portland Reefs<sup>12</sup>. The total area covered by the SAC is 332 km<sup>2</sup> and the qualifying features are displayed in Figure 33 and Table 19.

**Table 19** Qualifying features of the Studland to Portland SAC.

Qualifying Features	Reefs
---------------------	-------

#### 3.2.2 Shore Gathering activity in the SAC

As of October 2023, there has been no evidence available on the location of shore gathering activities occurring in the Lyme Bay and Torbay SAC.

#### 3.2.3 Recorded catches within the SAC

As of October 2023, there has been no evidence available on the catch composition of shore gathering activities occurring in the Studland to Portland SAC.

#### 3.2.4 Recorded Offences within the SAC

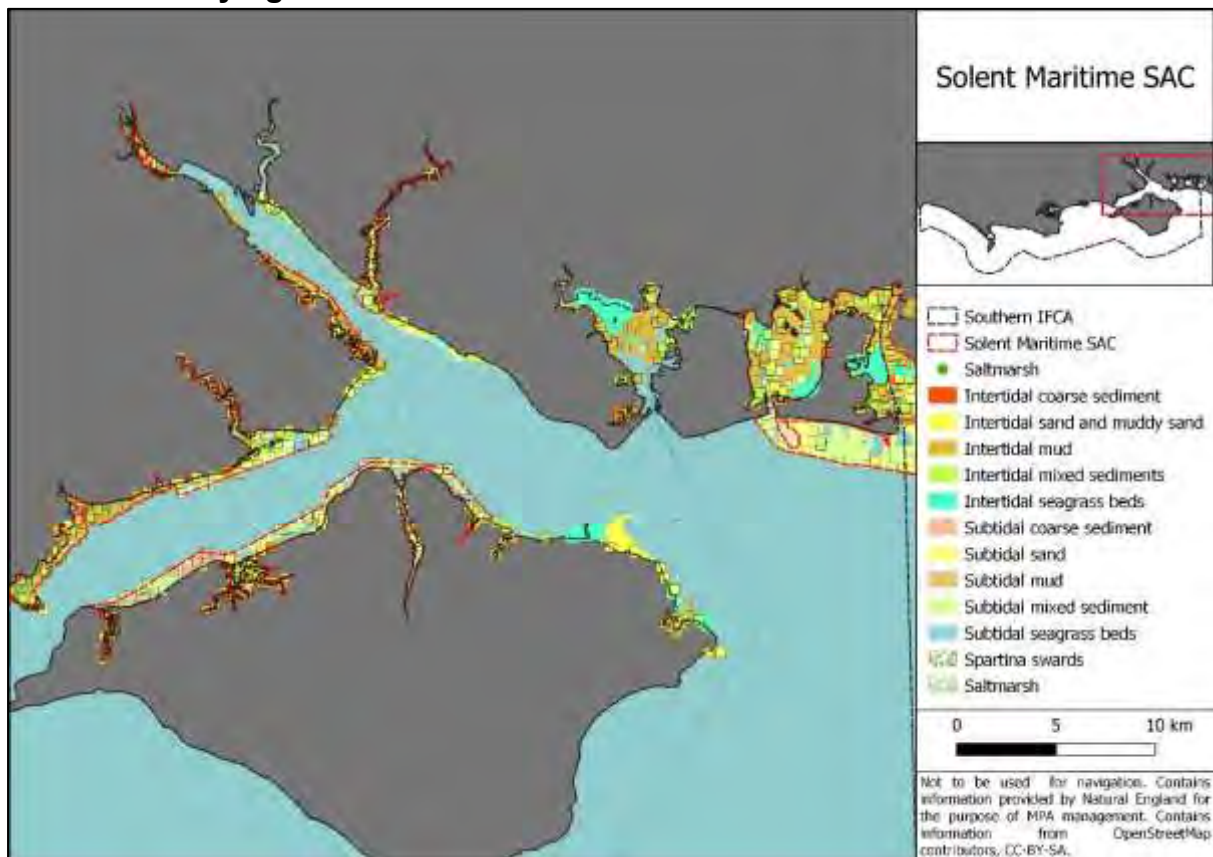
As of October 2023, there has been no recorded offences linked to shore gathering activities occurring in Studland to Portland SAC.

<sup>12</sup> <https://designatedsites.naturalengland.org.uk/>



### 3.3 Solent Maritime SAC

#### 3.3.1 Qualifying Features of the SAC



**Figure 34** The location and extent of the supporting habitats of the Solent Maritime SAC (boundary shown by the dashed red line).

The Solent Maritime SAC covers a broad range of estuarine and marine habitats and an area of 113 km<sup>2</sup><sup>13</sup>. The qualifying features are displayed in Figure 34 and Table 20.

**Table 20** Qualifying features of the Solent Maritime SAC.

Qualifying Features	Annual Vegetation Of Drift Lines
	Atlantic Salt Meadows ( <i>Glauco-Puccinellietalia maritimae</i> )
	Coastal Lagoons
	Desmoulin's Whorl Snail ( <i>Vertigo moulinsiana</i> )
	Estuaries
	Mudflats And Sandflats Not Covered By Seawater At Low Tide
	Perennial Vegetation Of Stony Banks
	Salicornia And Other Annuals Colonising Mud And Sand
	Sandbanks Which Are Slightly Covered By Sea Water All The Time

<sup>13</sup> <https://designatedsites.naturalengland.org.uk/>

	Shifting Dunes Along The Shoreline With <i>Ammophila arenaria</i> (“White Dunes”)
	Spartina Swards ( <i>Spartinion maritimae</i> )

### 3.3.2 Existing Shore Gathering Management Specific to the SAC

The Prohibition of Gathering (Sea Fisheries Resources) in Seagrass Beds Byelaw defines a schedule of twenty-nine prohibited areas within the district to protect seagrass beds. No person shall dig for or take sea fisheries resources from any prohibited area nor be in the prohibited areas with a rake, spade, fork, or similar tool. Areas 23-25 are within or overlap the Solent Maritime SAC.

### 3.3.3 Shore Gathering activity in the SAC

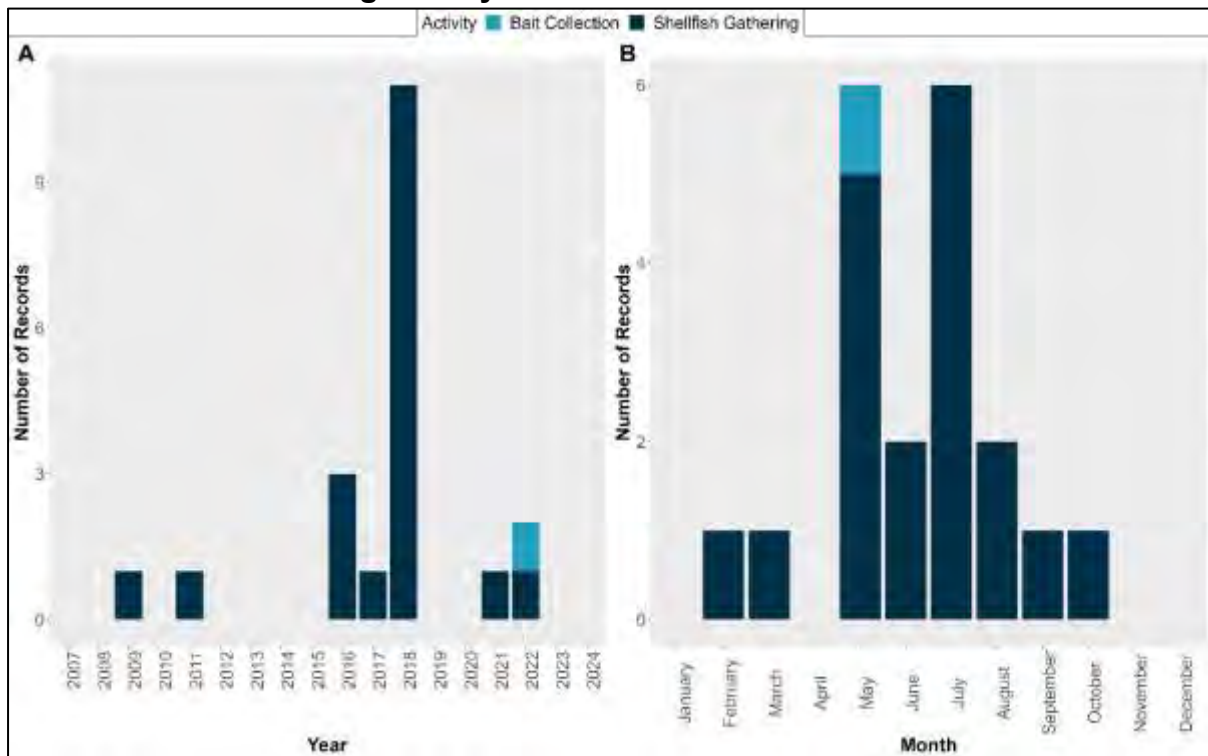


Figure 35 Records of shore gathering activity occurring in the Solent Maritime SAC.

Figure 35 displayed the annual and monthly trends in shore gathering activity. The most popular activity is shellfish gathering with peak in 2018 and the month of July.

Figure 36 displays the spatial distribution of all shore gathering activity observed by Southern IFCA in the Solent Maritime SAC as of October 2023. The SAC overlaps with the Solent and Southampton Water SPA as well as the Chichester and Langstone Harbours SPA, therefore the areas with highest density of activity are the same; Hill Head and between Chaldock Lake and Broadmarsh Coastal Park.

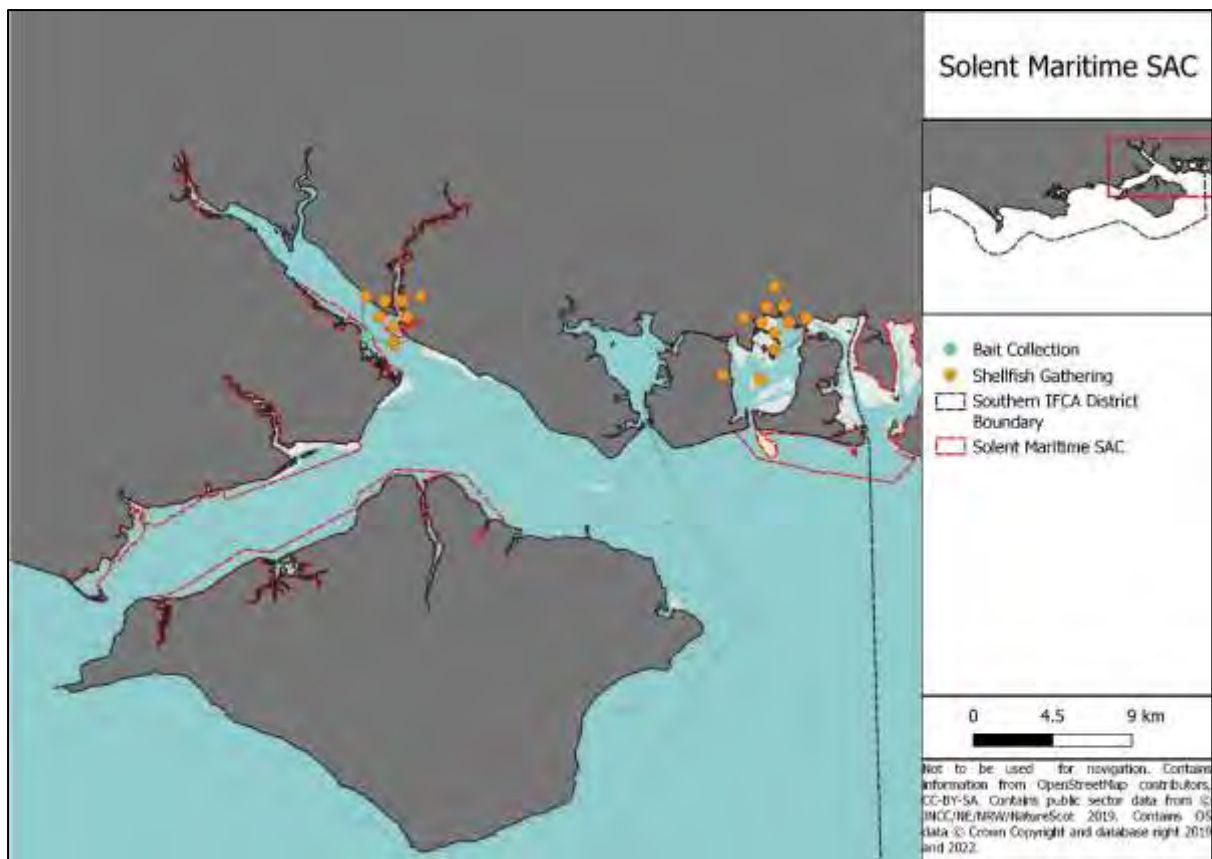


Figure 36 Spatial distribution of all shore gathering activity observed by Southern IFCA in the Solent Maritime SAC (boundary shown by the dashed red line) as of October 2023.

### 3.3.4 Recorded catches within the SAC

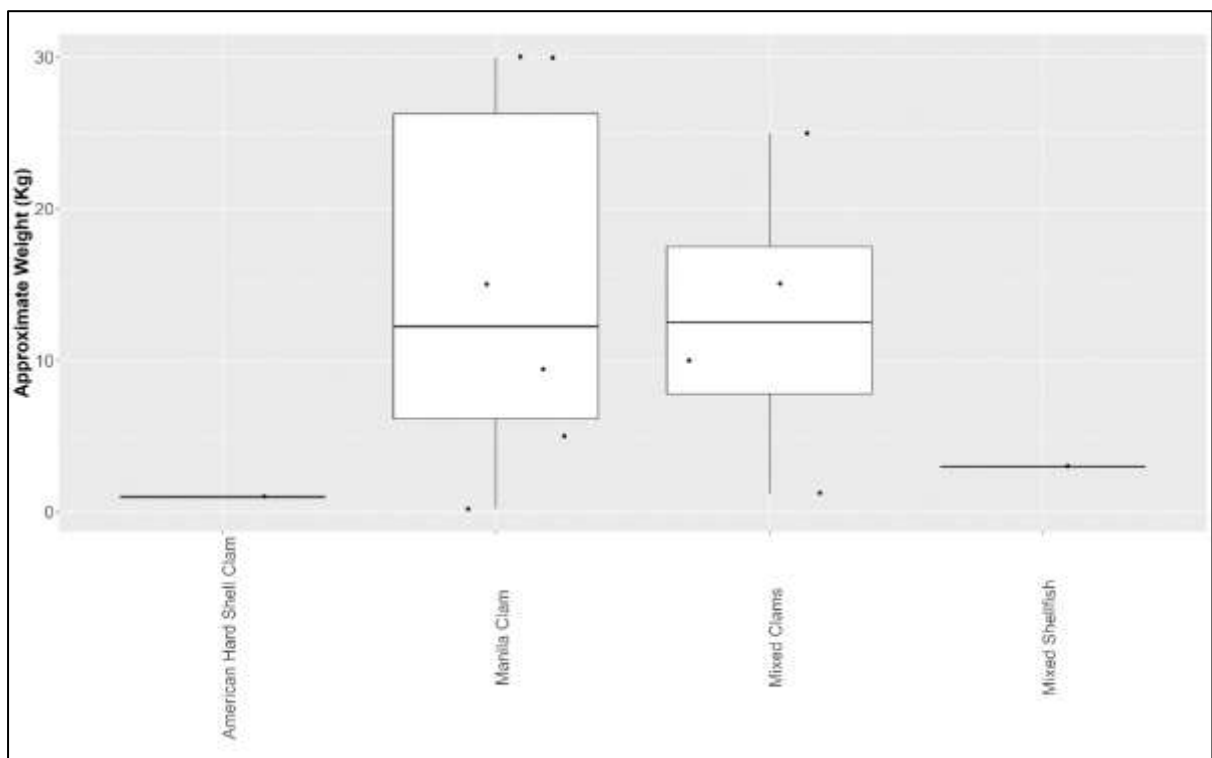


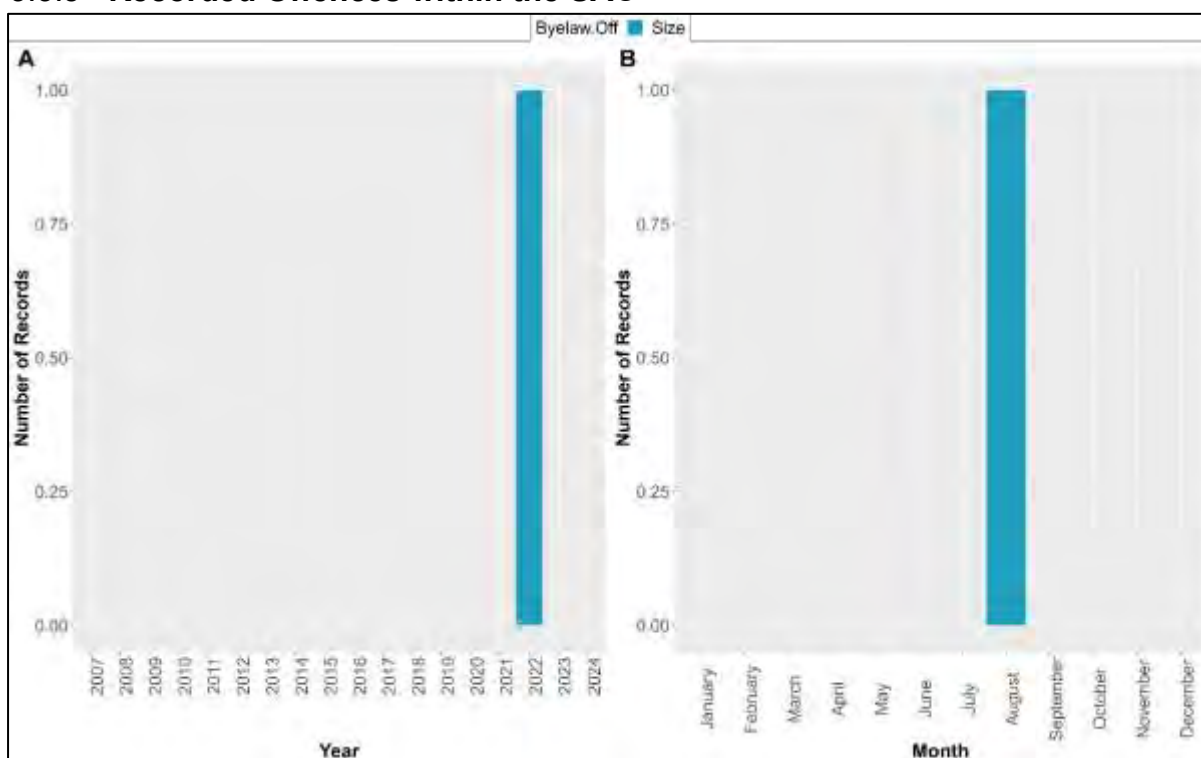
Figure 37 Approximate weight of catch associated with shore gathering activity in the Solent Maritime SAC.

Figure 37 and Table 21 display a summary of catch weights recorded in the Solent Maritime SAC.

**Table 21** The mean weight of recorded catches associated with shore gathering activity in the Solent Maritime SAC.

Species	Mean Weight (kg)
American Hard-Shell Clam	1.00
Manila Clam	14.95
Mixed Clams	12.80
Mixed Shellfish	3.00

### 3.3.5 Recorded Offences within the SAC

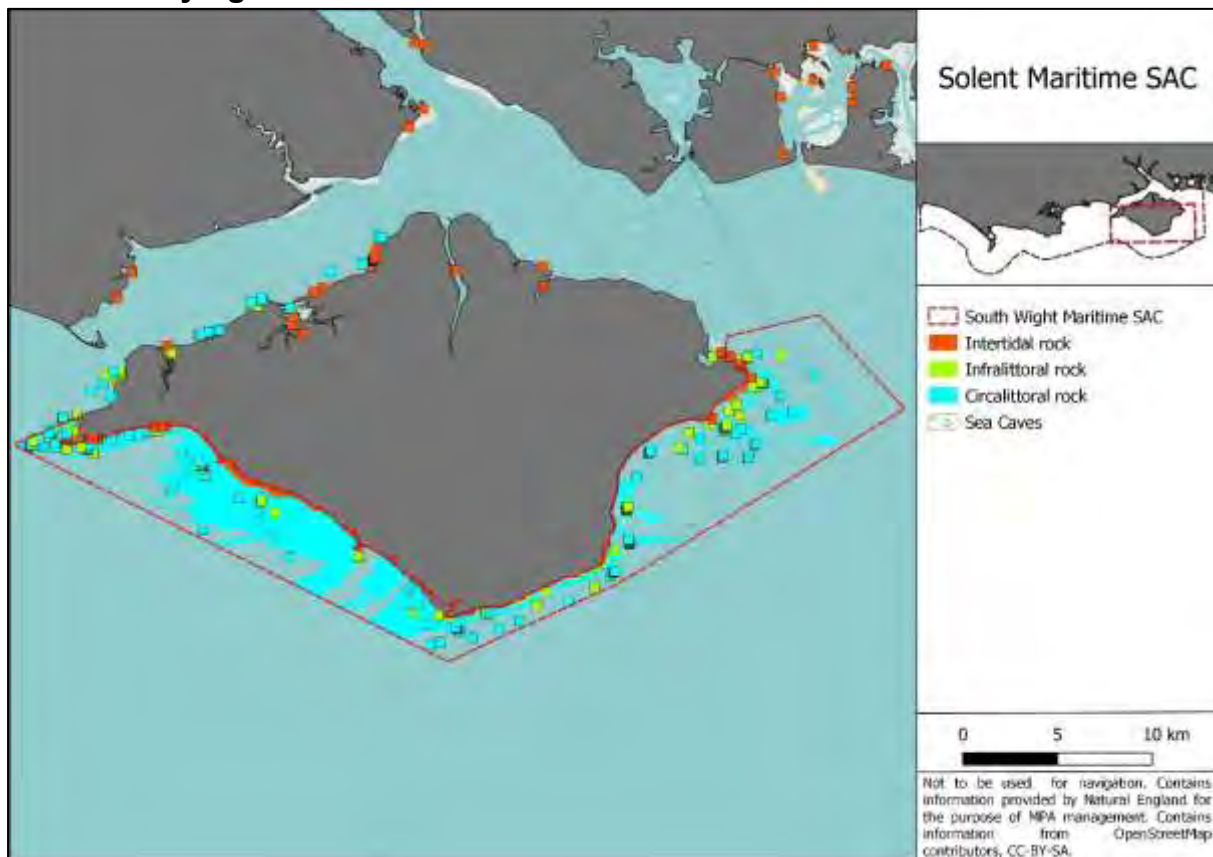


**Figure 38** Recorded offences and the theme of infringement in the Solent Maritime SAC.

There has been one recorded offence in the Solent Maritime SAC (Figure 38). This occurred in August 2022 and was a MCRS related infringement related to shore gathering activity.

### 3.4 South Wight Maritime SAC

#### 3.4.1 Qualifying Features of the SAC



**Figure 39** The location and extent of the supporting habitats of the South Wight Maritime SAC (boundary shown by the dashed red line).

The South Wight Maritime SAC covers an area of 199 km<sup>2</sup>, running the full length of the south coast of the Isle of Wight from The Needles to Bembridge. The area covers extensive reef and sea cave systems<sup>14</sup>. The qualifying features of the SAC are displayed in Figure 39 and Table 22.

**Table 22** Qualifying features of the South Wight Maritime SAC

Qualifying Features	Submerged or partially submerged sea caves
	Vegetated sea cliffs of the Atlantic and Baltic coasts
	Circalittoral Rock
	Infralittoral Rock
	Intertidal Rock
	Subtidal Stony Reef

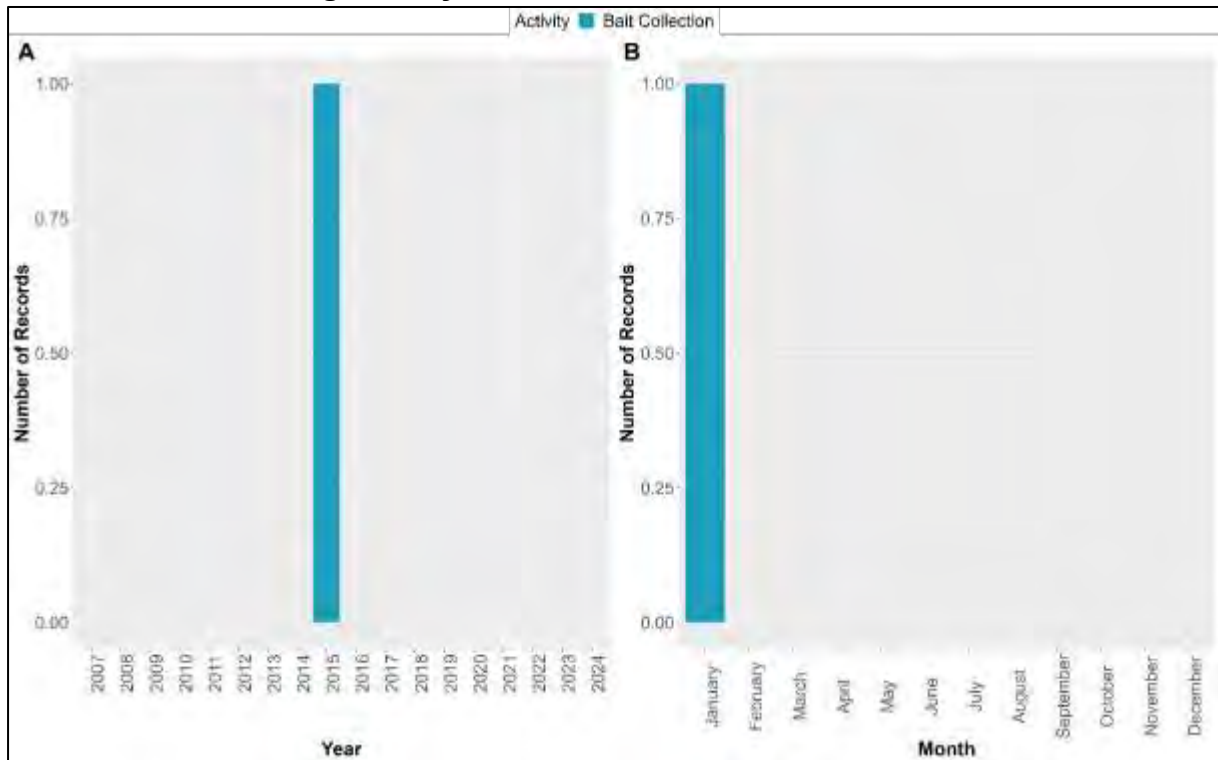
#### 3.4.2 Existing Shore Gathering Management Specific to the SAC

The Prohibition of Gathering (Sea Fisheries Resources) in Seagrass Beds Byelaw defines a schedule of twenty-nine prohibited areas within the district to protect seagrass beds. No

<sup>14</sup> <https://designatedsites.naturalengland.org.uk/>

person shall dig for or take sea fisheries resources from any prohibited area. Areas 17-19 are within or overlap the South Wight Maritime SAC.

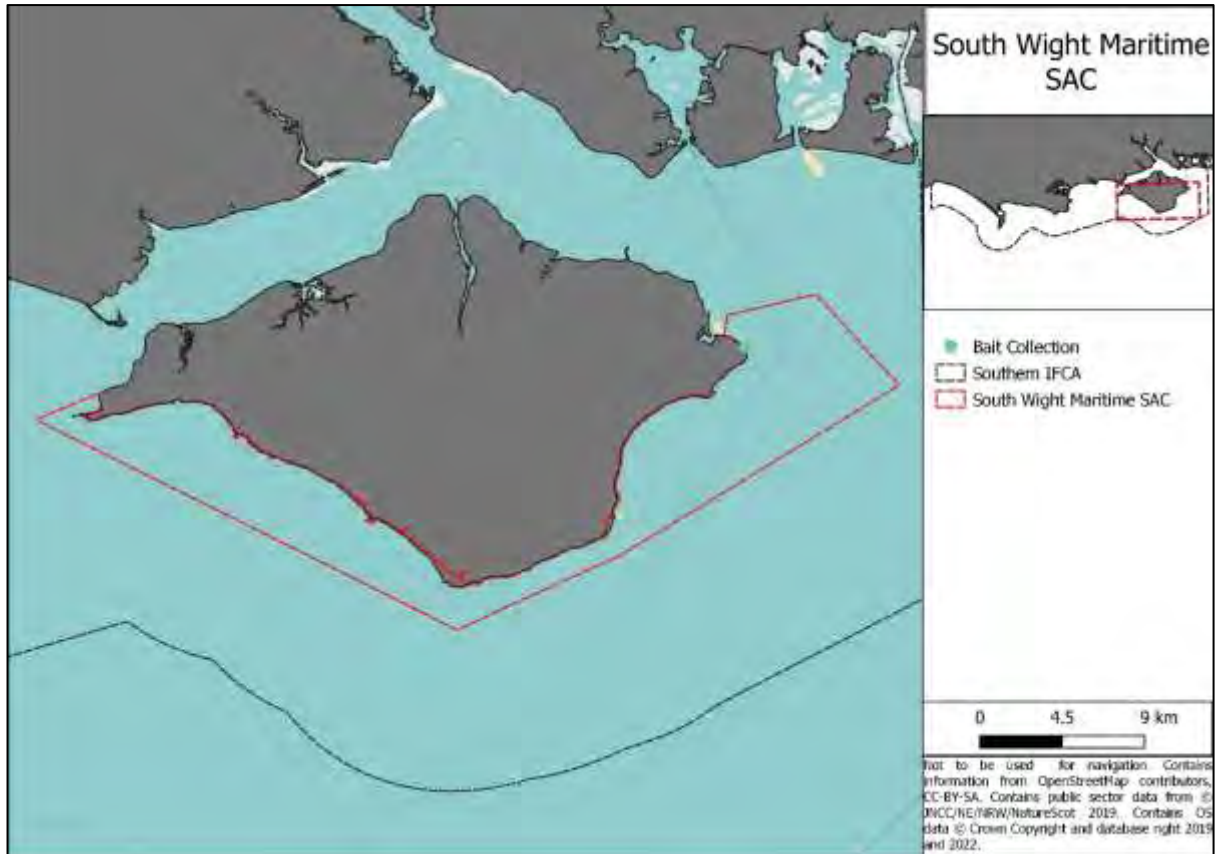
### 3.4.3 Shore Gathering activity in the SAC



**Figure 40 Records of shore gathering activity occurring in the South Wight Maritime SAC.**

Figure 40 displays the only recorded occurrence of shore gathering activity in the South Wight Maritime SAC. This was bait digging and occurred in January 2015. Figure 41 displays the location of this activity.





**Figure 41 Spatial distribution of all shore gathering activity observed by Southern IFCA in the South Wight Maritime SAC (boundary shown by the dashed red line) as of October 2023.**

#### **3.4.4 Recorded catches within the SAC**

As of October 2023, there has been no evidence available on the level of catch associated with shore gathering activities occurring in the South Wight Maritime SAC.

#### **3.4.5 Recorded Offences within the SAC**

As of October 2023, there have been no recorded offences related to shore gathering activities in the South Wight Maritime SAC.

# 4. Combined MPA Summary of Activity, Catch and Offences

## 4.0 Shore Gathering activity in all relevant MPAs

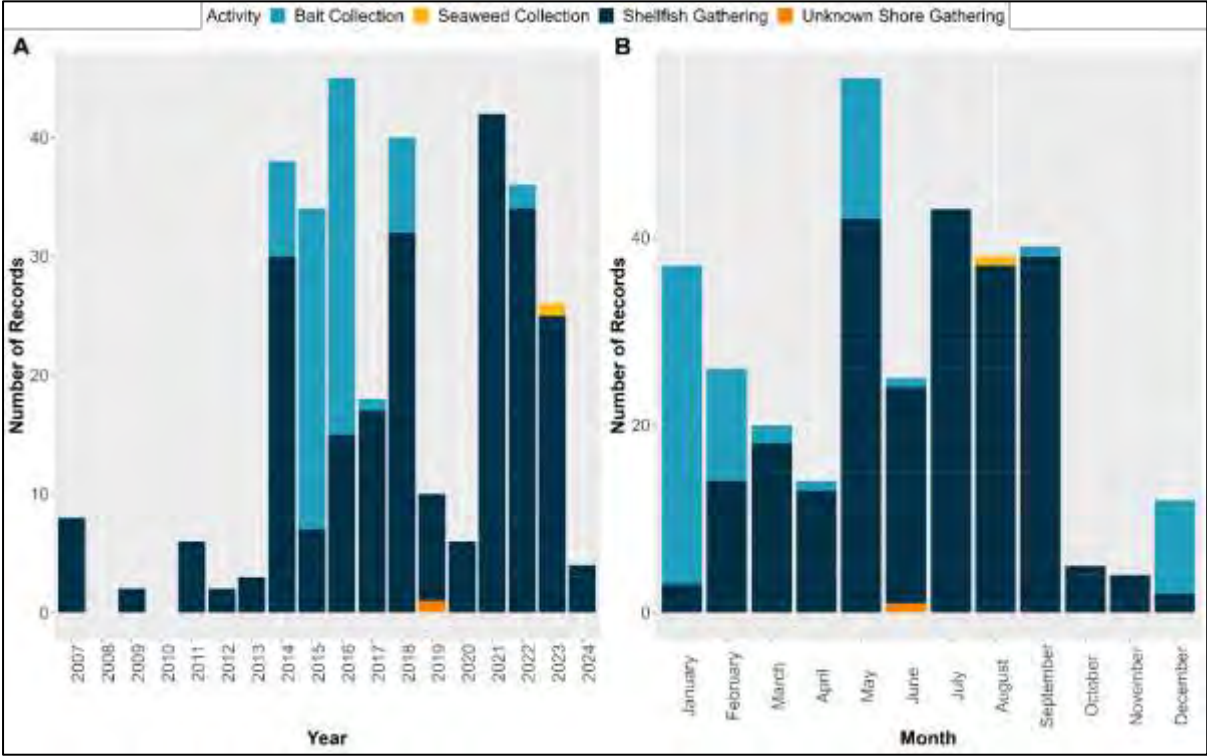
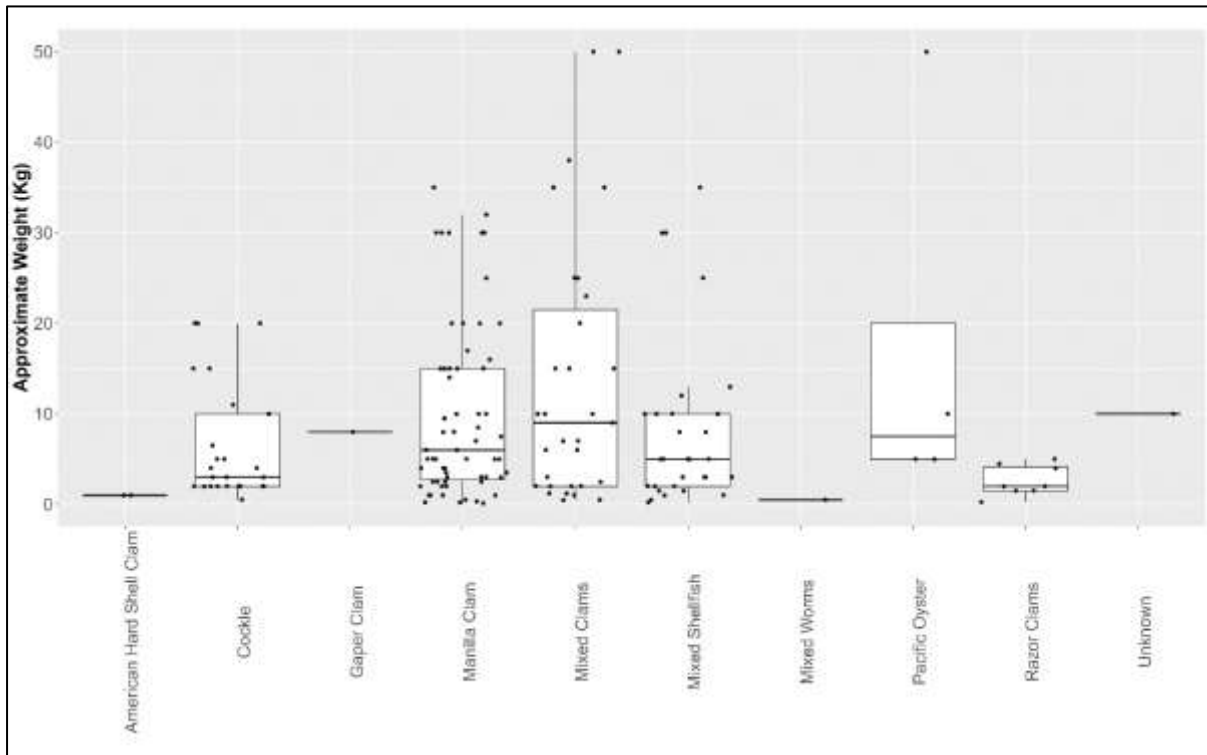


Figure 42 Information on shore gathering activity across the district.

Error! Reference source not found.contains information on all shore gathering activity occurring within National Site Network Sites across the Southern IFCA District. Shore Gathering activity appears to peak in 2016 and 2021, with shellfish gathering being the most popular activity, followed by bait digging. Shore gathering activity most commonly occurs in the summer months from May to September.



#### 4.1 Recorded catches in all relevant MPAs



**Figure 43** Approximate weight of catch associated with shore gathering activity across all MPAs in the district.

Figure 43 and Table 23 display a summary of catch weights recorded across all MPAs in the district.

**Table 23** The mean weight of recorded catches associated with shore gathering activity in the Solent Maritime SAC.

Species	Mean Weight (kg)
American Hard-Shell Clam	1.00
Cockle	6.52
Gaper Clam	8.00
Manilla Clam	9.94
Mixed Clams	13.83
Mixed Shellfish	8.32
Mixed Worms	0.50
Pacific Oyster	17.50
Razor Clams	2.59
Unknown	10.00

## 4.2 Recorded Offences in all MPAs

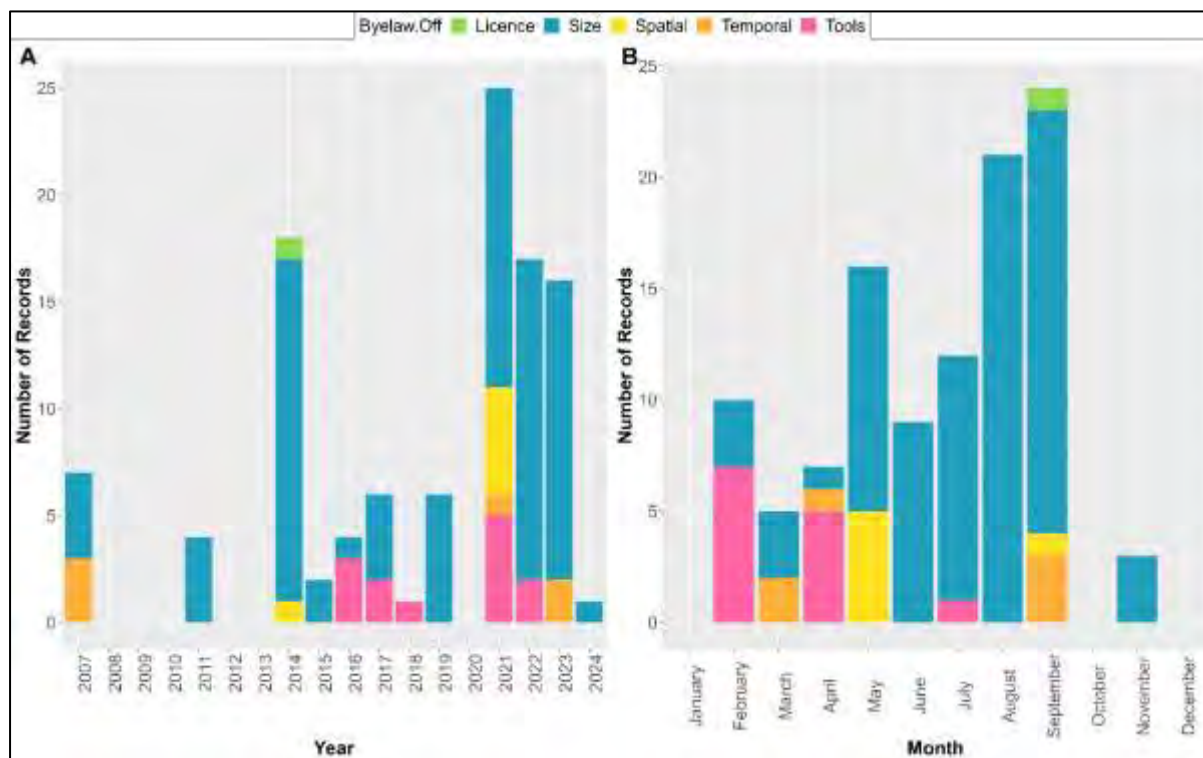


Figure 44 Recorded offences and the theme of infringement across all MPAs in the district.

Figure 44 displays a summary of shore gathering related offences within the district. The most common offences relate to MCRS. Peaks in offences occurred in 2021 increase through the summer months from July to September.

## 5. District Wide Management Relating to Shore Gathering

Table 24 Current district wide Management relating to Shore Gathering as of October 2023

Byelaw	Description
Minimum Conservation Reference Size Byelaw	<i>A person must not take, retain on board, tranship, land, transport, store, sell, display, or offer for sale from a fishery within the District, any fish or shellfish species specified in the schedules which measure less than the minimum conservation reference size specified in the schedule. Any such fish or shellfish must be returned to the sea immediately.</i>
Periwinkles Byelaw	<i>No person shall take from a fishery any periwinkles between the 15<sup>th</sup> May and 15<sup>th</sup> September inclusive. No person shall take periwinkles except by hand picking.</i>
Oysters Close Season Byelaw	<i>No person shall take oysters from a fishery from 1st March to 31st October in any year, both days inclusive. Oyster cultivation exceptions apply. This applies to Native Oysters only.</i>

Temporary Closure of Shellfish Beds Byelaw	<i>Where any shellfish bed is depleted and requires closure to recover, the Committee may establish a temporary shellfish bed closure, wherein no person may take shellfish from the defined shellfish bed</i>
Fishing for Cockles	<i>A person must not take from a fishery a cockle between 1st February and 30th April inclusive. A person must not remove a cockle from a fishery, unless complying with the gear restrictions and minimum size requirements.</i>
Fishing for Oysters, Mussels, and Clams Byelaw	<i>Oysters, Mussels, and Clams may only be fished for by handpicking or dredging.</i>
Scallop Fishing Byelaw 2019	<i>No person may fish for or take any scallop from a fishery before 0700 and after 1900 local time. This does not apply in The Solent, where a person must not fish for or take any scallop from any fishery on any day before 0600 local time or after 1800 local time.</i>
Oysters	<i>No person shall remove an oyster (other than Portuguese or Pacific Oysters) that will pass through a circular ring of 70mm diameter or any cultch for young Oysters to grow on.</i>
Mussels	<i>No person shall remove from a fishery a mussel measuring less than 50mm in length. Mussel cultivation exceptions apply with permission from Southern IFCA.</i>
Redeposit of Shellfish	<i>Any person who takes shellfish from a fishery within the Southern IFCA district where the removal or possession of it is prohibited, should return the shellfish to the fishery, as near as possible to the place it was taken.</i>



# **Southern Inshore Fisheries and Conservation Authority**

## **Shore Gathering Literature Review**

**Supporting Document for the  
Shore Gathering Byelaw**

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## Section A: Introduction to the Literature Review

This Literature Review is a supporting document for the development of management for shore gathering activities in the Southern IFCA district.

This document uses best available evidence, namely peer-reviewed papers and reports, to ensure that sound scientific evidence is used to inform assessments of relevant activities. The Literature Review is provided in two sections, general impacts which relate to multiple activities and potential impacts which relate to a specific shore gathering activity. Under the sections for specific activities, an overview is also provided of how that activity is carried out. The document also highlights where specific studies have been carried out and whether these have been conducted in the UK or outside the UK.

Summary boxes have been provided at the end of each section to give an overview of the section's content and key points.

This Literature Review is to be read in conjunction with the Southern IFCA Shore Gathering Review Conservation Assessment Package and Site Specific Evidence Package.

## Section B: Literature Review

### 1. Potential Impacts from Shore Gathering Activities - General

#### 1.1 Overview

- The gathering of fish and shellfish species has been carried out commercially and recreationally along the Dorset, Hampshire and Isle of Wight coasts for centuries.
- Harvesting consists of the removal of target species at low tide, either in selective collection such as hand gathering or collective harvesting using rakes or mechanical power.
- Frequently gathered species within the Southern IFCA District include the Manila Clam (*Ruditapes philippinarum*), the common cockle (*Cerastoderma edule*), Pacific oysters (*Magallana gigas*) and the bait worm species King ragworm (*Alitta virens*) and lugworm (*Arenicola marina*).
- Shore gathering activities which occur or have the potential to occur in the district are; bait digging/gathering, shellfish gathering, crab tiling, push netting, seaweed collection and mechanical harvesting (commonly for bait species but also potentially for shellfish species).

#### 1.2 Removal of Target Species

- The removal of target species in shore gathering techniques reduces the target species population in the area. Species recoverability is determined by a number of characteristics including magnitude of pressure, species fecundity, environmental conditions, human interaction and life cycle (Hutchings, 2000; Kaiser *et al.*, 2006; Lotze, 2011).

- Similarly, removal of species can disrupt ecosystem balance and impact community structure. As a result, other species display fluctuations, dominant species may alter and habitat structure may change (Turner *et al.*, 1999; Rice, 2000; Kaiser *et al.*, 2000; Dernie *et al.*, 2003; Rossi *et al.*, 2007).
- Harvesting structurally significant species, such as kelps, causes habitat structural changes which may alter light availability throughout the water column and affect potential nursing and breeding sites. (Connolly, 1994; Auster and Langton, 1999; Turner *et al.*, 1999).
- Removal of target species has the potential to affect prey availability for predatory species, such as birds. This affects higher trophic levels via non-targeted removal (Tasker *et al.*, 2000; Sieben *et al.*, 2011; Montevecchi, 2023) and through the disruption of predator-prey interactions which may impact community compositions. For example, the removal of small bivalves and crustaceans can reduce foraging opportunities for shorebirds and fish (Navedo *et al.*, 2008).
- Changes in prey availability can cause shifts in the location of populations of predator species. For example, bird species may move to areas where harvesting of prey species does not take place which could then lead to increased bird densities in these areas (Sutherland & Goss-Custard 1991; Goss-Custard and Verboven, 1993).
- A meta-analysis of studies on hand gathering techniques (and other fishing methods) found that data from the first 10 days following a disturbance showed a significant reduction in the abundance of annelids, however it was also noted that annelid worms and crustaceans appear to recover more quickly in comparison to molluscs (Clarke *et al.*, 2017). This was postulated to be related to sediment preferences and the relatively sedentary nature of molluscs compared to annelids and crustaceans where there is the potential for recolonisation of an area through adult migration as well as larval dispersal (Clarke *et al.*, 2017). It was noted that the localised nature of hand gathering activities would create an impact over a much smaller scale than other fishing activities but that the initial impact may be observed deeper within the sediment as hand worked equipment will often penetrate deeper than dredges (Clarke *et al.*, 2017).

## Summary

- Direct removal of target species has the potential to lead to population declines of those species, in which recoverability is based on a number of conditions including magnitude of pressure, species fecundity, life cycle, human interactions and environmental conditions.
- Removal of target species may disrupt ecosystem balance and lead to impacts to other species populations, habitat changes and impact community structure. For example, predatory prey interactions may change, resulting in a change in behaviour of the predator species.
- Removal of structural species as seaweeds can alter habitat structure, which may impact the distribution of light throughout the water column and affect potential nursery and breeding sites.
- Impacts are species specific both in terms of the target species itself and the impact on any predatory species. Recovery is also species specific and is likely related to habitat type and methods of recolonisation by each species.



## References for Sections 1.1 and 1.2

- Auster, P.J. and Langton, R.W., 1999. The effects of fishing on fish habitat. In *American Fisheries Society Symposium 22*, pp: 150-187
- Clarke L.J., Hughes K.M., Esteves L.S., Herbert R.J.H. and Stilman R.A. 2017. Intertidal invertebrate harvesting: a meta-analysis of impacts and recovery in an important waterbird prey resource. *Marine Ecology Progress Series*. Vol 584: 229-244.
- Connolly, R.M., 1994. Removal of seagrass canopy: effects on small fish and their prey. *Journal of Experimental Marine Biology and Ecology*, 184(1), pp.99-110.
- Dernie, K.M., Kaiser, M.J., Richardson, E.A. & Warwick, R.M. 2003. Recovery of soft sediment communities and habitats following physical disturbance. *Journal of Experimental Marine Biology and Ecology*. 285-286: pp 415-434.
- Ferns, P.N., Rostron, D.M. & Sima, H.Y. 2000. Effects of mechanical cockle harvesting on intertidal communities. *J. Appl. Ecol.*, 37. Pp 464-474.
- Goss-Custard, J. D. & Verboven, N., 1993. Disturbance and feeding shorebirds on the Exe estuary. *Wader Study Group Bull*, 68 pp:59-66.
- Hutchings, J.A., 2000. Collapse and recovery of marine fishes. *Nature*, 406(6798), pp.882-885.
- Kaiser, M.J., Clarke, K.R., Hinz, H., Austen, M.C., Somerfield, P.J. and Karakassis, I., 2006. Global analysis of response and recovery of benthic biota to fishing. *Marine Ecology Progress Series*, 311, pp. 1-14.
- Kaiser, M.J., Ramsay, K., Richardson, C.A., Spence, F.E. and Brand, A.R., 2000. Chronic fishing disturbance has changed shelf sea benthic community structure. *Journal of Animal Ecology*, 69(3), pp.494-503.
- Lotze, H.K., Coll, M., Magera, A.M., Ward-Paige, C. and Airoidi, L., 2011. Recovery of marine animal populations and ecosystems. *Trends in ecology & evolution*, 26(11), pp.595-605.
- Montevecchi, W.A., 2023. Interactions between fisheries and seabirds: Prey modification, discards, and bycatch. In *Conservation of Marine Birds* (pp. 57-95). Academic Press.
- Navedo, J.G. & Masero, J.A. 2008. Effects of traditional clam harvesting on the foraging ecology of migrating curlews (*Numenius arquata*). *J. Exp. Mar. Biol. Ecol.*, 355 (1) pp: 59-65.
- Rice, J.C., 2000. Evaluating fishery impacts using metrics of community structure. *ICES Journal of marine Science*, 57(3), pp.682-688.
- Rossi, F., Forster, R.M., Montserrat, F., Ponti, M., Terlizzi, A., Ysebaert, T. & Middleburg, J.J. 2007. Human trampling as short-term disturbance on intertidal mudflats: effects on macrofauna biodiversity and population dynamics of bivalves. *Mar. Biol.* 151: 2077-2090.
- Sieben, K., Rippen, A.D. and Eriksson, B.K., 2011. Cascading effects from predator removal depend on resource availability in a benthic food web. *Marine Biology*, 158, pp.391-400.
- Sutherland, W.J. & Goss-Custard, J.D. 1991. Predicting the consequences of habitat loss on shorebird populations. *Acta Congressus Internationalis Ornithologica*, 20, 2199-2207
- Tasker, M.L., Camphuysen, C.J., Cooper, J., Garthe, S., Montevecchi, W.A. and Blaber, S.J., 2000. The impacts of fishing on marine birds. *ICES journal of Marine Science*, 57(3), pp.531-547.
- Turner, S.J., Thrush, S.F., Hewitt, J.E., Cummings, V.J. and Funnell, G., 1999. Fishing impacts and the degradation or loss of habitat structure. *Fisheries Management and Ecology*, 6(5), pp.401-420.

Turner, S.J., Thrush, S.F., Hewitt, J.E., Cummings, V.J. and Funnell, G., 1999. Fishing impacts and the degradation or loss of habitat structure. *Fisheries Management and Ecology*, 6(5), pp.401-420.

### 1.3 Removal of non-target species

- Certain methods of shore-gathering have the potential to remove or disrupt non-target species, which play roles in intertidal food webs and support ecosystem biodiversity (Nunes *et al.*, 2011).
- Harvesting can cause sediment disturbance, resulting in the removal, damage, or mortality of epifauna and infauna in the surrounding sediment (Dernie *et al.*, 2003; Rossi *et al.*, 2007). This also applies to the exposure and excavation of individuals that are found below the surface of the substratum (Clarke *et al.*, 2017).
- Some species may not be returned to the sediment following harvesting. For example, small species such as those in the larval phase may be attached to species such as kelps (McAllen, 1999).
- The timescale of recovery for benthic communities is largely dependent on sediment type, associated fauna and the rate of natural disturbance (Roberts *et al.*, 2010).
- In locations where natural disturbance levels are high, the associated fauna is characterised by species adapted to withstand and recover from disturbance (Collie *et al.*, 2000; Roberts *et al.*, 2010).
- Non-target species found in more stable habitats, which are often distinguished by high diversity and epifauna, are likely to take a greater time to recover (Roberts *et al.*, 2010).
- Many studies have found that meiofauna exhibit a different response to disturbance than macrofauna. Some meiofauna show very little, or short-term effects of disturbance, whilst others can utilise increases in resources and benefit from disturbance (Wynberg & Branch 1994; Sherman *et al.*, 1980; Wynberg & Branch, 1997; Johnson *et al.*, 2007). Turbellarians significantly increased after digging and remained above control levels for 35 days (Wynberg & Branch, 1994). However, copepods and polychaetes were significantly reduced immediately after digging, and whilst numbers did bounce back approximately 10 days after the disturbance, they did not return to control levels for more than 70 days (Wynberg & Branch, 1994).
- Population recovery rates are known to be species-specific (Roberts *et al.*, 2010). Long-lived bivalves will undoubtedly take longer to recover from disturbance than other species (Roberts *et al.*, 2010). Megafaunal species such as molluscs and shrimp over 10 mm in size, especially sessile species, are more vulnerable to impacts of fishing gear than macrofaunal species as a result of their slower growth and therefore are likely to have long recovery periods (Roberts *et al.*, 2010). Short-lived and small benthic organisms on the other hand have rapid generation times, high fecundities and therefore excellent recolonization capacities (Coen, 1995).
- Meiofauna has been found to recover quickly, within just one tidal cycle after mud had been turned over (Sherman *et al.*, 1980). Some groups, such as foraminifera, even benefited from the disturbance and increased in number after digging (Sherman *et al.*, 1980). Wynberg & Branch (1994) also found that meiofauna react positively to disturbance after initial declines, but they then return to control levels. On the other hand, Johnson *et al.*, (2007) found that meiofauna reacted negatively to trampling on an English Mudflat. Similarly, though the recovery period for this group of species was short, between 36 and 144 hours (Johnson *et al.*, 2007). Hand raking for clams led to a significantly lower nematode assemblage 12h after disturbance, however the meiofaunal community had once again recovered within 48 hours (Mistri *et al.*, 2009).

- For example, the use of mechanical dredging or rakes has the potential to impact non-target with the potential for a significant removal. Despite returning non-target species, the risk of mortality is increased. It is noted that some studies on this have shown high recoverability rates of non-target species (Hall and Harding, 1997).
- Gastropods, such as *Peringia* (formally *Hydrobia*) *ulvae*, have been found to be positively affected by the presence of disturbance including digging (Carvalho *et al.*, 2013; Watson *et al.*, 2007).
- Effects are difficult to quantify, marine ecosystems are complicated and subject to large natural fluctuations caused by changes in parameters including temperature and tidal/current action (Gislason *et al.*, 2002). This is in addition to other human-caused impacts, for example, changes in nutrient levels. This combination of effects makes the impact of a particular fishing activity on marine species communities hard to isolate (Gislason *et al.*, 2002).

There are specific species which are designated species within the MPAs covered by the Shore Gathering Review which may be impacted as non-target species. Where general evidence on these species is available it is reported in Sections 1.3.1 and 1.3.2 below, specific evidence relating to certain pressures is presented in relevant sections.

### 1.3.1 Seahorse Species

- No direct evidence is available on the impact of shore gathering activities on seahorse populations.
- Seahorses spend the majority of their time attached to the substrata for example, seaweed, rock and artificial surfaces (Lorrie *et al.*, 1999; Curtis and Vincent, 2005). Seahorses are also associated with eelgrass and seagrass beds which may be impacted by shore gathering activities (see Section 1.4.1). The species is therefore most likely to be impacted through impacts to associated habitats.
- Seahorse species can be affected by physical degradation and destruction of their habitats resulting in population decline in the most extreme circumstances (Vincent *et al.*, 2011).
- Abrasion and disturbance to the surface of the substratum could result in the direct removal of seahorses attached to substrata or a decrease in populations as a result of the removal of habitat (Foster and Vincent, 2004).
- Similarly, individuals are sensitive to crushing such as during trampling in access to harvesting sites (Nash *et al.*, 2021).
- Short generation times, rapid growth rate and early maturity suggest recovery may be rapid (Harasti, 2016; Woodall, 2017), however, this is contradicted by their limited mobility, small home range and limited dispersal. It is suggested that complete removal of individuals from a population would result in poor recovery rates, otherwise it is thought that resistance and recovery to disturbance events may be high.

### 1.3.2 Stalked Jellyfish

- No direct evidence is available on the effect of shore gathering activities on stalked jellyfish species.
- The species is found attached to algae in pools/the low water line on rocky shores and therefore, could be exposed to abrasion pressure used in harvesting techniques and during access to sites.

- Removal of target species such as seaweeds could lead to a reduction in the abundance of individual stalked jellyfish and available substrate reducing stalked jellyfish populations (Tyler-Walters and Head, 2017).
- Stauromedusae are soft-bodied and therefore unlikely to be able to withstand direct crushing/ abrasive pressure used in shore gathering activities themselves of trampling via access to sites (Miranda, *et al.*, 2012; 2016).
- Stauromedusae are likely to be lost if their supporting habitat the algae is lost due to abrasion or physical change (Corbin, 1979; Miranda *et al.*, 2010).
- It is difficult to determine recoverability, although the short life span and potential for asexual reproduction suggests rapid recovery. However, if over 75% population is lost, recovery is limited (Tyler-Walters and Head, 2017).

### **1.3.3 Peacocks tail (*Padina pavonica*)**

- No direct evidence is available on the effect of shore gathering on *P. pavonica*.
- The species occurs on the rock surface and therefore, would be exposed to any present abrasion pressure.
- Disturbance of the seabed and trampling in accessing sites may deplete populations of peacock's tails and in harvested areas and may lead to the smothering of individuals.
- If abrasion of *P. pavonica* were to occur damage to individuals' fronds is likely, but holdfasts should remain. The species has a high recovery potential from regrowth of fronds from rhizoids/holdfasts and also, through its high reproductive potential with both sexual and asexual reproduction possible, so long as some rhizoids/fronds remain (Schiel and Taylor, 1999). Recolonisation can also occur from propagules (Schiel and Taylor, 1999).
- It is suggested that in areas of unfavourable conditions, asexual reproduction may maintain populations (Price *et al.*, 1979).
- Dislodges and drifting fronds with spores may support dispersal and colonization of shores that are isolated from other populations although recovery through this method could be slow (Herbert *et al.*, 2016).
- The species is therefore considered to have a low sensitivity to the abrasion pressure.

## Summary

- Non-target species have the potential to be disrupted or removed through shore gathering activities, which in turn can impact food webs and ecosystem biodiversity.
- Where levels of natural disturbance are higher, associated fauna is often characterised by species adapted to a certain level of disturbance.
- Timescales for recovery are largely dependent on sediment type, associated fauna and the rate of natural disturbance.
- Recovery rates are also species specific, mollusc species often take longer to recover than annelid worms and crustacean species.
- Effects are difficult to quantify as effects from a specific activity are difficult to isolate from any impacts caused by variation in environmental variables and additional anthropogenic impacts such as water quality.
- Seahorse species do not have any direct evidence of impacts related to shore gathering activity. Impacts are likely to result from impacts to their associated habitats such as seagrass and seaweeds. The species is also vulnerable to crushing from trampling or direct removal from abrasion. It is postulated that direct removal of a significant proportion of the population would be required to cause a large negative effect.
- Stalked jellyfish species do not have any direct evidence of impacts related to shore gathering activity. Impacts are likely to relate to impacts to their associated habitats such as seaweeds. The species' are soft bodied and unlikely to withstand abrasion or trampling.
- Peacocks tail does not have any direct evidence of impacts related to shore gathering activity. The species would be exposed to any potential abrasion pressures in associated rocky habitats. Impacts are likely to be the fronds whilst the holdfast should remain. This increases the potential for recovery.

## References for Section 1.3

- Carvalho, S., Constantino, R., Cerqueira, M., Pereira, F., Subida, M. D., Drake, P., & Gaspar, M.B. 2013. Short term impact of bait digging on intertidal microbenthic assemblages of two south Iberian Atlantic systems. *Estuarine, Coastal and shelf science*. 132: 65-76
- Clarke L.J., Hughes K.M., Esteves L.S., Herbert R.J.H. and Stilman R.A. 2017. Intertidal invertebrate harvesting: a meta-analysis of impacts and recovery in an important waterbird prey resource. *Marine Ecology Progress Series*. Vol 584: 229-244.
- Corbin, P.G., 1979. The seasonal abundance of four species of Stauromedusae (Coelenterata: Schyphomedusae) in Plymouth. *Journal of the Marine Biological Association of the United Kingdom*, 59, 385-391
- Curtis, J.M.R. & Vincent, A.C.J., 2005. Distribution of sympatric seahorse species along a gradient of habitat complexity in a seagrass dominated community. *Marine Ecology Progress Series*, 291, 81-91. DOI <https://doi.org/10.3354/meps291081>
- Dernie, K.M., Kaiser, M.J., Richardson, E.A. & Warwick, R.M. 2003b. Recovery of soft sediment communities and habitats following physical disturbance. *J. Exp. Mar. Biol. Ecol.* **285-286**: 415-434.
- Foster S, Vincent ACJ (2004) The life history and ecology of seahorses, Hippocampus spp.: implications for conservation and management. *J Fish Biol* 65:1-61
- Gislason, H., Sinclair, M., Valdimarsson, G. & Wallingford CAB International. 2002. The effects of fishing on non-target species and ecosystem structure and function. Wallingford (United Kingdom) FAO/CABI, pp. 21
- Harasti, D., 2016. Declining seahorse populations linked to loss of essential marine habitats. *Marine Ecology Progress Series*, 546: 173-181.
- Johnson, G. E. L., Attrill, M.J., Sheehan, E.V. & Somerfield, P.J. 2007. Recovery of meiofauna communities following mudflat disturbance by trampling associated with crab tiling. *Mar Env. Res.* 64: 409-416.

- Miranda, L.S., Collins, A.G., and Marques, A. C., 2010. Molecules clarify a Cnidarian Life Cycle- The “Hydrozoan” *Microhydrula limposicola* is an early life stage of the Staurozoan *Haliclystus antacticus*. *PLoS ONE*, 5(4), e10182.
- Miranda, L.S., Collins, A.G., Hirano, Y.M., Mills, C.E. & Marques, A.C., 2016. Comparative internal anatomy of Staurozoa (Cnidaria), with functional and evolutionary inferences. *PeerJ*, 4, e2594. DOI 10.7717/peerj.2594
- Miranda, L.S., Morandini, A.C. & Marques, A.C., 2012. Do Staurozoa bloom? A review of stauromedusan population biology. *Hydrobiologia*, 690 (1), 57-67
- Nash, R.A., Sabatini, M. & Ballerstedt, S. 2021. *Hippocampus hippocampus* Short snouted seahorse. In Tyler-Walters H. Marine Life Information Network: Biology and Sensitivity Key Information Reviews, [on-line]. Plymouth: Marine Biological Association of the United Kingdom. [cited 28-02-2024]. Available from: <https://www.marlin.ac.uk/species/detail/1788>.
- Roberts, C., Smith, C., Tillin, H. & Tyler-Walters, H. 2010. Review of existing approaches to evaluate marine habitat vulnerability to commercial fishing activities. Report SC080016/R3, Environment Agency, Bristol, pp. 150
- Rossi, F., Forster, R.M., Montserrat, F., Ponti, M., Terlizzi, A., Ysebaert, T. & Middleburg, J.J. 2007. Human trampling as short-term disturbance on intertidal mudflats: effects on macrofauna biodiversity and population dynamics of bivalves. *Mar. Biol.* 151: 2077-2090.
- Sherman K.M. & Coull, B.C. 1980. The response of meiofauna to sediment disturbance. *Journal of Experimental Marine Biological Ecology*.46: 59-71.
- Tyler-Walters, H., & Heard, J.R. 2017. *Calvadosia campanulata* A stalked jellyfish. In Tyler-Walters H. Marine Life Information Network: Biology and Sensitivity Key Information Reviews, [on-line]. Plymouth: Marine Biological Association of the United Kingdom. [cited 28-02-2024]. Available from: <https://www.marlin.ac.uk/species/detail/2101>
- Vincent, A. C. J., Foster, S. J., Koldewey, H. J. 2011. Conservation and management of seahorses and other Syngnathidae. *Journal of Fish Biology*, 78, 1681-1724
- Watson, G.J., Farrell, P., Stanton, S. & Skidmore, L.C. 2007. Effects of bait collection on *Nereis virens* populations and macrofaunal communities in the Solent. UK. *Journal of Marine Biological Association*. 87: 703-716
- Woodall, L. 2017. *Hippocampus hippocampus*. The IUCN Red List of Threatened Species 2017: e.T10069A67618259. <https://dx.doi.org/10.2305/IUCN.UK.2017-3.RLTS.T10069A67618259.en>
- Wynberg, R.P. and Branch, G.M. 1994. Disturbance associated with bait-collection for sandprawns (*Callinassa kraussi*) and mudprawns (*Upogebia africana*): long-term effects on the biota of intertidal sandflats, *Journal of Marine Research*, 52: 523-558
- Wynberg, R.P. and Branch, G.M. 1997. Trampling associated with bait-collection for sand prawns *Callinassakraussi* Stebbing: effects on the biota of an intertidal sandflat. *Environmental Conservation*. 24(2): 139–148

## 1.4 Sediment Impacts

This section covers general impacts relating to the pressures:

- Abrasion/disturbance of the substrate on the surface of the seabed
  - Penetration and/or disturbance of the substratum below the surface of the seabed including abrasion
  - Habitat structure changes – removal of substratum (extraction)
- Abrasion and disturbance are generally related to the direct and physical effects of handwork activity including digging and trampling. Such impacts include the creation of basins and mounds, burial and removal of the substratum, sediment disturbance, changes in vertical distribution of sediment layers and changes in the properties of the sediment (McLusky *et al.*, 1983; Watson *et al.*, 2017).

- Waves and tides can wash away finer sediment and associated organic content that has been dissociated through turning over of sediment (Watson *et al.*, 2017). The effects of this can lead to increased turbidity, pollutants within the water column and potential eutrophication (Watson *et al.*, 2017).
- The upturning of large sections of substrate to access buried invertebrates below the surface can result in layering disruptions and changes in chemical concentrations in the sediment surface layer (Fowler, 1999).
- The physical marks associated with activity may persist over a number of weeks. Where tide and wave action is low or there is limited water exchange within an estuary, the time taken for depressions to be filled following activity increases, potentially resulting in slower rates of sediment recovery than in higher energy sites (Birchenough, 2013).
- Impacts resulting from anthropogenic activity are most evident where the level of disturbance causes differences in sediment structure that are elevated above natural background changes caused by biotic and abiotic factors including changes caused by the benthic community through burrow formation and deposition of faecal material (Probert, 1984).
- A meta-analysis of global studies on hand gathering (and other gear type) impacts found that the magnitude of the response of fauna to fishing varied with the degree of abrasion to the surface of the substratum and changes to habitat (including sediment type) (Clarke *et al.*, 2017).
- Studies on bait pumping for shrimp and bait digging showed an increase in finer sediment accumulation where depressions caused by the activity persist after the activity has taken place (McLusky *et al.*, 1983; Wynberg and Branch, 1994; Contessa and Bird, 2004).

#### 1.4.1 Effects on Seagrass Beds

- Shore gathering activities have the potential to remove, uproot and bury seagrass shoots and rhizomes (Barañano *et al.*, 2018).
- Seagrass is highly sensitive to burial at just 2-16cm depth (Cabaço & Santos, 2007). Burial results in the reduction of leaf and rhizome carbon and starch content, the occurrence of dead shoots and reductions in leaf and sheath lengths (Cabaço & Santos, 2007).
- Impacts are noted to be variable with activity. The sedimentary carbon stock of *Zostera marina* beds was noted to be reduced by 50% in areas subject to clam harvesting, reflecting levels found in unvegetated areas (Barañano *et al.*, 2018), however low-intensity digging activity in *Zostera noltii* beds was noted not to cause any changes in sediment variables or photosynthetic efficiency (Branco *et al.*, 2018).
- Seagrass species can respond in several ways to hand work activity. In response to disturbance, seagrass beds often increase their reproductive effort (Cabaço & Santos, 2012).
- Mechanical disturbances such as clam harvesting have resulted in a nine and four-fold increase in plant reproductive effort (Cabaço & Santos, 2012; Alexandre *et al.*, 2005; Suonan *et al.*, 2017).
- Reproductive effort is a measure of parameters such as; the number of flowering shoots, the number of spathes per flowering shoot, and flowering period (Alexandre *et al.*, 2005; Suonan *et al.*, 2017; Park *et al.*, 2011). However, the response of reproductive effort is species-specific, with a strong positive correlation apparent between rhizome diameter and increased reproductive effort (Cabaço & Santos, 2012). The correlation indicates that species with a higher storage capacity (*Z. marina*) have a higher capacity for investing in

sexual reproduction (Cabaço & Santos, 2012). Those with lower storage capacity such as *Z. noltii* may not be able to recover through reproduction (Cabaço & Santos, 2012).

- On the other hand, research has found that seedlings do not contribute to the recovery of *Z. marina* and therefore increased reproductive effort may not be an effective recovery strategy (Qin *et al.*, 2016). When shoots and rhizomes were removed/buried by clam harvesting in China, seedlings were observed almost as soon as the disturbance had ceased. However, seedlings in both disturbed and control areas did not survive the following winter, unlike the perennial beds in the control site (Qin *et al.*, 2016).
- Recovery time varies considerably between species and location. Boese *et al.*, (2009) stimulated disturbance to a *Z. marina* bed by removing the shoots. Disturbed areas recovered through the growth of rhizomes from perennial seagrass beds. Recovery of an area disturbed within a well-established seagrass bed took 24 months, however in a disturbed area located in the transition zone of seagrass beds (where the bed ends and bare sediment begins) seagrass took 32 months to recover (Boese *et al.*, 2009). The estimated rhizome growth rate was 0.5m per year. Meanwhile, *Zoster noltii* has been found to take approximately five years to recover in Wales, although there is strong variability in seagrass beds from year to year (Bertelli *et al.*, 2018).
- *Zostera japonica* in Korea can recover from clam harvesting vehicles within 5 months of the immediate elimination of shoots (Park *et al.*, 2011). Post recovery the bed had higher above and below ground biomass and rhizome internode length than the control (Park *et al.*, 2011).
- Where seagrass declines the habitat can be recolonised by other species. However, research has shown that *A. marina* may colonize a declining seagrass bed and the presence of the annelid prevented the recovery of the *Z. marina*. Sediment reworking by the worm led to rapid burial of eelgrass seeds below critical depth where they could not develop (Valdemarsen *et al.*, 2011).

#### 1.4.2 Trampling

- In some harvesting methods, abrasion is not caused by the direct impact of the activity itself, but, by the indirect impact of the access required to access resources. The damage occurs when human footsteps interact with the communities residing in the intertidal area, known as trampling.
- Trampling leads to direct and indirect effects. Direct impacts include the immediate damage, crushing or removal of algae and invertebrates, and indirect impacts include changes in community assemblages, due to loss of habitat and changes to environmental variables.
- While the intensity of the trampling has been found to be the key factor in governing the level of impact caused it is also correlated to the recovery time (Araujo *et al.*, 2009; Milazo *et al.*, 2002; Povey & Keough, 1991). Typically, the relationship between trampling intensity and recovery is negative, with more intensely trampled areas requiring longer time frames to recover (Povey & Keough 1991; Araujo *et al.*, 2009; Rita 2011).
- After one year following impact Araujo *et al.* (2009) found the communities of medium and high intensity trampled areas remained significantly different to controls and low trampled sites. Rita (2011) studied recovery over a longer term of five years and found that 36 months following trampling, *A. nodosum* (algae) had recovered in low intensity areas only. 54 months following disturbance, *A. nodosum* had recovered in medium-intensity sites but had not achieved full recovery in high-intensity sites (Rita, 2011).



#### 1.4.2.1 Reefs

- Trampling abrasion during access to sites may lead to crushing/ dislodging or damage to ecologically significant species within reef habitats (Tyler-Walters and Arnold, 2008; Plicanti *et al.*, 2016).
- The extent of damage is dependent on the species and exposure. For example, species with hard exteriors such as mussels or barnacles, may be less impacted than softer bodies individuals within the reef habitats (Tyler-Walters and Arnold, 2008; Plicanti *et al.*, 2016).
- Studies suggest disrupted areas do not recover in highly exposed areas, due to wave action. This therefore suggests that the ability for reefs to recover following trampling is dependent on exposure to wave action and tides (Tyler-Walters and Arnold, 2008; Plicanti *et al.*, 2016).
- Differences in impact vary, studies have found large declines in *Mytilus californianus* after trampling in mussel beds, with up to 54% loss in experimental plots after 1 day of trampling (Brosnan and Crumrine, 1994). However, Smith and Murray (2005) found only 15% of loss as a direct result of trampling, during experimental exposure to mussel bed reefs.

#### 1.4.2.2 Mud and Sand Flats

- Trampling intensity has been shown to be a crucial factor in the level of impact caused to sandy beach macrofauna on the Eastern Cape coast (Moffett *et al.*, 1998).
- In soft intertidal mud, clear footprints have been found to remain four days after trampling and disturbance is still visible 21 days later (Rossi *et al.*, 2007), however, it was concluded this does not affect abiotic characteristics of the sediments.
- Johnson *et al.*, (2007) found no significant differences between the grain size, total organic content and penetrability following six trampling events on an intertidal mudflat habitat in Southwest England.
- Rossi *et al.* (2007) also found no difference in inorganic nitrogen content in the top centimetre of surface water, however higher trampling intensities have been found to impact chlorophyll levels (Wynberg and Branch 1997).
- Research on the effects of trampling on sediment habitats has mostly focused on the impacts on the communities living below the surface of the sediment, with general decreases in tube-dwelling, sub-surface deposit feeders and deep burrowing species (Wynberg and Branch, 1994).
- In one specific study from SW England, twelve hours following trampling, nematode abundance and species number significantly declined but were seen to recover within 36 hours (Johnson *et al.*, 2007).
- It is understood that meiofauna bury themselves deeper into the sediment in response to trampling and therefore the community can recover quickly once the impact has ceased (Johnson *et al.*, 2007).
- Mobile species, such as annelids have shown no changes from trampling, although adult bivalve species, *Cerastoderma edule* and *Macoma balthica*, significantly declined in abundance at trampled sites (Rossi *et al.*, 2007).
- In contradiction, trampling enhanced the recruitment rate of juvenile *M. balthica* and did not impact juvenile *C. edule* (Rossi *et al.*, 2007).
- On sandy beaches, often visited by tourists rather than shellfish collectors, trampling in the supralittoral zone has been shown to lead to mortality and declines in sand hopper (*Talitrus saltator*) density (Ugolini *et al.*, 2007).
- Between the high tide and swash zone clear negative impacts of trampling on sand communities have been demonstrated during the summer season in southern Spain (Reyes-Martinez *et al.*, 2015). Over time, trampling changes the density and taxonomic

structure of the macrofauna compared to a protected site. The sand shrimp *Bathyporeia pelagica* was severely affected in the most trampled area reducing to zero individuals per m<sup>2</sup> (Reyes-Martinez *et al.*, 2015). Crustaceans can decrease by more than 60% in trampled areas, meanwhile polychaetes increase by more than 60%. In a protected area, microbenthic density increased compared to a significant decrease in disturbed areas (Reyes-Martinez *et al.*, 2015).

- A study of a number of animals in enclosures found that at low trampling intensities few of the macrofauna were damaged, but the level of damage was substantial (mean 70% and 63%) for *Gastrosaccus psammodytes* and *D. serra* respectively, under intense trampling (Moffett *et al.*, 1998).

#### 1.4.2.3 Saltmarsh

- Low-level trampling was not found to affect the redox discontinuity layer, organic matter content, silt-clay content and soil pH of saltmarsh in the UK in winter or summer (Chandrasekara and Frid, 1996). Trampled areas versus untrampled areas showed no difference in winter and summer.
- Chandrasekara and Frid (1996) concluded that the saltmarsh vegetation cushions the impact of trampling and therefore prevents impacts to the sediment infauna.
- In Wales, a study of long-term (48 years) trampling on saltmarsh found that it did not affect the physical characteristics of the sediments, water content or bulk density (Headley and Sale, 1999).
- However, the penetration resistance (sediment compaction) increased significantly in trampled areas. As with short-term disturbance, long-term trampling reduced the abundance and vegetation height by 14cm on average, of *Halimione portulacoides* and four other species, resulting in higher bare ground cover (Headley and Sale, 1999). This led to increased abundances of typically lower-growing halophyte species in the midmarsh zone, which were significantly more present in trampled areas including; *Armeria maritima*, *Aster tripolium*, *Glaux maritima*, *Salicornia europaea*, *Spergularia marginata* and *Suaeda maritima*. Overall, trampling anthropogenically increased the species diversity of the saltmarsh communities and led to new plant communities (Headley and Sale, 1999).
- Natural saltmarshes in Denmark were found to be relatively resistant to trampling, showing limited changes in species abundance and diversity (Andersen, 1995).
- However, other habitat types, such as uncut grassland, artificial dunes and dunes, had clear negative impacts of trampling. Andersen (1995) concluded that saltmarsh is resistant to a low trampling level of approximately five visitors per day.
- Intensity of trampling studies on Californian saltmarsh (*Salicornia virginica*) found all trampling led to a decrease in intensity and frequency of saltmarsh height and flower production over a six-month period. However, heavy trampling led to 90% cover of bare ground (Woolfolk, 1999).
- In one area lightly trampled plots did not initially show signs of damage, but six months later *S. virginica* canopy declined by around ten percent whilst controls did not, showing a delayed response to trampling. Overall, trampling can decrease saltmarsh abundance, change community structure and promote invasion of introduced species all contributing to the loss of marsh habitat (Woolfolk, 1999).
- Trampling and other disturbances have also been found to affect the reproductive potential of saltmarsh (*Plantago maritima*) in Poland (Lazarus *et al.*, 2020). Although intensive grazing had the largest impact on saltmarsh, intensive human trampling had a similar effect, decreasing fruit seed abundance and size.

- Recovery studies in California reported that heights did not reach the height of controls within two and a half years after trampling (Woolfolk, 1999). Significant differences between insects and arachnid communities were still present between trampled and controls (Woolfolk, 1999).
- Martone, & Wasson (2008) found that after nine months of recovery trampled plots still had significantly lower percent cover of native plants. For tidally flushed sites, by 12 months native plants had recovered, however, for tidally restricted sites, recovery of native plants took between 12 and 22 months and was still lower (not significantly) at the end of the 22-month study period (Martone, & Wasson, 2008).

#### 1.4.2.4 Seagrass Beds

- Access to seagrass beds for shore gathering activities results in trampling of the substratum. The higher the activity level the worse the effects of the trampling might be (Eckrich & Holmquist, 2000).
- Intensive trampling from tourist visitors over *Zostera marina* beds, resulted in a significant reduction of seagrass cover (Travaille *et al.*, 2015).
- Seagrass (*Thalassia testudinum*) biomass was noted to directly relate to trampling intensity and duration (Eckrich & Holmquist, 2000; Major *et al.*, 2004). As well as trampling intensity, the substrate type plays an important role in the severity of trampling impacts on seagrass beds; with softer substrates more vulnerable to significant biomass reductions (Eckrich & Holmquist, 2000).
- Different types of footwear can also lead to significant effect levels (Major *et al.*, 2004).

## Summary

- Abrasion impacts may include the creation of basins and mounds, burial and removal of the substratum, sediment disturbance, changes in vertical distribution of sediment layers and changes in the properties of the sediment.
- Impacts resulting from anthropogenic activity are most evident where the level of disturbance causes differences to sediment structure that are elevated above natural background changes caused by biotic and abiotic factors including changes caused by the benthic community through burrow formation and deposition of faecal material.
- A meta-analysis of global studies on hand gathering (and other gear type) impacts found that the magnitude of the response of fauna to fishing varied with the degree of abrasion to the surface of the substratum and changes to habitat (including sediment type).
- Shore gathering activities have the potential to remove, uproot and bury seagrass shoots and rhizomes.
- Impacts to seagrass are noted to be variable with activity and different species can respond in different ways. This includes increasing reproductive effort, potential related to the storage capacity of the particular species. However, seedlings have been noted not to survive to produce a full adult plant in some cases, offsetting the increased reproductive effort.
- In some harvesting methods, abrasion is not caused by the direct impact of the activity itself, but, by the indirect impact of the access required to access resources.
- Trampling leads to direct and indirect effects. Direct impacts include the immediate damage, crushing or removal of algae and invertebrates, and indirect impacts include changes in community assemblages, due to loss of habitat and changes to environmental variables.
- Typically, the relationship between trampling intensity and recovery is negative, with more intensely trampled areas requiring longer time frames to recover.
- Reefs, mud & sand flats, saltmarsh and seagrass beds may all be subject to impacts from trampling. Different habitats will be subject to different levels of impact and recovery times.

## References for Section 1.4

- Alexandre, A, Santos, R, Serrã, E. 2005. Effects of clam harvesting on sexual reproduction of the seagrass *Zostera noltii*. *Marine Ecology Progress Series*. 298: 115-122.
- Andersen, U.V. 1995. Resistance of Danish coastal vegetation types to human trampling. *Biological Conservation*. 71 (3): 223-230pp. [https://doi.org/10.1016/0006-3207\(94\)00031-K](https://doi.org/10.1016/0006-3207(94)00031-K)
- Araujo, R., Vaselli, S., Almeida, M., Serrao and Sousa-Pinto, I. 2009. Effects of disturbance on marginal populations: human trampling on *Ascophyllum nodosum* assemblages at its southern distribution limit. *Marine Ecology Progress Series*. 378: 81-92.
- Araujo, R., Vaselli, S., Almeida, M., Serrao and Sousa-Pinto, I. 2009. Effects of disturbance on marginal populations: human trampling on *Ascophyllum nodosum* assemblages at its southern distribution limit. *Marine Ecology Progress Series*. 378: 81-92.
- Barañano, C. Fernández, E. & Méndez, G. 2018. Clam Harvesting decreases the sedimentary carbon stock of a *Zostera marina* meadow. *Aquatic Botany*. 146: 48-57
- Bertelli, C.M., Robinson, M.T., Mendzil, A.F., Pratt, L.R. & Unsworth, R.K.F. 2018. Finding some seagrass optimism in Wales, the case of *Zostera noltii*. *Marine Pollution Bulletin*. 134:216-222.
- Birchenough, S. E. 2013. Impact of bait collecting in Poole Harbour and other estuaries within the Southern IFCA District. Project FES 286 Report, MMO Fisheries Challenge Fund Report for Southern Inshore Fisheries and Conservation Authority, pp. 117
- Boese, B., Kaldy, J.E., Clinton, P.J., Eldridge, P.M. & Folger, C.L. 2009. Recolonization of intertidal *Zostera marina* L. (eelgrass) following experimental shoot removal. *J. Exp. Mar. Biol. Ecol.* 347: 69-77.
- Branco, J., Pedro, S., Alves, A.S., Ribeiro, C., Materatski, P., Pires, R., Caçador, I., Adão, H., 2018. Natural recovery of *Zostera noltii* seagrass beds and benthic nematode assemblage responses

- to physical disturbance caused by traditional harvesting activities. *Journal of Experimental Marine Biology and Ecology*. 502: 191-2020
- Brosnan, D.M. and Crumrine, L.L. 1994. Effects of human trampling on marine rocky shore communities. *J. Exp. Mar. Biol. Ecol.* 177 : 79-97pp
- Brown, P. J., and R. B. Taylor. 1999. Effects of trampling by humans on animals inhabiting coralline algal turf in the rocky intertidal. *Journal of Experimental Marine Biology and Ecology* 235:45-53.
- Cabaço, S. & Santos, R. 2007. Effects of burial and erosion on the seagrass *Zostera noltii*. *Journal of experimental marine biology*. 340:204-212.
- Cabaço, S. & Santos, R. 2012. Seagrass reproductive effort as an ecological indicator of disturbance. *Ecological Indicators*. 23:116-122.
- Casu, D. Ceccherellib, G., Curini-Gallettic, M., Castella, A. 2006. Human exclusion from rocky shores in a mediterranean marine protected area (MPA):An opportunity to investigate the effects of trampling. *Marine Environmental Research* 62: 15–32
- Chandrasekara, W.U. and Frid, C.L.J. 1996. Effects of human trampling on tidal flat infauna. *Aquatic Conservation: Marine and Freshwater Ecosystems*. 6: 299-311
- Clarke L.J., Hughes K.M., Esteves L.S., Herbert R.J.H. and Stilman R.A. 2017. Intertidal invertebrate harvesting: a meta-analysis of impacts and recovery in an important waterbird prey resource. *Marine Ecology Progress Series*. Vol 584: 229-244.
- Contessa, L. and Bird, F.L. 2004. The impact of bait-pumping on populations of the ghost shrimp *Trypaea australiensis* Dana (Decapoda: Callinassidae) and the sediment environment, *Journal of Experimental Marine Biology and Ecology*, 304: 75-97
- Eckrich C, Holmquist J 2000. Trampling in a seagrass assemblage: direct effects, response of associated fauna, and the role of substrate characteristics. *Mar Ecol Prog Ser* 201: 199–209
- Erickson, A. 2003. Integrating Law, Science, and Regulation in Public Lands Management: An Application of Policy Science to Manage Impacts from Human Trampling on the Rocky Shore of Olympic National Park, Washington, USA. Thesis. University of Washington
- Fowler, S. L. 1999. Guidelines for managing the collection of bait and other shoreline animals within UK European Marine Sites. Report to English Nature UK Marine SACs Project, pp.132
- Headley, A.D. and Sale, F. 1999. The impacts of trampling by students on saltmarsh vegetation. *Field Studies*. 9: 513-530pp.
- Herbert, R. J. H., Ma, L., Marston, A., Farnham, W. F., Tittley, I. & Cornes R. C., 2016. The calcareous brown alga *Padina pavonica* in southern Britain: population change and tenacity over 300 years. *Mar Biol*, 163 (3), 1-15.
- Jenkins, C., M. E. Haas, A. Olson, and J. L. Ruesink. 2002. Impacts of trampling on a rocky shoreline of San Juan Island, Washington. *Natural Areas Journal* 22:260-269.
- Johnson, G.E.L., Attrill I, M.J., Sheehan, E.V., Somerfield, P.J., 2007. Recovery of meiofauna communities following mudflat disturbance by trampling associated with crab-tiling, *Marine Environmental Research*. doi : 10.1016/j.marenvres.2007.03.002
- Lazarus, M., Mazur, J., Wszalek-Rożek, K., Zwolicki, A. 2020. How environmental stressors affect reproductive potential in a saltmarsh plant species *Plantago maritima*. *Ecology and Evolution*. 11:3274 – 3285. DOI: 10.1002/ece3.7277
- Long, J.D., Cochrane, E., Dolecal, R.E. 2011. Previous disturbance enhances the negative effects of trampling on barnacles. *Marine Ecology Progress Series*. 437: 165–173
- Major, W.W., Grue, C.E., Grassley, J.M., & Conquest, L.L. 2004. Non- target impacts to eelgrass from treatments to control spartina in Willapa Bay, Washington. *Journal of Aquatic Plant Management*. 42:11-17.
- Martone, R.G., Wasson, K. 2008. Impacts and interactions of multiple human perturbations in a California salt marsh. *Oecologia* 158: 151–163pp. <https://doi.org/10.1007/s00442-008-1129-4>
- McLusky, D.S., Anderson, F.E. and Wolfe-Murphy, S. 1983. Distribution and population recovery of *Arenicola marina* and other benthic fauna after bait digging, *Marine Ecology Progress Series*, 11: 173-179
- Micheli, F Kimberly W. Heiman, Carrie V. Kappel, Rebecca G. Martone, Suresh A. Sethi, Giacomo C. Osio, Simonetta Frascchetti, Andrew O. Shelton, Jacqui M. Tanner. 2016. Combined impacts of natural and human disturbances on rocky shore communities, *Ocean & Coastal Management*, 126: Pages 42-50.,
- Michinton, T.E. and Fels, K.J. 2013. Sediment disturbance associated with trampling by humans alters species assemblages on a rocky intertidal seashore. *Marine Ecology Progress Series*. 472: 129–140pp.

- Milazo, M., Chemello, R., Badalamenti, F., and Riggio, S. 2002. Short-term effect of human trampling on the upper infralittoral macroalgae of Ustica Island MPA (western Mediterranean, Italy). *J. Mar. Biol. Ass. U.K.* 82: 745-748
- Milazo, M., Chemello, R., Badalamenti, F., and Riggio, S. 2002. Short-term effect of human trampling on the upper infralittoral macroalgae of Ustica Island MPA (western Mediterranean, Italy). *J. Mar. Biol. Ass. U.K.* 82: 745-748
- Mistri, M., Cason, E., Munari, C., Rossi, R. 2009. Disturbance of a soft-sediment meiobenthic community by clam hand raking. *Italian Journal of Zoology*. 71(2): 131-133.
- Moffett MD, McLachlan A, Winter PED, De Ruyck AMC. 1988 Impact of trampling on sandy beach macrofauna. *Journal of Coastal Conservation*. 1998; 4(1):87-90. *Environ Monit Assess*. 152: 413-424pp
- Montevecchi, W.A., 2023. Interactions between fisheries and seabirds: Prey modification, discards, and bycatch. In *Conservation of Marine Birds* (pp. 57-95). Academic Press.
- Park, S.R., Kim, Y. K., Kim, J-H., Kang, C-K., Lee, K-S. 2011. Rapid recovery of the intertidal seagrass *Zostera japonica* following intense Manila clam (*Ruditapes philippinarum*) harvesting activity in Korea. *Journal of Experimental Marine Biology and Ecology*. 407:275-283
- Plicanti, A., Domínguez, R., Dubois, S.F. and Bertocci, I., 2016. Human impacts on biogenic habitats: Effects of experimental trampling on *Sabellaria alveolata* (Linnaeus, 1767) reefs. *Journal of Experimental Marine Biology and Ecology*, 478, pp.34-44.
- Pour, F.A. 2013. Visitor impact on rocky shore communities of Qeshm Island, the Persian Gulf, Iran. *Environ Monit Assess*. 185: 1859-1871pp
- Povey, A. and Keough, M. J. 1991. Effects of trampling on plant and animal populations on rocky shores. *Oikos* 61: 355-368pp.
- Povey, A. and Keough, M. J. 1991. Effects of trampling on plant and animal populations on rocky shores. *Oikos* 61: 355-368pp.
- Price, J.H., Tittley, I. & Richardson, W.D., 1979. The distribution of *Padina pavonica* (L.) Lamour. (Phaeophyta: Dictyotales) on British and adjacent European shores. *Brit Mus (Natural History) Bot Ser*, 7, 1-67.
- Probert, P.K. 1984. Disturbance, sediment stability, and trophic structure of soft-bottom communities, *Journal of Marine Research*, 42: 893-921
- Qin, L-Z., Li, W-T., Zhang, X., Zhang, P., Qiao, W. 2016. Recovery of the eelgrass *Zostera marina* following intense Manila clam (*Ruditapes philippinarum*) harvesting disturbance in China: The role and fate of seedlings. *Aquatic Botany*. 130 :27-36.
- Reyes-Martinez, M.J. Ruíz-Delgado, M., Sanchez-Moyano, J.E. García-García, F.J. 2015. Response of intertidal sandy-beach macrofauna to human trampling: An urban vs. natural beach system approach. *Marine Environmental Research* 103: 36-45pp
- Rita, A. Isabel, S-P. Serrão, E.A. and Per. A. 2011. Recovery after trampling disturbance in a canopy-forming seaweed population. *Mar Biol*. 159(3): 697-707pp
- Rita, A. Isabel, S-P. Serrão, E.A. and Per. A. 2011. Recovery after trampling disturbance in a canopy-forming seaweed population. *Mar Biol*. 159(3): 697-707pp
- Rossi, F., Forster, R.M., Montserrat, F., Ponti, M., Terlizzi, A., Ysebaert, T. & Middleburg, J.J. 2007. Human trampling as short-term disturbance on intertidal mudflats: effects on macrofauna biodiversity and population dynamics of bivalves. *Mar. Biol*. 151: 2077-2090.
- Schiel, D.R. & Taylor, D.I., 1999. Effects of trampling on a rocky intertidal algal assemblage in southern New Zealand. *Journal of Experimental Marine Biology and Ecology*, 235, 213-235.
- Smith, J.R. and Murray, S.N., 2005. The effects of experimental bait collection and trampling on a *Mytilus californianus* mussel bed in southern California. *Marine Biology*, 147, 699- 706.
- Suonan, Z., Kim, S.H., Qin, L-Z., Lee, K-S. 2017. Reproductive strategy of the intertidal seagrass *Zostera japonica* under different levels of disturbance and tidal inundation. *Estuarine, Coastal and Shelf Science*. 197:185-193
- Travaille, K.L., Salinas-de-Leon, P., Bell, J.J. 2015. Indication of visitor trampling impacts on intertidal seagrass beds in a New Zealand marine reserve. *Ocean & coastal Management*. 114: 145-150.
- Tyler-Walters, H. and Arnold, C., 2008. Sensitivity of Intertidal Benthic Habitats to Impacts Caused by Access to Fishing Grounds. CCW Policy Research Report No. 08/13, pp.48
- Ugolini, A. Giuseppe Ungherese, Silvia Somigli, Giuditta Galanti, Davide Baroni, *et al.* The amphipod as a bioindicator of human trampling on sandy beaches. *Marine Environmental Research*. 65 (4), pp.349. 10.1016/j.marenvres.2007.12.002.hal-00501933
- Valdemarsen, T., Wendelboe, K., Egelund, J.T., Kristensen, E. & Flindt, M.R. 2011. Burial of seeds and seedlings by the lugworm *Arenicola marina* hampers eelgrass (*Zostera marina*) recovery. *Experimental Marine Biology and Ecology*. 410:45-52

- Watson, G. J. *et al.*, 2017. Assessing the impacts of bait collection on inter-tidal sediment and the associated macrofaunal and bird communities: The importance of appropriate spatial scales. *Marine Environmental Research*, Volume 130: 112-133.
- Woolfolk, A.M. 1999. Effects of human trampling and cattle grazing on salt marsh assemblages in Elkhorn Slough, California. Master's Thesis. California State University, Sacramento. Available at: <http://hdl.handle.net/20.500.12680/7h149v603>
- Wynberg, R.P. and Branch, G.M. 1994. Disturbance associated with bait-collection for sandprawns (*Callinassa kraussi*) and mudprawns (*Upogebia africana*): long-term effects on the biota of intertidal sandflats, *Journal of Marine Research*, 52: 523-558
- Wynberg, R.P. and Branch, G.M. 1997. Trampling associated with bait-collection for sand prawns *Callinassakraussi* Stebbing: effects on the biota of an intertidal sandflat. *Environmental Conservation*. 24(2): 139–148

## 1.5 Protected bird species: visual disturbance

- Anthropogenic disturbance can affect an animal's behaviour and rate of survival (Liley, *et al.*, 2012a; 2012b).
- In this context, disturbance is defined as any human activity that has the potential to affect the behaviour of an animal. The disturbance may be audible or visual and where possible, these disturbances are distinguished.

### 1.5.1 Levels of Disturbance and Immediate Response

- Immediate results of disturbance range from birds becoming alert to taking major flights (>50m) to alternative suitable habitats (Liley *et al.*, 2010; Liley *et al.*, 2012a).
- Water-based and mechanically fuelled human activity are likely to cause higher levels of disturbance in bird populations whereas slower moving activities such as bird watching and hand picking of clams do not usually cause birds to flush or take flight (Burger, 1981).
- Furthermore, activities in the intertidal area are more likely to cause a disturbance event than activities occurring further up the shore due to the closer proximity to feeding intertidal birds (Riddington *et al.*, 1996; Liley *et al.*, 2010; Liley and Fearnley, 2012).
- The local level of disturbance intensity varies with ease of access to the location, habitat, and activity type (Goss-Custard and Verboven, 1993; Liley and Fearnley, 2012).
- The level of response to a disturbance is species-specific for shorebirds with individuals spending up to a third of their time displaying disturbance-related behaviours (Blumstein *et al.*, 2003; Schlacher *et al.*, 2013).
- Studies suggest the likelihood of a bird to respond to an anthropogenic disturbance can be indicated by the body size and quantity of food consumed by a species, with larger species becoming alert at extended distances (Blumstein *et al.*, 2005; Palacios *et al.*, 2022).
- An earlier response time is necessary for larger species due to a lack of agility, in comparison to smaller species, making predator avoidance more difficult (Witter *et al.*, 1994).
- Other factors influencing the level of disturbance include flock size, distance to the disturbance and noise levels (Rees *et al.*, 2005; Wright *et al.*, 2010).
- Scan rates increase with the speed at which a visual disturbance is occurring, and the likelihood of an energetically expensive behavioural response increases with noise level (Fitzpatrick and Bouchez, 1998; Wright, *et al.*, 2010).

- Birds are reported to display both decreased nest attentiveness and increased vigilance when exposed to higher levels of disturbance (Riddington, *et al.*, 1996; Baudains and Lloyd, 2007).
- Research within Poole Harbour suggests that sites with higher levels of access lead to a lower level of bird response due to the type of activity. Sites in Baiter Park and Holes Bay showed the highest levels of access however, the activities were mostly limited to slower and quieter activities, such as walking and cycling. Areas with more frequent disturbance events were concentrated on the Studland side of Poole Harbour (Arne, Pilots Point, Bramble Bush Bay) and were predominantly the result of unpredictable and loud activities, such as unleashed dogs and water sports (Liley and Fearnley, 2012).
- Other models suggest the complete removal of human disturbance could increase bird (in this case, Ringed Plovers) populations by up to 85% (Liley and Sutherland, 2007) and to 100% survival in the Solent (Stillman *et al.*, 2012).
- In a study in South Africa, birds displayed a greater tolerance to the distance humans could approach the nest before taking flight and returned faster after frequent disturbance (Baudains and Lloyd, 2007).
- Literature on the effects of disturbance on feeding behaviours found contrasting positive, negative and no affect results with increased disturbance (Riddington, *et al.*, 1996; Fitzpatrick and Bouchez, 1998; Navedo and Masero, 2008; Verhulst, *et al.*, 2001).
- Although, Fitzpatrick and Bouchez (1998) describe a decrease in the amount of food redistributed to chicks as disturbance increased.
- Other changes in feeding behaviour include an increased concentration of wading shore birds feeding around crab tiles and geese altering feeding patterns to feed for an extra hour at night to balance their daily energy expenditure (Rees, *et al.*, 2005; Sheehan, 2007).

### 1.5.2 Longer Term Response

- The majority of the literature reviewed described habituation and redistribution/loss of habitat as a long-term impact of anthropogenic disturbance of bird populations. Habituation is defined as the alteration of an instinctual behaviour of birds as a result of frequent anthropogenic disturbance.
- Redistribution and a temporary loss of habitat as a result of disturbance occurs at a range of temporal and spatial scales and varies with species depending on the level of disturbance (Burger, 1981).
- There is evidence to suggest birds opt not to use areas of suitable habitat that experience disturbance; this evidence discusses roads, shipping, offshore wind farms and organized scaring (Gill, 1996; Klassen *et al.*, 2005).
- Oystercatchers have been reported to alter their feeding schedule within a tidal cycle to avoid coinciding with humans in the mussel beds of the Exe Estuary (Goss-Custard and Verboven, 1993).
- Similar results have been displayed with Redshank, Curlew and Oystercatchers, altering their arrival and departure from sites in Belfast Lough, depending on the levels of recreational activity (Fitzpatrick and Bouchez, 1998).
- Studies in Glasgow found whooper swans displayed a short-term decrease in sensitivity to disturbance when daily disturbance levels were high (Rees *et al.*, 2005). There was no evidence to suggest these short-term habituations remain on a longer time scale.



- Literature suggests an increase in anthropogenic disturbance causes a reduction in egg incubation time and parental care, leading to a decrease in reproductive success (Verhulst *et al.*, 2001; Baudains and Lloyd, 2007).
- However, it has been stated that there is no guarantee behavioural responses (as a result of disturbance) are related to changes in reproduction or mortality and, species should be assessed on an individual basis (Stillman, *et al* 2007).

### 1.5.3 Shore gathering and disturbance

- There is little research focused on areas within the Southern IFC District (five out of 62 papers reviewed). A significant amount of the research relies on models and is species-specific.
- Of the 22 pieces of literature reviewed that discussed an interaction between birds and intertidal fisheries only six discussed disturbances by shore gatherers, the remainder discussed the implications of removing a food source.
- Two out of the six discussed the disturbance or change of behaviour caused by the structures used in the fishery (crab tiles and oyster culture trestle tables) (Higherloh *et al.*, 2001; Sheehan, 2007).
- Of the remaining four articles, only one discussed hand gathering of clams as a potential disturbance causing activity and the remaining three referred to bait digging.
- No information was found regarding birds being disturbed by seaweed gathering or shrimp push netting.
- As these activities also occur in the intertidal zone and are carried out at a relatively slow pace when compared to jogging or water sports, we can assume the potential for bird disturbance is likely similar to bait digging and hand gathering of clams.
- Shellfish hand gatherers are reported unlikely to cause a disturbance to birds as a result of the slow-moving behaviour of the activity (Burger, 1981).

#### *Studies from the Southern IFCA District*

- A report focusing on Poole Harbour described an observed 1558 potential disturbance events by bait diggers over an 11-day period. Only seven percent of these observations resulted in a disturbance. The disturbances ranged from birds walking or swimming away to taking a major flight (Liley *et al.*, 2012).
- In the Solent, during more than 70% of bait digging, crab tilling and shellfish gathering events, no bird disturbance was caused, although most events where disturbance did occur led to major flights by birds (Liley *et al.*, 2010). Data collected did not suggest that sites with higher access levels (e.g. more people) do not experience significantly higher disturbance events which could indicate that some level of habituation occurs within bird populations (Liley *et al.*, 2010).
- Bird disturbance in general declined with distance, where events occur 100m or more away from birds rarely led to disturbance (Liley *et al.*, 2010).
- Developing on this work, Stillman *et al.* (2012b) used a model to understand the likely impact of disturbance to bird survivability in the Solent. Due to the assumed relative infrequency of bait digging activity (1.2% of visits), removal of the activity from the model did not lead to higher survivability of birds, although the model did not factor in the effect on bird prey availability.

## Studies from the wider UK

- In contrast, other evidence discusses a negative correlation between the number of bait diggers and wader and gull abundance, and the reduction in the extent of uses of a refuge area by waterfowl species in the Northeast of England. These results are suggested to be due to the larger body mass of waders and an increased vulnerability to predators. The decreased abundance of gulls was not expected as they are thought to be a more tolerant species, however, this is likely due to a lower level of access and hence decrease habituations of the gulls in the study area (Townshend and O'Connor, 1993; Watson *et al.*, 2017).

### Summary

- Anthropogenic disturbance causes a range of species-specific responses to bird species, which scale from increased vigilance and scan rates to longer term redistribution of a species.
- Disturbance can result in changes to the fitness of bird species and has the potential to cause changes in population size through increased mortality.
- The information relating directly to intertidal fisheries and shore gathering activities is minimal; however, due to the slow moving and quiet nature of shore gathering, the majority of interactions are not likely to result in disturbance, unless the activity begins to occur in areas with previously very low levels of access and decreased levels of habituation as a result.

## References for Section 1.5

- Baudains, T. P. & Lloyd, P., 2007. Habituation and habitat changes can moderate the impacts of human disturbance on shorebird breeding performance. *Animal Conservation*, 10(3), pp. 400-407.
- Blumstein, D. T., Anthony, L. L., Harcourt, R. & Ross, G., 2003. Testing a key assumption of wildlife buffer zones: is flight initiation distance a species-specific trait?. *Biological Conservation*, 110(1), pp. 97-100.
- Blumstein, D. T., Fernández-Juricic, E., Zollner, P. A. & Garity, S. C., 2005. Inter-specific variation in avian responses to human disturbance. *Journal of Applied Ecology*, 42(5), pp. 943-953.
- Burger, J., 1981. The effect of human activity on birds at a coastal bay. *Biological Conservation*, 21(3), pp. 231-241.
- Fitzpatrick, S. & Bouchez, B., 1998. Effects of recreational disturbance on the foraging behaviour of waders on a rocky beach. *Bird Study*, 45(2), pp. 157-171.
- Gill, J. A., 1996. Habitat Choice in Pink-Footed Geese: Quantifying the Constraints Determining Winter Site Use. *Journal of Applied Ecology*, 33(4), pp. 884-92.
- Goss-Custard, J. D. & Verboven, N., 1993. Disturbance and feeding shorebirds on the Exe estuary. *Wader Study Group Bull*, pp. 68:59-66.
- Higherloh, G., Halloran, J. O., Kelly, T. C. & Burnell, G. M., 2001. A preliminary study on the effects of oyster culturing structures on birds in a sheltered Irish estuary. *Hydrobiologia*, Volume 465, pp. 175-180.
- Klassen, M., Bauer, S., Madsen, J. & Tombre, I., 2005. Modelling behavioural and fitness consequences of disturbance for geese along their spring flyway. *Journal of Applied Ecology*, 43(1), pp. 92-100.
- Liley, D. & Fearnley, H., 2012. *Poole Harbour Disturbance Study. Report for Natural England*, Wareham, Dorset: Footprint Ecology Ltd.
- Liley, D. *et al.*, 2012a. *Identifying best practice in management of activities on Marine Protected Areas*. S.I.:Footprint Ecology/Bright Angel Consultants/MARINELife.
- Liley, D., Cruikshanks, K., Fearnley, H. & Lake, S., 2012b. *The effect of bait collection on waterfowl foraging behaviour in Holes Bay, Poole Harbour. Report for Natural England*, Wareham, Dorset: Footprint Ecology Ltd..

- Navedo, J.G. & Masero, J.A. 2008. Effects of traditional clam harvesting on the foraging ecology of migrating curlews (*Numenius arquata*). *J. Exp. Mar. Biol. Ecol.*, **355**, 1, 59-65.
- Palacios, E. P., Vargas, J., Fernández, G. & Reiter, M. E., 2022. Impact of human disturbance on the abundance of non-breeding shorebirds in a subtropical wetland. *Biotropica*, 54(5), pp. 1160-1169.
- Rees, E. C., Bruce, J. H. & White, G. T., 2005. Factors affecting the behavioral response of whooper swans (*Cygnus c. cygnus*) to various human activities. *Biological Conservation*, 121(3), pp. 369-382.
- Richardson, W. J., Greene, Jr, C. R. & Thomson, D. H., 1995. *Marine Mammals and Noise*. San Diego: Academic Press.
- Riddington, R. *et al.*, 1996. The impact of disturbance on the behaviour and energy budgets of Brent Geese *Branta b. bernicla*. *Bird Study*, 43(3), pp. 269-279.
- Schlacher, T. A., Nielsen, T. & Weston, M. A., 2013. Human recreation alters behaviour profiles of non-breeding birds on open-coast sandy shores. *Estuarine, Coastal and Shelf Science*, Volume 118, pp. 31-42.
- Sheehan, E. V., 2007. *Ecological impact of the Carcinus maenas (L.) fishery 'crab-tiling' on estuarine fauna*, PhD Thesis, s.l.: University of Plymouth.
- Stillman, S., West, A. D., Caldow, R. W. G. & Dittmann, S. E. A. L. V., 2007. Predicting the effect of disturbance on coastal birds. *International Journal of Avian Science*, 149(s1), pp. 73-81.
- Townshend, D. J. & O'Connor, D. A., 1993. Some effects of disturbance to waterfowl from bait-digging and wildfowling at Lindisfarne National Nature Reserve, north-east England. *Wader Study Group Bulletin*, Volume 68, pp. 47-52.
- Veprauskas, A., Ackleh, A. S. & Tang, T., 2018. Examining the effect of reoccurring disturbances on population persistence with application to marine mammals. *Journal of Theoretical Biology*, pp. 109-117.
- Verhulst, S., Oosterbeek, K. & Ens, B. J., 2001. Experimental evidence for effects of human disturbance on foraging and parental care in oystercatchers. *Biological Conservation*, 101(3), pp. 375-380.
- Wale, M. A., Briers, R. A. & Diele, K., 2021. Marine invertebrate anthropogenic noise research – Trends in methods and future directions. *Marine Pollution Bulletin*, p. 112958.
- Watson, G. J. *et al.*, 2017. Assessing the impacts of bait collection on inter-tidal sediment and the associated macrofaunal and bird communities: The importance of appropriate spatial scales. *Marine Environmental Research*, Volume 130, pp. 112-133.
- Witter, M. S., Cuthill, I. C. & Bonser, H. C., 1994. Experimental investigations of mass-dependent predation risk in the European starling, *Sturnus vulgaris*. *Animal Behaviour*, 48(1), pp. 201-222.
- Wright, M. D., Goodman, P. & Cameron, T. C., 2010. Exploring behavioural responses of shorebirds to impulsive noise.. *Wildfowl Journal*, Volume 60, pp. 150-167.

## 1.6 Protected bird species: food availability

### 1.6.1 Removal of target species

- Shellfisheries can provide a potential source of conflict by competing with the same food resources as certain bird species (Atkinson *et al.*, 2003).
- The removal of food resources by shellfish fishing therefore has the potential to have detrimental effects on the amount of food available per bird and subsequently increases the chance of a threshold being reached where mortality from starvation begins to increase (West *et al.*, 2005; Navedo *et al.*, 2008).
- The removal of shellfish from productive beds, along with associated disturbance, can drive birds from preferred feeding grounds to areas of poorer quality. This can lead to an increase in bird densities and a subsequent intensification of interference and exploitation competition for food, which can reduce intake rate and probability of starvation, particularly in winter (Goss-Custard & Verboven, 1993; Clark, 1993; Goss-Custard *et al.*, 1996).

- It is important to understand to what degree bird species can switch to other food resources, if their target species (that may also be the target species of the fishery) is reduced (Schmechel, 2001).
- It was reported by Zwarts *et al.* (1996a) that along the north-west European coast there are limited possibilities of alternative prey items for certain bird species, especially in winter due to changes in availability.
- Using individual behaviour-based models, it has been shown that shellfish stocks should not fall below 2.5 to 8 times the biomass that shorebird populations require to survive (Stillman *et al.* 2003; Goss-Custard *et al.* 2004; Stillman *et al.* 2010).
- Stillman *et al.* (2001) used a behaviour-based model to investigate the effects of present-day management regimes of the Exe estuary mussel fishery and Burry Inlet cockle fishery on the survival and numbers of overwintering oystercatchers. Results of the study concluded that at present intensities (for cockle hand raking: 50 persons, max 100kg per day) the fisheries do not cause oystercatcher mortality to be higher than it would be in absence of the activity (Stillman *et al.*, 2001).
- Hand raking cockles had negligible effect on how much time oyster catchers spent feeding because it only removed cockles >22mm (Stillman *et al.*, 2001). Increased fishing effort up to 500 persons hand raking cockles did not affect the mortality rate, mean mass of birds, or bird time spent in fields, whereas increased dredging did. The difference was caused by the significantly higher rate of depletion of the stocks seen in dredge fisheries (Stillman *et al.*, 2001).
- However, for mussel hand raking, the effects on oystercatchers were greater than dredging because the activity removed mussel beds and caused disturbance and so these impacts combined (Stillman *et al.*, 2001).
- In a study by Ferns *et al.* (2000), bird feed activity increased shortly after cockle harvesting (mechanical), particularly in areas of muddy sand rather than in areas of clean sand. However, following the increase in feeding activity, the level of bird activity declined for more than 80 days (curlew and gulls) and for more than 50 days (oystercatcher) following harvesting when compared to control areas. It was noted that the initial net benefit of harvesting was matched by decreased feeding opportunities in the winter (Ferns *et al.*, 2000).

### 1.6.2 Size of prey species

- The exact role of the fishery and its effect on bird population, because of direct competition, will largely depend on the distinct size fractions of the stock that may be exploited by fishers and birds (Schmechel, 2001).
- Whilst there may be an overlap in the size of cockles taken by both fishers and birds, most bird predation is of a smaller size class than fishers take (Norris *et al.*, 1998).
- If sizes overlap, there can be a genuine conflict of interest between the birds and the fishery, therefore larger minimum sizes are more favourable to birds (Lambeck *et al.*, 1996).
- Bowgen *et al.*, (2015) used an individual-based model to investigate how invertebrate species regime shifts would affect wading bird populations across Poole Harbour. Shifts were considered in terms of size class changes and complete removal, which represent similar effects of intertidal fishing activity. Curlew, black-tailed godwit and redshank numbers were most reduced when the abundance of the largest marine worms was removed (Bowgen *et al.*, 2015). The strongest effect was on curlew, with modelled numbers reduced to zero percent if worm sizes above 75mm were removed, whilst for godwits, removal of worms above 60mm had the same effect. Curlew and black-tailed

godwits were not able to compensate with other marine invertebrates and could switch only to earthworms (Bowgen *et al.*, 2015). Contrastingly, for a reduction in bivalve size classes an effect was seen when only the very smallest bivalve size classes remained at <19mm and <15mm respectively for oystercatchers and curlew and black-tailed godwits (Bowgen *et al.*, 2015).

- Overall, the curlew was found to be most sensitive to regime shifts due to its large size, and specific feeding strategy, whilst generalists such as oyster catchers are likely to survive during invertebrate species shifts. However, because birds adapt to changes by switching to alternative prey species, size classes and feeding areas, it was concluded that changes in invertebrate size and species distribution do not affect the number of birds the Harbour can support (Bowgen *et al.*, 2015).
- Caldwell *et al.* (in Jensen *et al.* 2005) demonstrated that the non-native Manila clam, forms a prey item of the oystercatcher population in Poole Harbour. The size of individuals targeted by oystercatcher's range in length from 16 to 50mm. Between late summer and the following spring, a significant increase in the proportion of the population (up to 40 to 50%) consumes this target species. Using an individual's-based simulation model, the study predicts the presence of Manila clams, at low densities of 5 clams per m<sup>2</sup> (mean density when the study was undertaken), has reduced over-winter mortality rates of oystercatchers by 3.5% in Poole Harbour (Caldow *et al.*, 2005). The impacts in this study were related to the dredge fishery rather than shore gathering activity.
- Oystercatchers have shown a preference for older cockles, 20 to 40 mm, and will not take cockles less than 10 mm when these larger size classes are available (Hulscher, 1982; Zwarts *et al.*, 1996a). However, oystercatchers do not necessarily choose the largest cockles as they are difficult to handle, with studies reporting that larger cockles were refused more often than small ones (Zwarts *et al.* 1996a). Oystercatchers are known to refuse small prey due to low profitability and the size of cockles left after fishing may therefore have an impact on feeding rate of the oystercatcher (Zwarts *et al.* 1996b; Wheeler *et al.*, 2014).

## Summary

- The removal of food resources during shore gathering such as shellfish collection has the potential to impact the amount of food available per bird inhabiting a particular area.
- The removal of target species may lead to changes in feeding behaviours, modification in feeding grounds to areas of poorer quality, increased density of feeding birds in areas with resources and increased competition for food.
- Increased impacts increase the chances of a threshold being reached where mortality from starvation begins to increase. Although this is dependent on the extent of removal, alongside the likelihood of species switching to other food sources in the event that their target food species is removed.
- Studies have shown that certain levels of activity, for example 50 cockle gatherers at a maximum of 100kg cockle harvested per day did not cause mortality of specific species to be higher than it would be in the absence of that activity.
- The extent of impact from fishing is also related to the size of prey species taken by fishers in comparison to the size taken by bird species. If there is an overlap between the required size ranges the impact is likely to be greater.

## References for Section 1.6

- Atkinson, P.W., Clark, N.A., Bell, M.C., Dare, P.J., Clark, J.A. & Ireland, P.L. 2003. Changes in commercially fished shellfish stocks and shorebird populations in the Wash, England. *Biol. Cons.*, 114, 127-141.
- Bowgen, K.M., Stillman, R.A., Herbert, R.J.H. 2015. Predicting the effect of invertebrate regime shifts on wading birds: Insights from Poole Harbour, UK. *Biological Conservation*, 186: 60-68
- Clark, N.A. 1993. Wash oystercatchers starving. *BTO News*, 185, 1, 24.
- Hulscher, J.B. 1982. The oystercatcher *Haematopus ostralegus* as a predator of the bivalve *Macoma balthica* in the Dutch Wadden Sea. *Ardea*, 70, 89–152.
- Lambeck, R., Goss-Custard, J.D. & Triplet, P. 1996. Oystercatchers and man in the coastal zone. In Goss-Custard, J.D. (Ed). *The Oystercatcher: From Individuals to Populations*. Oxford, Oxford University Press. pp. 289-326
- Navedo, J.G. & Masero, J.A. 2008. Effects of traditional clam harvesting on the foraging ecology of migrating curlews (*Numenius arquata*). *J. Exp. Mar. Biol. Ecol.*, 355, 1, 59-65.
- Norris, K., Bannister, R.C.A. & Walker, P.W. 1998: Changes In the number of oystercatchers, *Haematopus ostralegus* wintering in the Burry Inlet in relation to the biomass of cockles *Cerastoderma edule* and its commercial exploitation. *J. Appl. Ecol.*, 35, 75–85.
- Goss-Custard, J. D. & Verboven, N., 1993. Disturbance and feeding shorebirds on the Exe estuary. *Wader Study Group Bull*, pp. 68:59-66.
- Goss-Custard, J.D., Durell, S.E.A. le V. dit, Goater, C.P., Hulscher, J.B., Lambeck, R.H.D., Meininger, P.L. & Urfi, J. 1996. How oystercatchers survive the winter. In Goss-Custard, J.D. (Ed). *The Oystercatcher: From Individuals to Populations*. Oxford, UK, Oxford University Press. pp. 133–154.
- Goss-Custard, J.D., Stillman, R., West, A.D., Caldow, R.W.G., Triplet, P., Durell, S.E.A. Le V.dit. & McGrorty, S. 2004. When enough is not enough: Shorebirds and shellfishing. *Proc. R. Soc. Lond. B.*, 271, 233-237.
- Jensen, A & Humphreys, John & Caldow, Richard & Cesar, Christopher. (2005). 13. The Manila Clam in Poole Harbour. *Proceedings in Marine Science*. 7. 10.1016/S1568-2692(05)80018-X.
- Schmechel, F. 2001. Potential impacts of mechanical cockle harvesting on shorebirds in Golden and Tasman Bays, New Zealand. DOC Science Internal Series 19. New Zealand Department of Conservation. 51 pp
- Stillman, R., West, A.D., Goss-Custard, J.D., Caldow, R.W.G., McGrorty, S., Durrel, S.E.A. Le V.dit., Yates, M.C., Atkinson, P.W., Clark, N.A., Bell, M.C., Drare, P.J. & Mander, M. 2003. An individual behaviour-based model can predict shorebird mortality using routinely collected shellfishery data, *J. Appl. Ecol.*, 6, 1090-1101.
- West, A.D., Goss-Custard, J.D., Durell, S.E.A. Le V.dit. & Stillman, R.A. 2005. Maintaining estuary quality for shorebirds: towards simple guidelines. *Biol. Cons.*, 123, 211-224.
- Wheeler, R., Stillman, R.A.S. & Herbert, R.J.H. 2014. Ecological impacts of clam and cockle harvesting on benthic habitats and waterfowl. Report to Natural England. Bournemouth University. 42pp.
- Zwarts, L., Cayford, J.T., Hulscher, J.B., Kersten, M. & Meire, P.M. 1996a. Prey size selection and intake rate. In Goss-Custard, J.D. (Ed). *The Oystercatcher: From Individuals to Populations*. Oxford, Oxford University Press.

## 2. Potential Impacts from Shore Gathering – Activity Specific

This section covers evidence relating to specific shore gathering activities, the evidence in this regard is less comprehensive than general impacts. The majority of the potential impacts from shore gathering activity apply generally and are not specific to a particular gear type, these more widely applicable impacts are covered through the review of evidence in Section 1.

### 2.1 Bait digging

- Bait digging plays a significant role in the cultural and economic sectors of coastal communities. The blow worm (*Arenicola defodiens*) is one of the five most expensive

marine species on the global fisheries market (retail price per kg), according to a recent assessment of the polychaete bait industry, which revealed that 121,000 t are collected annually, valued at £5.9 billion (Watson *et al.*, 2017a).

## 2.1.1 Ecological impacts

### 2.1.1.1 Removal of target species

- *A. virens* (King ragworm) is often one of the most dominant macroinvertebrates within estuarine sediment communities providing an important prey species for many species of bird, fish and crustacean as well as being a key predator and scavenger. Removal may therefore impact benthic communities (Giangrande *et al.*, 2005; Watson *et al.*, 2007).
- Individuals of *A. virens* subject to bait digging activity showed a significantly lower average mean weight than those in areas not subject to activity (Watson *et al.*, 2007).
- There is the potential for continued disturbance to alter the proportion of sexually mature individuals within a population with bait dragging selectively removing those individuals of a marketable size which are commonly those that are also sexually mature. Previous studies support this, with areas routinely used for bait digging showing that while the overall population numbers are greater, the number of reproductively mature individuals is lower than in areas where the activity does not occur (Watson *et al.*, 2007). However, this may result in a shift in population dynamics rather than an overall detrimental impact.
- Studies have shown that other commercially exploited species exhibit a shift toward earlier onset of sexual maturity at a smaller size (Jennings *et al.*, 2001). *A. virens* is known to be able to become sexually mature between 1 and 8 years old (Last and Olive, 1999) with the exact age (and therefore size) affected by environmental conditions (Breton *et al.*, 2003), it could be therefore that *A. virens* are also able to shift toward achieving sexual maturity at a smaller size to compensate for the removal of larger individuals, thus reducing the impact on the overall population.
- Another potential impact is the loss of segments from damage caused during the bait dragging process. Damaged individuals are often immediately returned to the fishery as they have low market value; however the survival rate of these individuals is thought to be high provided that they are able to re-burrow quickly to avoid predation (Fowler, 1999). The ability of an individual to regenerate lost caudal segments is dependent on a number of factors including the position in the body at which the damage occurred (Golding, 1967; Olive, 1974), however the proportion of individuals returned damaged is thought to be low and the associated levels of predation not above what is seen naturally.
- Preferential removal of larger lugworms has resulted in changes in lugworm population structure, such as smaller individual sizes (Shahid, 1982) and increased mortality in the Solent (Beukema, 1995; Volkenborn and Reise, 2007).
- Decreases in lugworm can have significant impacts on the environment as they play a vital role in sediment stability and bioturbation (the reworking of soils and sediments by animals or plants through burrowing, ingesting and defecation). Bioturbation is believed to be a main driver of biodiversity (Tinlin-Mackenzie *et al.*, 2022).

### 2.1.1.2 Removal of non-target species

- Where impacts of bait digging have been observed, the recovery rates of infauna communities can range from several months up to five years for most vulnerable species (van den Heiligenberg, 1987; Beukema, 1995; Blake, 1979; Cryer *et al.*, 1987; Fowler, 1999; Klunder *et al.*, 2021, Cravalho *et al.*, 2013).

- Digging for the lugworm *Arenicola marina* has been shown to deplete the population of the cockle *Cerastoderma edule* on the North Norfolk Coast as the turning over of the sediment resulted in the cockles being re-buried too deep to survive (Jackson and James, 1979; McLusky *et al.*, 1983).
- A study on bait digging in Fareham Creek, UK found that changes in sediment from the activity did not result in significant changes to the macrofaunal community although there was a significant increase in the variability of dispersion of species (Watson *et al.*, 2017). However, significant changes were seen in a neighbouring estuary site (Dell Quay) where it was noted that digging occurred for the majority of the time in areas which had already been dug (Watson *et al.*, 2017). It was postulated that the cumulative impacts of repeated digging prevent the recovery of small macrofauna species (Watson *et al.*, 2017). The overall conclusion of the study was that digging alters the macrofaunal community and associated sediment characteristics across large spatial scales but that the strength and type of response is site specific (Watson *et al.*, 2017).
- A study in an MPA in Northumberland, UK found that there was a significant negative impact on wider sediment communities from lugworm digging in the short-term with reductions in total infaunal abundance, taxonomic richness and alterations in community structure (Tinlin-Mackenzie *et al.*, 2022). Recovery was noted to occur within a few months suggesting that sites have the potential for substantial recovery if disturbance is ceased (Tinlin-Mackenzie *et al.*, 2022).
- Effects on macrofauna are also species specific. 11 days after digging in Norfolk, mortality had occurred in 85% of cockles (*Cerastoderma edule*) (Jackson & James 1979). The effect was observed to be greater on juvenile cockles, and laboratory experiments suggested that burial of cockles beneath the depth at which they can regain their near surface positions, leads to mortality (Jackson & James, 1979).
- Macrofaunal biomass has been noted to be significantly reduced after digging (Wynberg & Branch, 1994) although it is not always the case in all studies (Wynberg & Branch, 1997).
- Digging to 10 and 20 cm depth, where sediment was removed from an area, led to immediate declines in total abundance and species richness (Dernie *et al.*, 2003).
- A study from two south Iberian Atlantic coastal systems found that the effects of bait digging were site specific and related to biological and sediment composition of the area prior to digging taking place (Carvalho *et al.*, 2013). Macrobenthic assemblages in areas with less mud, initially presenting the greatest infaunal diversity and evenness values, showed minor effects from digging with recovery within 7 days (Carvalho *et al.*, 2013). Areas with the greatest mud content and assemblages dominated by only a few species were the most affected and recovery occurred over a longer timescale (Carvalho *et al.*, 2013). The abundance of sedentary polychaetes was noted to decline whilst gastropod species increased. Differences in response to the disturbance by benthic assemblages were noted to vary when subjected to the same intensity, frequency and nature of disturbance both between and within different coastal ecosystems (Carvalho *et al.*, 2013). On this basis it was concluded that generalisations of activity impacts on non-target species are not possible (Carvalho *et al.*, 2013).

#### 2.1.1.3 Sediment Impacts

- Studies on bait digging indicate that the organic content of the sediment changed following digging as organic matter was trapped in the holes dug and that the resulting lower concentration of organic matter in the immediate area surrounding the hole resulted in the inhibition of colonisation by sedentary species (Grant, 1981).



- A study in Portsmouth Harbour and Chichester Harbour in the UK found that significant differences between dug and undug sediment were limited to changes in organic content (Watson *et al.*, 2017). It was stated that, as organic matter, binds many contaminants, and sediment disturbance leads to desorption of pollutants that an increase in bioavailability of certain contaminants is a likely impact from bait collection (Watson *et al.*, 2017).
- At a low energy site in the Solent, experimental 1m<sup>2</sup> digging scares were observed on foot for 83 ± 30 days after the activity had taken place (Watson *et al.*, 2017).
- A number of studies have identified significant changes of sediment as a result of digging with the activity causing an increased coarsening of grains (McLusky *et al.*, 1983; Edwards *et al.*, 1992; Watson *et al.*, 2017). However, there are also studies where no significant changes in relation to grain size have been seen (Sherman and Coull, 1980; Dernie *et al.*, 2003).

#### 2.1.1.4 Impacts to bird species

- A study on bird disturbance from digging activity in the Solent, UK, found a significant negative correlation in Chichester Harbour between the number of waders and the number of bait collectors (Watson *et al.*, 2017). A significant negative correlation with gulls was also noted (Watson *et al.*, 2017). Both species were noted to move away from areas when bait diggers were presented. There was however, no significant relationship at the site in Portsmouth Harbour, postulated to be due to the area being a highly disturbed site where birds may be habituated to the presence of collectors (Watson *et al.*, 2017).
- There are contrasting results in specific studies of bait digging on bird species foraging behaviours. It has been found that curlew demonstrated no impacts to foraging in areas which had been bait dug (Liley *et al.*, 2012) but semipalmated sandpipers showed a reduction of 68.5% in foraging efficiency from bait harvesting, postulated to be related to reduced prey availability and interference with prey cues due to disturbed sediments (Shepherd and Boates, 1999).
- A study in Spain found that digging by hand impacted the bird prey species *Hydrobia ulvae* in terms of density and biomass when the top 5cm of the sediment were compared between dug and undug areas (Masero *et al.*, 2008). It was determined that this part of the sediment was most likely to be used by shorebirds, therefore the documented decrease could have potential impacts to the bird species utilising it as a prey source (Masero *et al.*, 2008).

## Summary

- Removal of target species for bait digging may impact benthic communities as target species are often dominant within the sediment community and provide prey species for many species of birds, fish and crustacean.
- Potential impacts to target species include individuals' weight and the proportion of sexually mature individuals in a population.
- Impacts to non-target species are noted to be varied, along with recovery rates. Differences in impact have been seen over relatively small spatial scales, with the suggestion that cumulative impacts of regular activity may exacerbate effects.
- Impacts from abrasion directly attributed to bait digging activity are primarily related to organic content of the sediment which may lead to other effects such as increased bioavailability of pollutants. There is also a suggestion that sediment becomes more dominated by coarser grains as a result of digging but this is not seen in all studies.
- Bait digging has the potential to cause disturbance to bird species and impacts to foraging. However, these impacts are seen to be site specific and potentially related to species being more habituated to disturbance.

## References for Section 2.1

- Beukema, J.J., 1995. Long-term effects of mechanical harvesting of lugworms *Arenicola marina* on the zoobenthic community of a tidal flat in the Wadden Sea. *Netherlands Journal of Sea Research*, 33(2), pp.219-227.
- Blake, R.W., 1979. Exploitation of a natural population of *Arenicola marina* (L.) from the north-east coast of England. *Journal of Applied Ecology*, pp.663-670.
- Carvalho, S., Constantino, R., Cerqueira, M., Pereira, F., Subida, M.D., Drake, P. and Gaspar, M.B., 2013. Short-term impact of bait digging on intertidal macrobenthic assemblages of two south Iberian Atlantic systems. *Estuarine, Coastal and Shelf Science*, 132, pp.65-76.
- Chandrasekara, W.U. and Frid, C.L.J., 1998. A laboratory assessment of the survival and vertical movement of two epibenthic gastropod species, *Hydrobia ulvae* (Pennant) and *Littorina littorea* (Linnaeus), after burial in sediment. *Journal of Experimental Marine Biology and Ecology*, 221(2), pp.191-207.
- Coleman, F.C. and Williams, S.L., 2002. Overexploiting marine ecosystem engineers: potential consequences for biodiversity. *Trends in Ecology & Evolution*, 17(1), pp.40-44.
- Collie, J.S., Hall, S.J., Kaiser, M.J. and Poiner, I.R., 2000. A quantitative analysis of fishing impacts on shelf-sea benthos. *Journal of Animal Ecology*, 69(5), pp.785-798.
- Cryer, M., Whittle, G.N. and Williams, R., 1987. The impact of bait collection by anglers on marine intertidal invertebrates. *Biological Conservation*, 42(2), pp.83-93.
- Davidson, N.C. and Rothwell, P.I., 1993. Human disturbance to waterfowl on estuaries: conservation and coastal management implications of current knowledge. *Wader study group bulletin*, 68, pp.97-105.
- Dayton, P.K., Thrush, S.F., Agardy, M.T. and Hofman, R.J., 1995. Environmental effects of marine fishing. *Aquatic conservation: marine and freshwater ecosystems*, 5(3), pp.205-232.
- De Cubber, L., Lefebvre, S., FISSEAU, c., Cornille, V., Gaudron, S. M. (2018) 'Linking life-history traits, spatial distribution and abundance of two species of lugworm to bait collection: A case study for sustainable management plan'. *Marine Environmental Research*, 140, pp. 433-443. doi: 10.1016/j.marenvres.2018.07.009.
- Dernie, K. M., Kaiser, M. J., Richardson, E. A. & Warwick, R. M. 2003. Recovery of soft sediment communities and habitats following physical disturbance. *Journal of Experiment Marine Biology and Ecology*, 285: 415-434.
- Edwards, A., Garwood, P. & Kendall, M. 1992. The Gann Flat, Dale: thirty years on. *Field Studies*, 8: 59-75.

- Fowler, S.L., 1999. Guidelines for managing the collection of bait and other shoreline animals within UK European marine sites. English Nature (UK Marine SACs Project). 132 pages. *Guidelines for managing the collection of bait and other shoreline animals within UK European marine sites*, 3, p.3.
- Howell, R., 1985. The effect of bait-digging on the bioavailability of heavy metals from surficial intertidal marine sediments. *Marine Pollution Bulletin*, 16(7), pp.292-295.
- Jackson, M. J. & James, R. 1979. The influence of bait digging on cockle, *Cerastoderma edule*, Populations in North Norfolk. *Journal of Applied Ecology*. 16(3):671-679.
- Kaiser, M.J., Clarke, K.R., Hinz, H., Austen, M.C., Somerfield, P.J. and Karakassis, I., 2006. Global analysis of response and recovery of benthic biota to fishing. *Marine Ecology Progress Series*, 311, pp.1-14.
- Klunder, L., van Bleijswijk, J.D., Schaars, L.K., van der Veer, H.W. and Luttikhuisen, P.C., 2021. Impact of mechanical Arenicola dredging on the benthic fauna communities: assessed by a morphological and molecular approach. *Marine Ecology Progress Series*, 673, pp.17-28.
- Masero, J. A., Castro, M., Estrella, S. M. & Perez-Hurtado, A. 2008. Evaluating impacts of shellfish and baitworm digging on bird populations: short-term negative effects on the availability of the mudsnail *Hydrobia ulvae* to shorebirds. *Biodiversity Conservation*, 17: 691-701.
- McLusky, D.S., Anderson, F.E. and Wolfe-Murphy, S. 1983. Distribution and population recovery of *Arenicola marina* and other benthic fauna after bait digging, *Marine Ecology Progress Series*, 11: 173-179
- Navedo, J.G. & Masero, J.A. 2008. Effects of traditional clam harvesting on the foraging ecology of migrating curlews (*Numenius arquata*). *J. Exp. Mar. Biol. Ecol.*, 355, 1, 59-65.
- Sheehan, E.V., Coleman, R.A., Thompson, R.C. and Attrill, M.J. 2010. Crab-tiling reduces the diversity of estuarine infauna. *Marine Ecology Progress Series*, 411, 137-148.
- Shahid, M.H.S., 1982. *The reproductive biology, population genetics and population dynamics of the lugworm, Arenicola marina, in relation to bait digging on the Northumberland coast* (Doctoral dissertation, University of Newcastle upon Tyne).
- Sherman, K. M., & Coull, B. C. (1980). The response of meiofauna to sediment disturbance. *Journal of Experimental Marine Biology and Ecology*, 46: 59-71.
- Thrush, S.F., Hewitt, J.E., Cummings, V.J., Dayton, P.K., Cryer, M., Turner, S.J., Funnell, G.A., Budd, R.G., Milburn, C.J. and Wilkinson, M.R., 1998. Disturbance of the marine benthic habitat by commercial fishing: impacts at the scale of the fishery. *Ecological applications*, 8(3), pp.866-879.
- Tinlin-Mackenzie, A. Rowland, B. W., Delany, J., Scott, C. L., Fitzsimmons, C. (2022) 'The lugworm fishery in Northumberland, UK: Bait digging impacts in a marine protected area', *Journal of Experimental Marine Biology and Ecology*, 552, p. 151736. doi:10.1016/j.jembe.2022.151736.
- van den Heiligenberg, T., 1987. Effects of mechanical and manual harvesting of lugworms *Arenicola marina* L. on the benthic fauna of tidal flats in the Dutch Wadden Sea. *Biological Conservation*, 39(3), pp.165-177.
- Volkenborn, N. and Reise, K., 2007. Effects of *Arenicola marina* on polychaete functional diversity revealed by large-scale experimental lugworm exclusion. *Journal of Sea Research*, 57(1), pp.78-88.
- Volkenborn, N., Hedtkamp, S.I.C., Van Beusekom, J.E.E. and Reise, K.J.E.C., 2007. Effects of bioturbation and bioirrigation by lugworms (*Arenicola marina*) on physical and chemical sediment properties and implications for intertidal habitat succession. *Estuarine, Coastal and Shelf Science*, 74(1-2), pp.331-343.
- Watson, G.J., Murray, J.M., Schaefer, M. and Bonner, A., 2017. Bait worms: a valuable and important fishery with implications for fisheries and conservation management. *Fish and fisheries*, 18(2), pp.374-388.
- Watson, G. J., Murray, J. M., Schaefer, M., Bonner, A. and Gillingham, M. 2017. Assessing the impacts of bait collection on inter-tidal sediment and the associated macrofaunal and bird communities: the importance of appropriate spatial scales. *Marine Environmental Research*, 130, 122-133.
- Wynberg, R.P. & Branch, G.M. 1994. Disturbance associated with bait collection for sand prawns (*Callinassa kraussi*) and mudprawns (*Upogebia africana*): Long term effects in the biota of intertidal sandflats. *Journal of Marine Research*. 52:523-558.
- Wynberg, R.P. & Branch, G.M. 1997. Trampling associated with bait collection from sand prawns *Callinassa kraussi* Stebbing: effects on the biota of an intertidal sandflat. *Environmental Conservation* 2:139-148

## 2.2 Shrimp Push Netting

### 2.2.1 Overview

- Push net gear is usually operated on intertidal mud and muddy sand substrates during low tide. Due to the tidal conditions in the UK, fishers can usually operate for one to two hours (Temple, 2015).

### 2.2.2 Ecological impact

- The ecological impact of shrimp push netting is thought to be relatively small, where impacts do occur, these are related to trampling and removal of target species. Push netting in the UK is generally operated at low frequencies within temporal and spatial limitations (weather conditions, sea state, tide, substrate type and topography).
- Some push nets in the North of the UK have a wooden bar along the bottom that enables the net to bounce along the substrate without digging into it (Haines, 2016).
- Other forms of push net have skis fitted on the end of the frame in contact with the seabed to prevent it from getting stuck on finer substrates (Fisheries and Aquaculture Department (FAO), 2023).

#### 2.2.2.1 Removal of target species

- Nurul Amin *et al.* (2008) describes in a Malaysian estuarine study that the average push net fisher catches 3.54 kg/hour of *Acetes* shrimp. However, the total catch will vary depending on the strength of the operator, their experience, and season.
- Regardless of whether this gear is operated commercially or recreationally, the operation of this gear is known to cause little stress to caught prawn individuals when hand operated (Broadhurst *et al.*, 2004).
- In a study in Australia, it was found that the low concentration of Lactate released from stress during and after catch had a minimal effect on the condition and survival rate of the target species. The relatively small size of the gear and the area it can cover in one operation has a limited impact on the population of shrimp in terms of removal of caught individuals (Temple, 2015).

#### 2.2.2.2 Removal of non-target species

- Push nets have a fine mesh for catching prawns and shrimp, because of this fine mesh there is also the potential for catches of juvenile prawns and other small species (Hinz, 1989).
- The ratio of bycatch to targeted species caught depends on the catch capability of the fisher operating the push net (Nurul Amin *et al.*, 2008). This includes the strength of the operator, their experience operating this gear for the species they're targeting, and the season this gear is being operated in (Nurul Amin *et al.*, 2008).
- Even though push netting is a small-scale fishing operation compared to other gears, continued catch of juvenile fish species could result in stock declines and trophic shifts (Jones *et al.*, 2009).
- Various studies conflict over the selectivity of push nets, with some quoting at least 90 % selectivity for shrimp and prawns (Jeyabaskaran, *et al.*, 2018; Suebpala *et al.*, 2017) and others a minimum of 70 % non-selectivity (Davies *et al.*, 2009; Macer, 1967).

- In a study in Wales, it was found that 70 % of the total catch from push net activity consisted of juvenile fish, including Plaice and Dab, and some decapod species (Macer, 1967). Dependent on the frequency the gear is operated, continued catch of juvenile fish could have an impact on their recruitment to adult stocks (Macer, 1967).

#### 2.2.2.3 Sediment Impacts

- Contact with the substrate from this gear is low compared to some other gear due to its small footprint, however due to this type of gear requiring manpower, there is a risk of trampling from the fisher during operation (Rossi *et al.*, 2007).
- The impact of this gear both directly and indirectly from trampling from fishers when in operation or to gain access to the operation site can disrupt sediment on the surface of the seabed, damage fragile features, and bury or crush epibenthic species (Rossi, *et al.*, 2007).
- Hand operated push nets are designed to be light weight so that they can glide across substrate without penetrating the seabed or damaging fragile features including seagrass and Mearl beds.
- A study in India found there was evidence of burrowing fauna being caught as well as fragments of seagrass and other seaweed (Rajan *et al.*, 2017).
- A study in Thailand also found that the activity had the potential to dislodge or remove sessile species (Janekarn & Chullasorn, 1997). Extending this impact, it is postulated that the gear could cause damage to habitats such as seagrass by cutting or uprooting plants.

#### 2.2.2.4 Impacts to bird species

- North Western IFCA assessments of push netting activities (Haines, 2016; Temple, 2015) determined that the operation of this gear within SPAs has no significant impact on nesting or feeding birds. The small scale and non-motorised operation of this activity is unlikely to exceed ambient noise levels and is limited spatially and temporally in terms of operation (tide restriction).
- A study in Thailand (Galbraith *et al.*, 1999) found that fishers operating hand-held push nets were generally ignored by resident bird populations. However, when there was a large group of push net fishers, or if fishers were present at the site for an extended period of time, then there was a temporary decline in bird foraging activity (Galbraith *et al.*, 1999). There was also an impact on breeding birds when there was a large gathering of people, excessive noise being produced, or fishers getting too close to the nesting sites (Galbraith *et al.*, 1999).

## Summary

- Push netting usually occurs on intertidal mud and muddy sand substrates during low tide for 1-2 hours at a time.
- The ecological impact is thought to be small, related primarily to trampling and removal of the target species.
- Mitigative measures are often already applied to push nets to reduce impact on the seabed.
- Impacts to target species have been found to be minimal with stress responses observed during and following catch to have a minimal affect on condition and survival rate.
- There is the potential for bycatch of juvenile prawns or other small species, the degree to which bycatch is observed is primarily based on fisher behaviour when operating the gear. Gear selectivity is documented at between 30%-90%.
- Two studies have shown that sessile species can be impacted by push netting, with one study documenting seagrass being removed by the activity.
- Bird disturbance from push netting is documented to be not significant, the number of operators and fishers getting too close to nesting sites were exacerbating factors where any impact was noted to occur.

## References for Section 2.2

- Broadhurst, M. K., Millar, R. B., Young, D. J., Wooden, M. E., & Rowland, S. (2004). Atypical size selection of captive school prawns, *Metapenaeus macleayi*, by three recreational fishing gears in south-eastern Australia. *New Zealand Journal of Marine and Freshwater Research*, 38, 755-766.
- Davies, R. W., Cripps, S. J., Nickson, A., & Porter, G. (2009). Defining and estimating global marine fisheries bycatch. *Marine Policy*. doi:10.1016/j.marpol.2009.01.003
- Fisheries and Aquaculture Department (FAO). (2023). Fishing Techniques: Shrimp Push Net Fishing. Rome: Fisheries and Aquaculture Division [online]. Retrieved from <https://www.fao.org/fishery/en/fishtech/1023>
- Galbraith, C. A., Pierce, G. J., Spray, C. J. and Robinson, I. H. 1999. The diurnal movement pattern of waterbirds in the Kukut area of Lake Songkla, southern Thailand. *Diurnal Movement Pattern of waterbirds*, 163-179.
- Haines, J. (2016). Fisheries in EMS Habitats Regulations Assessment for Amber and Green risk categories: NWIFCA-MB-EMS-013. Carnforth: North Western Inshore Fisheries and Conservation Authority (NW-IFCA). Retrieved from [https://nw-ifca.gov.uk/app/uploads/NWIFCA-MB-EMS-013\\_Shrimp-Push-Nets.pdf](https://nw-ifca.gov.uk/app/uploads/NWIFCA-MB-EMS-013_Shrimp-Push-Nets.pdf)
- Hinz, V. (1989). Monitoring the fish fauna in the Wadden Sea with special reference to different fishing methods and effects of wind and light on catches. *Helgoländer Meeresuntersuchungen*, 43, 447-459. doi:10.1007/BF02365903
- Janekarn, V. and Cullasorn, S. 1997. Environmental impacts on coastal fisheries along the west coast of Thailand. In: Asia-Pacific Fishery Commission (APFIC): Environmental Aspects of Responsible Fisheries. Proceedings of the APFIC Symposium, Seoul, the Republic of Korea, 15-18 October 1996. FAO Bangkok. RAP Publication 32/1997: 222-233.
- Jeyabaskaran, R., Jayasankar, J., Ambrose, T. V., Valsalan, K. C., Divya, N. D., Raji, N., . . . Kripa, V. (2018). Conservation of seagrass beds with special reference to associated species and fishery resources. *Journal of Marine Biological Association of India*, 60(1). doi:10.6024/jmbai.2018.60.1.2038-10
- Jones, E., Gray, T., & Umponstira, C. (2009). The impact of artisanal fishing on coral reef fish health in Hat Thai Mueang, Phang-nga Province, Southern Thailand. *Marine Policy*, 33(4), 544-552. doi:10.1016/j.marpol.2008.12.003

- Macer, C. T. (1967). The food web in Red Wharf Bay (North Wales) with particular reference to young plaice (*Pleuronectes platessa*). *Helgoländer wissenschaftliche Meeresuntersuchungen*, 15, 560-573. doi:10.1007/BF01618651
- Nurul Amin, S. M., Arshad, A., Shamsudin, S. B., Bujang, J. S., & Siraj, S. S. (2008). Catch Per Unit Effort of Estuarine Push Net with Emphasis on Occurrence and Abundance of Acetes Shrimps in the Coastal Waters of Malacca, Peninsular Malaysia. *Pertanika Journal of Science and Technology*, 16(2), 281-289. Retrieved from <https://core.ac.uk/download/pdf/153798442.pdf>
- Rossi, F., Forster, R. M., Montserrat, F., Ponti, M., Terlizzi, A., Ysebaert, T., & Middelburg, J. J. (2007). Human trampling as short-term disturbance on intertidal mudflats: effects on macrofauna biodiversity and population dynamics of bivalves. *Marine Biology*, 151(6), 2077-2090. doi:10.1007/s00227-007-0641-0
- Rajan, R., Paramasivam, K., Shrinivaasu, S., Venkatraman, C., Venkataraman, K., Padmanaban, P., Surendar, C., Kumar, R., Vanishree, J. (2017). Fauna (Epibenthic and Epifauna) associated with sea grass ecosystems in Palk Bay and Gulf of Mannar. *Zoological Survey of India, Occasional Paper*, 387, 1-96.
- Suebpaala, W., Chuenpagdee, R., Nitithamyong, C., & Yeemin, T. (2017). Ecological Impacts of Fishing Gears in Thailand: Knowledge and Gaps. *Asian Fisheries Science*, 30, 284-305. doi:10.33997/j.afs.2017.30.4.006
- Temple, S. (2015). Fisheries in EMS Habitats Regulations Assessment for Amber and Green risk categories: NWIFCA-RA-SPA-010. Carnforth: North Western Inshore Fisheries and Conservation Authority (NW-IFCA). Retrieved from [https://nw-ifca.gov.uk/app/uploads/NWIFCA-RA-SPA-010\\_Shrimp-Push-Nets.pdf](https://nw-ifca.gov.uk/app/uploads/NWIFCA-RA-SPA-010_Shrimp-Push-Nets.pdf)

## 2.3 Crab tilling and collection

- Crab tiling is the collection of shore crab (*Carcinus maenas*) for the purpose of being used as angling bait. The crab tiling fishery operates within estuarine mudflats at a commercial scale and the process involves laying crab tiles, also referred to as crab shelters (hard man-made structures such as roof tiles, half round guttering and vehicle tyres) on the shore. Shore crabs are harvested from underneath the tiles periodically at low tide (Sheehan *et al.*, 2010).
- There are areas where crab tilers only remove crabs over 40mm carapace width, avoid berried females and only harvest crabs which are in the stage of pre-ecdysis (moulting) (Sheehan *et al.*, 2008).
- Over 1 million shore crabs are removed from south-west UK shores annually to be sold as bait (Sheehan *et al.*, 2008). The mild climate in the south of the UK allows crabs to moult all year round, providing a year-round fishery. In other parts of the UK, crabs may only moult in summer months, leading to a seasonal fishery (Russel *et al.* 1999).
- The location at which crab tilers can place crab shelters is limited due to the requirements of landowner's permission. This is because, crab-tiling does not follow the standard right to lay fishing gear as it does not "entrap" species.

### 2.3.1 Ecological Impact

#### 2.3.1.1 Removal of target species

- *C. maenas* reach maturity within two years at a size of 25-30mm (Neal & Pizzolla 2008). Therefore, crab tilling does not target juvenile individuals and all crabs removed are likely to have had the opportunity to reproduce.
- Sheehan *et al.* (2008) found that when compared to non-tilled estuaries, tilled estuaries support a significantly greater abundance of crabs (63% more), particularly juvenile individuals 20 to 39mm. This was believed to be due to the provision of additional habitat.

- However, the same study found more reproductively active crabs and crabs greater than 60cm in non-tiled estuaries (Sheehan *et al.*, 2008). Similarly, removal of species may lead to reduction of local populations.
- The impact of greater crab abundance in tiled estuaries is unknown. Devon and Severn IFCA (2019) highlighted that estuaries are important nursery areas for many fishes, such as plaice (*Pleuronectes platessa*), bass (*Dicentrarchus labrax*) and turbot (*Scophthalmus maximus*). *C. maenas* is an important food source for several predatory fish, and therefore an increase in crab abundance may lead to increased abundance of adult predatory fish species (Devon and Severn IFCA, 2019). However, *C. maenas* is also a predator in intertidal systems and predated upon juvenile fishes, and therefore greater abundance of the species may have negative consequences on fish populations (Devon & Severn IFCA, 2019).

#### 2.3.1.2 Impacts to non-target species

- Abundance of aquatic fauna has been noted to be lower around crab tiles compared to non-tiled areas. It is postulated that the congregation of *C. maenas* around crab tiles increases the level of predation on non-target species as tiled areas showed an abundance of the target species over other aquatic fauna (Sheehan, 2007).
- A study in the UK found that the abundance of mobile fauna including benthic gobies, mysids, crabs and pelagic fishes was greater in control sites than in tiled sites during the month of July (Sheehan *et al.*, 2010a). This was also observed in March but results were not significant, equally there was a greater diversity of taxa in control sites observed but this was also not significant (Sheehan *et al.*, 2010a). Crabs were observed to occupy the tiles during submersion and had a tendency to be aggressive to other species in defending the tile (Sheehan *et al.*, 2010a).
- A similar study in the same area of the UK found that mean infaunal abundance declined with increasing mean penetrability of the sediment (Sheehan *et al.*, 2008). Control and 'tile only' sites showed similar abundance scores to each other whilst 'trampling only' sites were least stable and showed the lowest infaunal abundance (Sheehan *et al.*, 2008).

#### 2.3.1.3 Sediment Impacts

- Sheehan *et al.* (2010b) studied several sediment parameters in relation to the effects of crab tiling and associated trampling. Impacts to the sediment were thought to be mostly related to trampling with the extent of changes to the sediment related to relatively small changes in sediment composition (Sheehan *et al.*, 2010b).
- The same study observed no effect of crab-tiling on organic content or grain size, it was determined that existing differences from among-estuary variation masked any impacts from the activity in isolation (Sheehan *et al.*, 2010b).
- The effects of year and difference between sites were stronger than effects of disturbances from treatments. Sheehan *et al.* (2010b) concluded that crab tiling modifies sediment stability and measures of infaunal diversity, with muddy habitats more susceptible to disturbance than those which are sandy.

#### 2.3.1.4 Disturbance to bird species

- The estuaries in which the shore crab is harvested act as key feeding habitats for wading birds, some of which prey on *C. maenas*.



- The presence of crab tiles were found to have no impact on bird abundances in Devon estuaries, however curlew and redshank were seen using the crab tiles as a resources for food and spending a significant amount of time around crab tiles (Sheehan, 2007).
- Observations of foraging birds in tiled and non-tiled sites were used to test a model that the fishery modified diversity, distribution and behaviour of shorebirds (Sheehan *et al.*, 2012). No evidence was found for a relationship between shorebird species richness, abundance or assemblage composition and the presence of tiles (Sheehan *et al.*, 2012).
- It is suggested that crab-tiles could influence the distribution of potential prey species and as such aggregate shorebirds, relieving predation pressure in other areas (Sheehan *et al.*, 2012). Bird species such as curlew and redshank were also observed next to crab-tiles without engaging in feeding behaviour suggesting that the tiles may also provide a shelter for shorebirds against negative effects of wind on thermoregulation (Sheehan *et al.*, 2012).

### Summary

- Some mitigation measures are already employed by crab-tilers including targeting crabs over 40mm carapace width, avoiding berried females and only harvesting crabs which are in the stage of pre-ecdysis.
- Estuaries subject to crab-tiling are found to support a significantly greater abundance of crabs, particularly juveniles, believed to be due to additional habitat provision. However, more reproductively active crabs were found in non-tiled estuaries.
- The impact of greater crab numbers in estuaries is mixed, providing both a food source to predatory adult fish but also a predator species for juvenile fish.
- Abundance of other aquatic fauna has been noted to be lower around crab tiles, potentially due to aggressive defending of the tiles by the crabs. In other studies changes in abundance of non-target species has been found to be seasonal.
- The effects of trampling are noted to be the most prevalent abrasion impact, compounding effects of faunal change. Muddy habitats were more susceptible to disturbance than sandy habitats.
- No impacts to organic content or grain size of sediments in crab-tiled areas have been noted.
- The presence of crab-tiles is noted not to have an impact on bird species, certain species have even been noted to use crab tiles for feeding and shelter.

### References for Section 2.3

- Devon & Severn IFCA. 2019. Managing Hand Working Fishing Activity. A focus on Crab Tiles. May 2019. Available at: [BPSCHandgatheringreport30thJuly2019.pdf \(devonandsevernifca.gov.uk\)](#)
- Neal, K.J. and Pizzolla, P.F., 2008. *Carcinus maenas*. Common shore crab.
- Russet I, T. (1999). "A study of peeler crab collection on estuaries in the south west of England." Dissertation for the Coastal and Marine Resource management degree at Portsmouth.
- Sheehan, E.V. 2007. Ecological impact of the *Carcinus maenas* (L.) fishery 'crab-tiling' on estuarine fauna. Thesis. University of Plymouth. March 2007.
- Sheehan, E.V., Thompson, R.C., Coleman, R.A. and Attrill, M.J. 2008. Positive feedback fishery: Population consequences of crab-tiling on the green crab *Carcinus maenas*. *Journal of sea Research*. 60: 303 to 309pp.
- Sheehan, E. V., Coleman, R. A., Attrill, M. J. and Thompson, R. C. 2010a. A quantitative assessment of the response of mobile estuarine fauna to crab-tiles during tidal immersion using remote underwater video cameras. *Journal of Experimental Marine Biology and Ecology*, 387: 68-74.
- Sheehan, E.V., Coleman,R.A., Thompson, R.C. and Attrill, M.J. 2010. Crab-tiling reduces the diversity of estuarine infauna. *Marine Ecology Progress Series*, 411, 137-148.

## 2.4 Shellfish collection

- Shellfish gathering involves the removal of bivalve species such as cockles, native oysters and periwinkles from the surface of the substrate using methods such as digging, raking or hand picking (McLusky *et al.*, 1983; Travaille *et al.*, 2015; Watson *et al.*, 2017).

### 2.4.1 Ecological Impacts

#### 2.4.1.1 Removal of target species

- A study in the Western English Channel considered the impact of clam raking in different habitat types and concluded that high energy environments transfer clams and macrofauna, minimising the effect of rake harvesting (Beck *et al.*, 2015). Results showed that experimental clam raking of *R. philippinarum* and *R. decussatus* significantly decreased the number of clams on gravelly compared to sandy habitats (Beck *et al.*, 2015).
- Research conducted in the Strangford Lough SAC (Northern Ireland) found that previous disturbance to sediment where cockles were returned (i.e. collection via hand rake) had no influence on burial rate of cockles, however larger cockles had a slower burial speed (McLaughlin *et al.*, 2007).
- Research by Leitao and Gaspar (2011) in the south of Portugal concluded that neither hand knife nor dredge methods used to collect cockles affected the subsequent burrowing rate of the target species. Regarding the burrowing rate of two groups of cockles, 83% burrowed within 15 minutes and only 10% remained on the surface after an hour (Leitao and Gaspar, 2011).
- However, Crespo *et al.* (2010) found large-scale collection of the common cockle (*Cerastoderma edule*) in Portugal may cause considerable changes in population structure over an 18-month period (Crespo *et al.*, 2010). Population abundance and biomass reduced by 80% and 94%, respectively, with implications for population dynamics and secondary production. The abundance of cockles above 15.25mm decreased significantly, whereas the density of cockles over 20.25mm did not recover within a year (Crespo *et al.*, 2010).
- The same study found that large-scale harvesting caused seasonal variations in recruitment dates, from May to year-round, however production values remained low during the 12-month research. Overall, overharvesting resulted in the disappearance of adult cockles and subsequent lower production values (Crespo *et al.*, 2010).
- Investigations into management of cockle harvesting outside of Europe concluded that management of highly variable and unknown species is not possible due to the unpredictable nature of recreational harvest and shellfish population dynamics (Beck *et al.*, 2015).
- Precautionary minimum size limits were deemed the best management solutions, with bag limits and closed areas playing a less vital role where there is an absence of intensive monitoring and management (Hartill *et al.*, 2005).
- Crawford *et al.*, (2010) demonstrated that small scale no take zones led to significant increased densities of cockles (*Anadara spp.*), both inside and out of the protected areas.
- In Washington USA, Griffiths *et al.* (2006) studied the effects of clam (*Venerupis philippinarum* and *Protothaca staminea*) digging on several open beaches compared to marine reserve beaches. Clam abundance was greater on reserve beaches compared to non-reserve beaches (Griffiths *et al.*, 2006).
- Similarly, Gray (2016) compared the impact of clam harvesting on two commercially hand-fished beaches compared to two un-fished beaches in Australia, before and during harvesting of 4,300 and 17,800kg of clams. No effect of clam harvesting was found

however, populations of clams were highly variable across the four sites. Under local management measures, fishers were limited to a 40kg catch per day, so it was considered that this level of harvesting may not be impacting the populations of clams in the area, or that the natural spatial variation observed between beaches and sites is greater than that which is caused by fishing at its current level (Gray, 2016).

#### 2.4.1.2 Removal of non-target species

- The method by which this is achieved e.g., digging, raking or hand picking can also lead to the removal of non-target species through indirect mortality, damage and disturbance (Dernie *et al.*, 2003; Rossi *et al.*, 2007).
- Kaiser *et al.* (2001) examined the effects of hand raking of a small and large area without removing the target species on non-target species and undersized cockles (*Cerastoderma edule*). Initially, raking led to three times more damaged undersized cockles in the experimental plot. Unexpectedly, there was significantly lower mean abundance of individual organisms in the control plot, which demonstrated there were differences in community structure between the experimental and control plots irrespective of treatment. Fourteen days following raking there was a decrease in abundance relative to immediately after raking. After 56 days the small-raked areas had recovered, however for the large-raked areas, whilst the abundance of individuals had increased, it had not fully recovered 447 days following analysis (Kaiser *et al.*, 2001).
- Leitao and Gaspar (2007) compared the impact of *C. edule* collection using a knife versus a hand dredge. Macrofaunal mortality was low in both methods (mean: harvesting knife 1.64% and dredge 0.98%), but unexpectedly harvesting using the hand knife led to a higher (although not significant) mortality of macrofauna. As predicted, the harvesting dredge led to a five-fold increase in both the area fished and catch collected. When the target species were removed from the analysis, no significant difference between the communities exposed to the different fishing methods was observed, indicating both methods had remarkably similar overall impacts to the community, other than the target species (Leitao and Gaspar, 2007).
- Experimental clam raking (*R. philippinarum* and *R. decussatus*) in the Western English Channel uncovered no significant change in sediment characteristics or macrofauna on sandy, gravelly or mixed gravelly rocky habitats studied (Beck *et al.*, 2015).
- A study on the removal of razor clams by salting in southern Portugal found that there were no effects on the associated benthic community and that similar patterns of fluctuations in abundance were observed in control and experimental areas, attributed to natural variability (Constantino *et al.*, 2009).
- Investigation into Manila clam (*Ruditapes philippinarum*) collection in Italy found hand raking led to significantly lower meiofaunal abundance, particularly Harpacticoids (Mistri *et al.*, 2004).
- Other research has considered the differences between beaches which are fished and those which are protected in some way from the activities. In Washington USA, Griffiths *et al.* (2006) studied the effects of clam (*Venerupis philippinarum* and *Protothaca staminea*) digging on several open beaches compared to marine reserve beaches. Species richness and total polychaete family richness were greater on reserve beaches compared to non-reserve beaches. Non-reserve sites had greater abundances of the un-harvested clam species, limpets and *Nereis* polychaetes.
- Experimental digging led to significantly reduced species richness within the 'holes', compared with the dug-out 'fill' and controls. There was no significant effect of placing cages over experimentally dug plots showing that on this beach predation was not a key factor affecting the community following digging (Griffiths *et al.*, 2006).

### 2.4.1.3 Sediment Impacts

- A study on razor clam harvesting using salt in southern Portugal found that there was no significant impact on the sediment (Constantino *et al.*, 2009). The main observed effect was an increase in salinity, however this decreased rapidly with the flood tide and returned to pre-activity levels within a few hours (Constantino *et al.*, 2009).
- A study on recreational clam harvesting by raking and digging in the USA found that raking did not impact any of the measured parameters, however clam digging resulted in reduced seagrass coverage and reductions in above-ground and below-ground biomass associated with the seagrass bed 1 month after the last of three-monthly treatments (Boese, 2002). Differences were noted to persist up to 10 months after treatment although were not significant. It was noted that full impacts could only be explored through multi-year studies and that differences in sediment characteristics and clam abundance would affect the level of impact (Boese, 2002).
- A study in Washington in the USA found that digging for clams altered the dug area, affecting grain size, organic matter and oxygen content (Griffiths *et al.*, 2006).

#### Summary

- Impacts to target species from shellfish gathering have been noted to be dependent on sediment type, season and the method of harvesting use.
- For some species, like common cockle, impacts relating to population abundance and biomass have been observed with implications for population dynamics and secondary production.
- Management measures including MCRS and small closed areas have been shown to minimize target species impacts. Low levels of harvesting have also been demonstrated to have a low level of impact.
- Decreased abundance of non-target species have been noted following shellfish harvesting although this is also dependent on sediment characteristics and method of harvesting with mixed results from studies.
- Changes to species richness have been observed where holes remain from activity compared to holes filled in and control areas.
- Impacts to sediment are not widely studied specifically for shellfish harvesting where sediment effects are separated out from infaunal community effects. Studies which have looked specifically at sediment have found mixed results, some no effect and another showing effects to grain size, organic matter and organic content.
- Impacts to seagrass beds have been noted from clam digging with impacts (not significant) persisting up to 10 months post-treatment.

#### References for Section 2.4

- Beck, F., Pezy, J-P., Baffreau, A., Dauvin, J-C. 2015. Effects of clam rake harvesting on the intertidal *Ruditapes* habitat of the English Channel, *ICES Journal of Marine Science*, 72 (9):2663–2673pp, <https://doi.org/10.1093/icesjms/fsv137>
- Boese, B. L. 2002. Effects of recreational clam harvesting on eelgrass (*Zostera marina*) and associated infaunal invertebrates: in situ manipulative experiments. *Aquatic Botany*, 73(1): 63-74
- Constantino, R., Gaspar, M. B., Pereira, F., Carvalho, S., Curdia, J., Matias, D. and Monteiro, C. C. 2009. Environmental impact of razor clam harvesting using salt in Ria Formosa lagoon (Southern

- Portugal) and subsequent recovery of associated benthic communities. *Aquatic Conservation: Marine and Freshwater Ecosystems*, 19:542-533
- Crawford, B., Herrera, M. D., Hernandez, N., Leclair, C.R., Jiddawi, N., Masumbuko, S., Haws, M. 2010. Small Scale Fisheries Management: Lessons from Cockle Harvesters in Nicaragua and Tanzania. *Coastal Management*. 38(3):195-215.
- Crespo, D., Verdelhos, T., Dolbeth, M., Pardel, M. Â. 2010. Effects Of The Over Harvesting On An Edible Cockle (*Cerastoderma Edule* Linnaeus, 1758) Population On A Southern European Estuary. *Fresenius Environmental Bulletin*. 19 (12): 2801-2811
- Dernie, K.M., Kaiser, M.J., Richardson, E.A. & Warwick, R.M. 2003b. Recovery of soft sediment communities and habitats following physical disturbance. *J. Exp. Mar. Biol. Ecol.* 285-286: 415-434.
- Gray, C.A. 2016. Effects of Fishing and Fishing Closures on Beach Clams: Experimental Evaluation across Commercially Fished and Non-Fished Beaches before and during Harvesting. *PLoS ONE* 11(1): e0146122. doi:10.1371/journal.pone.0146122
- Griffiths, J., Dethier, M.N., Newsom, A. et al. (2006) Invertebrate community responses to recreational clam digging. *Mar Biol* 149, 1489–1497. <https://doi.org/10.1007/s00227-006-0289-1>
- Hartill, B.W. Cryer, M. Morrison, M.A. 2005. Estimates of biomass, sustainable yield, and harvest: neither necessary nor sufficient for the management of non-commercial urban intertidal shellfish fisheries. *Fisheries Research*. 71 (2): 209-222pp <https://doi.org/10.1016/j.fishres.2004.08.032>.
- Jackson, M. J. & James, R. 1979. The influence of bait digging on cockle, *Cerastoderma edule*, Populations in North Norfolk. *Journal of Applied Ecology*. 16(3):671-679.
- Kaiser, M.J. Broad, G., Hall, S.J. 2001. Disturbance of intertidal soft-sediment benthic communities by cockle hand raking. *Journal of Sea Research* 45: 119-130.
- Leitão, F.M.S. And Gaspar, M.B. 2007. Immediate Effect of Intertidal Non-Mechanised Cockle Harvesting On Macro-benthic Communities: A Comparative Study. *Scientia Marina* 71(4): 723-733pp.
- Leitão, F.M.S. And Gaspar, M.B. 2011. Comparison of the burrowing response of undersized cockles (*Cerastoderma edule*) after fishing disturbance caused by hand dredge and harvesting knife, *Marine Biology Research*, 7:5, 509-514pp.
- McLaughlin, E., Portig, A. and Johnson, M.P. 2007. Can traditional harvesting methods for cockles be accommodated in a Special Area of Conservation? *ICES Journal of Marine Science*, 64: 309–317pp.
- McLusky, D.S., Anderson, F.E. and Wolfe-Murphy, S. 1983. Distribution and population recovery of *Arenicola marina* and other benthic fauna after bait digging, *Marine Ecology Progress Series*, 11: 173-179
- Mistri, M. Cason, E. Munari, C. & Rossi, R. 2004. Disturbance of a soft-sediment meiobenthic community by clam hand raking, *Italian Journal of Zoology*, 71:2, 131-133, DOI: 10.1080/11250000409356563
- Rossi, F., Forster, R.M., Montserrat, F., Ponti, M., Terlizzi, A., Ysebaert, T. & Middleburg, J.J. 2007. Human trampling as short-term disturbance on intertidal mudflats: effects on macrofauna biodiversity and population dynamics of bivalves. *Mar. Biol.* 151: 2077-2090.
- Travaille, K.L., Salinas-de-Leon, P., Bell, J.J. 2015. Indication of visitor trampling impacts on intertidal seagrass beds in a New Zealand marine reserve. *Ocean & coastal Management*. 114: 145-150.
- Volkenborn N, Hedtkamp SIC, van Beusekom JEE, Reise K. (2007). Effects of bioturbation and bio irrigation by lugworms (*Arenicola marina*) on physical and chemical sediment properties and implications for intertidal habitat succession. *Estuar Coast Shelf Sci* 74: 331–343
- Watson, G. J., Murray, J. M., Schaefer, M., Bonner, A. and Gillingham, M. 2017. Assessing the impacts of bait collection on inter-tidal sediment and the associated macrofaunal and bird communities: the importance of appropriate spatial scales. *Marine Environmental Research*, 130, 122-133.

## 2.5 Seaweed collection

- Seaweed harvesting targets a variety of brown, red and green seaweeds in the intertidal zone, by hand collection.

- Biological characteristics of key targeted species are summarised in Table 1.
- The process involves selective cutting from monospecific strands of seaweed such as rockweed and kelps or alternatively collection of the storm-cast fronds, which result in mixed species harvest (Mac Monagail *et al.*, 2017).
- Seaweed harvesting has a large economic value and is harvested for commercial and recreational uses such as food, cosmetics, pharmaceuticals, or creation of materials.
- Key seaweed species targeted within the commercial industry include Sea spaghetti (*Himanthalia elongate*), dulse (*Palmaria palmata*), carrageen (*Chondrus crispus*), sea lettuce (*Ulva spp.*), red algae (*Porphyra spp.*), serrated wrack (*Fucus serratus*) and bladder wrack (*Fucus vesiculosus*). Other kelps include oarweed (*Laminaria digitata*) and sugar kelp (*Saccharina latissimi*) (Wilding *et al.*, 2021).

## 2.5.1 Ecological Impacts

### 2.5.1.1 Removal of Target Species

- Seaweeds are a key source of primary production and dissolved inorganic matter, therefore playing a key role as a food source both when dead and alive (Kelly, 2005).
- For each species, the holdfast, stipe and fronds provide substratum for other flora and fauna to attach (Kelly, 2005).
- Studies have shown that seaweeds mediate environmental conditions of the substrate, therefore, if harvested, have the capability to cause cascade affects to the surrounding ecology (Pocklington, 2017). These effects on the community have been seen to last for decades (Ingolfsson and Hawkings, 2008).
- The three-dimensional structure created by seaweed functions as habitats to mobile invertebrates such as fish, birds and seals, and also act as important nesting and breeding grounds (Mineur *et al.*, 2015). Harvesting eliminates the structure to attach eggs to or build nests within and is certain to impact communities living within the surrounding area harvested (Kelly, 2005).
- Removal of *Ascophyllum* led to significantly more *Fucus* and *Ulva spp.* and an increase in *Cirratulus* biomass (Boaden and Dring, 1980; Jenkins *et al.*, 2004).
- Removal of 100% and 75% of seaweed fronds led to understorey substratum temperatures three degrees Celsius higher than if only 0-50% of fronds were removed, due to a double in light intensity reaching these levels (Pocklington, 2017).
- Jenkins *et al.*, (1999) found that removal of *Ascophyllum* in the Isle of Man directly resulted in the bleaching and death of turf species. This led to an increase in the area grazed by limpets, a subsequent increase in limpet recruitment and increased bare substratum (Jenkins *et al.*, 1999). Eighteen months following removal, *Fucus* species had become dominant, partly restoring the understorey algal turf and interactions between limpets (Jenkins *et al.*, 1999). Five years later, the algal turf had not fully recovered, showing long-term effects on the communities (Jenkins *et al.*, 1999).
- In Nova Scotia, no effect of *Ascophyllum* removal was found on the use of the intertidal by small fishes (Black and Miller, 1991), although Rangeley (1994) critiqued this research, due to sampling biases and experimental design.
- In contradiction, in the sublittoral, removal of *Laminaria hyperborea* led to decrease in abundance of gadid fish by 92%. Furthermore, cormorants were reported completing significantly more dives in harvested areas, thereby expending more energy to find the same number of resources (Loentsen *et al.*, 2010).
- The increase in light penetrating the substratum following canopy forming algae removal in Australia, led to the bleaching of encrusting coralline algae, with their photosynthetic activity reducing to half that observed under canopies (Irving *et al.*, 2004).

- Expansion in space as a result of the removal of *Laminairia* led to the increase in blade and stripe length of annual species such as *Saccorhiza polyschides* in Brittany (Engelen *et al.*, 2011).

#### 2.5.1.2 Removal of non-target species

- Bycatch is seen primarily for trawling or dredging of seaweed, however hand-raking can remove a certain amount of epiphytes and slow-moving animals if they are attached to fronds or if a holdfast has its own species community (Lotze *et al.*, 2019).
- Examples of species particularly at risk are Peacocks tail, bearded red seaweed and stalked jellyfish species due to their small size thus being overlooked by harvesters (Wilding *et al.*, 2021).
- Species which are attached securely to seaweeds may have to be removed by hand, there is the potential that, if done in situ, these species may relocate and survive but few epifauna and epiphytes will be able to reattach (Wilding *et al.*, 2021). Processing away from the shore will remove the bycatch from the ecosystem (Wilding *et al.*, 2021).
- In Atlantic Canada harbour, monospecific strands of Irish moss have been noted to host up to 36 animal and 19 major algal species which are vulnerable to removal as bycatch (Lotze *et al.*, 2019).
- A study in South Africa noted that harvesting should be restricted to the distal portion of fronds as this would result in only a 50% reduction of epiphytes (Anderson *et al.*, 2006).

#### 2.5.1.3 Sediment Impacts

- Removal of seaweeds may affect fluid dynamics of the water column and lead to changes in sediment. Coarser sediment prevalence has been reported for harvested areas of the UK, following *Ascophyllum* collection (Boaden and Dring, 1980).
- Similarly, mortality of turf species as a result of *Ascophyllum* removal in the Isle of Man led loss of entrapped silt (Jenkins *et al.*, 1999).
- In contrast, a study conducted in the United States of America found removal of *Ascophyllum* in both experimentally and harvested sites had no impact to sediment type (Phillippi *et al.*, 2014).

- Brown seaweed species are noted to be particularly intolerant and sensitive to trampling impacts (Wilding *et al.*, 2021). Understorey algae may suffer indirectly due to increased desiccation, however robust algal turf species, opportunists and gastropod grazers may increase in abundance as an indirect effect of trampling (Wilding *et al.*, 2021).

### Summary

- Studies have shown that seaweeds mediate environmental conditions of the substrate, therefore, if harvested, have the capability to cause cascade effects to the surrounding ecology. The three-dimensional structure created by seaweed functions as habitats to mobile invertebrates such as fish, birds and seals, and also act as important nesting and breeding grounds.
- Impacts from seaweed removal range from changes in light intensity, composition of understorey communities, interactions between species and changes in species composition.
- Peacocks tail, bearded red seaweed and stalked jellyfish species are noted to be vulnerable as bycatch from seaweed harvesting.
- If bycatch species are removed in situ they may be able to reattach and survive but this will be species specific.
- Mixed impacts to sediments have been reported with a prevalence of coarser grains post-harvesting noted in one study and no effect on sediment type in another.
- Brown seaweed species are noted to be particularly vulnerable to trampling. Impacts of trampling to associated species is noted to be species specific.



Table 1. The life history characteristics of common edible seaweeds found on United Kingdom rocky shores.									
Common name	Species	Zone	Lifespan (Years)	Maximum length (cm)	Max. Growth Rate cm/day *	Size at maturity (cm)	Age at maturity (years)	Reproduction	References
Gut weed	<i>Ulva intestinalis</i>	All	<1	30	0.25	Unk	Unk	Spores (sexual/ asexual) >10m dispersal (BIOTIC)	Budd & Pizzola (2008)
Sea lettuce	<i>Ulva lactuca</i>	All & free growing	Unk	30	Unk	Unk	Unk		Pizzola (2008)
Channelled wrack	<i>Pelvetia caniculata</i>	High intertidal	4	15	0.01	4	1-2	Gametes (sexual)	White (2008a)
Spiral wrack	<i>Fucus spiralis</i>	High intertidal	4	40	0.04	3	2	Hermaphrodite (Gametes)	White (2008b)
Bladder wrack	<i>Fucus vesiculosus</i>	Mid intertidal	5	150	0.07	15-20	Unk	Gonochoristic (Gametes)	White (2008c)
Knotted wrack	<i>Ascophyllum nodosum</i>	Mid intertidal	10-20	200	0.04	Unk	5	Gonochoristic (Gametes)	Hill & White (2008)
Carrageen	<i>Chondrus crispus</i>	Mid intertidal to 24m	2-3	22	0.03	12	2	Spores (sexual/ asexual)	Rayment & Pizzola (2008)
Toothed wrack	<i>Fucus serratus</i>	Low intertidal	5	60	0.2	Unk	Unk	Gonochoristic (Gametes) (>10km)	Jackson (2008)
Thongweed	<i>Himenthalia elongata</i>	Low intertidal	2-3	200	0.16	0.15	2	Gonochoristic	White (2008d)
Oarweed	<i>Laminaria digitata</i>	Low intertidal to 20m	6-10	200	1.3	Unk	~1.5	Gonochoristic (Gametes)	Hill (2008)
Tangle weed	<i>Laminaria hyperborea</i>	Low intertidal to 30m	11-20	100	0.94	Unk	2-6	Spores (sexual/ asexual)	Tyler-Walters, 2007
Sugar Kelp	<i>Saccharina latissima</i>	Sublittoral fringe to 30m	2-4	400	1.1	100-200	~1.5	Spores (sexual/ asexual) (>100m)	White (2007)

\* Max. growth rate has been converted to cm per day.

## References for Section 2.5

- Anderson, R. J., Rothman, M. D., Share, A. and Drummond, H. 2006. Harvesting of the kelp *Echlonia maxima* in South Africa affects its three obligate, red algal epiphytes. *Journal of Applied Phycology*, 18:343-349.
- Birkett, D.A., Maggs, C.A., Dring, M.J., Boaden, P.J.S. and Seed, R., 1998. Infralittoral Reef Biotopes with Kelp Species (volume VII). An overview of dynamic and sensitivity characteristics for conservation management of marine SACs (Special Area of Conservation). Scottish Association of Marine Science (UK Marine SACs Project). 174p.
- Black, R., Miller, R.J. Use of the intertidal zone by fish in Nova Scotia. *Environ Biol Fish* 31, 109–121 (1991). <https://doi.org/10.1007/BF00001010>
- Boaden, P.J. and Dring, M.J., 1980. A quantitative evaluation of the effects of *Ascophyllum* harvesting on the littoral ecosystem. *Helgoländer Meeresuntersuchungen* 33: 700-710.
- Budd, G.C. & Pizzola, P. 2008. *Ulva intestinalis* Gut weed. In Tyler-Walters H. and Hiscock K. Marine Life Information Network: Biology and Sensitivity Key Information Reviews, [on-line]. Plymouth: Marine Biological Association of the United Kingdom. [cited 12-01-2023]. Available from: <https://www.marlin.ac.uk/species/detail/1469>
- Cousens, R. (1985) 'Fronde size distributions and the effects of the algal canopy on the behaviour of *Ascophyllum nodosum* (L.) Le jolis', *Journal of Experimental Marine Biology and Ecology*, 92(2–3), pp. 231–249. doi:10.1016/0022-0981(85)90097-8.
- Engelen, A.H., Lévêque, L., Destombe, C. And Valero, M. 2011. Spatial and temporal patterns of recovery of low intertidal *Laminaria digitata* after experimental spring and autumn removal. *Cah. Biol. Mar.* 52 : 441-453pp.
- Gelcich, S., Defeo, O., Iribarne, O., Del Carpio, G., DuBois, R., Horta, S., Isaach, J.P., Godoy, N., Peñaloza, P.C., Castilla, J.C. (2009) 'Marine ecosystem-based management in the Southern Cone of south America: Stakeholder perceptions and lessons for implementation', *Marine Policy*, 33(5), pp. 801–806. doi:10.1016/j.marpol.2009.03.002.
- González-Roca, F., Gelcich, S., Pérez-Ruzafa, Á., Alonso Vega, J.M., Vásquez, J.A. (2021) 'Exploring the role of access regimes over an economically important intertidal kelp species', *Ocean & Coastal Management*, 212, p. 105811. doi:10.1016/j.ocecoaman.2021.105811.
- Gunnarson, K., 1991. Populations de *Laminaria hyperborea* et *Laminaria digitata* (Pheophycees) dans la Baie de Breidifjrdur, Islande. *Rit Fiskideildar*, 12: 1-148.
- Hawkins, S. J. and Harkin, E., 1985: Primary canopy removal experiments in algal dominated communities low on the shore and in the shallows subtidal of the Isle of Man. *Botanica Marina*, XXVIII: 223-230.
- Hayward, P. J. and Ryland, J. S. (ed.), 1995. The marine fauna of the British Isles and north-west Europe. Volume 2. Molluscs to Chordates. Oxford Science Publications. Oxford: Clarendon Press.
- Hill, J.M. and White, N., 2008. *Ascophyllum nodosum*. Knotted wrack. Marine Life Information Network: Biology and Sensitivity Key Information Sub-programme [on-line]. Plymouth: Marine Biological Association of the United Kingdom. Available from: <http://www.marlin.ac.uk/species/detail/1336>
- Hill, J.M., 2008. *Laminaria digitata* Oarweed. In Tyler-Walters H. and Hiscock K. (eds) Marine Life Information Network: Biology and Sensitivity Key Information Reviews, [on-line]. Plymouth: Marine Biological Association of the United Kingdom. Available from: <http://www.marlin.ac.uk/species/detail/1386> [Accessed 11/02/16]
- Holt, T.J., Hartnoll, R.G. and Hawkins, S.J., 1997. The sensitivity and vulnerability to man-induced change of selected communities: intertidal brown algal shrubs, *Zostera* beds and *Sabellaria spinulosa* reefs. English Nature, Peterborough.
- Ingólfsson, A. and Hawkins, S.J. 2008. Slow recovery from disturbance: a 20-year study of *Ascophyllum* canopy clearances. *Journal of the Marine Biological Association of the United Kingdom*. 88(4), 689–691pp.
- Irving, A.D., Connell, S.D., Elsdon, T.S. 2004. Effects of kelp canopies on bleaching and photosynthetic activity of encrusting coralline algae. *Journal of Experimental Marine Biology and Ecology*. 310(1): Pages 1-12, <https://doi.org/10.1016/j.jembe.2004.03.020>.

- Jackson, A., 2008. *Fucus serratus* Toothed wrack. In Tyler-Walters H. and Hiscock K. (eds) Marine Life Information Network: Biology and Sensitivity Key Information Reviews, [on-line]. Plymouth: Marine Biological Association of the United Kingdom.  
Available from: <http://www.marlin.ac.uk/species/detail/1326>  
[accessed on 23/02/2016]
- Jenkins, S.R., Hawkins, S.J., Norton, T.A. 1999. Direct and indirect effects of a macroalgal canopy and limpet grazing in structuring a sheltered inter-tidal community. *Marine Ecological Progress Series*. 188: 81- 92pp
- Jenkins, S.R., Norton, T.A. and Hawkins, S.J., 2004. Long term effects of *Ascophyllum nodosum* canopy removal on mid shore community structure. *Journal of the Marine Biological Association of the United Kingdom* 84: 327-329.
- Kelly, E. (ed.), 2005. The role of kelp in the marine environment. Irish Wildlife Manuals, No. 17. National Parks and Wildlife Service, Department of Environment, Heritage and Local Government, Dublin, Ireland.
- Knight, M. and Parke, M., 1950. A biological study of *Fucus vesiculosus* L. and *Fucus serratus* L. *Journal of the Marine Biological Association of the United Kingdom*, 29, 439-514.
- Lauzon-Guay, J.-S, Ugarte, R. A., Morse, B. L., Robertson, C. A., (2021). 'Biomass and height of *Ascophyllum nodosum* after two decades of continuous commercial harvesting in eastern Canada', *Journal of Applied Phycology*, 33(3), pp. 1695–1708. doi:10.1007/s10811-021-02427-x.
- Lazo, L. and Chapman, A.R. (1996) 'Effects of harvesting on *Ascophyllum nodosum* (L.) Le Jol. (fucales, Phaeophyta): A demographic approach', *Journal of Applied Phycology*, 8(2), pp. 87–103. doi:10.1007/bf02186311.
- Lorentsen SH, Sjøtun K, Grémillet D. 2010. Multi-trophic consequences of kelp harvest. *Biological Conservation* 143: 2054–2062.
- Lotze, H. K., Milewski, I., Fast, J., Kay, L. and Worm, B. 2019. Ecosystem-based management of seaweed harvesting. *Botanica Marina*, 62(5): 395-409.
- Mac Monagail, M., Cornish, L., Morrison, L., Araújo, R. and Critchley, A.T., 2017. Sustainable harvesting of wild seaweed resources. *European Journal of Phycology*, 52(4), pp.371-390.
- McAllen, R., 1999. Enteromorpha intestinalis - a refuge for the supralittoral rockpool harpacticoid copepod Tigriopus brevicornis. *Journal of the Marine Biological Association of the United Kingdom*, 79, 1125-1126.
- McArthur, D.M. & Moss, B.L., 1979. Gametogenesis and gamete structure of Enteromorpha intestinalis (L.) Link. *British Phycological Journal*, 14, 43-57.
- Mineur, F., Arenas, F., Assis, J., Davies, A.J., Engelen, A.H., Fernandes, F., Malta, E.J., Thibaut, T., Van Nguyen, T.U., Vaz-Pinto, F. and Vranken, S., 2015. European seaweeds under pressure: Consequences for communities and ecosystem functioning. *Journal of sea research*, 98, pp.91-108.
- Phillippi, A., Tran, K., Perna, A. 2014. Does intertidal canopy removal of *Ascophyllum nodosum* alter the community structure beneath? *Journal of Experimental Marine Biology and Ecology*. 461: Pages 53-60, <https://doi.org/10.1016/j.jembe.2014.07.018>
- Pocklington, J.B., Jenkins, S.R., Bellgrove, A., Keough, M.J., O'hara, T.D., Masterson-algar, P.E., and Hawkin, S.J. 2018. Disturbance alters ecosystem engineering by a canopy-forming alga. *Journal of the Marine Biological Association of the United Kingdom*. 98(4), 687–698pp
- Rangeley, R.W. The effects of seaweed harvesting on fishes: a critique. *Environ Biol Fish* 39, 319–323 (1994). <https://doi.org/10.1007/BF00005133>
- Rayment, W.J. & Pizzola, P.F. 2008. *Chondrus crispus* Carrageen. In Tyler-Walters H. and Hiscock K. Marine Life Information Network: Biology and Sensitivity Key Information Reviews, [on-line]. Plymouth: Marine Biological Association of the United Kingdom. [cited 12-01-2023]. Available from: <https://www.marlin.ac.uk/species/detail/1444>
- Sjøtun, K., Christie, H. and Fosså, J.H., 2000. Resource base for kelp trawling and regrowth after test trawling in Sør-Trøndelag.
- Steen, H., Bodvin, T., Moy, F., Sannæs, H. and Hansen, H.Ø., 2015. Surveys of giant kelp harvesting in Nordland in 2015.
- Stengel, D., Wilkes, R. and Guiry, M. 1999. Seasonal growth and recruitment of *Himantalia elongata* (Fucales, Phaeophycota) in different habitats on the Irish west coast. *European Journal of Phycology*. 34:3, 213-221, DOI: 10.1080/09670269910001736272

- Tyler-Walters, H. 2007. *Laminaria hyperborea* Tangle or cuvie. In Tyler-Walters H. and Hiscock K. *Marine Life Information Network: Biology and Sensitivity Key Information Reviews*, [on-line]. Plymouth: Marine Biological Association of the United Kingdom. [cited 03-02-2023]. Available from: <https://www.marlin.ac.uk/species/detail/1309>
- White, N. & Marshall, C.E. 2007. *Saccharina latissima* Sugar kelp. In Tyler-Walters H. and Hiscock K. *Marine Life Information Network: Biology and Sensitivity Key Information Reviews*, [on-line]. Plymouth: Marine Biological Association of the United Kingdom. [cited 12-01-2023]. Available from: <https://www.marlin.ac.uk/species/detail/1375>
- White, N. 2008d. *Himanthalia elongata* Thongweed. In Tyler-Walters H. and Hiscock K. *Marine Life Information Network: Biology and Sensitivity Key Information Reviews*, [on-line]. Plymouth: Marine Biological Association of the United Kingdom. [cited 04-11-2022]. Available from: <https://www.marlin.ac.uk/species/detail/1358>
- White, N., 2008a. *Pelvetia canaliculata* Channelled wrack. In Tyler-Walters H. and Hiscock K. (eds) *Marine Life Information Network: Biology and Sensitivity Key Information Reviews*, [on-line]. Plymouth: Marine Biological Association of the United Kingdom. Available from: <http://www.marlin.ac.uk/species/detail/1342> [accessed 11/02/16]
- White, N., 2008b. *Fucus spiralis* Spiral wrack. In Tyler-Walters H. and Hiscock K. (eds) *Marine Life Information Network: Biology and Sensitivity Key Information Reviews*, [on-line]. Plymouth: Marine Biological Association of the United Kingdom. [cited 11/02/16] Available from: <http://www.marlin.ac.uk/species/detail/1337>
- White, N., 2008c. *Fucus vesiculosus* Bladder wrack. In Tyler-Walters H. and Hiscock K. (eds) *Marine Life Information Network: Biology and Sensitivity Key Information Reviews*, [on-line]. Plymouth: Marine Biological Association of the United Kingdom. [cited 11/02/16] Available from: <http://www.marlin.ac.uk/species/detail/1330>
- Wilding, C., Tillin, H.M., Stewart, E.J., Burrows, M. and Smale, D.A., 2021. Hand harvesting of seaweed: evidence review to support sustainable management. NRW Report Series No. 573, pp.275

## 2.6 Mechanical collection

- Mechanical collection refers to the use of machines or basic mechanics to gather or extract shore-based resources, such as animals or plants, from their natural environment.
- This method is often used to increase efficiency and productivity compared to manual collection which typically use simple tools (e.g., a rake, spade, etc.).
- This review primarily focuses on the utilisation of 'bait pumps' and tractor dredges; the only mechanical devices where evidence was available.

### 2.6.1.1 Bait Pumping

- A specialised pump that collects sand or mud from the exposed shoreline at low tide and filters it to collect target species such as lugworm (*Arenicola defodiens*). Cubbera *et al.* (2018) highlighted that prior bait digging studies had failed to catch lugworm (*A. Defodiens*) because the species burrows deep beneath the surface dirt. As a result, using mechanical bait pumps allows for more effective and efficient collecting below the surface of the seabed at a reduced effort for gatherers.
- Bait pumping originated in the 1800s with British fishermen using a hand-operated mechanism to extract bait from the sand. This evolved into the first mechanical pump in the early 1900s.

### 2.6.1.2 Mechanical dredging

- Mechanical dredging involves the use of a tractor to pull trailer mounted dredges across low tide sandy bottom shores, in order to harvest target species. Various designs of dredge are used and blades varying between 70 and 100cm wide, which penetrate between 20 to 40cm into the sediment (Hall and Harding., 1997; Cotter *et al.*, 2000; Klunder *et al.*, 2021).
- Dredged sediment is mixed with water and sieved to harvest the larger/targeted organisms; the smaller organisms are discarded in and around the gullies (van den Heiligen-berg 1987, Beukema 1995, Leopold & Bos 2009).

## 2.6.2 Ecological Impacts

### 2.6.2.1 Removal of target species

- Bait pumps are more effective than bait digging for removal target species of lugworm with little effort.
- Fowler (199) reported that there was no evidential support to suggest the use of bait pumps depletes populations.
- Fowler (1999) also demonstrated the limited impact the act of bait pumping had on the sediment, highlighting that bait pumping causes far less disruption than traditional bait digging. However, this has been contradicted by more recent studies (Contessa and Bird, 2004).
- A study of Bury Inlet, South Wales, found that the removal of cockles using tractor dredges resulted in significant decline in spawning populations and juvenile cockles, 30-33% and 9-19% reduction in abundance respectively (Cotter *et al.*, 1997).
- A 3-month study by Contessa and Bird (2004) highlighted the negative influence on shrimp abundance while bait pumping for ghost shrimp. These results displayed a decline in abundance, porosity of sediment, organic carbon content and redox potential of intertidal sediment. Ghost shrimp feeding and burrowing activity influence sediment properties that the species inhabit, meaning its biochemical nature can only be restored when shrimp are repopulated. Deeper investigation found that the act of intense bait pumping prevented favourable conditions for shrimp to reinhabit, such as sediment porosity and redox, which in turn created a negative feedback loop (Contessa and Bird, 2004).
- In contradiction, Wynberg and Branch (2002) found full recovery in sand prawn (*Cakkuabass kruassi*) populations 32 weeks after bait pumping. This was following a decline in populations 6 weeks after collection, which mirrored the results of Contessa and Bird (2004).
- A study by Hall and Harding (1997) concluded that the effects of tractor dredges have no significant effect on target species structure, after showing recovery to the same faunal structure of an undisturbed community within 56 days. Hall and Harding (1997) determined the immigration of adults into disturbed areas resulted in the recovery of the target species.
- Studies have shown that the presence target species such as lugworm and ghost shrimp, are essential for long term sustainability of communities (Contessa and Bird, 2006; Volkenborn & Reise 2006, Volkenborn *et al.* 2007).

### 2.6.2.2 Removal of non-target species

- Although, mechanical dredging can lead to high mortality of discarded organisms, the decaying organisms are considered to increase sediment oxidation and nutrient availability in these fished areas, which in turn, increased abundance of opportunistic species, such as those targeted in shore gathering (Klunder *et al.*, 2021).

- Species with a longer life cycle recover at slower rates following dredging, while the abundance of opportunistic feeders, such as polychaete worms, increase in quick succession following collection (Klunder *et.al.* 2021).
- Arntz & Rumohr (1982) showed this pattern of community succession within the first 2 years after recolonisation, which is then normalised by the third year.
- Reports have shown 'rapid' recovery rates and low overall effects to non-target benthic fauna (Hall and Harding, 1997).
- However, this was contradicted a later study in 2000 by Ferns *et.al.* which highlighted that the effect of tractor dredging on non-target species was widely detrimental, resulting in 31% to 83% loss of the population of polychaetes (Ferns *et.al.* 2000). The populations of non-targeted invertebrates took several months to recover, which consequently has the ability to reduce bird feeding activity (Ferns *et.al.* 2000).
- Wynberg and Branch (2002) highlighted that indirect impacts associated with the physical disturbance in bait pumping were more harmful than the removal of target species itself. As a result of the activity, macrofaunal numbers declined in most gathered areas and showed clear distinct community compositions to other areas.
- When dredging for lugworms in the Dutch Wadden Sea, Volken-born & Reise (2006) demonstrated a positive effect on the biomass of several benthic species shortly after their removal.
- A study in the Netherlands reported no differences in benthic organisms between dredged areas and reference areas (Drenthe, 2013), however this was contradicted by Beukema (1995), stating biomass in dredged areas only recovered after several years.

#### 2.6.2.3 Sediment Impacts

- A study in southern Australia found that bait pumping for shrimp showed initial destruction of target species burrows and compaction of sediment from both the pumping and trampling of the mudflat (Contessa and Bird, 2004). This reduced porosity and created reducing conditions to depths of 20cm (Contessa and Bird, 2004). The proportion of smaller grain sizes also increased in surface sediments and organic carbon content decreased (Contessa and Bird, 2004).
- A study in South Africa of the removal of sand and mud prawns including using a pump found that areas where sandprawns were harvested showed finer grained sediments (Wynberg and Branch, 1994). There were no obvious differences in sorting coefficient but the organic fraction was lower in experimental areas 18 days post-activity, a trend which had reversed by the end of the first month where the organic content was then higher than in control areas up to 4 months (Wynberg and Branch, 1994).
- The same study noted that in experimental areas for sandprawns the sediment surface was depressed about 10cm below the surrounding area and penetrability declined following activity as well as the accumulation of a black layer approximately 4cm from the surface (Wynberg and Branch, 1994).
- The same effects were not fully observed for mudprawn harvesting suggesting sediment characteristics influence the degree of impact (Wynberg and Branch, 1994).

## Summary

- Evidence on mechanical harvesting is limited, primarily relating to two activities; bait pumping and tractor dredging
- Impacts to target species are mixed; for tractor dredging a significant decline in common cockle as a target species was noted in South Wales, however impacts from bait pumping are more variable with some studies suggesting impacts are much lower than traditional digging while others show significant effects resulting from the creation of unfavourable conditions for recolonisation.
- Impacts to non-target species are similarly mixed with some studies suggesting rapid recovery following activity whilst others found significant declines in polychaete species following tractor dredging.
- Sediment impacts are noted to include compaction from both the activity and associated trampling, reduced porosity, increases in fine grain sediments and changes to organic content.
- The nature of the sediment prior to activity was noted to potentially influence the degree of impact.

## References for Section 2.6

- Arntz WE, Rumohr H (1982) An experimental study of macro - benthic colonization and succession, and the importance of seasonal variation in temperate latitudes. *J Exp Mar Biol Ecol* 64: 17–45
- Beukema . J. (1995). Long-term effects of mechanical harvesting of lugworms *Arenicola marina* on the zoobenthic community of a tidal flat in the Wadden Sea. *Netherlands Journal of Sea Research*. Vol 33, issue 2, Pages 219-227
- Contessa. L. and Bird .F. L. (2004). The impact of bait-pumping on populations of the ghost shrimp *Trypaea australiensis* Dana (Decapoda: *Callinassidae*) and the sediment environment. *Journal of Experimental Marine Biology and Ecology*. Volume 304, pages 75 - 97
- Drenthe J (2013) Monitoring van effecten op de bodemfauna door wadpierenvisserij op de Vlakte van Kerken in de periode 2008–2011. NIOZ, Texel
- Cotter. A. J. R., Walker. P., Coates. P., Cook. W., Dare. P. J. (1997). Trial of a tractor dredger for cockles in Burry Inlet, South Wales, *ICES Journal of Marine Science*, Volume 54, Issue 1, Pages 72–83, <https://doi.org/10.1006/jmsc.1996.0182>
- Ferns, P. N., Rostron, D. M., & Siman, H. Y. (2000). Effects of Mechanical Cockle Harvesting on Intertidal Communities. *Journal of Applied Ecology*, 37(3), 464–474. <http://www.jstor.org/stable/2655784>
- Fowler, S.L. 1999. Guidelines for managing the collection of bait and other shoreline animals within UK European marine sites. English Nature (UK Marine SACs Project). 132 pages
- Hall, S. J., & Melanie J. C. Harding. (1997). Physical Disturbance and Marine Benthic Communities: The Effects of Mechanical Harvesting of Cockles on Non-Target Benthic Infauna. *Journal of Applied Ecology*, 34(2), 497–517. <https://doi.org/10.2307/2404893>
- Heiligenberg. T. (1987). Effects of mechanical and manual harvesting of lugworms *Arenicola marina* L. on the benthic fauna of tidal flats in the Dutch Wadden sea. *Biological Conservation*, Volume 39, Issue 3, Pages 165-177, [https://doi.org/10.1016/0006-3207\(87\)90032-2](https://doi.org/10.1016/0006-3207(87)90032-2).
- Klunder L, van Bleijswijk JDL, Kleine Schaars L, van der Veer HW, Luttkhuizen PC (2021) Impact of mechanical *Arenicola* dredging on the benthic fauna communities: assessed by a morphological and molecular approach. *Mar Ecol Prog Ser* 673:17-28. <https://doi.org/10.3354/meps13816>
- Leopold MF, Bos OG (2009) Duurzaamheid van de mechanische wadpierenvisserij in de Waddenzee. Rapport C013/09. IMARES, Texel
- Volkenborn N, Reise K (2006) Lugworm exclusion experiment: responses by deposit feeding worms to biogenic habitat transformations. *J Exp Mar Biol Ecol* 330: 169–179

- Volkenborn N, Hedtkamp SIC, van Beusekom JEE, Reise K. (2007). Effects of bioturbation and bio irrigation by lugworms (*Arenicola marina*) on physical and chemical sediment properties and implications for intertidal habitat succession. *Estuar Coast Shelf Sci* 74: 331–343
- Wynberg, R.P. & Branch, G.M. 1994. Disturbance associated with bait collection for sand prawns (*Callinassa kraussi*) and mudprawns (*Upogebia africana*): Long term effects in the biota of intertidal sandflats. *Journal of Marine Research*. 52:523-558.



## SOUTHERN IFCA ANNUAL REPORT 2023-2024

*Report by The Accountant and CEO*

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### **A. Purpose**

To receive the Annual Report for the year April 2023 to March 2024, in accordance with paragraph (178) of The Marine and Coastal Access Act, 2009.

### **B. Recommendations**

- a) That Members consider and provide comment on the draft Annual Report.
- b) That Members approve the Annual Report for submission to the Secretary of State.

### **C. Annex**

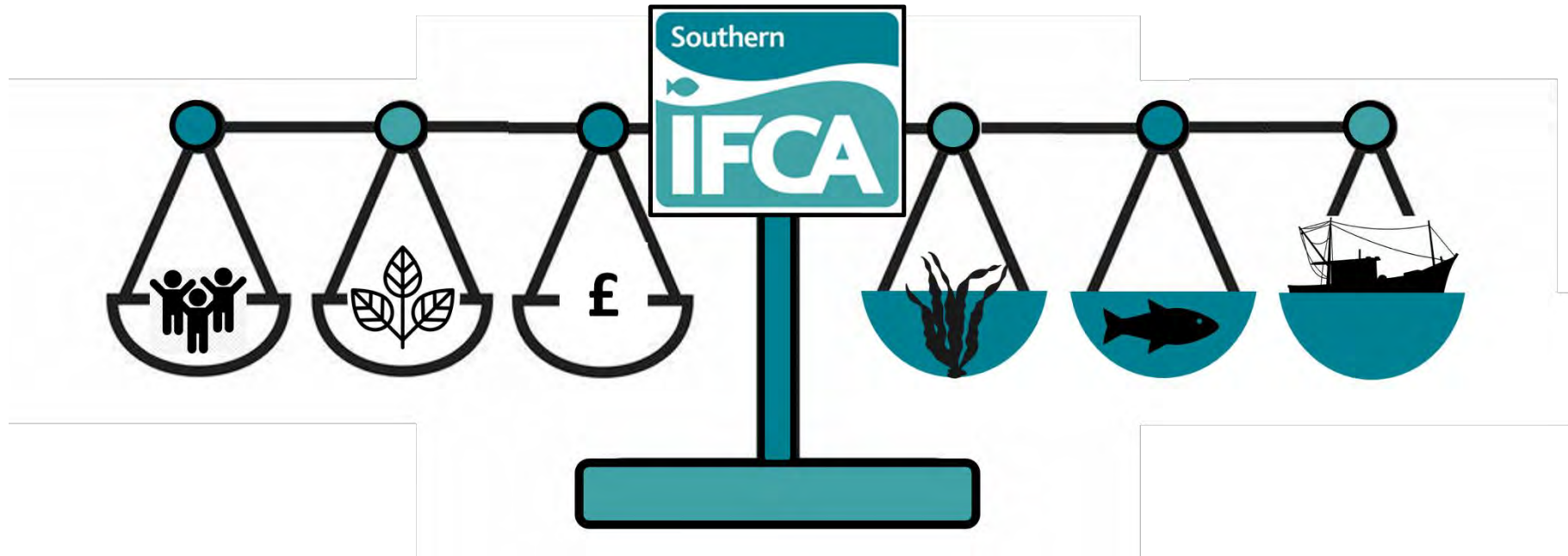
Southern IFCA Draft Annual Report 2023-2024

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## **1.0 Background**

Paragraph (178) of The Marine and Coastal Access Act, 2009 under the title 'Annual Report' requires that:

- as soon as is reasonably practicable after the end of each financial year, every IFCA Authority must prepare a report on its activities in that year.
- a report under this section must be in such form and contain such information as the Secretary of State may require.
- a report under this section must be published in such manner as the Secretary of State may require.
- the IFCA must send a copy of the report to the Secretary of State.



# Annual Report 2023 to 2024

Presented to the Secretary of State pursuant to Section 178 of the Marine & Coastal Access Act 2009

Prepared by the CEO, Pia Bateman

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## Executive Narrative

This year we have continued to successfully deliver in a backdrop of change. This required proactive in-year reprioritisation of work delivery to ensure that Southern maintained, aligned and championed evolving national directions through the delivery of inshore fisheries and conservation management.

Following the introduction of the Government's Environmental Improvement Plan 2023 in January 2023; introduced as the first revision of the 25 Year Environment Plan; Southern reprioritised and restructured the delivery of our ongoing work to concentrate on progressing the **Bottom Towed Fishing Gear Review**, **Shore Gathering Review** and **Black Seabream Review**; in order to support the Government's advance towards protection of 30% of the global ocean by 2030, realised domestically via enhancement of protection for Marine Protected Areas by the end of 2024.

This Annual Report, in part, demonstrates how Southern have supported the furthering of Marine Protected Areas protections in the district between 1<sup>st</sup> April 2023 and the 31<sup>st</sup> March 2024, to include the protections afforded following the ratification of the **Southern IFCA Net Fishing Byelaw** by the Secretary of State in August 2023. The Net Fishing Byelaw introduced management across 189km<sup>2</sup> of the district's harbours and estuaries, of which 1.9% (52km<sup>2</sup>) are closed to net fishing, 4.2% (116km<sup>2</sup>) are subject to seasonal and/or gear restrictions and in 0.6% (17km<sup>2</sup>) three permit areas were introduced to enable permitted net fisheries to continue in areas where salmonids are afforded protection, this management approach allows net fisheries to coexist in areas subject to marine conservation protections. Additional district closures are pending introduction under the Bottom Towed Fishing Gear Byelaw 2023, which is currently undergoing quality assurance with the Marine Management Organisation prior to Secretary of State consideration. The introduction of the BTFG 2023 byelaw, following its anticipated ratification, will increase district wide closures for BTFG from 25.5% (696.3km<sup>2</sup>) to 27.2% (743.1km<sup>2</sup>).

Additionally, an underlying focus this year has been to consider how best to capture and report on the holistic work that Southern IFCA have continued to deliver in order to demonstrate how the work on the ground, spanning across research, policy, compliance & enforcement, is making a difference to our communities locally, as well as helping to inform national discussions on robust inshore fisheries and conservation governance. Most importantly in a landscape of competing objectives, it is important to maintain a focus on how the work we are delivering is **maintaining authenticity to the IFCA core functions** '*...achieving the right balance between social, environmental and economic benefits to ensure healthy seas, sustainable fisheries and a viable industry...*'.

We have been considering how best to demonstrate this authenticity in order to raise the profile of inshore fisheries and the positive role inshore fishers have as custodians of a sustainable marine environment. These discussions were brought to a head in December 2023, when Anita Rani and her colleagues featured the Poole Harbour Dredge Permit Fishery on the **BBC's Countryfile**. Anita interviewed permit holders at sea, whilst utilising one of the Southern's Fisheries Protection Vessels as a filming platform. Two of our officers were filmed on the ground and I spoke with Anita about the role Southern have in the

management of this fishery. This was a fantastic opportunity to discuss the importance of this fishery and its co-management initiatives, as well as demonstrating how well-managed fisheries can thrive and co-exist within MPA's, providing a blueprint for good inshore fisheries management internationally; a model which Southern replicate in other areas of the district. The hour-long programme [BBC iPlayer - Countryfile - Poole Harbour](#) features Poole Harbour, with the fisheries feature between c.9mins 40 and c.16min 30.

In keeping with this theme of 'accountability to our core duties', this Annual Report introduces **holistic management models** where we can best demonstrate how this reporting year, we have continued to champion inshore fisheries which are coexisting and arguably thriving, alongside achievement of nature conservation protections. This interdependent relationship has in most cases been years in the making and it is something that we are extremely proud of and will continue to aspire to drive forward; as good inshore fisheries management requires the development of innovative symbiotic management mechanisms to achieve dual and multipurpose outputs which must remain constantly under review.

Sadly, at the end of March 2023 into April, Poole Harbour fisheries appeared in the media for all of the wrong reasons following an **oil spill** from a pipeline in the harbour. This Major Incident led to a multiagency response coordinated by Poole Harbour Commissioners who activated an emergency oil spill plan, bringing specialist oil spill response companies in to assist with the operation. Southern IFCA provided **operational assistance** throughout, reprioritising all other work to ensure that the team were available to contribute operationally, via the use of staff and marine assets (vessel and drone) and via provision of intimate local knowledge of the harbour and its fisheries. Upon direction of Environmental Health Officers at BCP Council, during the Major Incident, shellfish harvested from Poole Harbour could not be relayed or marketed, with this advice remaining in place until an assessment had been made and further advice received from the Food Standards Agency and CEFAS regarding the safety. Southern, working closely with partners, set up and co-ordinated a **shellfish sampling programme** to test multiple commercial shellfish species to inform an FSA position on the harvesting and marketing of shellfish for aquaculture and wild fisheries following the Poole Harbour Oil Spill. Southern prioritised working with aquaculture farmers to gather samples of shellfish for scientific analysis. This analysis concluded that Poole Harbour's aquaculture beds could reopen on 20<sup>th</sup> April, less than a month after the oil spill. The outcomes of subsequent tests, supported by commercial inshore fishers enabled the wild fishery to reopen on 5<sup>th</sup> May, with the area immediately around the spill site remaining closed. BCP Council and Southern undertook further sampling of shellfish in order to inform the position for the wild shellfish PHDP fishery, which opened on the 25<sup>th</sup> May 2023, ensuring no delay to the start of the season, along with the wild shellfish hand gathering fishery.

The multiagency oil spill reactive response required, to provide both operational support and to direct shellfish sampling, really drilled home the importance of partnership working across the entirety of the local marine community. This example, as with the many others discussed in this Annual Report, demonstrates the value of investing in good working relationships with other regulators, organisations and stakeholders, as, when required to come together to achieve a collective aim, we are far better equipped to ensure the health of our marine environment for the use of all if we have solid partner foundations.

Looking inwardly, this year Southern has undergone change, with restructuring and subsequent creation of The Business Services Team, to ensure that Southern remain best equipped to deliver business function.

When I consider the scope of this Annual Report, it astounds me that a team of 16, in conjunction with the 21 dedicated Members of the Authority, have delivered not just the volume of work captured in this report, but also staff and Members alike continue to drive forward and evolve inshore fisheries management as a collective, demonstrating the strength of a well-established and functional regional co-management model; well placed to support and inform national work. I am extremely proud of the team and thankful to the Members for their dedication, input and expertise. I hope that those reading the report will welcome the work that Southern strive to deliver, **ensuring that we secure the right balance in management: where a thriving and sustainable inshore fishing industry can coexist with attainment of conservation objectives.**

**Pia Bateman**, Chief Executive Officer

A handwritten signature in black ink, consisting of stylized, overlapping loops and lines, representing the name Pia Bateman.

## Background

Under Section 178 of the Marine and Coastal Access Act (2009) Inshore Fisheries and Conservation Authorities (IFCA's) are required to produce an Annual Report, which provides an account of the work delivered during the previous reporting year. This report must be sent to the Secretary of State annually following the end of the financial year.

## The IFCA Model

A 'golden thread' demonstrates the connection between IFCA aims and objectives on a national stage (Vision, High Level Objective and Success Criterion) with operational delivery at a district level (Southern IFCA Annual Strategy and Team Plans).

## National IFCA Vision

***“ IFCAs will lead, champion and manage a sustainable marine environment & inshore fisheries, by successfully securing the right balance between social, environmental & economic benefits to ensure healthy seas, sustainable fisheries & a viable industry ”***

## National IFCA High Level Objectives & Success Criterion

High-Level Objectives and Success Criterion (Table 1) were developed nationally to support attainment of the IFCA Vision and to reflect the developing programme of work delivered by IFCA's nationally and to demonstrate the IFCA's contribution to the delivery of the UK Marine Policy Statement.



IFCA High Level Objectives		IFCA National Success Criteria	
HLO1	Achieving a sustainable marine economy	SC1	IFCAs are recognised and heard, balancing the economic needs of the fishery whilst working in partnership and engaging with stakeholders.
HLO2	Ensuring a strong, healthy and just society	SC2	IFCAs implement a fair, effective and proportionate enforcement regime.
HLO3	Using sound science responsibly	SC3	IFCAs use evidence based and appropriate measures to manage the sustainable exploitation of sea fisheries resources and deliver marine environmental protection within their districts.
HLO4	Living within environmental limits	SC4	IFCAs have appropriate governance in place and staff are trained and professional.
HLO5	Promoting good governance	SC5	IFCAs make the use of evidence to deliver their objectives

The Southern IFCA Annual Strategic Plan details how the Authority intends to support the attainment of High Level Objectives and Success Criterion (and ultimately the IFCA vision) when mapping out the work priorities for the year ahead. The [Annual Strategic Plan 2023-2024](#) was published on the 1<sup>st</sup> April 2023 alongside the [Compliance and Enforcement Team Plan](#) and the [Research and Policy Team Plan](#).



## The Annual Report 2023-2024

The following report provides an overview of how Southern IFCA have performed in their delivery of its Annual Plan priorities for the period **April 2023 to March 2024**, via achievement of, or contribution to the following **reporting metrics**:

1. National IFCA High Level Objectives and Success Criteria (collectively referred to as **IFCA National Performance Indicators**),
2. Delivery of **Southern IFCA's Core Functions & Horizon Goals**, as set out in the Annual Strategy 2023-2024, which have a direct link to National Performance Indicators.
3. **Fisheries Objectives** as set out under the Fisheries Act 2020, where IFCA's must have regard to the Fisheries Objectives in delivery of function.
4. The **UK Net Zero Strategy**, via identification and instigation of changes in operation in order to minimise and reduce emissions.
5. Demonstration of where Southern IFCA have supported Defra's delivery of **Fisheries Act targets** in accordance with the Spending Review 2021
6. Demonstration of where Southern IFCA have supported the delivery of the **Government Environmental Improvement Plan 2023**.





In delivering the above reporting metrics, Southern IFCA are complying with, and demonstrating their '**Biodiversity Duty**'; a requirement upon all public authorities in accordance with the Environment Act 2021, to consider what they can do to conserve and enhance biodiversity in England. This duty is intrinsically interweaved into the work that Southern IFCA deliver and have committed to review annually in this report.

## Annual Report Reporting Metrics

The symbols below are used throughout this report to denote where contributions or achievements to the above reporting metrics have been made between the 1<sup>st</sup> April 2023 and the 31<sup>st</sup> March 2024.

In addition, the appearance of the following symbols denotes where Southern have worked in partnership and where this has been achieved via industry collaboration initiatives:



IFCA National Performance Indicators				Southern IFCA Horizon Goals			Fisheries Objectives	
IFCAs are recognised and heard, balancing the economic needs of the fishery whilst working in partnership and engaging with stakeholders.		①		Business Services Team	Permit Database	①	Sustainability	①
IFCAs implement a fair, effective and proportionate enforcement regime.		②			Finance Systems	②	Precautionary	②
IFCAs use evidence based and appropriate measures to manage the sustainable exploitation of sea fisheries resources and deliver marine environmental protection within their districts.		③			Governance Review	③	Ecosystem	③
IFCAs have appropriate governance in place and staff are trained and professional.		④		Compliance & Enforcement Team	FPV Procurement	④	Scientific Evidence	④
IFCAs make the use of evidence to deliver their objectives		⑤			NFB Implementation	⑤	Bycatch	⑤
					PFB Implementation	⑥	Equal Access	⑥
UK Net Zero Strategy		Environment Improvement Plan 2023	EIP23	Research & Policy Team	MCRS	⑦	National Benefit	⑦
Supporting Defra's delivery of Fisheries Act Targets:	FMPs 	MPAs 	Consents 		Defra FA Objectives	⑧	Climate Change	⑧
					MPA Management	⑨		

## Abbreviations & Acronyms

A list of all abbreviations and acronyms used in this report can be found [here](#).

## Feedback

Southern IFCA are committed to providing an exemplary service. If you are not satisfied with an aspect of our service, we encourage you to let us know and we will do our best to resolve the matter as quickly as possible. Full details of the complaints procedure is published [here](#).



## Achieving National Success Criteria

### Performance Indicators for Success Criteria 1







#### IFCAs are recognised and heard, balancing the economic needs of the fishery whilst working in partnership and engaging with stakeholders

IFCAs will be visible, respected and trusted regulators within coastal communities and will maintain and deliver a strategy to communicate their vision and duties effectively. IFCAs will engage with policy makers, industry, Non-Governmental Organisations (NGOs), recreational and commercial users; and other regulators. They will work jointly and collaboratively with partner organisations across boundaries; will participate and contribute to the development and implementation of regional and national marine policy, including the marine planning regime; will take long-term strategic decisions and manage risks effectively. IFCAs may maintain a national body to co-ordinate the activities of authorities that are party to arrangements

Outcomes	Performance Indicators	Status
<p>The IFCA will maintain and implement an effective communication strategy.</p> <p>The IFCA will maintain its website, ensuring public access to current fisheries and conservation information for the District, including management requirements and byelaws. Non-reserved IFCA Committee papers will be published.</p> <p>The IFCA will contribute to co-ordinated activity at a national level.</p> <p>The IFCA and its principal partners will have a clear understanding of roles and responsibilities. Memoranda of Understanding (MoU) with the MMO, Natural England, Environment Agency and CEFAs will be maintained. Opportunities for greater efficiencies, effective joint working and collaboration will be explored and implemented when feasible.</p>	The IFCA will maintain a database of stakeholder contacts (in accordance with General Data Protection Regulations 2018 [GDPR]) that will have been reviewed and updated by 31 March each year.	✓
	The IFCA will have completed a review of its communication strategy and implementation plan by 31 March each year.	✓
	The IFCA will have reviewed its website by the last working day of each month	✓
	The IFCA will have reviewed its website and ensured it meets the objectives of its communication strategy, by 31 March each year.	✓
	The IFCA will have reviewed all MoU's by 31 March each year. There will be a clear plan in place to update MoUs where necessary, to an agreed timescale.	✓
	By 31 March each year, the IFCA will have participated appropriately, proportionately and at the right level of delegation, in regional and national fisheries and conservation activity identified in the annual plan	✓



## Performance Indicators for Success Criteria 2







IFCAs implement a fair, effective and proportionate enforcement regime		
The IFCA enforcement regime is risk-based, makes appropriate use of intelligence, meets legislative standards and complies with the Regulators Code. It should make effective use of the resources available to regulators; complement and align, if possible, with the regimes in adjacent IFC Districts and management by other organisations including the MMO and Environment Agency. Consistency and fairness are important. Regulatory compliance is promoted. Enforcement action is carried out by trained, professional officers working to clear standards of conduct.		
Outcomes	Performance Indicators	Status
The IFCA will publish its Enforcement Risk Register and Strategy, clearly setting out its approach to achieving regulatory compliance and potential sanctions that may be applied for infringements and/or offences.	The IFCA will ensure its Enforcement Risk Register and Strategy are published and available on its website from 1 April each year.	
	The IFCA will demonstrate in its Annual Report how it has worked with other regulators to achieve consistent quality, application and enforcement of management measures.	
The IFCA will have developed consistency in regulations (byelaws) with other organisations	The IFCA will compile records of enforcement activity in a standard format; provide them to the National Inshore Marine Enforcement Group (NIMEG) and publish them on its website.	
The IFCA will manage operational activity (e.g., through a Tasking & Co-ordination Group) and capture, record, evaluate and disseminate intelligence that is compatible with partner organisations. It is engaged in joint working with partner organisations.	The IFCA will adopt the national Code of Conduct for IFCOs, which will be reviewed annually and published on its website by 1 April.	
Warranted Inshore Fisheries and Conservation Officers will be trained and accredited to nationally agreed standards. They will maintain professionalism and make appropriate interventions to deliver efficient, effective enforcement activity	The Code of Conduct for IFCOs is reflected in work objectives and annual appraisals for all Warranted Officers.	
	Warranted Officers attain accreditation. All undertake Continuing Professional Development (CPD)	



### Performance Indicators for Success Criteria 3

#### IFCAs use evidence based and appropriate measures to manage the sustainable exploitation of sea fisheries resources and deliver marine environmental protection within their districts

The IFCAs were created as statutory inshore regulators by the Marine and Coastal Access Act 2009. They are relevant authorities for implementing international environmental commitments including the Birds, Habitats, Water and Marine Strategy Framework Directives and make an important contribution to securing a network of well managed marine protected areas, including European Marine Sites and Marine Conservation Zones. Fisheries Management Plans identify local management measures which should be based on evidence; be timely; subject to appropriate consultation and in step with national initiatives and priorities. An IFCA should balance the social and economic benefits of exploiting sea fisheries resources with the need to protect the environment. It should make a contribution to sustainable development.






Outcomes	Performance Indicators	Status
<p>The IFCA will identify issues likely to affect sustainable management of the marine environment in the District; undertake risk assessments and gap analysis; review appropriateness of existing measures; evaluate management options and develop and implement proportionate marine management solutions.</p> <p>The IFCA will support implementation of a well-managed network of marine protected areas by: developing a range of criteria-based management options; implementing management measures to ensure that inshore fisheries activities comply with the Marine and Coastal Access Act 2009 and the revised approach to managing commercial fisheries in European Marine Sites; and that local management contributes to delivery of targets for the Marine Strategy Framework Directive, Water Framework Directive and Marine Plans.</p> <p>The IFCA will develop Fisheries Management Plans for priority species where appropriate. Shared objectives will be developed with identified partners; actions identified, and best practice reflected so that management makes a contribution to sustainable development.</p>	The IFCA will record site-specific management considerations for Marine Protected Areas and report progress to the Authority	
	The IFCA will publish data analysis and evidence supporting new management measures, on its website	
	Management information (e.g., sampling and/or survey results) will be collected periodically after new management measures have been implemented, to demonstrate the extent of effectiveness of the intervention	
	The IFCA will have developed a range of criteria-based management options that are explained to stakeholders through the IFCA website, and reviewed by 31 March each year	
	New IFCA management measures selected for development and implementation are delivered within agreed timescales	
	The IFCA will include shared agreed objectives and actions from Fisheries Management Plans in its own Annual Plan, which will be published by 31 March each year.	



## Performance Indicators for Success Criteria 4

### IFCAs have appropriate governance in place and staff are trained and professional




IFCAs are statutory authorities and sit within the local government family. Authority members may be either general members or local councillors. They comply with Codes of Conduct and the Standing Orders that apply to meetings of local government committees. General members are appointed on merit, through open competition and for a term. They are subject to an annual performance appraisal. An IFCA is funded by levy, charged to its member councils. Funding originates in local taxation. An IFCA is accountable for its use of public resources and should ensure that a proper auditing regime provides confidence in its commitment and spend of public money. It should make effective use of its resources, including staff and assets. An IFCA has a statutory obligation to prepare and publish Annual Plans and Annual Reports.

Outcomes	Performance Indicators	Status
<p>The IFCA will demonstrate its long-term strategic approach to sustainable marine management by having appropriate plan-making, review, update and amendment procedures in place. The IFCA will record its performance against corporate outcomes and indicators as soon as practically possible following the end of the financial year.</p> <p>Staff performance management systems will be in place that link to the IFCA success criteria. There will be an induction procedure for new joiners. Staff training and development needs will be identified. Performance will be managed and, where necessary, improvement procedures will be followed.</p> <p>The IFCA Committee will be supported by an organised, efficient and effective secretariat. New members will receive an induction pack and briefing from the Authority. There will be a rolling twelve-month schedule of quarterly Authority meetings. Notices of meetings and documentation will be made available in line with Standing Orders.</p> <p>IFCA Committee meetings will be held in public unless material is either confidential, or exempt within the meaning of the Local Government Act 1972</p>	The IFCA will publish a Plan on its website by 31 March, setting out the main objectives and priorities for the next financial year. A copy will be sent to the Secretary of State.	
	After the end of each financial year, the IFCA will publish a report on its website describing its activities, performance and a summary of audited financial information in that year, by 30 November. A copy will be sent to the Secretary of State.	
	IFCA staff will have annual performance management plans in place. Annual appraisals for all staff will have been completed by 31 March each year.	
	An efficient secretariat of IFCA staff support IFCA Authority meetings which are held quarterly and are quorate. Meeting documentation will meet Standing Orders.	
	The IFCA will have demonstrated, in its Annual Report, how marine, land and water management mechanisms in the Inshore Fisheries & Conservation District have worked responsively and effectively together.	

## Performance Indicators for Success Criteria 5

### IFCAs make the use of evidence to deliver their objectives

IFCAs are statutory regulators for their Inshore Fisheries and Conservation District. Decision-making should be based on evidence. All IFCAs are supported by officers who pool their expertise and share best practice as a Technical Advisory Group (TAG). A programme of research activity and monitoring is planned, developed and updated in consultation with partners. The programme informs management decisions and supports justification for additional research and evidence gathering.











Outcomes	Performance Indicators	Status
A strategic research plan that contributes to greater understanding of the marine environment and delivery of cost-effective management of sea fisheries resources	The IFCA will demonstrate progress that has been made towards identifying its evidence needs by publishing a research plan each year	
Standard Operating Procedures describe how data is captured and shared with principal partners	The IFCA will publish a research report annually that demonstrates how evidence has supported decision making	
A list of research databases held by the IFCA and the frequency of their review	The IFCA's contribution to TAG and progress that has made towards a national evidence needs programme will be recorded in the IFCA's Annual Report	
Non-confidential meta-data collected through the IFCA research programme should be recorded in a database available to the marine research community		



# Delivering Southern IFCA's Core Functions: Research & Policy

## Data Collection and Monitoring

### Southern IFCA Monitoring Program 2023/24

<p>SIFCA completed <b>9</b> surveys in the past year across <b>5</b> survey types, <b>3</b> of which involved multiple surveys during the year</p> <p><b>100%</b> of surveys have an overlap with one or more MPAs</p> <p><b>Species surveyed:</b></p> <ul style="list-style-type: none"> <li>Common whelk </li> <li>Manila clam </li> <li>Common cockle </li> <li>Other clam species </li> <li>King scallop </li> <li>Estuarine fish species </li> </ul>	<p>Monitoring program included the introduction of one new survey:</p> <p><b>Whelk Population Survey</b></p> <p></p> <p><b>3</b> survey types collected data which was relevant to frontrunner FMPs</p> <ul style="list-style-type: none"> <li>Whelk Population Survey <b>Whelk FMP</b></li> <li>Solent Scallop Survey <b>King Scallop FMP</b></li> <li>Juvenile Fish Surveys <b>Bass FMP</b></li> </ul>	<p> <b>100%</b> of surveys involved collaboration with fishers, commonly through the chartering of local vessels</p> <p><b>2</b>  additional projects were completed with local universities – both contributing to FMP evidence</p> <ul style="list-style-type: none"> <li><b>Whelk Data Collection</b> (SoM for the District)</li> <li><b>Solent Scallop Spawning Survey</b> (spawning season)</li> </ul>	<p>Additional data monitoring was carried out for <b>3</b> managed fisheries:</p> <ul style="list-style-type: none"> <li><b>Poole Harbour Dredge Permit</b> monthly permit data</li> <li><b>Solent Dredge Permit</b> monthly permit data</li> <li><b>Live Wrasse Fishery</b> monitoring of voluntary catch data against Monitoring &amp; Control Plan</li> </ul> <p>Timeseries datasets are used to relate fisher-dependent data to survey data </p> <p>Data analysis helps inform management measures</p>
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### Whelk Data Collection



During 2023 a student at the University of Southampton analysed samples of common whelk obtained from fishers in 2022 to investigate SoM (calculated as L50 – the size at which 50% of the population is deemed to have reached maturity) across four different areas of the District. In addition, the samples obtained by the Whelk Population Survey were used by a second student to support initial project work.

The whelks were analysed for shell dimensions, penis length and size frequency distribution with samples taken from the Solent, Poole Bay, Weymouth Bay and Lyme Bay. The results of the project showed significant variation in size characteristics across the sample regions as well as variation in the SoM. The results highlight the importance of understanding variation in populations of whelk across small spatial scales. Data held by Southern IFCA on whelk populations specific to the District have been made available to the Whelk FMP through a collation of data by the AIFCA and direct correspondence with the FMP Delivery Partner.

### Wrasse Fishery Data Collection



In 2023, the wrasse fishery operated between July and September for a period of 12 weeks with a total of 5 participating vessels. A pre-season meeting was held with participating fishers and attended by members of the Research & Policy Team and the Chairman of the TAC. The meeting provided an opportunity to discuss the outcomes of the 2022 HRA review that occurred as a result of triggering Variable 1 listed in the M&C Plan during the previous season. The meeting also offered an opportunity to discuss and reiterate current management and the importance of cooperation with regards to submission of catch returns.

Data submitted through catch returns was used to analyse any changes in Landings per unit Effort and compare effort levels to previous years and to the trigger variables listed in the M&C Plan. The annual end of season report was compiled following the fishery closure and presented to the February 2024 TAC. The report and analysis stated no trigger variables were exceeded through the 2023 wrasse season. The fishers operated in accordance with the voluntary measures set out under the Wrasse Fishery Guidance and the monitoring of data through the Southern IFCA Monitoring Program ensured that no trigger variables were exceeded during the 2023 season which ran from 1<sup>st</sup> July to September. The 2023 live wrasse fishery report is available online [here](#).

### Permit Data Collection



There are two permit byelaws in the Southern IFCA district which require permit holders to submit data on a monthly basis: the PHDP Byelaw and the SDP Byelaw. For both permit schemes, permit holders are required to submit information for each day of the month when fishing took place, stating hours fished, species caught and quantity, the buyer(s) and specific fishing areas (Catch Zones for Poole Harbour and Bivalve Management Areas for the Solent).

The catch data provided by permit holders is utilised to create time-series datasets that establish a relationship between fisher-dependent data and stock survey data. The permit data, along with data from the annual Poole Harbour Bivalve Survey, twice annual Solent Bivalve Survey and tri-annual Solent Scallop Survey, is used to monitor trends in stocks of important commercial species at the level of the relevant management areas. Building a timeseries dataset for permit data, in addition to survey data, allows the quantification of information to support management of the fishery at an appropriate spatial scale and allows the IFCA to understand seasonal patterns and observe any changes within a relatively short timeframe contributing to the ability to maintain the reactive and flexible management afforded by permit schemes.

Catch data for permit fisheries in 2023/24 is reported in the Poole Harbour Bivalve Survey, Solent Bivalve Survey and Solent Scallop Survey 2024 survey reports available online [here](#) for Poole Harbour and [here](#) for the Solent.

## Whelk Population Survey



The Whelk Population Survey 2023 was the first annual survey in a new survey program for Southern IFCA to assess the population of the common whelk across the district at 4 key locations: Lyme Bay, Weymouth Bay, Poole Bay and the Solent. The survey took place in early April 2023 with outcomes reported at the August 2023 TAC meeting. Sampling involved collaboration with fishers to take samples from a fixed number of pots either independently or with IFCO observers. The whelks were analysed for CPUE as weight of whelk above or below MCRS per pot and length frequency.

The results from year 1 showed that the average length distribution of the sample populations was above the MCRS (45mm) for all regions sampled. The results showed variation across the different regions within the district; Lyme Bay showed the highest output CPUE (4.22kgs/pot) and Weymouth Bay the lowest (1.54kgs/pot), but with the largest average length (over 60mm).

The data presented provided a baseline for comparisons with future sampling, planned annually as part of the Monitoring Program. The dataset will help contribute to future reviews of management, with relevance to the Southern IFCA Pot Fishing Byelaw (submitted to the MMO for QA in October 2022) and the Whelk FMP, including specific considerations of definition of regional stock boundaries and MCRS. The 2023 survey report is available online [here](#).

## Poole Bivalve Survey



The Poole Harbour Bivalve Survey took place over three days between 18<sup>th</sup> – 20<sup>th</sup> April 2023. The survey collects data on length frequency for all bivalve species and weight data for both over and under the respective MCRS for the two most commercially important species, Manila clam (*Ruditapes philippinarum*) and common cockle (*Cerastoderma edule*), allowing for calculation of CPUE. Data is analysed in respect of sampling site (length) and catch zone (CPUE), the latter allowing for comparisons between survey outputs and catch data supplied by permitted fishers in the PHDP Fishery during the previous season.

Analysis of the 2023 data indicated that stocks of both Manila clam and common cockle remained stable across all parameters, with CPUE for example showing either no significant difference when compared to previous survey years, or in the case of common cockle, an increase in CPUE over the last two survey years. The results indicated that the fishery continues to be sustainable. The 2023 report is available [here](#).

Additional sampling was undertaken during the 2023 survey to support data collection in relation to the oil spill incident which occurred in Poole Harbour in March 2023. The Southern IFCA sampling program expanded to allow for the collection of samples of commercially important shellfish species for testing to determine if any contaminants were present, additionally the IFCA facilitated the provision of sediment samples for testing by utilizing staff resource allocated to the survey. The collection of these samples through the survey helped facilitate timely analysis which allowed a decision by the appropriate authorities that shellfish harvesting could resume ahead of the start of the 2024 dredge fishing season on 25<sup>th</sup> May.

## Solent Bivalve Survey



Three separate Solent bivalve surveys were undertaken over three days from the 3<sup>rd</sup> – 5<sup>th</sup> April 2023 (post the 2022-23 fishing season), between the 14<sup>th</sup> and 18<sup>th</sup> September 2023 (pre the 2023-24 fishing season), and from the 11<sup>th</sup> – 13<sup>th</sup> March 2024 (post the 2023-24 fishing season).

These surveys sampled shellfish beds within Langstone Harbour, Portsmouth Harbour, and Southampton Water, collecting weight, count, and length data for Manila clam (*Ruditapes philippinarum*) and Common cockle (*Cerastoderma edule*). Weight data was collected for the portion of the sampled population above and below the MCRS allowing for the calculation of CPUE data. Count and length data was also

collected for other commercially important bivalve species, including American hardshell clams (*Mercenaria mercenaria*), Pacific oysters (*Magallana gigas*), native oysters (*Ostrea edulis*), palourde clams (*Ruditapes decussatus*), and spiny cockles (*Acanthocardia aculeata*).

Comparisons between results for the spring and autumn surveys during 2023 and comparisons between two previous survey years showed no consistent pattern of significant results in CPUE data or length frequency data. The results from the surveys undertaken in 2023 were subsequently reported to the TAC, with no management reviews deemed to be required. The 2023 report is available [here](#).

## Solent Scallop Survey



Solent Scallop surveys were undertaken over three days between the 13<sup>th</sup> and 21<sup>st</sup> April 2023 (post the 2022-23 fishing season), in September 2023 (pre the 2023-24 fishing season), and between the 7<sup>th</sup> and 16<sup>th</sup> February 2024 (mid-season). The addition of a third mid-season survey occurred for the first time during this year.

These surveys sampled king scallop (*Pecten maximus*) from 19 beds across the Eastern and Northern Solent, collecting weight, count, and length data, with weight data collected for the portion of the sampled population above and below the Minimum Conservation Reference Size, allowing for the calculation of CPUE data.

The results from the autumn 2023 survey ([here](#)), combined with representation from permitted fishers (see page 61: Public Questions for further information) prompted a review of permit conditions in response to observed declines in stock levels across a number of sites, both when compared to the same survey period in 2022 and also when compared to the spring 2023 survey. The period over which the decline was observed reflected the fishery closed period which indicated that stocks were not returning to pre-fishing season levels ahead of the following season.

A review was conducted in line with the requirements under the SDPB, involving consultation with permit holders and the presentation of survey data to the Authority. An Extraordinary Meeting of the Authority was held in September 2023 to consider the results of the review, including consultation responses and all best available evidence. Members resolved to introduce further management for the scallop fishery under the SDPB Category A permit conditions, including a reduction in the number of months, the number of days per week and the number of hours per day when fishing could take place. These new measures were introduced for the 2023/24 fishing season, with scallop fishing commencing on 1<sup>st</sup> November 2023 and ending on 31<sup>st</sup> March 2024. The addition of a mid-season survey aimed to provide an interim assessment of stock levels during the fishing season to increase the amount of data available to inform any required subsequent reviews of



management. The fishing season for 2023-24 appeared to be positive from an initial analysis of catch data with scallop landings increased on previous years.

### Solent Scallop Spawning Survey



The Solent Scallop Spawning Survey, run by the University of Southampton, concluded in 2023. The project used samples of King scallops from fishers within the SDPB fishery to obtain information on the spawning season for this species in the Solent. Two students undertook this work at the University, with the project forming the basis of their MSci theses.

The research indicated that the first indication of spawning occurred in April with evidence of spawning continuing in October, matching an extended spawning period strategy demonstrated by several King scallop populations across Europe.

The outputs of the research help inform management under the SDPB supporting the current fishing season for King scallop between 1<sup>st</sup> November and 31<sup>st</sup> March. The data was provided by the students in responses to relevant consultations, for example the MMO consultation on King scallop management, and has been included in summaries of relevant data held by Southern IFCA to the King scallop FMP post-publication process.

### Juvenile Fish Survey



As part of the Southern IFCA's Juvenile Fish Monitoring Programme, surveys are carried out at a range of sites across the district in order to monitor the occurrence and distribution of juvenile fish species, the size frequency of species sampled and understand the use of EFHs by commercially and recreationally important fish species. The surveys add to a time-series dataset that allows any changes in fish communities to be observed to further the understanding of EFH and contribute to a database that can be used for reviewing fisheries management. Juvenile fish surveys occurred in June and October, with data up to June 2023 being presented at the August 2023 TAC ([here](#)). The surveys recorded data on species abundance and the length which was used to report total and relative species abundance, species richness and the Shannon Diversity Index of important commercial and recreational fish species using the EFH.

As part of the Southern IFCA Inshore Netting Review, Southern IFCA determined to enhance the environmental, socio-economic and sustainability of fisheries within the district by supporting the use of harbours and estuaries by fish populations as EFHs. Of the four areas currently surveyed three are identified through the netting review as requiring management, which is linked, in part, to their importance as EFH.

The surveys offer opportunities to work in collaboration with research establishments and organisations with interests in fisheries and associated management. In 2023 Southern IFCA were joined by:

- a representative from the Solent Seascape Project who will be using the data collected to compare any differences in communities from the survey sites with restoration areas under the project
- a research student from the University of Plymouth FinVision FISP project, with a specialized underwater camera, looking to build an artificial intelligence fish monitoring system and compare the validity of using camera techniques to capture information on the usage of EFH by fish species against traditional techniques such as the seine netting method used in our surveys
- a student from the University of Southampton who collected juvenile mullet (with any required permissions in place through the University) as part of a study into parasite communities on this species.

Southern were also joined by partners from the AIFCA, The EA and Blue Marine.

### Supporting Research Projects

- **Angling for Sustainability FISP Project (University of Plymouth)**



Southern IFCA has participated in monthly project group meetings hosted by the University of Plymouth since the start of the project in January 2023 which have involved planning works under the project and engagement events. Southern IFCA have facilitated engagement on the project through the Hampshire, Dorset and Isle of Wight Marine Conservation Group and the Recreational Angling Sector Group via two meetings in January and April 2023 respectively. Southern IFCA also attended the Black Bream Workshop held with the local Poole angling community in June 2023 as well as an Elasmobranch Workshop held in Eastney in October 2023.

Southern IFCA also took part in three days of tagging surveys for black seabream in the summer of 2023. The initial in-kind contribution to the project from Southern IFCA was related to logistical support with receiver retrieval and data downloads, however it was agreed during

2023 with the University of Plymouth that the support from IFCA Officers would be more beneficial and logistically feasible allocated to assisting with tagging trips. The in-kind operational contribution will remain allocated to tagging trips for the remainder of the project.

- **FinVision FISP Project (University of Plymouth)**



Southern IFCA were informed in May 2023 that the project had been successfully funded through the FISP scheme. From June 2023 Southern IFCA have been participating in monthly group project meetings hosted by the University of Plymouth, which have involved discussions on potential fieldwork and engagement events. Southern IFCA participated in an online workshop for the project in November 2023 and have promoted the citizen science aspect of the project through social media channels. The main role of Southern IFCA has been facilitating attendance of project partners and the deployment of the camera equipment at our Juvenile Fish Surveys, with this taking place in June and October 2023, to aid in the ability to compare camera outputs with data obtained using seine net collection methods. Southern IFCA will be continuing to facilitate working with our surveys through 2024.

- **Drift Net Fishery Research Project**



Officers developed an initial methodology for the project (interlinked with the NFB), incorporating expert information gained from local fishers. The application of this methodology and the type of data that could be collected were explored during the winter of 2023 and Officers began to explore the development of required Risk Assessments. Ongoing conversations have occurred with fishers to discuss participation in the survey, aiming to take place during the 2024/25 year.

## Development of Management Interventions

### Shore Gathering Review





During the reporting year, the focus for the ongoing Shore Gathering Review was further defined, in line with the publication of the EIP in January 2023, to focus on feature-based management within MCZs and within or adjacent to SACs and SPAs. Additionally, the refocus encompassed consideration of a change in Natural England's advice for seaweed harvesting.

Work was undertaken to develop a definition for shore gathering to encompass all relevant activities and define the area over which management would be considered, for example in relation to the intertidal and subtidal. A literature review ([Marked D-Annex 5](#)) was also developed to underpin conservation assessments for shore gathering activities across the District. This included a literature search and identification of relevant evidence for bait digging, shellfish gathering, crab tiling, mechanical harvesting, push-netting and seaweed harvesting.

Officers reviewed existing Southern IFCA legislation relating to shore gathering activities to identify existing measures and how these could be compiled into a single management mechanism, and also reviewed shore gathering management by other authorities to identify how management had been applied and what type of measures had been used in different sites and for different activities. A Site Specific Evidence Document ([Marked D-Annex 4](#)) was compiled, looking at each relevant MPA, outlining the features and conservation objectives, and identifying any evidence on the occurrence of each shore gathering activity in that site by location, any recorded catch data and any offences recorded for the last 5 years.

In February 2024 a Members WG was held to consider draft Management Principles. These included evidence principles on the sources of best available evidence that would be used to inform the location/extent of protected features, the use of a GPS buffer for spatial management, defining prohibition areas and defining areas for seasonal management in line with feature-based requirements in SPAs. Through the WG, Members also considered the development of a CoP for seaweed harvesting. Following the WG officers started the process of refining the management principles and developing draft management measures to take forward into the 2024/25 year.

### Black Sea Bream Review



Following a pause in this area of work, pending publication of partner organisation data, this workstream re-commenced in 2023/24 with a review of available data sources on bream and nest locations within the three Dorset MCZs where the species is designated; Purbeck Coast,

Poole Rocks and Southbourne Rough. This information along with any Southern IFCA sightings data for different fishing activities was built into an initial Site Specific Evidence Document ([TAC Agenda, August 2023, Marked D](#)) covering each MPA. In addition, data from previous evidence gathering activities carried out either by Southern IFCA or supplied by fishers was analysed and represented visually using GIS where possible to be viewed alongside other sources of best available data. The evidence gathering work also involved the development of a literature review looking at the available scientific and peer-reviewed information on black seabream ecology and biology as well as potential impacts from different fishing gear types. In August 2023, Members considered the outputs of Screening and Part A MCZ Assessments for the three MCZs built using the information gathered during the evidence gathering process.

Utilising best available evidence, through the latter part of 2023, analysis was undertaken on the mapped locations of black bream nests to define Indicative Habitat Areas using a stepwise approach to ensure consistency across all relevant MPAs. Through a series of Member Working Groups in January (x2) and the February TAC, Members considered an initial iteration of principles ([available here, Marked B](#)) covering a General Principle providing a definition of 'further' in the context of the Southern IFCA duty to further Conservation Objectives, Evidence Principles to state the source of best available evidence used to inform nest locations and detail on how additional evidence received will be considered and Spatial Principles describing the process by which the Indicative Habitat Areas were developed.

Members further considered seasonality of potential measures, interactions from different fishing gear types and the potential spatial footprint of management at a subsequent WG in February 2024. Based on an initial iteration of draft measures for black seabream management, during March 2024 Officers undertook a Quantification of Impact Exercise ([outputs available here, Marked B](#)) to seek information on economic impacts, impacts to associated businesses and wider impacts covering social, cultural, heritage and community. In addition, data was collected on fishing activity and any mitigation measures already employed by a particular sector. This Exercise was completed through targeted engagement with stakeholders, speaking with key individuals across all potentially affected gear types/sectors/geographic areas, 23 stakeholders were spoken to including 6 in the charter vessel sector, 4 in the RSA sector and 15 in the commercial fishing sector (covering three gear types). The information from this exercise along with the proposed next steps in the BSB Review are intended for consideration by Members early in the 2024/25 year.

## Reviews of Existing Management

### BTFG Byelaw 2016



In order to meet the EIP Government target, in early 2023 Southern IFCA identified a need to re-prioritise the BTFG workstream and adopt a phased approach to the delivery of the BTFG Review<sup>1</sup>, which would allow for the consideration of district wide sensitive habitat management (Phase 2) following an initial consideration of feature-based management for MPAs.

Phase 1 of the BTFG 2023 was subsequently developed to consider feature based management interventions for MPAs, including MCZs, SPAs and SACs. Through a series of Working Groups, Members developed a set of principles which would underpin management decisions defining the management of bottom towed fishing gear under Phase 1, ensuring that the approach taken was transparent and applied consistently across the district. The principles were applied to take Stage 3 of the BTFG Review forward resulting in the drafting of the BTFG Byelaw 2023 which was presented to the Technical Advisory Committee in May 2023. The draft Byelaw was accompanied by a package of supporting documentation including an Impact Assessment ([here](#))<sup>2</sup> and a Management Intentions Document ([here](#)) which seeks to provide clarity of intention and process which has underpinned management decisions concerning BTFG in the district. The Byelaw is also underpinned by 12 MCZ Assessments covering all 9 MCZs within the district, 4 site specific HRAs for the Solent Maritime SAC and 7 site specific HRAs for Solent based SPAs covering different types of BTFG and 2 district-wide HRAs covering all relevant sites for the features of seagrass and reefs.

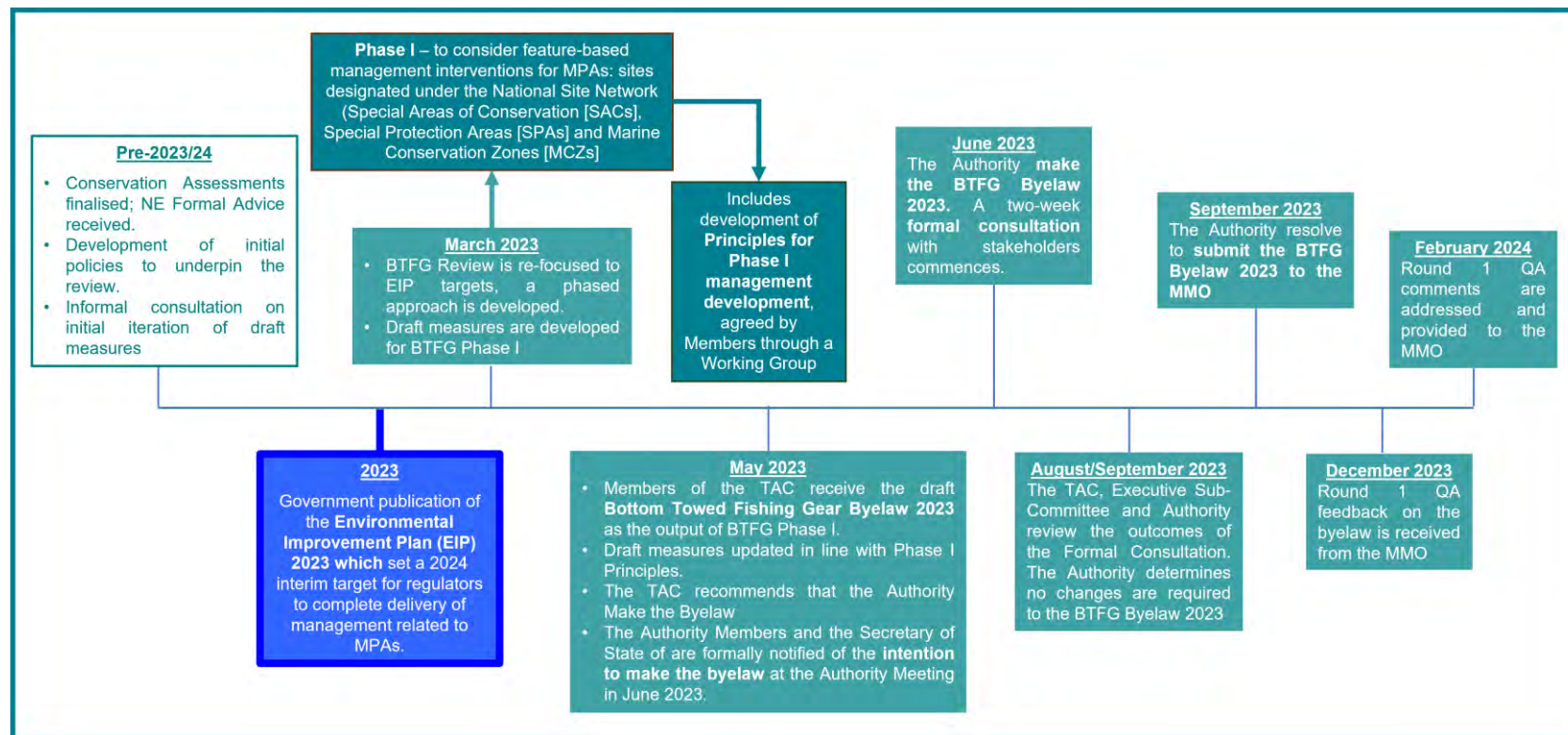
The BTFG Byelaw 2023 includes 43 prohibited areas, covering an area of 743.1km<sup>2</sup> representing 27.2% of the district. This is compared to the existing management mechanism for BTFG, the Southern IFCA BTFG Byelaw 2016 where prohibited areas cover 696.3km<sup>2</sup> representing 25.5% of the district. The difference between the 2016 and 2023 byelaws is an increase in the total area closed to BTFG of 46.8km<sup>2</sup> or 1.7% of the district.

The Byelaw was made by the Authority on 8th June 2023 ([here](#)). Further information can be found here: [Phase 1: BTFG Review](#)

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<sup>1</sup> In line with the duties of the Southern IFCA, in 2020 Members considered the need for a review of management of BTFG in the district in response to a change in the National Site Network through the addition of new MCZs and updates to the best-available evidence which had been used to inform the BTFG 2016 as the current management mechanism for these gear types in the district.

<sup>2</sup> Note that links are provided to versions of byelaw documents at the time the Byelaw was made by the Authority, any subsequent changes as a result of MMO/Defra QA will be available in final versions once the Byelaw has been ratified by the Secretary of State.



### SDPB: Permit Condition Review



In September 2023, a review of permit conditions was undertaken for the SDPB in relation to the management of the king scallop fishery under a Category A Permit. The Authority were invited to consider whether management intervention was required on the basis of best available evidence which included an initial analysis of CPUE data from the autumn (pre-season) Solent Scallop Survey, in relation to the spring (post-season) survey in April 2023, and in relation to data collected during 2022, as well as industry concerns raised in September on the stocks of king scallop, plus analysis of catch data provided by permit holders for the previous two seasons and landings data from the MMO for the same period.

The CPUE data from survey work showed a general trend of declining CPUE at a number of the sites surveyed. Considering this and all other available data, including consideration of the potential for socio-economic impacts of changes in management and an undefined spring mortality which may have occurred in March 2023, as well as representations from industry which were made at the September Authority meeting, the Authority resolved to review permit conditions prior to the start of the 2023/24 fishing season on 1<sup>st</sup> November.

The review, run in accordance with the provisions of the SDPB, resulted in the Authority resolving to introduce a variation to the permit conditions under the 2022-2023 Category A Permit for the month of October 2023 and to introduce additional effort controls under the forthcoming 2023/24 Category A Permits.

The variation introduced a provision that scallops were not fished for or removed from the Solent fishery from 1<sup>st</sup> October to 31<sup>st</sup> October 2023. The additional effort controls included a change to the fishing season, with the closed period changing from 1<sup>st</sup> April to 30<sup>th</sup> September to the 1<sup>st</sup> April to 31<sup>st</sup> October each year and a restriction on hours fished in addition to the existing 18:00-06:00, of 06:00-08:00 and 16:00-18:00, creating a fishing window between 08:00 and 16:00 each day. An further provision was added to prohibit the fishing for or taking of scallops on a Saturday or a Sunday.

The Category A Permit variation for 2022/23 permits was introduced ahead of 1<sup>st</sup> October 2023. The 2023/24 permits were issued for 1<sup>st</sup> November 2023 including the additional effort controls. Southern also committed to introduce an additional Solent Scallop Survey (undertaken in January 2024); a mid-year survey introduced to provide additional data on patterns of stock change through the season.

### Poole Order Management Plan Review



The Management Plan for The Poole Harbour Order 2015 provides a mechanism under which Southern IFCA manage aquaculture activity within a defined area of Poole Harbour. In accordance with The Order, The Authority are required to undertake an annual review of the Management Plan. The TAC considered the annual update to the Management Plan in May 2023, which included the provision of further detail on Pacific oyster monitoring data and the Defra position on the farming of Pacific oysters. These additions were inconsequential and provided supplementary information to further inform the existing management of leased beds under The Order, however the overarching Management Plan remained unchanged. The 2023 update to the Management Plan is [here](#).

### Mussel Authorisation for Aquaculture Purposes





The area of seabed to the east and southeast of Portland Bill is a known settlement site for mussels (*Mytilus edulis*) with dense communities forming over areas of rocky and coarse sediment seabed, mostly between 30-50m depth in areas associated with strong currents. Fishing for mussel seed has been occurring here since 1991, with authorisation granted to one vessel for a 12 month period under the Southern IFCA Mussels Byelaw for the purposes of mussel cultivation, where their removal does not have a detrimental effect upon the mussel fishery.

In 2023, the Authority received a request for authorisation to continue harvesting, with the applicant seeking removal of previously applied spatial restrictions on the areas where harvesting could take place. A TLSE and HRA were carried out for the request on the basis of potential overlap between the fishery and the Studland to Portland SAC, in the event that spatial restrictions were removed. Members gave careful consideration to the request and the best available evidence provided through the HRA, historic activity levels and expert input.

It was determined that the 2024 Authorisation be granted subject to condition updates being applied to the Authorisation (in addition to inclusion of existing conditions), whereby the fishery can operate outside of MPAs only and the requirement for the submission of catch returns for any activity undertaken. It was agreed that the Authority will consider the benefits of a long-term management plan for the mussel seed fishery under the BTFG Review Phase II.

### NFB Piers COP



In early 2023, a review of the [Net Fishing Around Piers CoP](#) was carried out, just under two years since its introduction. As part of the review, any reports of non-compliance with the voluntary measures were noted with there being 5 in total, 3 involving Swanage Pier, 1 involving Weymouth Pleasure Pier and 1 involving Weymouth Stone Pier. In all instances engagement was undertaken which has been successful in contributing to low levels of non-compliance with the voluntary measures. Engagement was sought with representatives from the South Coast Fishermen's Council and the Recreational Angling Sector Group as part of the review with both sectors supportive of the CoP continuing in its current form. Members agreed at the Technical Advisory Committee meeting in May 2023 to make no changes to the CoP which remains in place across the District.

### MCRS Review



During the initial part of the 2023/24 year officers worked to update evidence packages for key species in the District to include the most up to date best available evidence. Initial work was undertaken on a prioritization exercise for species where a review of MCRS may be required and how this might be supplemented with evidence through consultation with the community.

During the course of the 2023/24 year as understanding developed of the FMPs process via outputs of the published frontrunner FMPs, it was identified that the scope and requirements of the MCRS review would need consideration alongside the development of the national direction in fisheries management. Through engagement with the post-publication phase for FMPs, Southern IFCA can determine how outputs from FMPs for relevant species relate to current Southern IFCA management and can inform future management approaches under the MCRS review.

## Delivering Southern IFCA's Core Functions: Compliance & Enforcement

### High Risk, Intelligence Led Work



Southern IFCA is committed to achieving fair, effective and proportionate enforcement. [The Compliance and Enforcement Framework](#) sets out the Authority's approach and principles the Authority follow and the enforcement actions available. As directed by Defra, Southern IFCA apply a risk-based approach, captured in the [Southern IFCA Compliance Risk Register](#) which, in addition to intelligence reporting informs operational planning via a TCG to focus and prioritise for Southern IFCA's compliance and enforcement activities.

Intelligence Reports (IRs) are the Authority's method of recording, storing, collating and disseminating intelligence that complement our risk-based approach. Additional intelligence granted via access to the UK Fisheries Monitoring, Control and Surveillance System (MCSS) and Vessel Monitoring System (VMS) maximizes the efficient use and deployment of resources on the ground. Southern IFCA uses the National Intelligence Model which incorporates a tasking and coordination process.

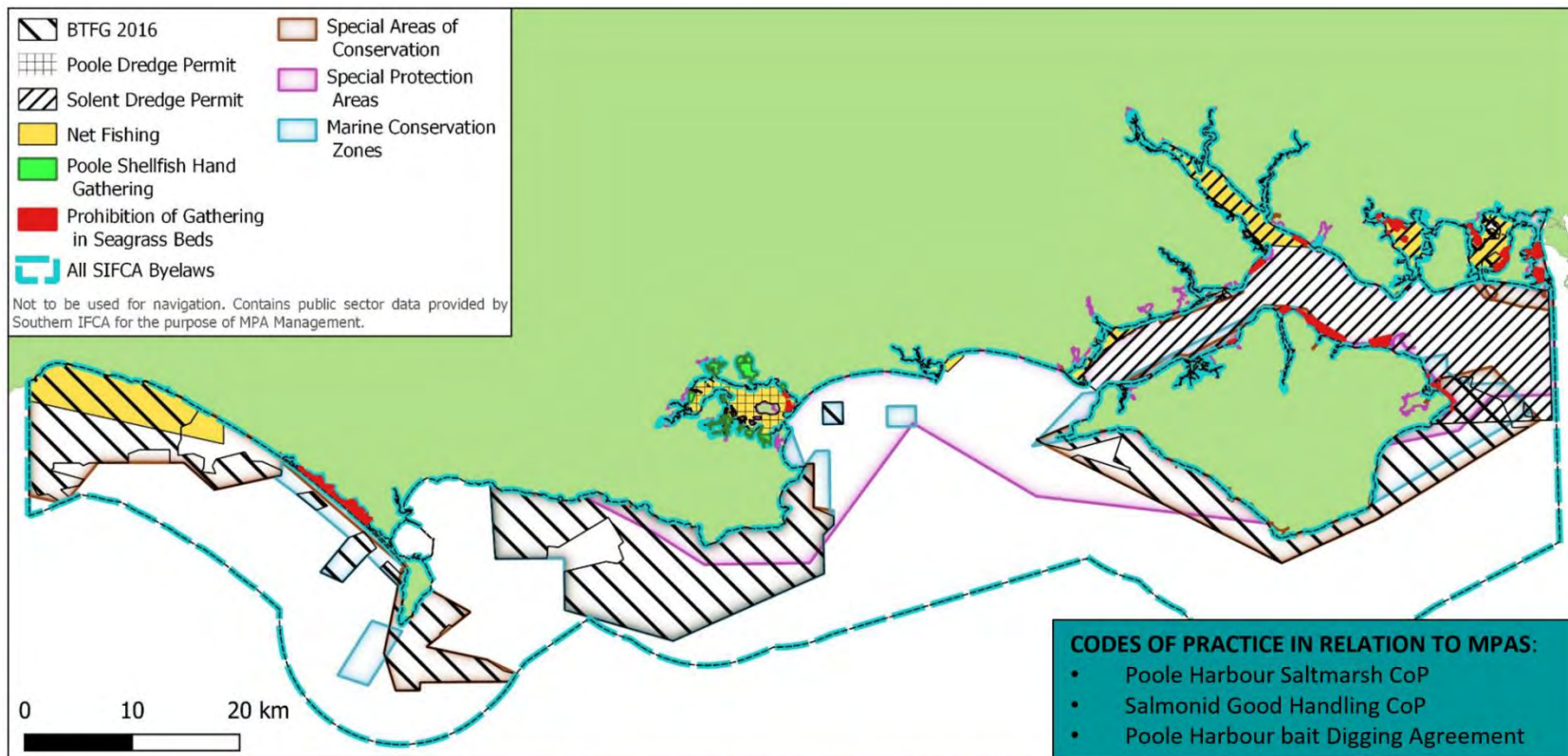
Between April 2023 and March 2024 **16 TCGs** were held by Southern, of which 4 were internal and 12 external to include representation from Devon and Severn IFCA, Sussex IFCA, Dorset Police, Hampshire Police, Environment Agency (EA), Maritime and Coastguard Agency (MCA), Senior Management Team (MMO) Operations Team (MMO), South East Marine Team (MMO), South Marine Team (MMO), environmental Health Officers (BCP Council), Gangmasters and Labour Abuse Authority (GLAA) and UK Border Force.


### Operational Deployment

IFCOs conduct both land and sea-based patrols across the district with the overarching purpose to ensure compliance with 24 x [Byelaws](#), 7 x [CoP](#) and the [Poole Harbour Fishery Order 2015](#). The section 'Monitoring & Control of Existing Statutory & Non Statutory Measures' (below) demonstrates the measures introduced (or via subsequent amendment) wholly, or in part to provide feature based management in MPAs. Southern IFCA operates three patrol vessels which are used to observe fishing activity, engage with industry, carry out boarding inspections and to target reported illegal activity. On shore, IFCOs conduct land patrols to engage with industry, carry out inspections, observe activity at sea and in ports, visiting a number of locations across the district including commercial premises, recreational angling hotspots, piers, ports, beaches and quaysides. The Authority has a [drone capability](#) to support operational activity. This has enhanced operational delivery and is used to record evidence of possible offences using the onboard camera from perspectives not previously possible, it has improved the prevention (deterrent) and detection of offending.



# Monitoring & Control of Existing Statutory & Non Statutory Measures



BYELAWS COVERAGE IN RELATION TO MARINE PROTECTED AREAS						
<p>OVER</p> <p><b>1461 km<sup>2</sup></b></p> <p>of the districts Marine Protected Areas are covered by regulations</p> <p>That's over <b>97%</b> of MPAs</p> 	<p>BTFG 2016 covers a total area approximately</p> <p><b>695 km<sup>2</sup></b></p> <p>That's over <b>25%</b> of the district</p> <hr/> <p>344 km<sup>2</sup>, 76% MCZs 660 km<sup>2</sup>, 82% SACs 201 km<sup>2</sup>, 22% SPAs</p>	<p>Poole Dredge Permit covers a total area approximately</p> <p><b>32.6 km<sup>2</sup></b></p> <p>That's more than <b>1%</b> of the entire district</p> <hr/> <p>This byelaw covers the entire Poole Harbour SPA</p> <p>That's <b>3.7%</b> of all SIFCA SPAs</p>	<p>Solent Dredge Permit covers a total area approximately</p> <p><b>395 km<sup>2</sup></b></p> <p>That's over <b>14%</b> of the district</p> <hr/> <p>48 km<sup>2</sup>, 11% MCZs 95 km<sup>2</sup>, 12% SACs 377 km<sup>2</sup>, 42% SPAs</p>	<p>Poole Shellfish Hand Gathering Byelaw covers a total area approximately</p> <p><b>6 km<sup>2</sup></b></p> <p>That's <b>0.2%</b> of the entire district</p> <hr/> <p>This includes <b>6 km<sup>2</sup></b> (<b>0.6%</b>) of Special Protection Areas</p>	<p>Prohibition of Gathering in Seagrass Beds covers approximately</p> <p><b>15 km<sup>2</sup></b></p> <p>That's <b>0.5%</b> of the district</p> <hr/> <p>0.7 km<sup>2</sup>, 0.2% MCZs 10 km<sup>2</sup>, 1.2% SACs 15 km<sup>2</sup>, 1.7% SPAs</p>	<p>Net Fishing Byelaw covers a total area approximately</p> <p><b>189 km<sup>2</sup></b></p> <p>That's <b>7%</b> of the district</p> <hr/> <p>2 km<sup>2</sup>, 0.4% MCZs 107 km<sup>2</sup>, 13% SACs 121 km<sup>2</sup>, 13% SPAs</p>
	<p>SIFCA Byelaws cover approximately: <b>99%</b> of MCZs, <b>99%</b> of SACs, and <b>97%</b> of SPAs in the Southern IFCA district</p>					

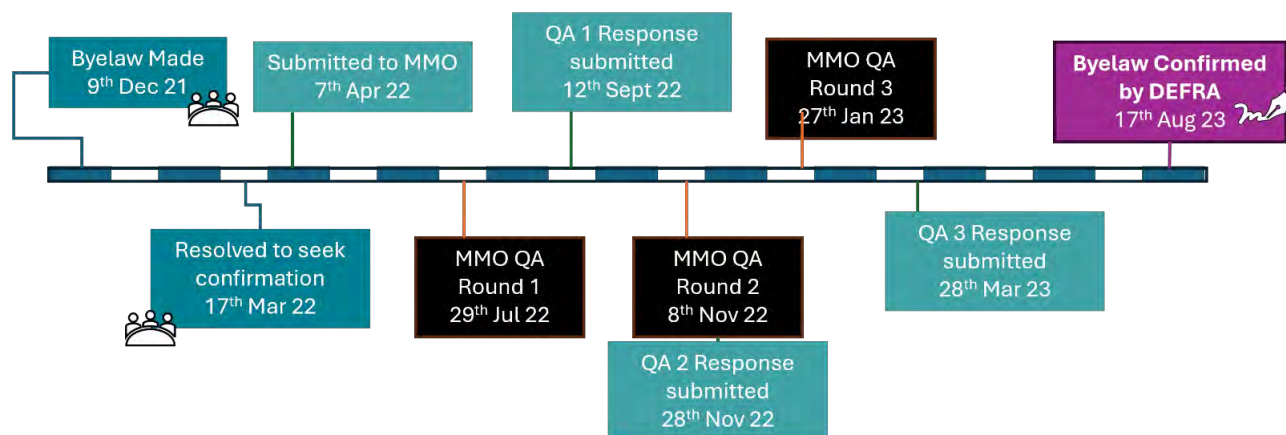
## Dispensations Issued

During the reporting period 26 Dispensations to Southern IFCA Byelaws were issued. Annex 1 provides detail on these.

## Introduction & Implementation of the Net Fishing Byelaw



The Southern IFCA NFB was introduced during this reporting year, following its ratification by the Secretary of State in August 2023. The figure below documents the 16-month journey since the Authority resolved to make the Byelaw in December 2021, passing to both the MMO for quality assurance prior to consideration by Defra.



### Net Fishing Byelaw

*From submission to MMO to confirmation = 16 months*

The Policy Objectives of the Netting Review were to (a) support the use of estuaries and harbours in the District as essential fish habitats, (b) provide protection to migratory salmonids as they transit through the Districts estuaries and harbours, (c) balance the social and economic benefits of net fisheries, (d) further the conservation objectives of Designated Sites. With regard to the latter Policy Objective, this refers to (1) Atlantic salmon (*Salmo salar*) as a feature of a Special Area of Conservation (SAC), (2) Atlantic salmon or sea trout (*Salmo trutta*) as a faunal component or notified feature of a Site of Special Scientific Interest (SSSI), (3) Atlantic salmon or sea trout which have a functional linkage to a SAC (areas of sea beyond the boundary of an SAC where Atlantic salmon are a feature) or SSSI (areas beyond the boundary of

a SSSI where Atlantic salmon or sea trout are a faunal component or notified feature) and may provide a role in maintaining or restoring a salmonid population at favourable conservation status. Further details of the Net Fishing Byelaw can be found [here](#).

There are three types of management area under the NFB; Net Prohibition Areas, Net Restriction Areas and Net Permit Areas. The Net Prohibition Areas cover 2.0km<sup>2</sup> (0.4%) of all MCZs, 25km<sup>2</sup> (3.1%) of all SACs and 53km<sup>2</sup> (5.96%) of all SPAs in the District. The Net Restriction Areas cover 77.6km<sup>2</sup> (9.7%) of all SACs and 51.5km<sup>2</sup> (5.8%) of all SPAs in the District and the Net Permit Areas cover 4.2km<sup>2</sup> (0.5%) of all SACs and 17.3km<sup>2</sup> (1.9%) of all SPAs. Considering the spatial extent of the area under management through the NFB, 12.5% of all MPAs are covered by management and 6.9% of the District (total area including MPAs and outside MPAs).

In order to support the introduction of the Net Fishing Byelaw, Southern designated a Fishing Liaison Officer, with the remit to continue the focus on community engagement specific to the implementation of the Permit Areas for Southampton Water, the River Hamble and Christchurch Harbour. This included face to face engagement with the commercial fishermen, resulting in 10 permit applications being made. The FLO continued to work closely with the fishing community to ensure net fishing could continue within the permit areas for those that met the eligibility criteria. The application window closed on the 9th November.

Since the NFB's introduction, officers have been maximising voluntary compliance on the coast and the team have been out engaging and educating stakeholders, local organisations and the general public on the new management measures. This has also included direct engagement with fishermen that have been most affected by the introduction of prohibited areas. Officers continue to work closely with the fishing industry to fully explain the regulations and assist them where possible. In addition, and as part of the implementation period officer training was completed, which included a briefing for cross-warranted Environment Agency FEOs on the NFB.

Since the NFB's introduction, following a period of education, the Compliance and Enforcement Team has detected 2 offences which have been actioned in accordance with the Compliance and Enforcement Framework. Further information in can be found on page 44.



## Compliance & Enforcement Statistics

Category	Metric	Details	2020/21	2021/22	2022/23	2023/24
Inspections at sea	Vessel patrols	Any patrol vessel or survey (mother /daughter boat combination as one patrol)	83	71	75	57
	Fishing vessel boarding	Any fishing vessel (including unregistered / unlicensed) inspected at sea, where boarding was in pursuit of any relevant duty	21	70	152	169
	Fishing gear inspections	Store pots, tiers / strings etc. of fishing gear found deployed in sea, where inspection was in pursuit of any relevant duty. Do not count gear inspected onboard a vessel	0	0	0	0
Inspections ashore or in port	Drone flights	Number of times the drone has been deployed for operational purposes	-	24	24	31
	Shore patrol	Excursion/visit of any length to any part of the coast for an inspection observation of fishing related activity	160	116	107	105
	Port visits	Individual port/cove/beach visits within the shoreline	362	282	196	183
	Premises inspections	Markets, merchants refrigerated units, retailers, food producers/outlets etc	4	20	23	31
	Fish/shellfish landing inspections	Observations of fish/shellfish as landed ashore from a vessel. Does not include inspections of fish in market or in storage unless landing observed	153	157	133	118
	Other inspections	Vessel gear/fish checks in port/ashore, diver and shore angler catches, vehicle contents, shellfish on lay areas etc.	28	85	60	73

### Southern IFCA Byelaws: Non Compliance identified and Enforcement Actions Taken

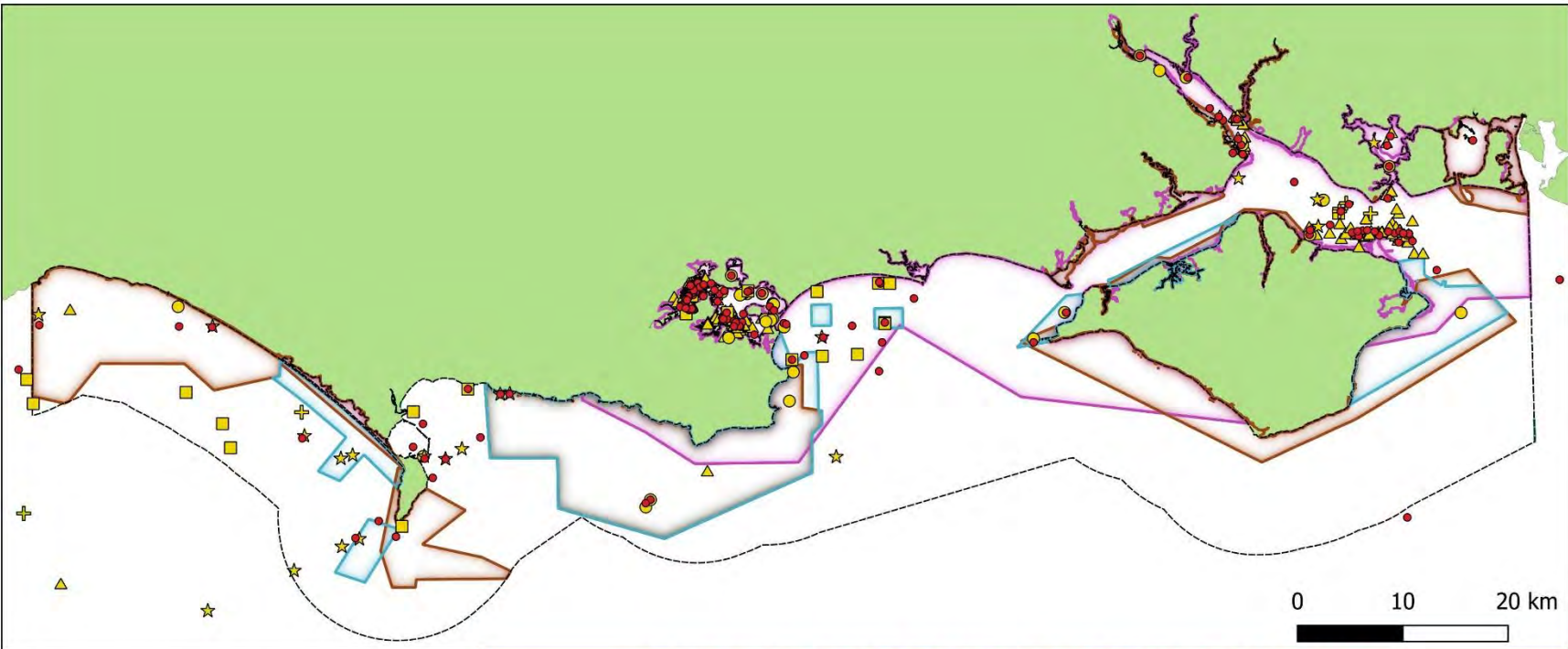
	Metric	2021/22	2022/23	2023/24	
	Non-Compliance identified & enforcement actions taken	Verbal Warnings	36	18	39
Advisory Letter		6			1 x Vessels Used in Fishing Byelaw 2 x Net Fishing Byelaw 2 x SDPB 1 x BTFG Byelaw & Fishing for Sale Byelaw
Official Written Warning		10			18
Fixed Administrative Penalty		4	3	1	1 x spatial breach of PHDP – fine £1,000
Ongoing Investigation		0	0	1	1x joint agency operation (MMO): Sensitive
Individual/companies prosecuted		1	0	2	1 x Fishing for Cockles Byelaw offence on 13/06/2023, the case was heard at Poole Magistrates Court on 29/11/23 two defendants plead guilty to retention of 33.86% of c.360kg of undersize cockles. As joint owners of the vessel both owners were liable for the breach of regulations. Each were fined £1200.00 and ordered to pay prosecution costs of £1,548.00 and a surcharge of £480.00. Total fines & costs £6,456.  1 x breach of MCRS on 21/10/23. Case first heard at Poole Magistrates Court on 20/05/24 and adjourned until 04/09/24.

### National Measures: Non Compliance identified and Enforcement Action Taken

Non-Compliance identified & enforcement actions taken against National Legislation	Metric		2023/24	
	Case File	Advisory Letter		1
Official Written Warning			2	1 x BNA contrary to The Bass (Specified Areas) (Prohibition of Fishing) Order 1990 and 1999 Variation.
Ongoing Investigation			1	1x joint agency operation (MMO). Sensitive



Compliance & Enforcement within Marine Protected Areas



- Inspection Records
- Sightings categorised by gear type:
  - + Trawl
  - ★ Trap/Pot
  - Net
  - Line
  - ▲ Dredge
- SIFCA district boundary (6 nm)
- Special Areas of Conservation
- Special Protection Areas
- Marine Conservation Zones

Not to be used for navigation. Contains public sector data provided by Southern IFCA for the purpose of MPA Management.

SOUTHERN INSHORE FISHERIES & CONSERVATION AUTHORITY SIGHTINGS AND INSPECTION RECORDS IN RELATION TO MARINE PROTECTED AREAS			
<p>SIFCA conducted</p> <p><b>411</b></p> <p>sightings in the past year</p> <hr/> <p><b>95%</b> were within SIFCA's Marine Protected Areas</p> 	<p><b>32</b></p> <p>sightings were recreational vessels</p>  <p><b>366</b></p> <p>sightings were commercial vessels</p>	 <p>SIFCA sightings recorded gear types:</p> <p>4 Trawlers</p> <p>19 Pots and Traps</p> <p>21 Nets</p> <p>37 Lines and Rod &amp; line</p> <p>317 Dredges</p>	<p>Out of all of the vessel inspections conducted by SIFCA in the past year,</p> <p><b>92%</b></p> <p>were within SIFCA's Marine Protected Areas</p> 

## Multiagency work



Southern IFCA's Compliance & Enforcement Team work in partnership with a number of other organisations, including law enforcement agencies and Local Authority's. Section 174 of the MaCAA places a duty of co-operation on an IFCA to work with adjoining IFCA districts and any other public authority who exercises regulatory functions relating to the sea; an objective further supported in the JFS.

During the reporting year Southern IFCA Officers were involved in **16 joint agency patrols** both at sea and on land, working in partnership with the following organisations:



### Working with other IFCAs

In March 2023 Southern IFCA instigated a **renewal of an existing 10 year agreement with Sussex IFCA** to continue the delegation of byelaw making powers, as granted under the MaCAA to Sussex IFCA for the area of Chichester Harbour that falls within the Southern IFCA District. Both IFCAs jointly applied to the Secretary of State for renewal of a further 10 years in accordance with section 167 of the MaCAA.



### Working under an MOU with the MMO

- the **MMO chartered Southern IFCA's PFVs and/or drone capability** on **4** occasions, for the following purposes:
  - ensure compliance with the ICES Area VIIe King scallop dredge fishery closure of Lyme Bay (ICES rectangles, 30E6, 30E7, 29E6 and 29E7) from 1 July to 30 September 2023. This closure applies to EU and UK scallop dredge vessels (excluding ≤12 metre vessels).
  - to carry out an ariel survey of the existing moorings in Studland Bay in accordance with the Studland Bay Voluntary No Anchor Zone (VNAZ), introduced by the MMO to protect seagrass beds and supporting species.
  - As part of an MCA multiagency offshore exercise to prepare for oil spills, Southern IFCA supported the MMO in providing a drone capability to inform whether a drone could support inter-operability when multi-agencies respond to major serious incidents, in addition to exploring the use of a drone to further fisheries monitoring and control capabilities in UK Waters.
- **Joint Fisheries Patrols**
  - a Senior IFCO undertook a 4 day patrol on the MMO chartered Offshore Patrol Vessel (OPV) Viking Sentinel (a 60m Offshore Patrol Vessel with a 9m Patrol RHIB) in order to develop and share best practice with other fisheries regulators, promote professionalism and competence and to align compliance monitoring practices across regulators. The OPV undertook an inshore sweep south of the Isle of Wight along with Poole and Weymouth bays, focusing on Southern IFCA high priority fisheries where 80% of inspections were conducted. Additionally, officers boarded and inspected vessels over 12 metres working between 6-12 nautical miles. Seven vessels were boarded, resulting in two verbal warnings (1 x non-marking of gear inside the 6nm line, 1 x retention of undersized crab), and an Official Written Warning was issued for non-marking of gear outside the 12nm line.
  - Two dual purpose sea patrols, two dual purpose shore patrols and two dual purpose drone flights were undertaken in partnership with the Southeast and Southern MMO Marine Teams.

### Working under an MOU with the Environment Agency

- Two dual purpose sea patrols were conducted with the EA in Southampton Water, the River Test and the River Itchen to monitor compliance with Southern IFCA's Fixed Engine Byelaw & EA regulations concerning salmonids & migratory fish. During the patrol, officers observed ring netting activity occurring in the River Itchen which was compliant with current regulations.
- One dual purpose sea patrol undertaken to engage with recreational anglers in Poole Harbour resulting in a verbal warning being issued for undersize bass retention.

### International Fisheries Control and Enforcement Training

During the reporting period Southern IFCA received two direct requests from the Home Office to deliver presentations and training content on fisheries control and enforcement as part of an overseas Government to Government assistance programme that was overseen and facilitated by Home Office officials.



## Multiagency Operations

- Southern IFCA lead **Operation Flashlight** with partners from Border Force, the MMO, BCP Council and Dorset Police targeting illegal handgathering. Officers engaged with members of the public, some of whom were suspected to be gathering the clams and cockles for commercial reasons. Three verbal warnings were issued for non-compliance with MCRS legislation, no modern-day slavery offences or human trafficking offences were identified. Officers engaged with several recreational gatherers including family groups that were complying with the rules and regulations.
- Working with Border Force and Hampshire and IOW Constabulary, Southern IFCA undertook an operation to target handgathering, resulting in 2 vehicle inspections, 5 person inspections and the issuing of 5 verbal warnings for non-compliance with MCRS legislation.
- Working with the Dorset Police Marine Sections to jointly monitor intelligence regarding BTFG incursions and subsequent gear conflict in Poole Bay following reports of loss of fishing gear to visiting trawlers.
- Working with the RSPB and Dorset Marine Policing Team on the national Operation Seabird and Seagoing campaign (#OpSeagoing, #OpSeabird); an initiative developed in response to a rise in reports of marine life disturbances, designed to educate and inform visitors to our coastlines and tackle the inappropriate use of Personal Watercraft and anti-social behaviour on the water. Southern IFCA do not have a direct legislative remit for marine wildlife disturbance or anti-social behaviour however recognise the importance of this campaign and the opportunity it provides to engage wider with local water users on the role of the IFCA.
- Southern IFCA lead a dual purpose patrol with the Kings Harbour Master in Portsmouth targeting compliance with Southern IFCA Byelaws, Local Notices to Mariners and the Harbour Master General Directions.
- Poole Harbour Oil Spill - Southern IFCA operational resources were allocated 100% to the operation for the week commencing Monday 27th March. IFCOs officers made up 1 of 4 reconnaissance teams tasked with surveying the harbour for oil and tasked to carry out Shoreline, Clean Up, Assessment Techniques (SCAT) across the harbour utilising both the drone to conduct ariel surveillance and FPV Endeavour to reach remote parts of the Harbour including the Islands. A number of Incident Response Groups were set up with Southern Senior Management Team sitting across various advisory groups, these included daily Sit Rep briefings, a daily Standing Environment Group meeting and twice weekly PREMIAM monitoring cell meetings. Southern IFCA also provided Defra with information to inform Ministerial briefings regarding fisheries and in particular the potential impact of the spill on the aquaculture businesses operating in Poole Harbour.

## Operational Procurement

4



## Marine Assets

Directly related to and forming one aspect the wider 'Capital Investment bid for the IFCA's' (submitted by the Association of IFCA's in November 2022), Southern IFCA were awarded £250,000 in April 2023 following approval of a Southern IFCA bid to Defra to part fund the procurement of an 11m cabin rigid hulled inflatable boat (RHIB) to support the ongoing delivery of statutory functions.

Prior to the build commencing in May 2023, Southern IFCA undertook appropriate due diligence checks applying recognised risk management principles when considering the advance to boat build stage, ensuring all potential risks were identified with reasonable mitigations put in place. Following agreement to progress to build, an independent surveyor was appointed to oversee the build process, ensuring compliance with coding requirements and build integrity. The surveyor reports have informed stage payments in accordance with the build schedule. It is anticipated that FPV Vigilant will enter service in late summer 2024.

FPV Vigilant will be fitted with the only outboard engines that are available in the UK that filter micro-plastics from the sea.



## Land Assets

As part of the UK Government's commitment to be Net Zero by 2050, with particular reference to the reduction of vehicle emissions, Southern IFCA undertook an in year review of the vehicle fleet, in conjunction with anticipated new ways of working following the implementation of FPV Vigilant. In response to this and during the reporting year, Southern IFCA disposed of two vehicles, replacing with a more modern vehicle that is more fuel efficient, has lower emissions and can transport 50% more officers in one trip. During the review process electric and hybrid options were explored, but due to budgetary constraints and infrastructure these were not pursued at this time, however Southern will continue to consider alternative vehicles when appropriate to further our commitment to reducing our carbon footprint.

## Operational Policy and Procedure

### Health & Safety updates - Workboat Code 3

## 4

In December 2023, the Maritime Coastguard Agency introduced a code of practice for all small commercial vessels operating in UK waters ('Workboat Code Edition 3'). Since the introduction of the code, Southern IFCA have implemented new operational processes and procedures, as reflected in the Southern IFCA Health and Safety Policy, which ensure operational compliance with the Code.

Despite a three year grace period for all existing vessels, Southern IFCA were the first IFCA to implement operational change in March 2024, recognising that the purpose of the coding is to ensure safe operations of a vessel. Southern IFCA continues to work towards full compliance with the code within the implementation window working closely with the MECAL coding authority to ensure all seagoing assets are compliant with the MCA Workboat codes.

The biggest change to operations since introduction has been the removal of single handed operations where a vessel is involved in the transfer of personnel at sea, in addition to an amendment during boat build of FPV Vigilant which removed a lifting device from the deck. In addition, all operational IFCOs have undertaken electronic chart systems and radar training (funded under the Fisheries and Seafood Scheme (FASS)).

In anticipation of FPV Vigilant entering service in summer 2024, a Safety Management System (SMS) has been implemented to encompass updates to all operational policy and operating procedures across all Southern IFCA FPVs.

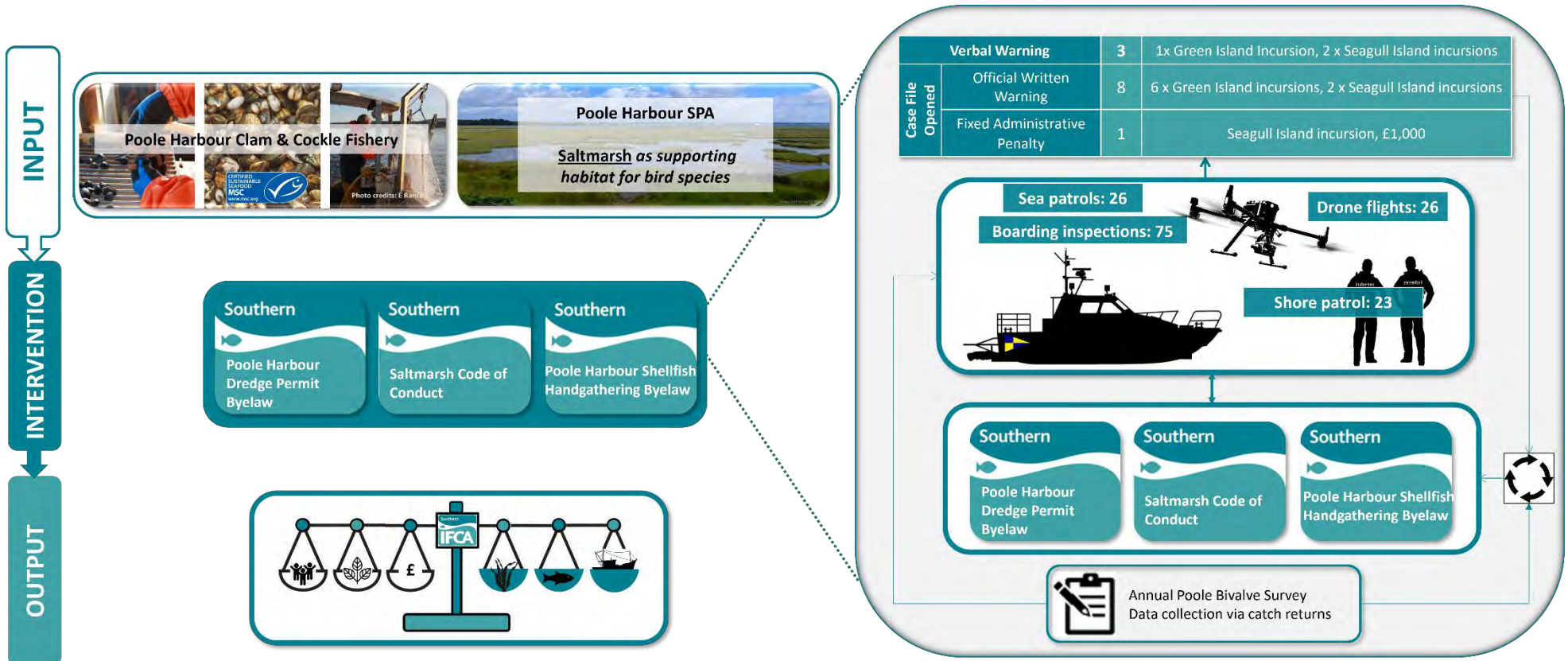
## Contributions to National C&E Discussions

The main purpose of the National Inshore Marine Enforcement Group (NIMEG) is to bring together expertise in the field of regulation and enforcement within inshore fisheries and marine conservation in order to develop and support joint working and consistency; identify and share best practice; and to promote professionalism and competence. Between 1st April 2023 and the 31<sup>st</sup> March 2024 the Southern IFCA PDCO attended 3 national meetings and presented on a range of topics relating to control and enforcement including but not limited to delivery of the Joint Fisheries Statement and Control and Enforcement Systems.

The Southern IFCA has also contributed and presented at other National groups including the IFCA Training Group, IFCA Drone Taskforce, Marine Police Tactical Advisors Course and the IFCA MMO Clue working group.

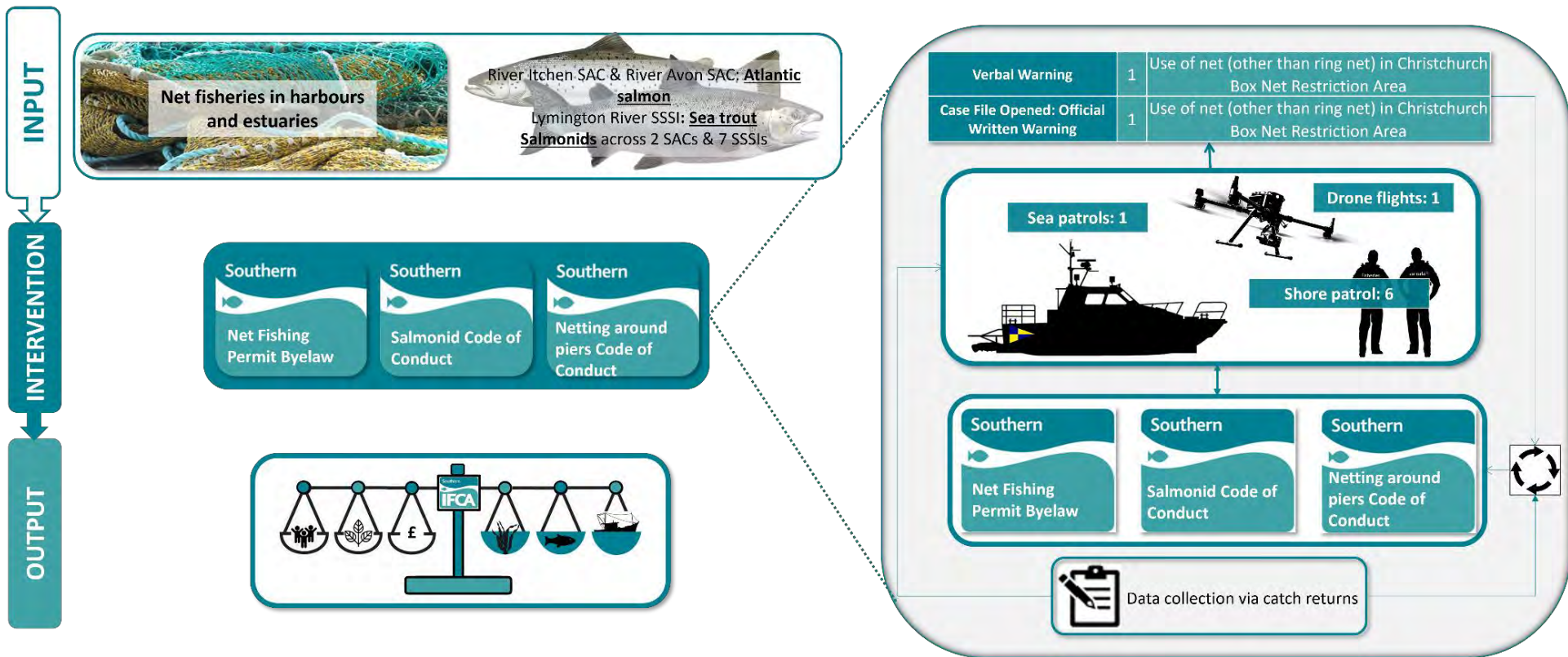
# Holistic Management Models

## Poole Harbour's Clam & Cockle Fishery Coexisting with Saltmarsh Protections





# Harbour & Estuary Net Fishing Coexisting with Salmonid Protections



# Southern IFCA Community Engagement



## Southern IFCA Engagement

### Meetings attended:

#### Research & Policy Team

- Crab and Lobster Fisheries Improvement Project
- Fleet Management Group
- Fleet Study Group
- IFCA Technical Advisory Group
- King Scallop Fisheries Improvement Project
- **Lyme Bay Fisheries and Conservation Reserve**
- MMO/IFCA Licencing Engagement
- **Poole & District Sea Angling Association**
- Poole Harbour Steering Group
- Poole Harbour Study Group
- **Regional Fisheries Group 7d & 7e, f, g**
- SAGB Crustacea Committee
- SAGB Mollusc Committee
- SAGB Annual General Meeting
- Solent Seascapes Project
- Solent Forum
- Solent Seagrass Network
- SWAN Aquaculture Network
- Whelk Working Group

#### Southern IFCA administered:

- Recreational Angling Sector Group
- Dorset, Hampshire and Isle of Wight Marine Conservation Group

#### Additional meetings (not routine):

- MMO <12m Mapping Workshop
- MMO Crawfish Management Meeting
- ReMeMaRe Mapping Meeting
- Solent Sanitary Survey Reviews
- Ocean Literacy Event

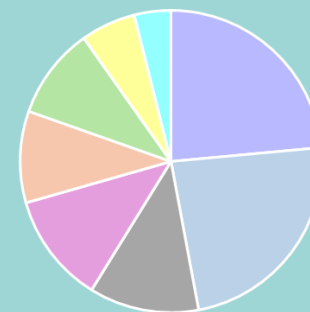
#### Compliance & Enforcement Team

- IFCA National Training Group
- MMO Tactical Coordination Group (South & South East)
- Southern Shellfish Liaison Group
- All Party Parliamentary Group (Fisheries)
- MMO IFCA Pollock Management
- MMO Fisheries Management Plans
- MMO Lyme Bay Sole Management Meeting
- Warsash Fisherman's Estuary Group
- Hampshire Harbour Masters (Hampshire Police)
- Defra Marine PAW (Partnership for Action Against Wildlife Crime)
- Seawork's Show
- Lyme Bay MPA Spillover Commercial Fisheries Meeting
- **Poole & District Sea Angling Association**
- Poole & District Fishermen's Association
- South Coast Fishermen's Council
- Poole Harbour Watch
- **Regional Fisheries Group 7d & 7e, f, g**
- Harbour Authorities (Portland & Poole)
- MMO IFCA I-VMS Meeting
- MMO Crawfish Management (7e)
- **Lyme Bay Fisheries and Conservation Reserve**

*Note meetings in yellow may be attended by representatives of the RPT and/or CET as required.*

Meetings attended by the RPT fall into 9 broad categories:

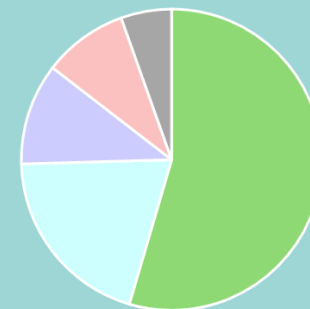
- National IFCA Run Groups
- Regional/National Groups
- Within District Groups (non-IFCA run)
- Harbour Authority Groups
- MPA Management Groups
- Restoration/Natural Capital
- Fisher Run Groups
- Southern IFCA Administered Groups
- Additional Meetings



The proportion of meetings attended during the year which fall into each of these categories is shown in the pie chart. Meetings which were attended during 2023/24 which are one-off occurrences and not routinely attended are listed in the 'Additional Meetings' category.

Meetings attended by the CET fall into 5 broad categories:

- MMO/IFCA or MMO Led
- Fisher Run Groups
- Regional/National Groups
- Harbour Authority Groups
- National IFCA Run Groups



The proportion of meetings attended during the year which fall into each of these categories is shown in the pie chart.

## Delivering Additional Functions

### Supporting Defra Programme of Works

#### Fisheries Management Plan Programme



A Project Officer is employed by Southern IFCA to coordinate the provision of information, evidence and data to support the development of FMPs, to work with delivery partners, to work with local and national colleagues and to help coordinate communications and engagement with the inshore fishing community. The Project Officer also represents Southern IFCA at FMP meetings and working groups. Additional support and expertise is provided by the Senior Management Team.

Relevant to the **Frontrunner (Crab & Lobster, Whelk, Bass, King Scallop and Non Quota species)** and **Tranche 2 (Mixed Flatfish) FMPs during the reporting year**, Southern IFCA have continued to:

- support planning/preparation phases
- support publication phase (review and evaluate)
- support post publication\*
- log requests and feedback concerns
- participate in implementation planning discussions\*

\*Southern IFCA have developed areas of work directly related to supporting the Frontrunner FMP outputs – this work is included in the [Southern IFCA Annual Strategy 2024-2025](#) (pages 12 &16).

Relevant to **Tranche 3 FMPs (Southern North Sea and Channel Skates and Rays, North Sea and Channel Sprat, Queen Scallop and Cockles)** Southern IFCA have continued to support the planning/preparation phases. Specific to the Cocker FMP, Southern have provided specific expertise and knowledge of cockle fishery management to support and inform the development of the **Tranche 3 Cocker FMP**.

Relevant to **Tranche 4 FMPs (Celtic Sea and Western Channel Pelagic, Celtic Sea and Western Channel Demersal, Bream and Wrasse)** Southern IFCA are continuing to support the planning/preparation phases.

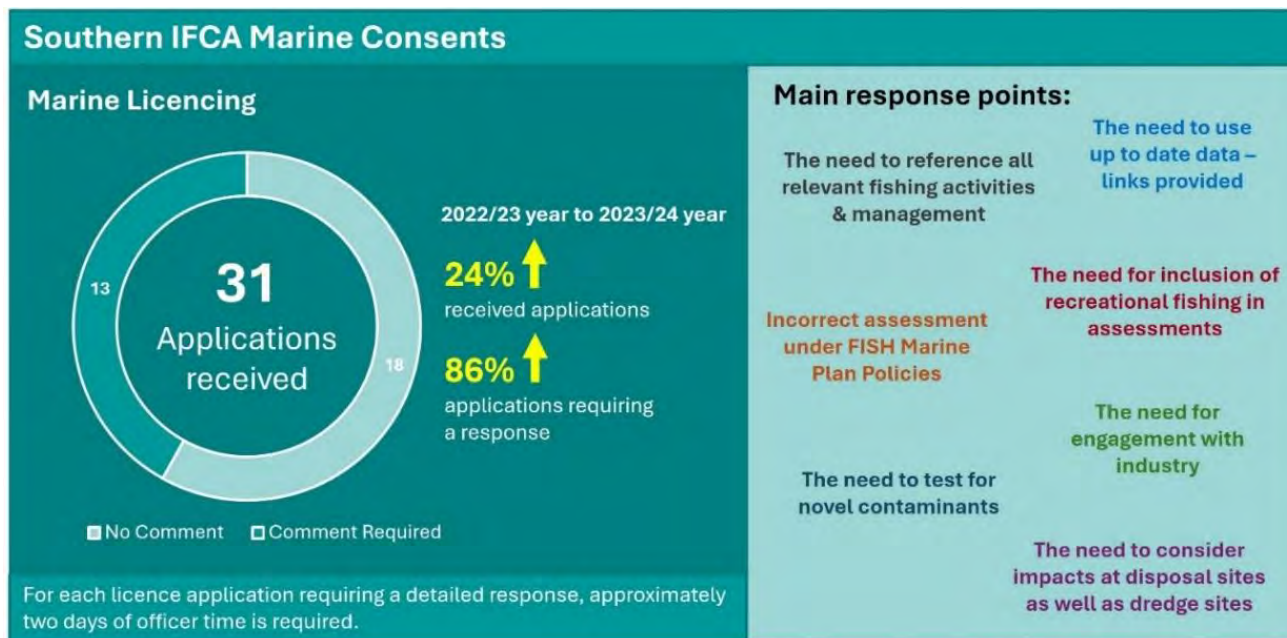
A breakdown of work delivered by Southern IFCA under the FMP programme for the reporting period is provided in Annex 2.

## Marine Consents



Southern IFCA’s work on marine consents focused on the marine licencing system administered by the Marine Management Organisation (MMO), for which the Southern IFCA is a statutory consultee. A standing agenda item is received at the Technical Advisory Sub-Committee quarterly. The infographic below captures the work delivered in addition to reoccurring themes.

Southern IFCA continue to attend meetings (c. every 3-4 months) with the MMO Licencing Team, to discuss common themes, challenges and consistency in response across IFCAs. Where applications are cross IFCA boundaries, engagement with the relevant IFCA is sought to identify a collaborative response. Engagement with stakeholders also occurs where necessary to allow the provision of specific activity data and to ensure that the views of industry are best represented, this engagement also helps raise awareness of the marine licencing process with the fishing community and Southern IFCA’s role as a consultee.





## MPAs



A Project Officer is employed by Southern IFCA to support MPA work. Specifically for this reporting period, this has included work on the three priority MPA workstreams identified to support the Government's progression towards protection of 30% of the global ocean by 2030, realised domestically via enhancement of protection for MPAs by the end of 2024, as well as other workstreams where there is relevance to MPAs.

Across all workstreams this has included detailed research into MPAs within the district ensuring that spatial extent, designated features, relevant pressures from operations and conservation objectives are all fully understood and easily available for use in MPA related reviews and management development. This information along with Southern IFCA management and fishing effort data has been compiled in GIS to produce visual representation of the interaction between MPAs, fishing activities and management.

Attendance at regional and national meetings considering MPAs and wider projects on restoration and protected features, knowledge from which can feed into relevant management reviews and the BTFG Review Phase 2.

For the BTFG Review:

- QA of spatial areas developed for BTFG Byelaw 2023
- Development of GIS outputs to support the initial stage of Phase 2

For the Black Seabream Review:

- Collation of literature and best available evidence to support creation of evidence packages and a literature review
- Drafting a literature review
- Identification of evidence gaps related to this species
- Building evidence of bream nesting sites, appropriate buffers and methods of defining spatial areas for management to inform the development of Indicative Habitat Areas and management principles

For the Shore Gathering Review:

- Researched potential spatial scope for management measures
- Reviewed existing management for SG by other IFCA's and other regulators

- Provided examples of definitions for shore gathering activity to be incorporated into regulations
- Review of specific activity of push netting to inform MCZ/HRA assessments and improve knowledge of the operation of the gear type and potential interaction risks with designated features
- Drafting a literature review
- Working with the wider RPT on the completion of screening, Part A and TLSE assessments for relevant activities across 6 MCZs, 5 SACs and 5 SPAs
- Drafting of a code of practice for seaweed harvesting

Additional work has been undertaken to develop understanding of relevant pressures for currently unused gear methods in the Solent in relation to the relevant SACs, SPAs and MCZs, commencing relevant screening Part A/TLSE and Part B/HRA assessments to fully inform any evidence base that would underpin future management reviews. GIS map work has also been completed to provide assistance to fishers during the implementation of the NFB through the provision of more detailed maps to illustrate boundaries between different types of net management area.

## Business Services Team

4

### Funding

#### Levies

Paragraph (16) of The Southern Inshore Fisheries and Conservation (Amendment) Order 2019 states that the expenses incurred by Southern IFCA must be defrayed by the relevant councils. Dorset Council, Hampshire County Council, Isle of Wight Council and BCP Council receive a grant from central government (via the New Burdens Doctrine<sup>3</sup>) which totals £329,425.

The constituent Local Authorities are levied on an annual basis by Southern IFCA in accordance with a prescribed formula as captured in the table below. The total LA levy contributions in 2023-2024 were **£813,091**. This was a standstill (0%) on the previous year.

Constituent Council	Formula (%)	Levy 2023-2024 (£)
Hampshire County Council	40.40	328,489
Dorset Council	24.79	201,537
Isle of Wight Council	14.35	116,678
BCP Council	11.14	90,607
Portsmouth City Council	5.02	40,817
Southampton City Council	4.30	34,963
		<b>813,091</b>

#### Defra Project Funding

As part of the Government Spending Review 2021, Defra committed to a provision of funding (150k per IFCA) for three financial years (2022-23, 2023-24 and 2024-25). The funding provision is to enable IFCA's to support Defra in their delivery of the Fisheries Act 2020 objectives, specifically MPA, FMP and Marine Consents work. This Section 31 Grant is to support IFCAs in wider extended responsibilities to support the delivery of statutory duties under the MaCAA 2009 and Marine Licensing (Delegated Function) (As amended) Order (2015). The following amounts were received in year across three programmes of work:

- Fisheries Management Plans: **£50,000** (received October 2023)
- Marine Protected Areas: **£50,000** (received April 2024)
- Marine Consents: **£40,000** (received April 2024)

## Defra Capital Grant

Following submission of a business case to Defra in early 2023, a **£250,000** capital grant was awarded to Southern IFCA to support capital asset improvements for Southern IFCA's delivery of its statutory duties as laid out in the MaCAA, in addition to meeting objectives outlined in the National Ship Building Strategy. This grant has part funded the procurement of a FPV, currently under build contract. Please refer to page 40 for further information.

## Fisheries and Seafood Scheme Funding (FASS)

Following submission of a business case to the FASS, **£8,845** funding was granted to provide STCW training as the minimum standard for all operational staff. This includes firefighting, sea survival, health and safety, first aid and safety and security. This approach standardises practice with other government organisations to include the MMO, Border Force and the Police. The training also anticipated the changes in response to MCA Workboat Code 3, where certain technical standards must be complied with across FPVs and the operators manning the FPV platforms. Under this code radar and navigation training will become mandatory.

## End of Year Accounts

With effect from 1<sup>st</sup> April 2015, Southern IFCA were no longer required to have their accounts audited. However, in order to ensure that the Authority's financial business is conducted in accordance with proper recognised standards, and that public money is safeguarded and properly accounted for, the Authority appointed Francis Clark LLP, registered auditors to carry out a "limited scope assurance report" which is a formal procedure recognised by the Institute of Chartered Accountants. At the time of writing, this external audit is being undertaken. The following information provides a draft statement of Accounts which sets out the overall financial position of Southern IFCA for the financial year 1<sup>st</sup> April 2023 to 31<sup>st</sup> March 2024. These Accounts were approved by the Authority on the 13th June 2024 for external audit. The full report is available [here](#) (pages 31-47) which includes a Consolidated Revenue Account and consolidated Balance Sheet.

During the year to 31<sup>st</sup> March 2024, the consolidated revenue account recorded a net surplus on General Reserve of £167,705 (of which 140k relates to a Defra revenue grant which will be fully utilised over a three year period due to receipt of funds in years one and two later than anticipated). Details of the positive variance are available [here](#) (pages 27-31).

## Resources

### Staff

Change in headcount of 12 full time and 1 part time members of staff in April 2023 to 13 full time, 2 part time and 3 fixed term members of staff in March 2024 (of which 61% are female and 39% male, with 58% of employees aged 20-30 years, 11% aged 30-40 years, 16% 40-50 years and 16% 50-60 years). The change in headcount is due to a structural reorganisation of the Business Services Team, to split the former Business Services Manager role into two posts: a full time Office Manager role and a part time Accounts Administrator role in order to best suit progressive business needs. Additionally during the year an ongoing vacancy (7 months) at Senior Officer level in the Research & Policy Team was filled internally. Two of the Project Officer roles were created to meet the Defra funding requirements and one Project Officer was employed to deliver the 5 yearly review of the Poole Aquaculture Leases, in accordance with the Poole Harbour Several Order 2015.

### Staff Recruitment Campaigns

Job Role	Team	Type	Time post vacant	Post filled
MPA Project Officer	Research & Policy	Fixed term	New post	2nd May 2023
Accounts Administrator	Business Services Team	New post, permanent (split role of former Business Services Manager post)	2 months	28 <sup>th</sup> July 2023
Inshore Fisheries & Conservation Officer	Compliance & Enforcement Team	Permanent (backfill following internal promotion)	4 months	14 <sup>th</sup> August 2023
Office Manager	Business Services Team	New post, permanent (split role of former Business Services Manager post)	3 months	14 <sup>th</sup> August 2023
Inshore Fisheries & Conservation Officer	Research & Policy	Permanent (internal promotion to backfill internal promotion)	0	21st August 2023
Senior Inshore Fisheries & Conservation Officer: Policy Specialist	Research & Policy	Permanent (internal promotion)	13 months	1st November 2023
FMP Project Officer	Research & Policy	Fixed term (backfill following internal promotion)	5 months (temporary cover provided by previous role holder following internal promotion)	22nd Jan 2024
Aquaculture Project Officer	Research & Policy	Fixed term	New post	22nd January 2024



## Leavers

Job Role	Team	Time in post	Reason
Business Services Manager	Business Services Team	3 months	Resignation
Inshore Fisheries & Conservation Officer	Compliance & Enforcement Team	3 years	External opportunity with marine consultancy
Inshore Fisheries & Conservation Officer	Research & Policy Team	12 months	External opportunity with marine consultancy
Inshore Fisheries & Conservation Officer	Compliance & Enforcement Team	7 weeks	Dismissal

## Staff Training

Training Type	Course	Detail	Who
Mandatory	Conflict Management	Under the Health and Safety at Work Act the Authority have an obligation to ensure that any potential risk of work-related violence is eliminated or controlled. Officers carried out a one-day qualification which provided them with a foundation in conflict resolution, with emphasis on the importance of personal safety to enable them to protect themselves in situations where conflict arises	All staff
Mandatory	First Aid Training	In accordance with the Southern IFCA Health & Safety Policy, all non-operational employees must undertake a basic one day First Aid Course (every three years). Additionally, all employees working in the office shall undertake familiarisation training on the location and equipment provided for first aid provisions (signage provided in the office) as well as the roles and responsibilities in the event of a first aid situation.	1 x BST staff member
Mandatory	Fire Training – Fire Extinguisher, Fire Safety Awareness & Warden Duties, Fire Resistance in Buildings, Fire Extinguisher Use	In accordance with the Southern IFCA Health & Safety Policy, the Business Services Team and DCOs must undertake Fire Warden Training on a five-year cycle.	2 x BST staff member
Mandatory	Manual Handling	All non-operational employees must undertake a basic-Manual Handling Course	3 x BST staff member
Professional Development	Delegation Training	A training session for managers on how to work with your team and determine when, who and how to delegate to maximise efficiencies, utilise skills within the team and help further team members' personal development. Helpful tools were provided for approaching delegation, prioritisation of tasks and knowing how to provide support whilst ensuring that time can be freed up for the manager	1 x DCO
Mandatory Operational	IFCO National Enforcement Course 2024	Three new entrants attended the National IFCO Enforcement course which aims to provide officers with a good understanding of fisheries legislation, basic fish identification and fishing methods, dealing with conflict, contemporaneous interviewing, investigation procedures and the rules of evidence and disclosure.	3 x IFCOs
Professional Development	SFJ Awards Level 3 Certificate in Fisheries/ Marine Enforcement or National Accreditation Programmes	To provide learners with the knowledge and skills to carry out the role of a warranted Marine Enforcement Officer (MEO) or Inshore Fisheries and Conservation Officer (IFCO).  The qualification is completed through a variety of assessment methods which include written assignments, discussions, Q&A and observations, ensuring that a full range of criteria is met across the units which demonstrates the learner's knowledge and ability in role of an IFCO.	1 x IFCO achieved the qualification, and 1 x IFCO enrolled on the scheme.  Southern IFCA also have two internal assessors who support other IFCA's in delivery of the accreditation scheme.

Training Type	Course	Detail	Who
Professional Development	Visual Line of Sight (GVC) training with a Civil Aviation Authority (CAA) accredited training provider	Course comprises 3 days of practical training followed by a theory exam. Successful completion allows for flight of commercially fly multi-rotor Unmanned Aircraft Systems weighing up to 25kg within the Specific Category.	2 x IFCOs awarded with their Remote Pilot Certificate of Competence in Visual Line of Sight.
Professional Development	Human Element Leadership and Management (Operational) (HELM-O) course	To aid in the development of developing the Safety Management System. It also bolstered the awareness and knowledge required to ensure that from an operational perspective Southern IFCA are compliant with the requirements of Work Boat Code 3.	Senior IFCO for Marine Operations
Mandatory Operational	Seafarers, Training, Certification & Watchkeeping (STCW)	Sets minimum qualification standard for Officers required under the Southern IFCA Health and Safety Policy. NB: separate to boarding and pacing.	3 x IFCOs
Professional Development	Royal Yachting Association Instructor course	To support the development of seagoing operational officers, providing the Senior IFCO the tools necessary to supervise, up skill and assess other team members when carrying out duties at sea.	Senior IFCO
Professional Development	MMO run Boarding Officer	set over five days and aims to teach basic seamanship, hazards on fishing vessels, how to board and debark vessels safely and safe operating procedures.	
Mandatory Operational	VHF Training	VHF Training is a requirement of Workboat Code 3 and the Southern IFCA Health and Safety Policy, it teaches the officer to use a fixed or handheld marine VHF radio. A radio is an important piece of safety equipment on board, and it is vital to understand the correct procedures.	2 x IFCOs
Professional Development	Spatial Analysis Course	focused on the use of R statistical packages integrated with GIS	Senior IFCO
Professional Development	internal GIS training programme	was delivered by the Senior Policy IFCO, which focussed on the use of Coordinate Reference Systems (CRS), uploading and building shapefiles and layers, extracting data, mapping Southern IFCA held data and visualisation.	All Research and Policy Team
Professional Development	R Statistics Training "Introduction to Data Analysis"	Southern IFCA coordinated training for Sussex, Devon & Severn and Cornwall IFCAs which focussed on an introduction to R statistical package for Generalised Linear Models, as well as attending a Marine Biological Association webinar "Marine Biology Live – Putting the R in Reproducible Marine Research" – virtual event on using R and how it can be applied to different types of datasets.	1 x DCO, 2 x IFCO, 3 x PO
Professional Development	Marine Data Management, Governance and the MEDIN Toolset	The course provided training on data management principles, standards and components including data lifecycles and quality, the role and use of vocabulary in defining datasets and the importance of creating, maintaining and publishing metadata. The aim of the training is to allow a cascading of data management principles to the wider RPT, particularly officers who lead on surveys so that data can be collated and stored appropriately and in line with national data standards. This will allow easier reporting of Southern IFCA metadata for different datasets through the MEDIN system which will facilitate making other bodies/organisations aware of the data held by Southern IFCA for use in the development of evidence to underpin FMPs and ensure the data is at the right standard to feed into national datasets being using to fill FMP evidence gaps.	PO FMPs

## IFCO Warranting

One IFCO achieved warranted status in the last reporting period, increasing operational capability. The decision to warrant new entrants is underpinned by completion of the national accreditation programme.



## Health & Safety

During the reporting period there were 3 accidents (1 x Authority vehicle reversing collision as a result of undue care and attention, 1 x officer falling into the water whilst undertaking a shore patrol, 1 x head injury whilst officer was accessing a slipway via a metal gate) and 2 x incidents (1 x speeding offence in Authority vehicle and 1 x unsafe driving in Authority vehicle requiring police intervention).

All Accidents, Incidents and Near Misses are reported to The Executive Sub Committee, where suitable mitigation and changes in policy and procedure are considered. During the reporting year and as a direct result of the accident where an officer fell into the water, a full internal investigation was conducted. This led to a review of the Health and Safety Policy and associated Risk Assessments relating to shore patrols. A permanent measure was subsequently introduced where officers are now required to wear helmets whilst undertaking shore patrols in specified areas of the district, in accordance with the updated risk assessments.

## Governance

### Governance Review



As part of a review of process and policy, with the purpose to identify efficiencies, maximise performance and consider staff retention strategies, the following improvements across the BST were made:

Subject Area Under Review	Problem Identified/Action Required	Change Implemented
Staff time recording & annual leave mapping	Inefficient way of working for staff and managers (monitoring), in addition to time taken to administer (line managers).	HR Bright platform and mobile app pilot undertaken November 2023-March 2024 for intended wholesale rollout from April 2024
Employee Handbook Review	Review and update to include: (1) Addition of equal opportunities statement, (2) inclusion of performance-based increments (when employee at top of spinal column point), (3) Wellbeing initiatives (4) Introduction of enhanced paternity policy, (5) Menopause policy (to be considered under reasonable adjustments)	Internal document - updated version released March 2024
Employee Code of Conduct Review	Update required to existing policy	Internal document - updated version released March 2024
Employee Conflict of Interest Policy	Update required to existing policy & process for employees to declare interests.	Internal document - updated version released March 2024
Recruitment Policy Review	Update required to existing policy	Updated version released March 2024. Publicly available on website
Sabbatical Policy	No previous policy in place. Reason for introduction to promote staff wellbeing, encourage personal and professional growth foster loyalty and retention.	Internal document - introduced July 2023
Data Protection & Information Request Policy	Review of existing policy to specify pathways for each type of data request and the publishing of a schedule of reasonable charges in accordance with Environmental Information Regulations. Inclusion of retention and disposal schedules.	Policy introduced March 2024. Publicly available on website
Permit Database	To remove manual inputting requirement for fisheries which are permitted in the district (c. 85 permits across PHDP, SDPB and NFB), in addition to the biannual issuing of c. 369 under the 'Fishing for Sale' Byelaw.  To provide a user-friendly platform for fishers, to reduce paperwork burden.	Following development of the platform by Cfront (external provider) between May and December back-office functions for the 'Fish for Sale Permit' were under constant testing. The 'Fish for Sale' application went live for internal testing during January and February 2024, concluding in a whole application test completed in March 2023, with external roll out of the 'Fish for Sale Permit' anticipated in July 2024. This is a staged and managed approach ensuring that the platform matches the operational requirements. All other permits will be introduced post July 2024.
Finance System	Transition required to new accounting software system, as current platform discontinuing in August 2024.	Following procurement guidelines in accordance with the Standing Orders, Xero was identified as the most suitable system. Between January and March 2024 the Accountant and Accounts Administrator have been merging all financial information from the existing provider to Xero ready for full introduction in June 2024.

## GDPR

The following table denotes the access to information requests received during the reporting period:

Data Request Type	Date Received	Detail	Response Date
Freedom of Information	20 <sup>th</sup> September 2023	Commercial fisher seeking information regarding the supporting evidence used to inform the decision-making process during the Net Fishing Byelaw review.	17 <sup>th</sup> October 2023
Freedom of Information	30 <sup>th</sup> November 2023	Marine Conservation Society (MSC) requesting fishing activity data to inform MSC online mapping tools.	15 <sup>th</sup> December 2023
Environmental Information Regulations	18 <sup>th</sup> March 2023	Marine Consultancy (ERM) seeking information regarding commercial fisheries spanning 10 years to support writing of Environment Impact Assessment. Following initial response from Southern IFCA requesting further information on context & data sought to inform consideration of charges in accordance with published Schedule of Reasonable Charges, no subsequent response was received.	18 <sup>th</sup> March 2024

Additionally, 14 requests under the Data Protection Act were received from the MMO relating to catch data held by Southern IFCA, for use by the MMO in accordance with ongoing investigative matters.

## Formal Complaints

No formal complaints were received during the reporting period.

## Authority Meetings

In accordance with the Southern IFCA Standing Orders, between 1<sup>st</sup> April 2023 and 31<sup>st</sup> March 2024, four meetings of the Full Authority were held, 4 x Executive Sub-Committee meetings, 4 x Audit and Governance Sub-Committee Meetings and 4x Technical Advisory Sub-Committee Meetings. Additionally, an Extraordinary Meeting of the Authority was held in September 2023 to discuss The Solent King scallop fishery. The following four Member Working Groups were held during the reporting period:



Working Group	Attendance
MCRS (June 2023)	General Members: T Legg, Dr A Jensen, R Stride, L MacCallum, G Wordsworth. Partner Organisations: R Irish (MMO)
Shore Gathering (Feb 2024)	General Members: Dr A Jensen. Partner Organisations: Dr R Morgan (NE), S Kingston-Turner (EA). 1 x attendance from NE Local Team.
Black Seabream (Jan 2024)	General Members: Dr A Jensen, C Francis, G Wordsworth. Partner Organisations: Dr R Morgan (NE), S Kingston-Turner (EA). 1 x additional attendance from NE based on subject experience.
Black Seabream (Feb 2024)	General Members: Dr A Jensen, R Stride, E Bussey-Jones. Partner Organisations: Dr R Morgan (NE), S Kingston-Turner (EA). 1 x attendance from NE.

### Member Attendance: Elected Members

Elected Members (from constituent Local Authority's)		Attendance		
		FA	ESC (v)	AGSC (v)
Cllr Mr. M Roberts	Dorset Council (Chairman of Authority)	100% (4/4)	100% (4/4)	100% (4/4)
Cllr Mr. P Fuller	Isle of Wight Council (Vice Chairman of Authority)	100% (4/4)	100% (4/4)	
Cllr Mr. B Dunning	Hampshire County Council	0% (0/4)		
Cllr Mr. R Hughes	Dorset Council	75% (3/4)	100% (4/4)	
Cllr Mr. P Miles	BCP Council	25% (1/4)		
Cllr Mr. C Goodall	BCP Council	0% (0/4)		
Cllr Mr. J Savage	Southampton City Council	50% (2/4)		
Cllr Mr. M Thierry	Hampshire County Council	0% (0/4)		0% (0/4)
Cllr Mr. M Winnington	Portsmouth City Council	75% (3/4)		50% (2/4)

### Member Attendance: General Members

General Members (appointed by the Marine Management Organisation)		In person Attendance		
		FA	ESC	TAC
Dr. A Jensen (Chairman of the TAC)	Marine Environment/Academic Sector	100% (4/4)	100% (4/4)	100% (4/4)
Mr. R Stride (Vice Chairman of the TAC)	Commercial Fishing Sector	100% (4/4)	75% (3/4)	100% (4/4)
Dr. S Cripps	Marine Environment/Conservation Sector	100% (4/4)		25% (1/4)
Mr. C Francis	Recreational Sea Angling Sector	75% (3/4)		75% (3/4)
Mr. T Legg	Commercial Fishing Sector	0% (0/4)		0% (0/4)
Ms. L MacCallum	Marine Environment/Conservation Sector	100% (4/4)		100% (4/4)
Mr. G Wordsworth	Aquaculture Sector	75% (3/4)		100% (4/4)
Mr. N Hornby	Other: Fisheries Science and Policy Sector	100% (4/4)		75% (3/4)
Ms Elisabeth Bussey-Jones	Other: Legal/Marine Heritage	75% (3/4)		66% (2/3)

General Member biographies can be found [here](#).

### Partner Organisation Members

Representatives of Partner Organisations		In person Attendance	
		FA	TAC
Mr. Stuart Kingston-Turner/Mr P Rudd	Environment Agency	50% (2/4)	25% (1/4)
Mr. J McClelland/Dr R Morgan	Natural England	100% (4/4)	75% (3/4)
Ms. R Irish	Marine Management Organisation	75% (3/4)	25% (1/4)

## Member Appraisals

In accordance with the Terms and Conditions of IFCA General Membership, as determined by the Marine Management Organisation, annual Member Appraisals are held to consider the contributions that appointees make to the work of the IFCA, as well as consideration of behaviours in accordance with NOLAN principles and community representation. The appraisals also provide a useful opportunity for feedback to the CEO and Chair. All Member Appraisals were held in August 2023. Following a prolonged period of non-attendance in person, one commercial fishing sector representative resigned from their position in November 2023.

## Public Questions



One commercial fisher (representing Warsash fishers) and one commercial fisher representative (representing Portsmouth fishers) attended the meeting of the Full Authority in September 2023 in order to address the Members on proposals to amend to the permit conditions in the Solent scallop fishery for the period 2023 to 2024. In accordance with due process, the proposed intervention was considered in response to the outcomes of a pre-season survey (suggesting a decline in CPUE) and receipt of an industry signed letter which raised concerns regarding the health of the fishery. Additionally, a position statement was read out on behalf of a Portsmouth fisherman on the same matter.

Following consideration of the relevant agenda item and representations from industry, the Authority determined to engage in an immediate public consultation, with outcomes considered at an Extraordinary Meeting of the Full Authority held five days later.

## Guest Speakers at Authority Meetings

- [MMO Lyme Bay SOLE, Ed Baker \(May TAC\)](#)



A virtual presentation from Mr Ed Baker of the MMO on the Lyme Bay Sole Fishery and a consultation which was being undertaken by the MMO on potential management measures for this fishery. Mr Baker reviewed the history of the sole fishery, data on catches and fishing effort for different gear types in this area and highlighted the concerns raised by industry such as gear conflict and changes in stock levels which in part have contributed to the need for the consultation and considering of management measures.

- [Cockle FMP AIFCA \(Aug TAC\)](#)



A presentation from Mr Tim Smith (AIFCA) on the development of the Cockle FMP to date, where AIFCA is the Delivery Partner. The presentation provided a background to the FMP which includes four key cockle fisheries in the Southern, Northwestern, Kent & Essex and Eastern IFCA Districts, and the overall aim which is to provide FMP outputs that build on the existing and successful management models currently employed by the four IFCAs. The timeline for the FMP is submission to Defra in 2024, with development work occurring partly through a Working Group which each of the four IFCAs sit on, Southern IFCA being represented by DCO Birchenough. Mr Smith encouraged Members with an interest in this species to engage in the development process.

- **Defra FMP Presentation – front runners (Aug TAC)**



The Defra Fisheries Management Plans (FMPs) Team gave a presentation on the Formal Consultation for the 6 frontrunner FMPs, Whelk, Crab & Lobster, King Scallop, Bass, Channel Demersal Non-Quota Species and Southern North Sea and Eastern Channel Mixed Flatfish. The Defra team presented the proposed aims of each FMP and the management and evidence needs which had been identified including timescales (short term, medium term, long term) proposed for addressing these needs over the first iteration of the FMP. The Defra team provided information on how Members could engage with the consultation in addition to supporting a Southern IFCA response.

- **AIFCA Cockle (FAM Dec)**



Mr Tim Smith (AIFCA) gave a second presentation to the full Authority on the further developments to the Cockle FMP. The presentation gave an overview of the objectives which had been defined for the FMP, providing an overview of the relevance of each objective to cockle fisheries, taking account of existing fisheries and management as well as the potential for any newly emerging fisheries in the future, and an initial indication of how each objective might be met either through existing work or identifying evidence gaps. Mr Smith updated Members that the next stage was for the draft FMP to be submitted to Defra.

- **Lyme Bay Fisherman's CIC (March FAM)**





Ms Mandy Wolfe, the CEO of the Lyme Bay Fisherman's Community Interest Company gave a presentation to Members on the newly formed CIC, which has been supported by funding through the UK Fisheries and Seafood Scheme (FASS). Ms Wolfe covered how the CIC had been set up, with the aim to help support coastal communities and the fishing industry across Lyme Bay. The presentation covered the current and proposed future work of the CIC including specific projects for fisheries and ports and outreach programs to engage local communities. More information can be found online: [Home - Lyme Bay Fisherman's CIC \(lbfic.com\)](http://lbfic.com)

# Annex 1: Dispensations

Dispensation Type	Applicant	Reason	Byelaw Dispensing Against
Stocking & Breeding Purposes	Commercial Operator	Relaying of mussel seed on aquaculture beds	Mussels Byelaw
Stocking & Breeding Purposes	Commercial Aquaculture Operator	Maintain aquaculture operations on leased aquaculture grounds under Poole Harbour Several Order (carriage of gear)	Poole Harbour Dredge Permit (PHDP) Byelaw
Scientific	CEFAS	Undersize fish survey	Minimum Conservation Reference Size (MCRS) Byelaw
Scientific	Environment Agency	Ecological Assessment for Water Framework Directive purposes	MCRS Byelaw
Scientific	Portsmouth County Council (Port Health Authority)	Shellfish classification	Solent Dredge Permit (SDP) Byelaw, Oysters Byelaw, Oyster Closed Season Byelaw, Fishing for Cockles Byelaw
Stocking & Breeding Purposes	Commercial Operator	Maintain aquaculture operations on leased aquaculture grounds (carriage of gear)	PHDP Byelaw
Scientific	CEFAS	Crab survey	MCRS Byelaw
Scientific	Southampton University, Portsmouth University & Blue Marine	Handgathering of oysters for ecosystem services research	SDP Byelaw, Oysters byelaw
Scientific	Environment Agency	Ecological Assessment for Water Framework Directive purposes	MCRS Byelaw
Scientific	Environment Agency	Ecological Assessment for Water Framework Directive purposes	MCRS Byelaw and Vessels in Fishing Byelaw
Scientific	Commercial Operator (Southern IFCA)	Conduct Poole Bivalve Survey	PHDP Byelaw
Scientific	Langstone Harbour Board	Small fish survey	MCRS Byelaw
Stocking & Breeding Purposes	Commercial Aquaculture Operator	Maintain aquaculture operations on leased aquaculture grounds under Poole Harbour Several Order (carriage of gear)	PHDP Byelaw
Stocking & Breeding Purposes	Commercial Aquaculture Operator	Maintain aquaculture operations on leased aquaculture grounds under Poole Harbour Several Order (carriage of gear)	PHDP Byelaw
Scientific	Commercial Operator (Southern IFCA)	Conduct Solent Bivalve Survey	SDP Byelaw
Scientific	Commercial Operator (Southern IFCA)	Conduct Solent Scallop Survey	SDP Byelaw
Scientific	CEFAS	Crab survey	MCRS Byelaw
Scientific	Portsmouth University	Small fish survey	SDP Byelaw, MCRS Byelaw
Scientific	Portsmouth County Council (Port Health Authority)	Shellfish classification	SDP Byelaw, Oysters Byelaw, Oyster Closed Season Byelaw, Fishing for Cockles Byelaw, MCRS Byelaw
Scientific	Institute of Fisheries Management	Small fish survey	MCRS Byelaw
Scientific	Southern IFCA	Small fish survey	MCRS Byelaw
Scientific	University of Essex	Small fish survey	MCRS Byelaw
Scientific	Bangor University	Small fish survey	MCRS Byelaw
Educational	Dorset Wildlife Trust	Periwinkles for aquarium	MCRS Byelaw
Scientific	CEFAS	Scientific surveys	MCRS Byelaw, Vessel used in fishing byelaw
Scientific	Langstone Harbour Board/RSPB	Small fish survey	MCRS Byelaw

## Annex 2: Delivery of FMP Programme

### Delivery Covering Multiple FMPs

#### Overview

- Southern IFCA have been involved with the national and regional process to develop Fisheries Management Plans (FMPs) since autumn 2022.
- Southern IFCA employed a Project Officer (PO) in February 2023 whose role is to coordinate the provision of information, evidence and data to support the development of FMPs, to work with delivery partners, to work with local and national colleagues and to help coordinate communications and engagement with the inshore fishing community. The PO also represents Southern IFCA at FMP meetings and working groups (There was a hand over of the PO FMP role in January 2024).
- Southern IFCA made contact with all delivery partners across all Tranche 3 and Tranche 4 FMPs to ensure that relevant contact details were included on dissemination lists and participation in relevant working groups was facilitated.
- Throughout the process Southern IFCA have provided links between FMP delivery partners and District industry liaison groups which has included presentations given by the PO at certain meetings on Frontrunner FMPs;
  - South Coast Fishermen's Council
  - The Dorset, Hampshire and Isle of Wight Marine Conservation Group
  - The Recreational Angling Sector Group
  - The Poole and District Fishermen's Association
  - The Poole and District Sea Angling Association
  - Lyme Bay CIC
- Information has been provided directly to relevant fishers via Southern IFCA held contact details.
- The Southern IFCA set up a dedicated FMP webpage ([Fisheries Management Plans : Southern IFCA \(southern-ifca.gov.uk\)](https://southern-ifca.gov.uk)) which outlines general information, links to where more information could be found and details of general engagement events which spanned all FMPs. The webpage also hosts dedicated sections for each of the frontrunner, Tranche 3 and Tranche 4 FMPs relevant to the District. These sections provide information as required on the development stage, FMP specific engagement opportunities and contact details for FMP leads. This webpage is continually updated as new information becomes available and new information regarding engagement and consultation is reflected across social media platforms.
- Southern IFCA have a standing item on the agenda for the quarterly Technical Advisory Sub-Committee meeting providing Members with an update on any matters relating to FMPs, there were 4 meetings held during the 2023-2024 year.
- Information is provided in additional reports (verbal or written) as required to both the Authority and the Technical Advisory Sub-Committee.
- The Southern IFCA promoted the Defra FMP evaluation survey through the FMP webpage on the website.
- The Southern IFCA have had continued engagement with the AIFCA responding to requests to submit information, review evidence summaries and provide details on existing IFCA management. Southern IFCA have participated in an IFCA mapping exercise both for legislation and research undertaken. Comments on draft FMPs have been facilitated through the AIFCA and Southern IFCA have provided comment on draft FMP documents for relevant FMPs received through this channel.
- In April 2023 Southern IFCA actioned a request from AIFCA to provide a link to the Defra stakeholder feedback questionnaire, this was added to the Southern IFCA website FMP page.
- Southern IFCA actioned a request from Defra to distribute FMP posters to local ports in the District and uploaded these to the Southern IFCA website FMP page. These posters were also disseminated by email to the District industry liaison groups previously listed.

- Southern IFCA have added links to published FMPs for the first five published in December 2023 to the FMP page of the Southern IFCA website.

### **National/ Regional Meetings attended covering multiple FMPs**

- The PO has attended numerous meetings and workshops at a local, regional and national level, both online and in person, covering either multiple FMPs or for specific FMPs. These have included attendance at:
  - Two Shellfish FMP update online events
  - APPG Future Fisheries Management- all FMPs (online)
  - Future Fisheries Management consultation- all FMPs (online)
  - Future Fisheries Management consultation- all FMPs (Gosport)
  - Future Fisheries Management Consultation- all FMPs (Weymouth)
  - Future Fisheries Management Consultation- all FMPs (Poole)
  - T3 FMPs webinar (online)
  - Fisheries Management Plans (FMPs) Collaborative Evidence Online Workshop
  - T4 FMPs webinar (online)
  - AIFCA FMP Response Conference (Crab and Lobster, Whelk FMPs)- September 2023.
  - MMO FMP Monthly Update Meetings April 2023-April 2024.

### **Formal Consultation of Front Runner FMPs in 2023**

- Southern IFCA undertook the following work in relation to the Formal Consultation on the Frontrunner FMPs:
  - Promoted the Formal Consultation and relevant links on the Southern IFCA website via the FMPs page and News Page and across social media including engagement events for the District
  - Participated in the AIFCA Fisheries Management Plan Review Project which included facilitating filming of Southern IFCA Authority Members and attendance at the two-day conference in Poole by the PO, Chairman of the Authority and Chairman of the Authority's Technical Advisory Sub-Committee
  - Attendance at three in person engagement events in the District
  - Attendance at two online engagement events
  - Facilitated a presentation by the Defra FMP team to the Southern IFCA Technical Advisory Sub-Committee following their August meeting
  - Ran a workshop with Authority Members in September 2023 to discuss each FMP and points for inclusion in Southern IFCA responses
  - The PO attended an FMP session run by the Scallop Fisheries Improvement Project (FIP) and provided input on Southern IFCA scallop fisheries
  - Submitted responses to all 6 Frontrunner FMPs in line with the 1<sup>st</sup> October 2023 deadline

### **Supporting Planning and Preparation**

Meetings facilitated by SIFCA, presentation for all Frontrunner FMPs by PO:

- South Coast Fishermen's Council - May 2023.
- Poole & District Sea Angling Association - June 2023.
- Lyme Bay CIC - July 2023
- Recreational Angling Sector Group meeting- August 2023.

- SIFCA Authority workshops – September 2023.

### **Requests and Feedback**

- **Dissemination of Information.**

- Actioned request from AIFCA. Link to Defra stakeholder feedback questionnaire added to SIFCA FMP webpage- April 2023
- Actioned request from Defra. Distribution of FMP posters to local ports in the District and uploaded to SIFCA FMP webpage, sent to the Fishermen's Council, Poole and District Sea Angling Association, Recreational Angling Sector Group and Marine Conservation Group representatives (email) - May 2023

### **Implementation of Frontrunner FMPS**

- Attendance at MMO Operations and IFCA Briefing session regarding Frontrunner FMPs publication- Dec 2023
- Attendance at Fisheries Management Plans (FMPs) Collaborative Evidence Online Workshop hosted by Defra (x2) – attendance by CEO at specific meeting for IFCA's, partner organisations and industry, attendance by DCO and PO at online public meeting



	FMP	Defra Delivery Metric	Action
	Southern IFCA delivery relevant to Tranche 1&2 FMPs	Crab & Lobster	Supporting Planning and Preparation
Supporting Publication Phase			<ul style="list-style-type: none"> <li>Attendance at Defra evidence gaps workshop (online) -March 2024</li> </ul>
Request & Feedback			<ul style="list-style-type: none"> <li>Southern IFCA Crab and Lobster Consultation Response provided September 2023</li> </ul>
Whelk		Supporting Planning and Preparation	<ul style="list-style-type: none"> <li>Defra presented at TAC – August 2023.</li> <li>Future Fisheries Management – Shellfish FMPs (online) – September 2023.</li> </ul>
		Supporting Publication Phase	<ul style="list-style-type: none"> <li>Attendance at Defra evidence gaps workshop (online) -March 2024</li> </ul>
		Request & Feedback	<ul style="list-style-type: none"> <li>Submission of Southern IFCA Whelk FMP Consultation Response- September 2023.</li> <li>Actioned request regarding IFCA Whelk Data. Whelk Data questionnaire completed- March 2024</li> </ul>
King scallop		Supporting Planning and Preparation	<ul style="list-style-type: none"> <li>Defra presented at TAC – August 2023.</li> <li>Future Fisheries Management – Shellfish FMPs (online) – September 2023.</li> </ul>
		Supporting Publication Phase	<ul style="list-style-type: none"> <li>Channel Scallop FIP meeting (FMP response to add the non-inclusion of the Solent Dredge Fishery) – September 2023.</li> <li>Submission of Southern IFCA King Scallop FMP Consultation Response- September 2023.</li> </ul>
		Request & Feedback	<ul style="list-style-type: none"> <li>Attendance at Defra evidence gaps workshop (online) -March 2024</li> </ul>
Non-Quota		Supporting Planning and Preparation	<ul style="list-style-type: none"> <li>NQS FMP Update meeting (online) – April 2023.</li> <li>FMP Webinars- Finfish (online) -June 2023</li> <li>NQS FMP Update meeting (online)- July 2023.</li> <li>NQS FMP Update Meeting (online) -August 2023</li> <li>Defra presented at TAC – August 2023.</li> </ul>
		Supporting Publication Phase	<ul style="list-style-type: none"> <li>Submission of Southern IFCA Non-Quota Species FMP Consultation Response- September 2023.</li> </ul>
		Request & Feedback	<ul style="list-style-type: none"> <li>Attendance at Defra evidence gaps workshop (online) -March 2024</li> </ul>
Bass		Supporting Planning and Preparation	<ul style="list-style-type: none"> <li>FMP Webinars- Finfish (online) -June 2023</li> <li>Defra presented at TAC – August 2023</li> </ul>
		Supporting Publication Phase	<ul style="list-style-type: none"> <li>Submission of Southern IFCA Bass FMP Consultation Response- September 2023.</li> </ul>
		Request & Feedback	<ul style="list-style-type: none"> <li>Attendance at Defra evidence gaps workshop (online) -March 2024</li> </ul>
Mixed Flatfish	Supporting Planning and Preparation	<ul style="list-style-type: none"> <li>FMP Webinars- Finfish (online) -June 2023</li> <li>Defra presented at TAC – August 2023.</li> </ul>	
	Supporting Publication Phase	<ul style="list-style-type: none"> <li>Submission of Southern IFCA Mixed Flatfish FMP Consultation Response- September 2023.</li> </ul>	
	Request & Feedback	<ul style="list-style-type: none"> <li>Attendance at Defra evidence gaps workshop (online) -March 2024</li> </ul>	

	FMP	Defra Delivery Metric	Action
<b>Southern IFCA delivery relevant to Tranche 3 &amp; 4 FMPs</b>	Southern North Sea & Channel Skates & Rays	Supporting Planning and Preparation	<ul style="list-style-type: none"> <li>Monthly MMO FMP meeting (online) -July 2023</li> <li>Monthly MMO FMP meeting (online) -August 2023</li> <li>FMP scoping meeting with MMO (SIFCA offices) – August 2023</li> <li>Monthly MMO FMP meeting (online) – September 2023</li> <li>Draft management measure comments sent to MMO- November 2023</li> <li>Defra Skates and Rays Q+A session (online) -December 2023.</li> <li>Angling Trust FMP recreational evening (online)- December 2023.</li> <li>MMO led Recreational Q+A Evening (Broadstone Conservative Club, Poole) – December 2023.</li> <li>MMO Skates and Rays Working Groups 1-3, September 2023-January 2024</li> <li>Reviewed draft FMP documents-February 2024</li> </ul>
	North Sea and Channel Sprat		<ul style="list-style-type: none"> <li>Attendance at working group meeting-January 2024</li> </ul>
	Queen Scallop		<ul style="list-style-type: none"> <li>Monthly MMO meeting- FMP updates (online) – July 2023</li> <li>MMO monthly update- T3 FMPs (online) August 2023</li> </ul>
	Cockles		<ul style="list-style-type: none"> <li>DCO part of Evidence Working Group, operating under specific group objectives and responsibilities</li> <li>DCO attendance at all Cockle FMP Working Group meetings</li> <li>Provided expert advice on Southern IFCA cockle fisheries, data from relevant fisheries in Poole and the Solent and input into current management measures and policies</li> <li>Review of draft FMP documents</li> <li>Facilitated presentations to the Authority from AIFCA FMP lead</li> </ul>
	Celtic Sea & Western Channel Pelagic		<ul style="list-style-type: none"> <li>Offered relevant data to the MMO from Southern IFCA's Juvenile Fish Survey-February 2024</li> <li>Added to the Southern IFCA website FMP webpage- February 2024</li> </ul>
	Celtic Sea & Western Channel Demersal		<ul style="list-style-type: none"> <li>Added to the Southern IFCA website FMP webpage- February 2024</li> </ul>
	Bream		<ul style="list-style-type: none"> <li>Attendance at initial information scoping meeting with MMO-March 2024</li> </ul>
	Wrasse		<ul style="list-style-type: none"> <li>Attendance at initial information scoping meeting with MMO-March 2024</li> <li>Data provided to MMO on Southern IFCA live wrasse fishery including links to annual wrasse fishery reports-March 2024</li> </ul>



## COMPLIANCE AND ENFORCEMENT QUARTERLY REPORT Paper For Information

*Report by PDCO Sam Dell.*

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### A. Purpose

To report to Members on the compliance and enforcement activities for the quarter May to July 2024.

### B. Annex

- I. Compliance and Enforcement Quarterly Report
- 

## 1.0 Introduction

- This report contains an executive summary relating to our enforcement activity for this reporting period in statistical format for inspections, patrols and offences detected.

## 2.0 Summary of Key Points

- **Background**
  - 2.1 Risk Based Enforcement
  - 2.2 Intelligence Led Approach
  - 2.3 Tactical Coordination Group
  - 2.4 Fisheries Patrol
- **Enforcement Activity**
  - 3.1 Intelligence reports
  - 3.2 Enforcement Activity Table
  - 3.3 Offence reports
  - 3.4 Offence Outcomes

Marked K Annex 1



# Compliance & Enforcement Quarterly Report

May – July 2024

Prepared by PDCO Sam Dell

## **Contents**

- 1. Purpose**
- 2. Background**
  - 2.1 Risk Based Enforcement
  - 2.2 Intelligence Led Approach
  - 2.3 Tactical Coordination Group
  - 2.4 Fisheries Patrol
- 3. Enforcement Activity**
  - 3.1 Intelligence reports
  - 3.2 Enforcement Activity Table
  - 3.3 Offence reports
  - 3.4 Offence Outcomes

## **1. Purpose**

The purpose of this report is to provide the Authority with an overview of the Southern IFCA risk-based approach to compliance and enforcement for the previous quarter May to July 2024.

The statistical data included in this report is aligned to national IFCA metrics that are reported to Association IFCAs (AIFCA) and Department for Food, Environment and Rural Affairs (Defra) on an annual basis.

## **2. Background**

### **2.1 Risk Based Enforcement**

Southern IFCA is committed to achieving fair, effective and proportionate enforcement. The Compliance and Enforcement Framework sets out the Authority's approach and details the general principles the Authority will follow and the enforcement actions available. The Risk Register forms part of that Framework, providing focus and priorities for Southern IFCA's compliance and enforcement activities. The Risk Register identifies priorities in specific areas at different times of the year.

### **2.2 Intelligence Led Approach**

Intelligence Reports (IRs) are the Authority's method of recording, storing, collating and the dissemination of intelligence that complement our risk-based approach. Additional intelligence together with access to the UK Fisheries Monitoring, Control and Surveillance System<sup>1</sup> (MCSS) and Vessel Monitoring System (VMS) maximizes the efficient use and deployment of resources on the ground. Southern IFCA uses the National Intelligence Model which incorporates a tasking and coordination process.

### **2.3 Tactical Coordination Group (TCG)**

The TCG meeting is chaired by the PDCO who makes decisions in relation to resourcing and enforcement priorities for the upcoming period. The aim of this meeting is to make decisions around resource allocation in order to make best use of resources and provide the best possible protection for fisheries and the marine environment within the Southern IFCA District, the TCG also decides what operational tactics will be deployed.

### **2.4 Fisheries Patrols**

Southern IFCA officers conduct both land and sea-based patrols across the district. Southern IFCA operates two patrol vessels, patrols on board these vessels may take place at any time of day or night, and are used to observe fishing activity, engage with industry, carry out boarding inspections and to target reported illegal activity. On shore, Officers conduct land patrols to engage with industry, carry out inspections, observe activity at sea and in ports, visiting a number of locations across the district including commercial premises, recreational angling hotspots, piers, ports, beaches and quaysides. The Compliance and Enforcement Team also has a drone capability and has procured two drones to support operational activity. This has enhanced our operational delivery and is used to record evidence of possible offences using the onboard camera from perspectives not previously possible, it has improved the prevention (deterrent) and detection of offending.

[Compliance & Enforcement : Southern IFCA \(southern-ifca.gov.uk\)](https://southern-ifca.gov.uk)

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<sup>1</sup> The UK reporting database of sightings, boarding, positions of vessels, prosecutions and other actions against infringements of UK and EU Fisheries. This system is managed by CEFAS on behalf of the MMO. This also contains access to VMS data.

### 3. Enforcement Activity

#### 3.1 Intelligence Reports

The following table demonstrates the information reports submitted for this reporting quarter.

<b>Intelligence Reports</b>	<b>May</b>	<b>June</b>	<b>July</b>	<b>Total</b>
IFCOs	16	13	10	<b>39</b>

#### 3.2 Enforcement Activity Table

The following table demonstrates the enforcement activity and offences detected for this reporting quarter, these reporting metrics are aligned nationally to those requested by Defra. Fluctuations that occur in statistical figures can be as a result of a number contributing factors i.e. number of land based as opposed to sea-based patrols in any given month, staff resources, weather, other duties and the objectives of the patrols recognising the Authorities commitment to risk based intelligence led enforcement.

<b>Category</b>	<b>Metric</b>	<b>May</b>	<b>June</b>	<b>July</b>	<b>Total</b>
<b>Inspections at sea</b>	Vessel patrols	4	5	5	<b>14</b>
	Boardings/inspections	15	9	14	<b>38</b>
<b>Inspections ashore or in a port</b>	<b>Metric</b>	<b>May</b>	<b>June</b>	<b>July</b>	<b>Total</b>
	Shore patrols	6	11	12	<b>29</b>
	Port visits	6	12	17	<b>35</b>
	Premises inspections	3	2	0	<b>5</b>
	Landing inspections	9	4	25	<b>38</b>
	Vehicle inspections	1	7	3	<b>11</b>
	Gear Inspections	15	1	0	<b>16</b>
	Person Inspection	7	4	11	<b>22</b>
<b>Offences Detected</b>	<b>Per report</b>	<b>May</b>	<b>June</b>	<b>July</b>	<b>Total</b>
<b>Verbal warnings</b>		5	3	5	<b>13</b>
<b>Written warnings</b>		0	0	0	<b>0</b>
<b>Advisory letter</b>		0	0	0	<b>0</b>
<b>FAP</b>		0	0	0	<b>0</b>
<b>Offence Reports</b>		0	0	1	<b>1</b>

#### 3.3 Offence reports

The following table demonstrates the offence reports & actions submitted by officers for this reporting quarter.

<b>Date of Offence</b>	<b>Offence</b>	<b>Action</b>
29.07.2024	Undersize Black Seabream	Investigations ongoing

#### 3.4 Offence Outcomes

Nil offence outcomes for this reporting quarter.

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

### Paper For Information

Report by PDCO Dell & IFCO Payton.

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#### 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 13<sup>th</sup> 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 IFCAs 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.

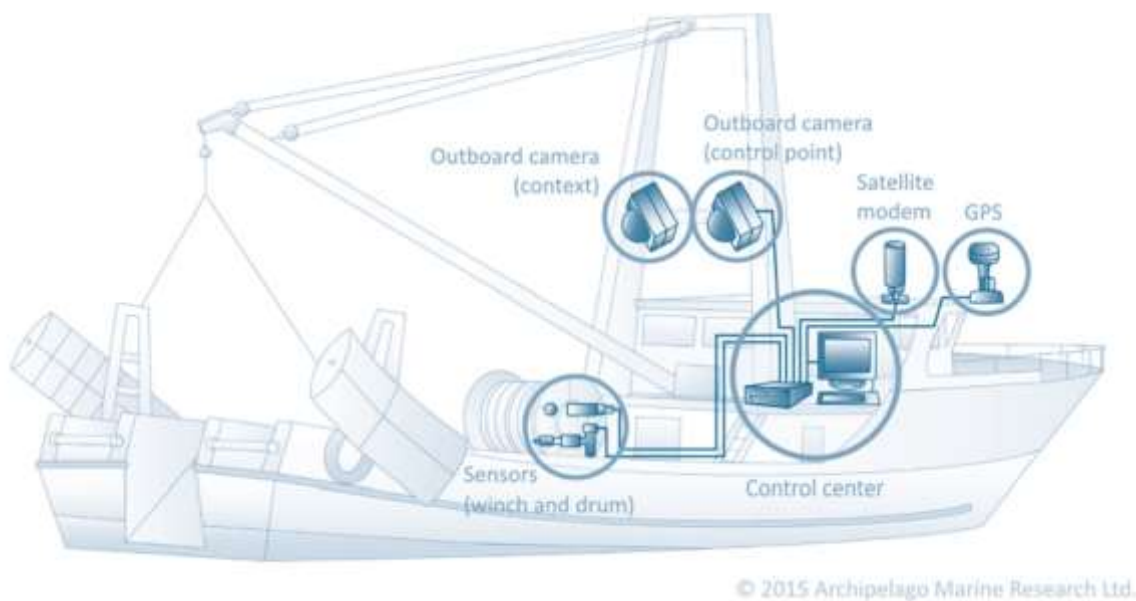
## Section B: Literature review

### 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.

## Section C: References

Archipelago Marine Research. Accessed May 2024. [www.archipelago.ca/fisheries-monitoring/electronic-monitoring/](http://www.archipelago.ca/fisheries-monitoring/electronic-monitoring/).

Bartholomew, D.C., Mangel, J.C., Alfaro-Shigueto, J., Pingo, S., Jimenez, A. and Godley, B.J., 2018. Remote electronic monitoring as a potential alternative to on-board observers in small-scale fisheries. *Biological Conservation*, 219, pp.35-45.

Calderwood, J., Marshall, C.T., Haflinger, K., Alfaro-Shigueto, J., Mangel, J.C. and Reid, D.G., 2023. An evaluation of information sharing schemes to identify what motivates fishers to share catch information. *ICES Journal of Marine Science*, 80(3), pp.556-577.

Department for Environment Food & Rural Affairs, Expanding the use of Remote Electronic Monitoring in England, version: REMCfEv1, 2020. Available at: [https://consult.defra.gov.uk/marine/remcall/supporting\\_documents/REM%20C4E%20Corp%20Final.pdf](https://consult.defra.gov.uk/marine/remcall/supporting_documents/REM%20C4E%20Corp%20Final.pdf) (accessed May 2024).

Du-Harpur, X., Watt, F.M., Luscombe, N.M. and Lynch, M.D., 2020. What is AI? Applications of artificial intelligence to dermatology. *British Journal of Dermatology*, 183(3), pp.423-430.

Evans, R. and Molony, B., 2011. *Pilot evaluation of the efficacy of electronic monitoring on a demersal gillnet vessel as an alternative to human observers* (p. 16). Perth, Australia: Fisheries Research Division, Western Australian Fisheries and Marine Research Laboratories.

Ewell, C., Hocevar, J., Mitchell, E., Snowden, S. and Jacquet, J., 2020. An evaluation of Regional Fisheries Management Organization at-sea compliance monitoring and observer programs. *Marine Policy*, 115, p.103842.

French, N., Pearce, J., Howarth, P., Whitely, C., Mackey, K. and Nugent, P., 2022. Risk-based approach to Remote Electronic Monitoring for English inshore fisheries.

Geytenbeek, M., Pria, M.J., Archibald, K., McElderry, H. and Currey, R., 2014. Using Electronic Monitoring to Document Inshore Set Net Captures of Hector's Dolphins. In *Conference: Second symposium on fishery-dependent information, Rome, Italy*.

Gladju, J., Kamalam, B.S. and Kanagaraj, A., 2022. Applications of data mining and machine learning framework in aquaculture and fisheries: A review. *Smart Agricultural Technology*, 2, p.100061.

Götz, S., Oesterwind, D. and Zimmermann, C., 2015. Report on the German Catch Quota Management trial 2012–2014. *Federal Research Institute for Rural Areas, Forestry and Fisheries, Institute of the Baltic Sea Fisheries, December 2015 Report*.

James, K.M., Campbell, N., Viðarsson, J.R., Vilas, C., Plet-Hansen, K.S., Borges, L., González, Ó., van Helmond, A.T., Pérez-Martín, R.I., Antelo, L.T. and Pérez-Bouzada, J., 2019. Tools and technologies for the monitoring, control and surveillance of unwanted catches. *The European Landing Obligation*, p.363.

Kemp, P.S., Subbiah, G., Barnes, R., Boerder, K., O’Leary, B.C., Stewart, B.D. and Williams, C., 2023. Future advances in UK marine fisheries policy: Integrated nexus management, technological advance, and shifting public opinion. *Marine Policy*, 147, p.105335.

Kindt-Larsen, L., Kirkegaard, E. and Dalskov, J., 2011. Fully documented fishery: a tool to support a catch quota management system. *ICES Journal of Marine Science*, 68(8), pp.1606-1610.

Kindt-Larsen, L., Dalskov, J., Stage, B. and Larsen, F., 2012. Observing incidental harbour porpoise *Phocoena phocoena* bycatch by remote electronic monitoring. *Endangered Species Research*, 19(1), pp.75-83.

Krichen, M., 2023. Convolutional neural networks: A survey. *Computers*, 12(8), p.151.

Mangi, S.C., Dolder, P.J., Catchpole, T.L., Rodmell, D. and de Rozarieux, N., 2015. Approaches to fully documented fisheries: practical issues and stakeholder perceptions. *Fish and Fisheries*, 16(3), pp.426-452.

Marine Management Organisation, Under 10 metre remote electronic monitoring technical trial 2013, 2013. Available at: [https://assets.publishing.service.gov.uk/media/5a7ee37d40f0b6230268c2d1/cqt\\_u10m.pdf](https://assets.publishing.service.gov.uk/media/5a7ee37d40f0b6230268c2d1/cqt_u10m.pdf) (accessed May 2024).

Marshall, C.T. Macdonald, P. Torgerson, E. Asare, J.L. Turner, R., 2021. Design, development and deployment of a software platform for real-time reporting in the west of Scotland demersal fleet. A study commissioned by Fisheries Innovation Scotland (FIS) <http://www.fiscot.org/>.

McElderry, H., McCullough, D., Schrader, J. and Illingworth, J., 2007. Pilot study to test the effectiveness of electronic monitoring in Canterbury fisheries. *DOC Research and Development Series*, 264.

Michelin, M., Elliott, M., Bucher, M., Zimring, M. and Sweeney, M., 2018. Catalyzing the growth of electronic monitoring in fisheries. *California Environmental Associates*. [www.ceaconsulting.com/wp-content/uploads/CEA-EM-Report-9-10-18-downloa d.pdf](http://www.ceaconsulting.com/wp-content/uploads/CEA-EM-Report-9-10-18-downloa d.pdf).

Monkman, G.G., Hyder, K., Kaiser, M.J. and Vidal, F.P., 2019. Using machine vision to estimate fish length from images using regional convolutional neural networks. *Methods in Ecology and Evolution*, 10(12), pp.2045-2056.

Needle, C.L., Dinsdale, R., Buch, T.B., Catarino, R.M., Drewery, J. and Butler, N., 2015. Scottish science applications of remote electronic monitoring. *ICES Journal of Marine Science*, 72(4), pp.1214-1229.

O'shea, K. and Nash, R., 2015. An introduction to convolutional neural networks. *arXiv preprint arXiv:1511.08458*.

Piasente, M., Stanley, B., Timmiss, T., McElderry, H., Pria, M. and Dyas, M., 2012. Electronic onboard monitoring pilot project for the Eastern Tuna and Billfish Fishery. *Australian Fisheries Management Authority, Canberra*.

Plet-Hansen, K.S., Eliassen, S.Q., Mortensen, L.O., Bergsson, H., Olesen, H.J. and Ulrich, C., 2017. Remote electronic monitoring and the landing obligation—some insights into fishers' and fishery inspectors' opinions. *Marine Policy*, 76, pp.98-106.

Pria, M.J., Pierre, J.P., McElderry, H.I. and Beck, M., 2016. *Using electronic monitoring to document snapper discards and validate catch effort data*. Ministry for Primary Industries.

Rosen, S. and Holst, J.C., 2013. DeepVision in-trawl imaging: Sampling the water column in four dimensions. *Fisheries Research*, 148, pp.64-73.

Simon, J., Kopp, D., Larnaud, P., Vacherot, J.P., Morandeau, F., Lavialle, G. and Morfin, M., 2020. Using automated video analysis to study fish escapement through escape panels in active fishing gears: application to the effect of net colour. *Marine Policy*, 116, p.103785.

Sokolova, M., Thompson, F., Mariani, P. and Krag, L.A., 2021. Towards sustainable demersal fisheries: NepCon image acquisition system for automatic *Nephrops norvegicus* detection. *PloS One*, 16(6), p.e0252824.

Stanley, R.D., Karim, T., Koolman, J. and McElderry, H., 2015. Design and implementation of electronic monitoring in the British Columbia groundfish hook and line fishery: a retrospective view of the ingredients of success. *ICES Journal of Marine Science*, 72(4), pp.1230-1236.

UK Seafood Innovation Fund, 2023. Automated Shellfish Species, Size and Sex Identification System (AS3ID) (RD062). Accessed May 2024. Available at: <https://www.seafoodinnovation.fund/projects/automated-shellfish-species-size-and-sex-identification-system-as3id-rd062/>.

Van Helmond, A.T.M., Chen, C., Trapman, B.K., Kraan, M. and Poos, J.J., 2016. Changes in fishing behaviour of two fleets under fully documented catch quota management: Same rules, different outcomes. *Marine Policy*, 67, pp.118-129.

van Helmond, A.T., Mortensen, L.O., Plet-Hansen, K.S., Ulrich, C., Needle, C.L., Oesterwind, D., Kindt-Larsen, L., Catchpole, T., Mangi, S., Zimmermann, C. and Olesen, H.J., 2020. Electronic monitoring in fisheries: lessons from global experiences and future opportunities. *Fish and Fisheries*, 21(1), pp.162-189.

Wibowo, S., Hargiyatno, I.T., Faizah, R. and Natsir, M., 2023. The use of stereo cameras and artificial intelligence data to support capture fisheries landing data monitoring. In *IOP Conference Series: Earth and Environmental Science* (Vol. 1137, No. 1, p. 012022). IOP Publishing.

Willette, D.A., Ababouch, L., Barber, P.H., Bunje, P.M., Cauzac, J.P., Conchon, A. and Trenkel, V.M., 2023. Emerging monitoring technologies to reduce illegal fishing activities at sea and prevent entry of fraudulent fish into markets. *Frontiers in Sustainable Food Systems*, 7, p.1166131.



## Behind the Scenes Paper For Information

*Report by the RPT, CET and BST*

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### **A. Purpose**

To provide Members with an update on aspects of work that the Research and Policy Team (RPT), Compliance and Enforcement Team (CET) and Business Services Team (BST) is delivering behind the scenes.

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### **1.0 Introduction**

- This report from the staff across the three teams in the IFCA; RPT, CET and BST, captures aspects of work being delivered behind the scenes. This may include standalone projects or supplementary work which complements and supports the Annual Strategic Plan and RPT & CET Plans.

### **2.0 Summary of Key Points**

- Reports from the RPT:
  - This quarter, Officers in the RPT have been working on the development of tools for sharing information with stakeholders, particularly around the interaction between management and MPAs and undertaking survey work district wide as part of the Whelk Stock Survey and in the Solent for the Solent Oyster Survey as well as engaging with the partnership tagging project Angling for Sustainability. The Project Officers have also been busy representing Southern IFCA at regional workshops, assisting with survey work and using this to build knowledge, collating and presenting information on the Southern IFCA's annual work for 23-24 and reviewing Southern IFCA datasets in line with national data standards to ensure metadata records can be uploaded and shared.
- Reports from the CET:
  - The CET have been working on joint operations, supporting work in Hampshire to deliver joint objectives and share best practice and working with Dorset Police to patrol piers in the BCP area. Officers have also been working on launching the new permit database online to provide a new and improved tool for fishers and officers, and implementing a new database for intelligence recording, running across multiple authorities/agencies to improve access to information and manage intelligence and offences.
- Reports from the BST:
  - Office Manager Maria Chaplin has been working on a refurbishment of the office, focusing on creating a new locker room for staff kit and a new meeting/break out room. Permitting Officer Jo Wilson has been engaging in-person with fishers in the Solent Dredge Permit fishery, attending the post-season meeting in May, giving the opportunity to meet permit holders and understand their views on the Solent dredge fishery. Accounts Administrator Clare Jeans has been working on the implementation of new accounting software and updating the Southern IFCA Fixed Asset Register as well as preparing information for the annual accounts audit.

### **3.0 Next Steps**

- That Members receive the report.



## Behind the Scenes with the RPT



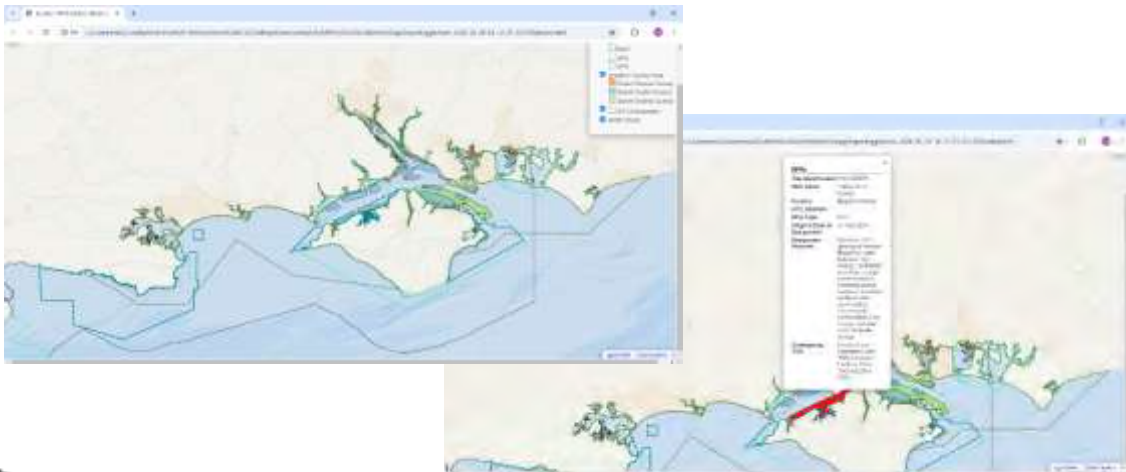
with Senior Policy Specialist Condie

A large responsibility of Southern IFCA and its officers is stakeholder engagement. One of my latest projects is looking at how we can share information with stakeholders about all the work we do in the different areas across the district. I have started to build a simple interactive map to visualize survey locations, management areas and how they interact with Marine Protected Areas across the district.

The idea for this map came from the need to make the complex variety of work we do more accessible to the public, stakeholders and those that may be interested in the data we collect. I wanted to create a tool that not only shows the MPA boundaries but offers a transparent view of how these are monitored and managed.

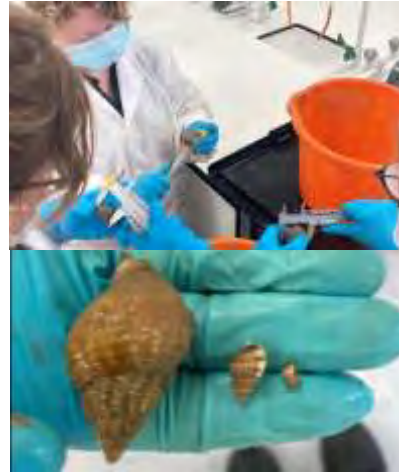
The map is being built using QGIS software, an opensource software of which I am learning more of its capabilities daily. Whilst the early stages look promising, it is important the tool remains both user-friendly and informative without overdoing the software's (or my own) capabilities.

Although still in an early stage, if successful, the map can be regularly updated with new information relating to MPAs, surveys and management and be used as a tool to showcase the volume of work undertaken at Southern IFCA.





During May 2024, officers joined local fishers in a potting trip to collect samples for the Southern IFCA Whelk Stock Survey. The trip involved a 3am meet at the office to ensure we were prepped and ready to board the vessel at Weymouth quayside for 5am. In contrast to our usual survey format, we joined fishers for the duration of their usual fishing trip while collecting samples from 3 of the 12 string sites. It was a long day at sea, however we gained valuable insight into pot fishing practices fishers knowledge surrounding the species, and by the end of the day made acquaintance with the resident seagull who was stationed on the bow of the vessel of the majority of the trip.



*Photos taken during the whelk analysis at Bournemouth University. Top: officers measuring samples. Bottom: An example of variation in size of whelk found in some samples.*



*Photographs taken during the SIFCA Whelk Survey 2024. Left: whelks caught from one pot at one of the string sites. Right is the resident seagull who accompanied us for the duration of the trip.*

In July, we organized the use of laboratory space at Bournemouth University to collect length and Catch Per Unit Effort data from whelk samples gathered in May. The four officers had access to a state-of-the-art science laboratory in Christchurch House, which can accommodate over 100 students. This analysis provided an excellent opportunity to observe variations in size, shape, colour, and texture among the 45 whelk samples from three locations within the District: Weymouth Bay, Poole Bay, and The Solent.



with IFCO Churchouse

The focus for this summer quarter has been a Solent shellfish survey. The Solent Oyster survey, last completed in 2022, was a new survey for almost all involved and as such kept me on my toes. The weather held out for us, and listening to the skipper's choice of Radio 2's Ten To The Top added an extra team exercise to the day. The survey sampled 98 oysters from 72 tows over 16 shellfish beds that were spread across the Bivalve Management Areas within the Solent.



*Oyster spat settled onto an adult oyster shell, seen during Solent Oyster Survey.*

The immediate impression when working over the ground was that this survey, in comparison to the Scallop or Bivalve, was much slower in obtaining samples. While the results of the survey suggest slight recovery of the fishery in some areas, it was apparent that this species

is still struggling within the Solent. It was exciting, however, to see some spat on the material that came up in the dredge, as photographed.

In July I was also given the opportunity to join one of the Angling For Sustainability FISP's tagging trips in Poole Bay. The trip I joined was targeting specifically tope, a species of shark, which one of the project members claimed are the coolest species to tag. In total, we caught 10 tope ranging between 1.1m and 1.6m, which were all successfully tagged and released back into Poole Bay.



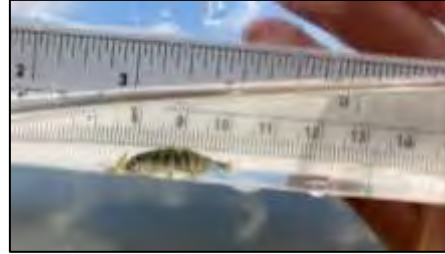
*A tope in the 'waiting room' alongside the fishing vessel during a Angling For Sustainability tagging trip.*





As part of my role as a Project Officer for MPAs, I get to work on various workstreams and engage with local networks. In July I attended an in-person meeting at ABPmer for the Solent Seascape Working Group. This was an interesting meeting where groups discussed ways for which conservation, restoration and management in the Solent could be presented to stakeholders and the public in a user-friendly format. There was a feedback session for the recently published State of Nature report, which allowed for input from the different groups involved. There was also a short presentation given by the hosts ABPmer on the merits of using ESRI tools to create digital products, which would allow them to collate and present restoration and management efforts in the Solent.

In June and July, I assisted with surveys. This included measuring Whelk (length, width) which we were able to do at a laboratory in Bournemouth University. I also assisted with the Small Fish Surveys at Yarmouth and Christchurch. As part of my Personal Work Plan, I was also taking photographs of juvenile fish species so I can create an in-the-field fish ID guide for future surveys.



*Three-spined stickleback juvenile photographed during Small Fish Survey conducted at Christchurch.*

Using my skills with QGIS, I have created several Infographics for the Annual Report this quarter. This is to visually present SIFCAs work for the past year in relation to MPAs, which included district coverage of MPAs and byelaws, introduction and coverage of the Net Fishing Byelaw, and sightings/inspections conducted by the Compliance and Enforcement Team.



*Example infographic created using QGIS. Displays Net Fishing Byelaw and MPA coverage across the SIFCA district.*





Through my position as an IFCA Aquaculture Project Officer, I have worked on a broad range of workstreams this quarter. However, a standout workstream for me was trialling a drone survey to investigate the possibility of using this technology for future intertidal shellfish surveys.

I have been analysing the methodologies of historical intertidal shellfish surveys to help inform any future survey methodologies. These historic surveys largely faced the same problems and limitations, relating to surveyors having difficulty accessing sites in difficult conditions, and the manpower required to carry out extensive surveys.

In response, I and trained drone operators collaborated with officers from Devon & Severn IFCA to test the feasibility of using an M300 RTK drone to map shellfish beds. This was on the basis of a request from D&SIFCA to determine if the equipment could be used to undertake their mussel bed survey.

This experience gave me a greater appreciation of the background work needed to safely operate a drone in the field including risk assessments, regular environment checks such as wind speed and cloud coverage, and ensuring that the necessary permissions had been obtained.

A highlight for me was the field test itself, including setting up and following drone procedures in an intertidal setting. This provided valuable insight into the potential of drones for surveys, as well as the practicalities of collecting usable data.



I've continued to engage with leaseholders to better understand the role of an Aquaculture Project Officer in Poole Harbour. To this end, I revisited a leasebed on a different vessel, and met with a leaseholder to discuss their aquaculture businesses, views on various farming methods and potential ecosystem services farmed shellfish provide.

I also updated the biosecurity plan with the most recent Cefas species vector list to ensure that leaseholders have a current understanding of biosecurity risks.



**BEHIND  
THE SCENES**

I have been working on the data sets that we hold here at Southern IFCA. This is a very large task, so I've been able to make significant progress to date on two datasets relating to the Juvenile Fish Survey and the Solent Bivalve Survey.

One of the first steps was tracking down all the paper logsheets in case I need to verify any of the data. Considering the surveys date back to 2016 and 2017 I ended up with very large piles of paperwork. There are a lot of them, some of which you can definitely tell have been on a boat!

One of the data sets I have been working on is the Juvenile Fish Survey that has been taking place since 2016. In that time 53 different species have been recorded by the survey. From frequent species such as grey mullet to less common species such as anchovies.



I then began work on the Solent Bivalve Survey, the largest survey so far. Within the Solent Bivalve Survey over the last seven years, nearly 50,000 bivalves have been measured to inform our research and management. And once this year's data has been entered, we will be over that threshold (I have asked that we never measure another Manila clam again as half the measurements are for this species, but apparently this would not be sensible given their importance in the district!)

This has also been a team effort with other members of the Research and Policy Team being recruited to help measure dredges-after successfully translating the data standard guidelines for which measurements were needed and creating new maps of survey areas so I could have the coordinates.

All this is working towards uploading metadata which will allow other organisations and individuals to know what data we hold, adding value and making our data fully available to feed into national processes such as FMPs.

## Behind the Scenes with the CET



*with Senior IFCO Parry*

On the 25<sup>th</sup> and 26<sup>th</sup> of July following a request from Hampshire Marine Police, the Southern IFCA Compliance and Enforcement Team supported a joint operation to assist Police with promoting relations between maritime law enforcement agencies and a range of marine users including the commercial and recreational fishing vessels industry as well as the wider community. It gave officers the opportunity to share knowledge and best practice both in terms of conducting marine operations.



Over the two days of action Officers conducted several joint boardings where the boarding team consisted of one officer from Southern IFCA and a Police officer from the Marine Unit, Officers boarded vessels to conduct fisheries inspections and discuss maritime security concerns in the local area. Since Fisheries Patrol Vessel Stella Barbara was disposed of in March this year, we have had limited on the water presence in the Solent and surrounding areas as we await the delivery of FPV Vigilant. This operation gave the Compliance and Enforcement Team an opportunity to get out amongst the local marine community and work with partner agencies.







*with Senior IFCO Mayne*

### **Southern IFCA pier patrols with Dorset Police**

Information received during June 2024 indicated that some recreational anglers, fishing from Bournemouth and Boscombe piers, were retaining undersized fish and behaving in a threatening manner towards other pier users. The suspected illegal activity was reportedly occurring during evenings. Consequently, officers from the Southern IFCA Compliance & Enforcement Team carried out joint enforcement patrols with Dorset Police at these locations during the evenings of 19<sup>th</sup> June 2024 and 17<sup>th</sup> July 2024, between 19:30 and 23:00.

On both occasions no fisheries offences were detected, no anti-social behaviour was observed, and the officers attending were well received by those present. Over the course of the patrols approximately 50 anglers were spoken to, and 3 inspections of fish were carried out. As usual, Southern IFCA leaflets and stickers containing information concerning minimum conservation reference sizes and bass regulations were gratefully received. Education continues to be a crucial part of the enforcement officer role, particularly amongst the recreational fishing community.

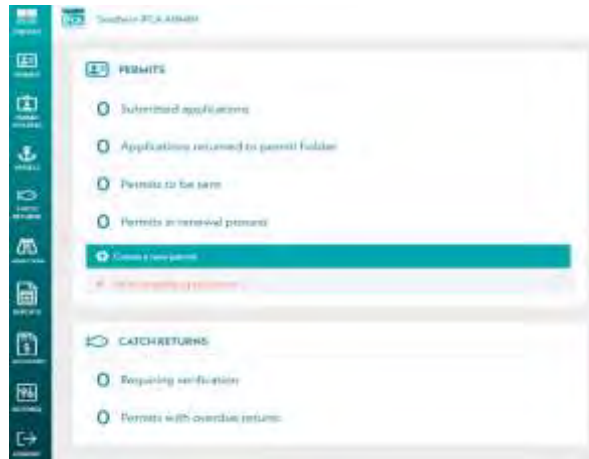
Finding 100% compliance with the regulations based only on a 2-night operation doesn't mean that problems don't exist, but the visit was generally indicative of our interactions with the angling community across the Southern IFCA District, which are broadly positive. There will always be those who have no regard for the regulations, but the public as a whole are perhaps more aware than ever of the correlation between how we behave as humans and the effects on the environment and all who depend on it. Consequently, most people want to do the right thing. Those who are members of angling clubs and associations are usually well versed in the relevant legislation. Many practice catch and release only, whilst other sections of the community require more of our attention e.g. the family on holiday, the occasional fisher, and the person with the new boat. It's also worth mentioning that many coastal communities are more ethnically diverse than they were say 20 years ago. This brings its own challenges in terms of cultural practices, language, communication, education and perceptions. Those spoken to on 19<sup>th</sup> June and 17<sup>th</sup> July were from diverse ethnic backgrounds and, as I've alluded, all responded very positively to our presence.

The social and economic benefits of recreational sea angling are well documented. My own passion for the marine environment came from early exposure to this pastime; my father and I fished from both Bournemouth piers as boys. Piers, long groynes and breakwaters often provide anglers affordable access to deeper water. Sadly, many fall into disrepair and with budgetary constraints, local authorities often choose not to fully restore structures with public access. Consequently, age-old angling venues are gone for good.



May 2024 saw the launch of the Fish for Sale (F4S) permit on Southern IFCA's brand new permit database. I have worked alongside permit officer Jo Wilson and CFront for the past year to get this project off the ground and to a point in which we can launch to our fishers. There have been a handful of challenges that comes with developing an IT system, especially as we are not software developers! I like to think we have both developed a better understanding of this area of work.

An integral part of the development process was to undertake continuous testing of the F4S permit. With the aim to reduce change for fishers by replicating the current paper version. I enlisted a group of fake fishers i.e. my fellow IFCOs and gave them unique and humorous vessel names to test the F4S permit – which I think they enjoyed!



The permit database is an excellent tool for both officers and fishers. For fishers it provides a quick and easy way of applying for and viewing permit details. For officers out on the coast, it is a much easier and faster system to search a vessel PLN, check permit compliance or find contact details for a fisher. I provided a training session for the officers on 'Inspector View' (officer side of the database). The officers are just glad that they will no longer have to try and read a excel spreadsheet whilst bobbing over waves!

So far, over 60 of our fishers have successfully renewed their permits on the database, and this will continue to increase over the next two years. Now it's time to kick off developing the next permit which will be the Southern IFCA's Poole Harbour Dredge Permit.



One very exciting development for the Compliance and Enforcement Team recently is the introduction of CLUE, our new intelligence database. PDCO Dell has been hard at work leading the charge nationally to help shape the database for IFCA's and ensure a smooth transition. This database is a shared system between the MMO and the IFCA's allowing us to effortlessly share intelligence and other information.

So, our first thoughts upon seeing the system left us feeling "CLUE-less" about how to operate it. Even though we had carried out initial testing we didn't feel like we were gaining any CLUE wisdom. However, fortunately for us all IFCO Fullbrook attended training and after her imparting her knowledge to the rest of the team we were starting to understand how to utilise the system, but some were and still remain more confident than others. It has been a good team effort in assisting each other with CLUE and there has been multiple scenes of multiple people around a single computer discussing the correct way to submit an intelligence report. However, I am pleased to report that now the team seems to be proficient and using the system well.

So, we now can all use the system, but has it been useful? The searching capabilities of CLUE is one of its key strengths with registers of people, vessels, vehicles etc. With a "global search" for example we can search a car registration and see everything that vehicle has been linked to within the system, which has been one of its many uses within the field so far. As more and more information is added to CLUE it will be a vital tool allowing us to access key information to help manage intelligence and offences.



## Behind the Scenes with the BST

*with Office Manager  
Maria Chaplin*



At the beginning of the year, I was tasked with re organizing the ground floor in the Offices at Holes Bay Park.

I have been working with independent contractors to refurbish the Officers' current kit room and in doing so create an extra office space. The new office space is being used for internal meetings and as an additional break out area for Working Groups.

I removed the free-standing shelving units and installed bespoke metal lockers 1800mm x 600mm comprising of a tall cabinet with a seat, these lockers provide the officers with more space for their kit and a separate space for their boots and wellies. I also installed a high hanging rail for the drysuits to be hung on.

I have also installed new furniture in the conference room and am currently working on refurbishment phase 3, the Officers Office space.





with Permitting Officer  
Jo Wilson

On 8th May 2024 I had the opportunity to attend the Solent Dredge Permit Byelaw 2023-24 Post Season Meeting.

Being able to put faces to names of the Permit Holders whom I have spoken to on the phone or communicated with via email and hearing their views on the Solent Fishery was an invaluable experience.

The meeting was held at a venue on the Camber Dock which allowed a view of some of the Permit Holders vessels, having only dealt with these as names on paperwork actually having the opportunity to see them was fascinating.

May also saw the launch of the Southern IFCA Online Permitting System, after months of hard work alongside IFCO Megan Fullbrook we were able to roll out the applications for Fishing for Sale Permits via the Permitting System.

Although challenging to convince some Fishers of the benefits of using an online system, the rollout went smoothly and we are now able to start developing the Poole Harbour Dredge Permit for online application.





**Annual Audit** – After the year end we prepared everything ready for our annual audit in June. This went really well and was completed over a couple of days with the auditor only coming into the office for one day.

**Fixed Asset Register** – We have been working really hard to clarify everything that needs to be included on the Southern IFCA FA Register. We have assigned where possible FA Stickers to equipment (for example survey equipment, IT equipment and compliance & enforcement equipment) so that we can now easily find it as and when needed, and also make reference to it on the FA Register.



**Xero** – We have moved over to a new accounting software, Xero, due to TAS now being unsupported. This hasn't been without its challenges but is up and running and is being used to process our accounting operations.



# Southern Inshore Fisheries and Conservation Authority

## OFFICER'S REPORT

### Meeting Dates 2025

Report by the Office Manager.

#### **A. Purpose of the Report**

Following consideration of the draft dates by Members in June 2024, this paper confirms these dates in addition to the location of Authority meetings for 2025.

#### **B. Recommendation**

a) That Members note the confirmed dates and locations.

#### **1. Background**

- 1.2 In accordance with Standing Orders (paragraph 2), the quarterly meeting of The Authority shall be held in the months of March, June, September (AGM) and December.
- 1.3 In accordance with Standing Orders (paragraph 22), the quarterly meeting of The Executive Sub-Committee shall be held in the months of March, June September and December.
- 1.4 In accordance with Standing Orders (paragraph 28), the quarterly meeting of The Technical Advisory Sub-Committee shall be held in the months of February, May, August and November (AGM).
- 1.5 In accordance with Standing Orders (paragraph 37), the quarterly meeting of The Audit and Governance Sub-Committee shall be held in the months of March, June, September and December.



# Southern Inshore Fisheries and Conservation Authority

## OFFICER'S REPORT

### SOUTHERN INSHORE FISHERIES & CONSERVATION AUTHORITY

#### CONFIRMED DATES FOR AUTHORITY MEETINGS 2025

<b>Technical Advisory Sub Committee</b>	6th February 2025
<b>Audit and Governance Sub-Committee</b> (virtual)	11 <sup>th</sup> March 2025
<b>Executive Sub-Committee</b> (virtual)	11 <sup>th</sup> March 2025
<b>The Authority</b>	13 <sup>th</sup> March 2025

<b>Technical Advisory Sub-Committee</b>	8 <sup>th</sup> May 2025
<b>Audit and Governance Sub-Committee</b> (virtual)	10 <sup>th</sup> June 2025
<b>Executive Sub Committee</b> (virtual)	10 <sup>th</sup> June 2025
<b>The Authority</b>	12 <sup>th</sup> June 2025

<b>Technical Advisory Sub-Committee (AGM)</b>	21 <sup>st</sup> August 2025
<b>Audit and Governance Sub-Committee</b> (virtual)	16 <sup>th</sup> September 2025
<b>Executive Sub-Committee</b> (virtual)	16 <sup>th</sup> September 2025
<b>The Authority (AGM)</b>	18 <sup>th</sup> September 2025

<b>Technical Advisory Sub-Committee</b>	6 <sup>th</sup> November 2025
<b>Scrutiny and Governance Sub-Committee</b> (virtual)	9 <sup>th</sup> December 2025
<b>Executive Sub-Committee</b> (virtual)	9 <sup>th</sup> December 2025
<b>The Authority</b>	11 <sup>th</sup> December 2025

The meeting of **The Authority** starts at 14:00 and will be held at various venues across the Southern IFCA District.

The Authority	13 <sup>th</sup> March 2025	<b>Best Western Royal Hotel, Dorchester DT1 1UP</b>
The Authority	12 <sup>th</sup> June 2025	<b>Winchester University, St Alphege 002, SO22 4NR</b>
The Authority	18 <sup>th</sup> September 2025	<b>Portsmouth/Southampton, location TBD</b>
The Authority	11 <sup>th</sup> December 2025	<b>Poole, location TBD</b>

The **Executive Sub-Committee** starts at 14:00 and is held virtually

The **Technical Advisory Sub Committee** starts at 14:00 and is held at the Southern IFCA Office

The **Audit & Governance Sub-Committee** starts at 10:00 and is held virtually

## Stakeholder Groups Paper For Information

*Report by DCO Birchenough*

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### **A. Purpose**

To inform Members of the activity undertaken by stakeholder groups; The South Coast Fishermen's Council, The Recreational Angling Sector Group and The Dorset, Hampshire and Isle of Wight Marine Conservation Group where minutes from these meetings are available.

### **B. Papers**

- Marked O – The South Coast Fishermen's Council Minutes – 24<sup>th</sup> April 2024
  - Marked P – The Recreational Angling Sector Group Minutes – 2<sup>nd</sup> September 2024
- 

### **1.0 Introduction**

- The Authority currently provides a secretariat role for the Recreational Angling Sector Group and also the Dorset, Hampshire and Isle of Wight Marine Conservation Group.
- The Authority has given a grant of £300 to the Fishermen's Council in this financial year.
- All three groups are offered free use of a room, at the Committee's office, for meetings. Meetings are held both virtually and in person as required.
- The South Coast Fishermen's Council meets quarterly, from 2024 both the Recreational Angling Sector Group and the Dorset, Hampshire and Isle of Wight Marine Conservation Group meet twice per year in Spring and Autumn.

### **2.0 Summary of Key Points**

- The minutes of The South Coast Fishermen's Council dated 24<sup>th</sup> April 2024 are presented to the Authority, Marked O, for Members' consideration to appraise them of the groups' business.
- The minutes of The Recreational Angling Sector Group dated 2<sup>nd</sup> September 2024 are presented to the Authority, Marked P, for Members' consideration to appraise them of the groups' business.
- There has not been a meeting of the Dorset, Hampshire and Isle of Wight Marine Conservation Group since the last Authority meeting. The next meeting for this group is scheduled for 17<sup>th</sup> September 2024, minutes will be provided at the December Authority meeting.

### **3.0 Next Steps**

- That Members note the report.

**SOUTH COAST FISHERMEN'S COUNCIL**

MINUTES OF THE 375<sup>th</sup> MEETING HELD VIA Teams AT 7.00PM ON  
WEDNESDAY 24<sup>th</sup> April 2024

PRESENT: P. Dadds - Mudeford & District FMA (Chairman)  
R. Stride - Mudeford & District FMA (Secretary)  
S. Postles - Lyme Regis FMA

I APOLOGIES: A. Bamfield, T. Russell, S Dell (SIFCA), R. Irish (MMO), Hayley Hamlett (Fish Mish).

The minutes of the 374<sup>th</sup> meeting held via Teams on 20<sup>th</sup> March 2024 were taken as read and it was agreed they should be signed as a true record.

**II ELECTION OF OFFICERS**

It was proposed by S. Postles that P. Dadds be Chairman, seconded by R Stride. All in favour. P Dadds proposed that T. Russell be Vice-Chairman, his agreement having previously been obtained, seconded by R. Stride. All in favour. P. Dadds proposed R. Stride be Secretary/Treasurer, seconded by T. Russell. All in favour

**III TREASURERS REPORT**

The treasurer reported on the balance of the two bank accounts maintained by the Council. It was intended, and had been agreed, that the accounts should be merged in order to save on bank charges. To achieve this the Training account would be closed and the balance transferred to the SCFC account. Cheque payments from the training account would be suspended so that all cheques issued could be paid prior to closing the account. Thereafter all payments could be made by bank transfer.

There were still some 2023 subscriptions outstanding.

It was proposed by P Dadds, seconded by S. Postles, that subscriptions for full (Association) membership remain at £75 and that associate membership (individuals) be set at £25. All in favour.

**IV APPLICATIONS FOR MEMBERSHIP**

There were no applications. The secretary had sent the agenda to parties who had recently expressed interest, but had not had a reply. The secretary was asked to write to those parties who had been receiving minutes, to inform them that they would no longer receive the minutes and to invite them to apply to join as association or individual members.

**V REGIONAL FISHERIES GROUPS****SW RFG (Area 7e)**

The SW RFG was due to meet on 12<sup>th</sup> April. None of the members present had been able to attend and no notes had been received.

### **South RFG (Area 7d).**

The date for the South RFG had yet to be announced. R Stride said that the last South RFG had been worthwhile, the quota presentation being particularly valuable and the discussion was good. Attendance by fishermen was increasing. He urged members to attend. Both RFGs were sending out email updates and these had been forwarded on to members.

## **VI FISHERIES MANAGEMENT PLANS**

There was nothing new to report. The Skates and Rays FMP was expected to go to consultation soon. R Stride stated that he had not been able to attend the 5<sup>th</sup> meeting of the working group as he had been fishing. The timing of meetings had not been helpful. The consultation would be an important opportunity to comment on the Plan. He reminded members also of the importance of keeping an eye out for the opportunity to participate in the Bass Management Group when it is set up.

## **VII MMO/ DEFRA MATTERS**

### **iVMS Rollout**

Members commented on the recent case where an over 12m Weymouth static gear vessel, which posed no particular enforcement risk, was prevented from going to sea by the MMO when its VMS failed. The owners had ordered and paid for a replacement but were not allowed to go to sea until it had been fitted. Fishermen had sought assurance from the MMO that provision would be made to avoid this very scenario with iVMS. In discussions with the MMO and others at RFG meetings and elsewhere, assurances had been given that cases such as this would be dealt with in "an appropriate and proportionate manner". R Stride felt that "appropriate and proportionate" should be written into the SI rather than leaving it at the discretion of officers. As nobody from the MMO had been able to attend the Council meetings recently, the next RFG meeting would be the next opportunity to bring the matter up.

### **FaSS Grants**

FaSS was still open. S Postles commented that with only a small amount of money and a restricted range of projects supported it was currently difficult to access grant funding.

## **VIII SOUTHERN IFCA MATTERS**

It was noted that the Pot Fishing bylaw and the Bottom Towed Fishing Gear Bylaw were still awaiting confirmation by the Secretary of State.

## **IX SOUTH COAST SEA FISHERIES TRAINING ASSOCIATION**

The secretary/treasurer recommended that the SCSFTA be a recurring agenda item for meetings. He informed the meeting that the association had provided grants to the total value of £3585 in the last 12 months, supporting 14 new entrants through their basic training courses. The bank balance stood at 23, 703.38 with some grants still to be paid.

Members discussed what other training, over and above the mandatory safety training, could be supported by the Association. S Postles said that he would like to be able offer a shorter, less onerous course for new entrants as an alternative to the 15 day Introduction to Fishing. He envisaged a 3 day course to include the mandatory sea survival course, but also cover safety drills and basic boat handling. The College could apply to the MMO for funding but would require 20% match funding, which the SCSFTA could provide. This would be a more efficient way of to get new entrants started in the industry.

R. Stride suggested that support could be provided to members or unaffiliated fishermen to attend the FITF events or for setting up associations. It was agreed that changes to the funding policy could be decided on at ordinary meetings, as they are all general meetings for which an agenda is circulated in advance. Any novel proposals for support could be considered on their merits in a timely manner.

#### **Training Update**

S. Postles told the meeting that no funding was currently available for any of the courses. There was an issue with some outstanding MMO finance that was holding up the resumption of funded training. Most, if not all, of the Approved Training Providers will have to pause training, which is a risk to their viability. Locally, only one 5-day engine and bridge watchkeeping course would run and then there were no further courses scheduled until September. Simon Potten was retiring from his post at Seafish Training.

#### VIII ARRANGEMENTS FOR MEETINGS IN 2024.

P Dadds explained that it was evident that Wednesday meetings were clashing with members' other commitments. In his case, they often clashed with his RNLi training evenings. The Secretary was asked to poll members as to their preferred day of the week with a view to rescheduling meetings to facilitate attendance.

In the meantime, the agreed dates are: 24<sup>th</sup> July, 11<sup>th</sup> September, 30<sup>th</sup> October, 11<sup>th</sup> December.

The secretary was also asked to look into the cost of subscribing to Teams or Zoom so as not to be dependent on other bodies to host the online meetings.

The Chairman thanked members for attending and the Secretary/Treasurer for his work.

Chairman

**Recreational Angling Sector Group Meeting Minutes – 02/09/2024 – 19:00****Virtual Meeting – MS Teams**

**Attendees: SIFCO Emily Condie, SIFCO David Mayne, Mike Spiller, Mal Thomas, Allan Green, Sam Cummings, Mike Bennett, Chris Holloway, Tim Ferrero**

- 1. Minutes of the previous meeting (18th April 2024)**
- 2. Introductions**
- 3. Southern IFCA Updates/Ongoing items**

Pot Fishing and Bottom Towed Fishing Gear Byelaw 2023

There are no further updates to provide since the last RASG meeting, both byelaws are within the MMO QA process.

Shore Gathering Workstreams

The review of Shore Gathering in the District has resulted in the drafting of the Shore Gathering Byelaw and the Southern IFCA Seaweed Harvesting Code of Conduct. The Byelaw and supporting documentation were provided to the Technical Advisory Committee at their meeting in August and have been agreed to go forwards to the Authority meeting in September, with Members deciding there whether or not to Make the Byelaw and submit it to the Secretary of State.

The Byelaw includes permanent and seasonal closures to shore gathering activities across the district and a code of conduct that is relevant to seaweed harvesting only. The closures align with the presence of sensitive bird species and seagrass habitats and allows Southern IFCA to meet its legal duties regarding MPA management (MCZs, SACs and SPAs). The Byelaw ensures that all activities including bait digging and shellfish collection are treated consistently. The Byelaw revokes a series of historical byelaws and makes amendments to the Fishing for Cockles byelaw.

If the Byelaw should be made in September, there will be a two-week period of formal consultation for stakeholders to input into.

Members raised concerns that anglers should be included in discussions surrounding shore gathering to prevent mistakes.

SIFCO Condie discussed the targeted engagement exercise which some members of the RASG group had been involved with.

Members raised concerns over limits to anglers on shore gathered sea fisheries resources.

SIFCO Condie reiterated the byelaw contains seasonal and permanent prohibition areas with no limits set on catch.

### Black Seabream

During the last meeting, it was mentioned that an exercise to quantify the potential impact of an initial iteration of draft measures for black seabream had been carried out. An information paper on this was taken to the Technical Advisory Committee in May who, in that meeting also resolved a recommendation from another paper to develop draft management measures for black seabream in the relevant Dorset MCZs with consideration of social, economic and environmental impact, in addition to all other material considerations. Members also resolved to develop a management matrix to support the Authority when considering material considerations vs draft management options in order to inform an appropriate decision-making process.

Members are working to draft management that considers all relevant material considerations in order to inform a proportionate approach.

### FMPs

There is slow progress with FMPs as a result of the General Election as the workstream needed to be paused during the pre-election period. Since the last meeting, MRAG, a consulting firm working on behalf of the MMO have requested data to gather evidence to inform the Wrasses Complex and Black Bream FMPs.

Members discussed concerns about commercial fishers being allowed to start taking undulate rays for the first time in 2024. The MMO released a variation allowing 200kg of Undulate Rays to be taken per trip with a quota of 2 tonnes per month in areas 7d and e.

Members discussed declines in ray species in Christchurch to Poole Bays. Historically catches have been 5 a trip, however, this has decreased to 1 ray in 12 trips. Anglers in Christchurch are no longer trying to target them.



Officers confirmed they have previously submitted reports on members' concerns and have seen similar from the MMO.

Members discussed concerns on trawlers, relevant management and enforcement. Members are concerned the current MCZs do not offer protection to ray species as they are rocky and that MCZs should be designated to match those of Dolphin Bank.

#### Compliance Updates

- 19<sup>th</sup> June and 17<sup>th</sup> July – Officers worked with police on Bournemouth and Boscombe Piers, they spoke to approximately 50 anglers, no offences were detected, and officers were well received. There have been no reports since of illegal fishing.
- Officers have carried out a high number of engagement and educational patrols with anglers.
- Officers carried out patrols with Hampshire police in the summer looking at vessels of interest.
- Hand gathering patrols in Poole and Hill Head are ongoing.
- Minor incursions in the Poole Harbour Dredge Permit Fishery since it commenced in May.
- Undersized fish retained in Langstone Harbour – enquiries ongoing.
- Undersized bass in Poole Harbour Nursery Area – Official Warning Letters x3 were issued.
- Recent failure to comply offence – ongoing work with police.
- Netting around one of the yacht clubs around Poole – enquiries ongoing.
- Upcoming court case for the Poole Harbour Dredge Permit fishery

Members discussed the Net Fishing Byelaw and ring netting definition as well as the impacts of netting on the Whitley Lake seagrass bed.

#### **4. Additional Requested Items**

None.

#### **5. Any Other Business**

##### CEFAS Sea Angling Participation Report

CEFAS have published a report on modelled estimates of the participation, catch and economic impact of recreational sea angling taken from the Sea Angling Diary Project

in the UK from 2016 onwards. The report can be found on the CEFAS website and is very detailed.

#### Meeting frequency

At the meeting Members agreed to move to a two-yearly meeting rota due to slow updates and low numbers of attendees. If updates begin to increase, returning to quarterly meetings can be considered.

Following the meeting correspondence was received that Members have reached a consensus that they would prefer 3 meetings per year. This has been agreed for 2025 initially with a suggestion of a meeting in early spring, summer and late autumn, a determination will be made as to whether this is an appropriate meeting schedule during the course of the year.

#### Recreational Pollack Fishery

A Member asked if the recreational pollack fishery was likely to be limited next year. Officers did not have any information on this fishery for 2025 at the time of the meeting.

# Southern Inshore Fisheries and Conservation Authority

## OFFICER'S REPORT

Marked Q

### AIFCA DRAFT ANNUAL REPORT 2023-2024

#### A. Purpose of the Report

To receive the draft AIFCA Annual Report for the year April 2023 to March 2024, noting the achievements of the AIFCA over the last 12 months. The following report was prepared by Rob Clark and presented to the AIFCA Forum on the 3<sup>rd</sup> September 2024.

#### B. Recommendation

1. That Members consider and provide comment on the AIFCA Annual Report that can be fed back to Rob Clark, AIFCA.

## The AIFCA Draft Annual Report

### 1. Purpose

This draft Delivery Report (appendix 1) details the actions and activities that the AIFCA undertook to deliver the outcomes set out in our Business Plan. This draft annual delivery report sets out the specific actions against the priorities set out in the Business Plan. Members are asked to consider the report and the activities of the AIFCA for the reporting period.

### 2. Recommendations

- a) that members NOTE and APPROVE the Annual Delivery Report

### 3. Background

#### Format

- 1.1 Our Annual Delivery Report, mirrors our annual plan and is set out over our four overarching themes, which are:
  - 1.1.1 *National Voice of IFCAs ~ promoting IFCAs value* - We campaign to influence the agenda and secure funding and powers on behalf of IFCAs and we promote and defend the reputation of effective inshore management
  - 1.1.2 *Supporting IFCAs ~ making a difference* - We support IFCAs to deliver better fisheries management & conservation outcomes, to continuously improve and innovate. Through our programme of practical peer-based support, led by strong local leadership, our support for collaboration & collective actions we add value through our service delivery partnerships.
  - 1.1.3 *An Effective Forum ~ driving collaboration* - We provide an effective forum to ensure communication and dialogue between IFCAs and partners to underpin all our work. The AIFCA supports local leadership and innovation in inshore fisheries management.
  - 1.1.4 *Our business ~ delivering value* - The AIFCA work on behalf of IFCAs is an efficient, cost effective and forward-thinking business; we are membership led, committed to equalities and diversity and we aim to operate in an environmentally and financially sustainable way.
- 1.2 This delivery report is set out to provide an outline of the activities we undertook, the scope of those activities is described in summary as well as an indication of the progress we made according to a Red Amber Green, or RAG assessment. The following key is used to indicate the status of the planned project or programme and an explanatory note used to describe the progress.

# Southern Inshore Fisheries and Conservation Authority

## OFFICER'S REPORT

	Completed
	Partially complete or ongoing
	Incomplete or not substantially achieved

- 1.3 The format of the tables is designed to provide an overview of the activity, an 'indicator' i.e., what the outcome looked like and how, where appropriate, it is measured and or reported / reported.

### Summary

- 2.0 The Annual Plan for this period was ambitious and I am pleased to report that the AIFCA has achieved its key milestones. This year's annual report demonstrates the continuing progress of the AIFCA. Under the guidance and leadership of the AIFCA Members Forum the organisation has transformed delivering real value for its members. The wider picture of a changing political climate, as well as substantial policy changes, has meant that the role of the AIFCA is more important than ever. The AIFCA ensures that the IFCA's voice is heard at a national level.
- 2.1 The AIFCA officers continue to work hard to ensure that the IFCAs are supportive and that we engage effectively with our national partners. The AIFCA worked closely with Defra, with support from the Chief Officers Group, and successfully coordinated and submitted the IFCAs SR21 submission to Defra. Collectively we secured a revenue support uplift of £1.5million per annum in spending review period equating to £4.5million in Spending Review period. This included targeted support for: Marine Protected Areas Management, Marine Planning and Licensing, and the important Fisheries Management Plans.
- 2.2 Moreover, again with the support of Defra, the IFCAs received capital funding for vessel replacement in accordance with agreed distribution of those funds over the 2021 SR period. The value of this additional funding is c.£1.5 million. The much-needed funding was essential as it replaces the prior gap in IFCA funding for capital.
- 2.3 In the year we developed the national "cockle" fisheries management plan and led the IFCA engagement with marine Natural Capital Ecosystem Assessment. These novel programmes have effectively engaged the regional IFCAs in the process.
- 2.4 By working with our colleagues in the Marine Management Organisation we have continued to support and improve the IFCAs members recruitment and appointment process. During the reporting period, in national first, the AIFCA, in partnership with the Institute of Fisheries Management, we hosted a series of on-line events which provided IFCA members an opportunity to share best practice and learn from respected practitioners in key areas of their work, this included; IFCAs and decision making, marine planning, the marine Natural Capital Ecosystem Assessment process.
- 2.5 Working with Kent and Essex IFCA the AIFCA delivered a national conference in Poole that brought together key decision makers from around the country to discuss and develop the IFCAs response to the front runner fisheries management plan consultation. The IFCA members and officers were able to share their experience and insights and as a result the conference provided a unique and valuable opportunity to collaborate in the development of a comprehensive review of the consultation. The resultant response significantly shaped the published plans, supported collaboration across the IFCAs and a made a real difference to the FMP process.



# AIFCA

## Annual Delivery Report 2023 to 2024



We are the national voice of IFCAs working with committees to support, promote and improve

# Introduction

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This Delivery Report details the actions and activities of the AIFCA in 2023-2024 which deliver the outcomes set out in our [Annual Delivery Plan](#).

Our Annual Delivery Plan was set out over our four strategic themes, which are:



The AIFCA [Annual Delivery Plan](#), to which this report relates, provided an outline of planned activities for the year, the scope of those activities was developed further through project briefs and AIFCA members engaged in that process, through our [governance structures](#).

The tables used in this report, where appropriate mirror those used in the plan and they are designed to provide an overview of the activity and the outcome of the work.

The following key is used to indicate the status of the planned project or programme and an explanatory note used to describe the progress.

Completed
Partially complete or ongoing
Incomplete or not substantially achieved

# Foreword

I am pleased to present the AIFCA Annual Delivery Report for 2023/24. The Annual Plan for this period was ambitious and I am pleased to report that the AIFCA has achieved its key milestones. This year's annual report demonstrates the continuing progress of the AIFCA. Under the guidance and leadership of the AIFCA Members Forum and Directors, the organisation has transformed and is delivering value for its Members. The wider picture of a changing political climate, as well as substantial policy changes, has meant that the role of the AIFCA is more important than ever. The AIFCA ensures that the IFCA's voice is heard at a national level.

The AIFCA officers continue to work hard to ensure that the IFCA's are supportive and that we engage effectively with our national partners. The AIFCA worked closely with Defra, with support from the Chief Officers Group, and successfully coordinated the IFCA's Spending Review programme. Collectively we secured a revenue support uplift of £1.5million per annum in spending review period. This included targeted support for: Marine Protected Areas Management, Marine Planning and Licensing, and the important Fisheries Management Plans.

The AIFCA led the development of capital support for the IFCA's. With the support of Defra, the IFCA's received capital funding for vessel replacement in accordance with agreed distribution of those funds over the 2021 SR period. The value of this additional funding is c.£1.5 million. The much-needed funding was essential as it replaces the prior gap in IFCA funding for this purpose. It is great to see these assets coming into service to support the management of the inshore fleet.

In the year we developed the national "cockle" fisheries management plan and led the IFCA engagement with marine Natural Capital Ecosystem Assessment. These novel programmes have effectively engaged the regional IFCA's in the process.

By working with our colleagues in the Marine Management Organisation we have continued to support and improve the IFCA's members recruitment and appointment process. During the reporting period the AIFCA, in partnership with the Institute of Fisheries Management, we hosted a series of on-line events which provided IFCA members an opportunity to share best practice and learn from respected practitioners in key areas of their work, this included; IFCA's and decision making, marine planning, the marine Natural Capital Ecosystem Assessment process.

Working with Kent and Essex IFCA the AIFCA delivered a national conference in Poole that brought together key decision makers from around the country to discuss and develop the IFCA's response to the front runner fisheries management plan consultation. The IFCA members and officers were able to share their experience and knowledge. The resultant response significantly shaped the published plans, supported collaboration across the IFCA's, and a made a real difference to the FMP process.

We welcome new Members of the AIFCA and are very grateful that several highly experienced appointees have renewed their tenures. I would like to thank all the staff, as well as all our Authority Members for their support and commitment throughout a very busy year.

Tony Tomlinson MBE







# National Voice of IFCA's ~ promoting IFCA's value

**We campaign to influence the agenda and secure funding and powers on behalf of IFCA's and we promote and defend the reputation of effective inshore management**

## Funding for IFCA's

Fair and sustainable funding enables IFCA's to plan and deliver essential public services beyond the short term, to raise more funds locally and to promote greater collective working across local public services.

Activity	Outcomes	Status
<b>Project Funding</b> Develop funding bids, aligned to IFCA needs, to support collective actions	The AIFCA submitted bids and was successful in securing funding for the following projects and programmes: <ul style="list-style-type: none"> <li>• The development of the Cockle Fisheries Management Plan</li> <li>• The IFCA component of the Coastal Health Livelihoods &amp; Environment: Shared Outcome Bid</li> <li>• Marine Natural Capital &amp; Ecosystems Assessment</li> </ul> See text box 1 below.	
<b>Spending Review</b> Coordinate the delivery SR21 submission & response through an IFCA's 'Monitoring and Assurance Programme'	The AIFCA worked closely with Defra, with support from the Chief Officers Group, and successfully coordinated and submitted the IFCA's SR21 submission to Defra, the submission was described as one of the most comprehensive and detailed submissions and was accepted in full to include both revenue support and capital support for the IFCA's. We secured a revenue support uplift of £1.5million per annum in spending review period equating to £4.5million in Spending Review period. This included targeted support for: Marine Protected Areas Management Marine Spatial Prioritisation Fisheries Management Plans	
<b>Natural Capital</b> IFCA's are funded to participate in the mNCEA	The AIFCA (with support from Sussex IFCA as the project officer host) successfully secured a continuation in funding and support for the IFCA's as part of the mNCEA programme (see text box below)	
<b>FMP led Cockle FMP</b> Where the IFCA's agree to lead the development of a Fisheries Management Plan that they are appropriately funded to do so	The AIFCA led the development of Cockle FMP and the AIFCA supported collaborative action, engagement and communications (see text box below)	
<b>New Burdens</b>	The AIFCA worked closely with the Defra team to successfully make the case to secure the continuation of the c.£3million "new burdens" grant to IFCA's 2021 to 2025	

Produce a policy paper on New Burdens and IFCA funding and advocate for a better understanding of the funding challenges for the IFCA's.		
<b>Reform of the s.31 Grant allocation</b> Support and inform the reform of the s.31 Grant allocation to IFCA's to ensure that the IFCA's are adequately funded through the appropriate funding mechanism	The AIFCA led engagement with the reform of the s.31 Grant funding programme, the work however was put on hold due to wider government changes.	
<b>Capital Funding</b> To lead the coordination of the capital funding for IFCA's to ensure that a relevant proportion of IFCA capital needs are allocated through national routes	The IFCA's received capital funding for vessel replacement in accordance with agreed distribution of those funds over the 2021 SR period. The value of this additional funding is c.£1.5 million. The much needed funding was essential as it replaces the prior gap in IFCA funding for capital.	

### 1. Coastal Health Livelihoods & Environment: Shared Outcome Bid – Externally Funded

The programme aims to determine a minimum but sufficiently comprehensive ongoing coastal monitoring framework that can operate routinely and country-wide after the pilot programme period, resulting in the ability to:

1. Ensure government responds quickly, effectively, and robustly to adverse marine events (for example mass mortalities of marine animals and impacts of pollution and microbiological contamination effects on human health) to minimise ecological and economic damage, communicating in a consistent 'one government' manner to stakeholders.
2. Improve our understanding of the health of the coastal ecosystem to:
  - a. Better predict adverse events and understand multi-factorial or gradual processes to proactively protect coastal communities.
  - b. Put in place effective management and remediation measures to improve environmental quality to reduce the likelihood of adverse events to minimise the impact to coastal communities.

Achieving these objectives requires determination of which data types are necessary to better understand and predict adverse marine events, defining how these data should be collected, and how they should be analysed, curated, and made accessible. This necessitates mutual agreement of diverse government and non-government bodies and stakeholders, defining their respective roles, workflows, and how information and data are shared.

Because of the success of the bid the AIFCA is asked to co-ordinate the IFCA's delivery of the programme, working in partnership with the IFCA's, so as to enhance and develop our role in supporting an effective response to adverse marine events.

### 1. Marine Natural Capital and Ecosystem Assessment Programme – Externally Funded

The marine Natural Capital and Ecosystem Assessment (mNCEA) programme will provide a robust evidence-base, suite of tools and a framework where ecological, societal, and economic information is brought together to improve our understanding of the complex trade-offs faced in the sustainable use of the marine environment. The AIFCA is working with the Defra team to ensure that the IFCA's are full participants in the marine component of Defra's flagship programme. The AIFCA receives funding for a Senior Technical Officer to undertake the engagement, and Sussex IFCA hosts the role. The key activities undertaken included:

Identifying and developing the role of IFCAs in Year 2 of the national marine Natural Capital Ecosystem Assessment (mNCEA) Programme  
Leading and coordinating IFCA engagement in Year 2 of the national marine Natural Capital Ecosystem Assessment (mNCEA) Programme  
Coordinating an IFCA mNCEA Steering Group to support engagement in the mNCEA Programme  
Developing mNCEA Programme activities to support the needs and to deliver resources for IFCAs  
Integrating IFCAs into Year 3 of the national marine Natural Capital Ecosystem Assessment (mNCEA) Programme  
Developing the understanding of the mNCEA approach within IFCAs

**1. AIFCA led Cockle Fisheries Management Plan (FMP)**

The AIFCA led the production of a draft English Cockle FMP including information on how fisheries are currently managed and wider policy considerations, identification of shared objectives and national management measures where appropriate.

The AIFCA consulted industry and wider stakeholders on draft objectives and management measures and ensure feedback and input received is registered, considered, and incorporated into the FMP.

We established monitoring and reporting mechanisms for those IFCAs with significant fisheries to demonstrate, provide a framework for other IFCA regions to follow, should significant new fisheries develop in the future.

We Developed working relationships between Defra policy colleagues, regional IFCA staff and IFCA Authority members working towards a partnership approach and sharing of responsibilities.

## Local communities at the heart of decisions

IFCAs locally accountable decision making ensures that local communities are at the heart of fisheries and conservation decision making. The AIFCA supports members and promotes awareness of fisheries and their management, to develop and promote integration with the work of local government and others in regional planning.

Activity	Indicator	Status
<b>Members Appointments</b> Lead engagement, with Defra and MMO on IFCA membership recruitment & appointments process	The IFCA membership process continued to improve to meet the needs of the IFCAs duties. Through effective engagement with the MMO & Defra the appointment process has developed to ensure that the existing members are better supported at the end of the terms of appointment to re-apply where appropriate, that the needs of the IFCAs are heard when the balance of appointments is considered. This process has been transformed and is working.	
<b>Members Induction</b> Work with the MMO / Defra to support members induction and roles and responsibilities	The AIFCA hosted a series of on-line events which provided IFCA members an opportunity to share best practice and learn from respected practitioners in key areas of their work, this included; IFCAs and decision making, marine planning, the marine Natural Capital Ecosystem Assessment process.	
<b>Work with Local Authorities</b> Promote IFCAs through Local Government Association Coastal Special Interest Group.	The AIFCA attended and supported the Local Government Association Special Interest Group an presented to that group on the role of the IFCAs and the Fisheries Act.	
<b>Quadrennial Review</b> AIFCA develops a comprehensive response to the IFCAs Quadrennial review call for evidence. The AIFCA responds in full and promotes it response to the review picking up the key findings and highlighting opportunities which emerge from that process.	The AIFCA responded to the Quadrennial Review of IFCAs. The report is still in production and therefore we are not yet able to provide AIFCA reports on actions identified from the Quadrennial Report.	

## Sustainable inshore fisheries management

IFCAs have a strong and effective voice in ensuring that a system of world leading inshore fisheries and conservation management enables coastal communities to prosper and our coastal waters are protected effectively.

Activity	Indicator	Status
Ensure that the IFCAs role and contribution to FMPs recognises the work of the IFCA and the IFCAs are engaged with Defra and other ALBs in development of FMPs	The engagement with Defra with the development of the FMPs has, from the outset, faced a number of challenges, at conception and development the fisheries and conservation management landscape has been presented a challenge to the implementation of FMPs. Notwithstanding the IFCAs are engaged in the FMP process	

	and have made significant progress in ensuring that their role is integrated and well understood. Significantly the AIFCA represents the IFCA's on the FMP programme board and the various subgroups. The IFCA's are coordinated through the Chief Officers Group and the work of the AIFCA Senior Policy Officer to ensure that the IFCA's are represented in the development of the Fisheries Management Plans themselves. In a process supported by Kent and Essex IFCA the IFCA's have developed a close and important strengthened relationship with the Marine Management Organisation, as the FMP process progresses from policy development phases to policy implementation phases.	
<b>IFCA conference</b> Working with Kent and Essex IFCA, host a IFCA national IFCA FMP response conference / workshop	Working with Kent and Essex IFCA the AIFCA supported a national conference in Poole that brought together key decision makers from around the country to discuss and develop the IFCA's response to the front runner fisheries management plan consultation. The IFCA members and officers were consequently able to share their experience and insights and as a result the conference provided a unique and valuable opportunity to collaborate in the development of a comprehensive review of the consultation. The resultant response significantly shaped the published plans, supported collaboration across the IFCA's and a made a real difference to the FMP process.	
<b>National Forum Representation</b> Represent IFCA on national fisheries fora	The AIFCA represented the IFCA's a numerous national conferences providing the opportunity to raise awareness of the important work of the IFCA's. For example the IFCA's sponsored and presented at Coastal Futures, the Fishing Into the Future workshops and the Coastal Restoration conferences.	
<b>MNCEA – Externally Funded</b> IFCA's are engaged and fully participate in the mNCEA programme	See "Project Detail above"	
<b>Cockle FMP</b> Working with a host IFCA the AIFCA supports, facilitates and coordinates the development of a Cockle FMP. The AIFCA facilitates and engages in the development of the Cockle Fisheries Management Plans, and where appropriate leads specific work packages.	See project detail above. Noting that the AIFCA managed and delivered the Cockle FMP itself (whereas at the time of developing the annual plan it was envisaged that it would act in a supporting role). The project milestones were met in accordance with an agreed project management plan. It is of note that, due to wider changes in national government, the draft plan (along with the other plans in this stage) is awaiting publication.	

## Building and Nurturing relationships

The AIFCA maintains effective relationships with key stakeholders, to learn not only their perspective, to gather insights on issue and seek solutions, but also to aid effective decision making, to build trust, to drive efficiencies, to manage risks and to ensure accountability.

Activity	Indicator	Status
<b>Engage with Stakeholders</b> <i>Hold regular meetings with key stakeholders</i>	The AIFCA developed on its existing series of regular meetings with key stakeholders such as the Angling Trust and the SAGB to include NFFO and NUTFA	
<b>Report Insights</b> <i>Report stakeholder insights to members</i>	The AIFCA members forum was held in accordance with the standing orders and members supported the AIFCA through their participation and direction.	
<b>IFCA MoUs</b> <i>To refresh the IFCA Mou's with ALB partners</i>	The MoUs are no longer being supported as a routine way of working between Arms Length Bodies (ALB's) and therefore no specific progress is reported in this Notwithstanding there has been a significant improvement in the engagement with Defra and the MMO. Further work is necessary to ensure national representation and engagement with other ALBs is established.	

### Promotion and Awareness

IFCAs deliver! The AIFCA communicates widely to provide information about the work and services of IFCAs. We promote the organisations, handle enquiries about the IFCAs and advertise the organisations.

Activity	Indicator	Status
<b>News Releases</b> Produce regular IFCA stories for relevant press and media outlets	The AIFCA produced regular press releases including in the national media.	
<b>Newsletter</b> Produce regular briefings <ul style="list-style-type: none"> <li>- To provide the opportunity to advertise for vacancies</li> <li>- To publicise byelaws</li> <li>- To celebrate success stories and share best practice widely.</li> </ul>	We produced a series of updates, primarily through the AIFCA website. We also collaborated with Kent and Essex IFCA in the production of a video that describes the work of the AIFCA. We updated the AIFCA website with details of the work of the IFCAs, including insights into how our actions support coastal communities and the protection of the marine environment. Resourcing for further professional support was not available and consequently further development in this area of the organisation would benefit the IFCAs and our objectives.	
<b>Website</b> Refreshed AIFCA website is kept up to date and is the go-to place for national news on IFCAs.	The AIFCA website was kept up to date and refreshed regularly.	



## Supporting IFCA's ~ making a difference

We support IFCA's to deliver better fisheries management & conservation outcomes, to continuously improve and innovate. Through our programme of practical peer-based support, led by strong local leadership, our support for collaboration & collective actions we add value through our service delivery partnerships.

### Reform of fisheries management

IFCA's will secure the many opportunities which emerge because of the UK's exit from the CFP. The IFCA's will support the implementation of the Fisheries Act 2020 so that the benefits are realised for coastal communities in England.

Activity	Indicator	Status
<b>FMPs</b> Work to promote and engage Defra and other ALBs in development of FMPs	IFCA's are engaged in the FMP process and the work of the IFCA's is reflected in the FMP programme. The AIFCA worked to integrate IFCA management processes/highlight opportunities for regulatory harmonisation and reasons for divergence in the development of FMPs. Whilst further work in this area is necessary and will be beneficial, for the reporting period significant progress was made.	
<b>FMP Delivery</b> Engage in the development of JFS / FMPs to ensure delivery is aligned to policy	As the FMP programme develops from a policy phase to an implementation phase there is greater awareness and recognition of the role of the IFCA's and IFCA's have had an increasing role in informing the development of FMPs because of the work of the AIFCA.	
Support delivery of the Cockle FMP, leading on branding and communications.	The AIFCA led Cockle FMP programme achieved its milestones	

### Training

IFCA staff are trained and professional. The AIFCA provides training leadership, direction and supports the IFCA's to coordinate and respond to the needs of the IFCA's and their partners.

Activity	Indicator	Status
<b>Develop Training - SR21 Externally Funded</b> Support identification and costs of delivery routes for enforcement training	The AIFCA engaged with and supported the IFCA training provision and needs and supported the emerging developments in these areas, including making the case for funding in this area. The transformation of the arrangements and the costs are being delivered	



	through the IFCA COG and the training group. Further work is ongoing in this area and is led by the COG and Training Group.	
<b>Accredited Training</b> Work with partner organisation(s) to develop accredited Marine Fisheries Management training	The AIFCA worked with the IFM to support their training offer. Changes in the format of the training and personal have delayed the delivery of the programme. Further work is ongoing in this area and materials have been developed which can be repurposed as a delivery mechanism develops.	

### Leading collective action

The AIFCA support IFCAs to mount collective actions where we believe they have a compelling case, commissioning expert legal advice and sources of funding where appropriate.

The AIFCA will prepare New Burdens submissions on behalf of the IFCAs where new legislation or regulations result in additional duties or costs to councils.

Activity	Indicator	Status
<b>Monitoring and Assurance</b> Lead the IFCAs 'Monitoring and Assurance Programme'	The AIFCA worked with Defra to develop and communicate the indicators for the delivery. We reported on the current systems of reporting and the network through which the IFCAs report. We consolidated the reporting on Fisheries Management Plans and worked to support ways of monitoring and assurance in this area. We supported the ongoing collection and provided a framework for Marine Protected Area reporting, and we shared information on the ongoing reporting of compliance and enforcement data. Further work is necessary and ongoing in this area as shared indicators are developed and the programmes develop an articulation of their needs.	
<b>Respond to issues effectively.</b> Co-ordinate collective responses to emergent issues raised by members	The AIFCA responded to national consultations and supported the development of national responses, including as they relate to the IFCAs conduct and operations report, the development draft Fisheries Management Plans and through the work on the Coastal Health and Livelihoods project we have engage in the systems of reporting for marine incidents.	

## Benchmarking and Performance

The AIFCA coordinates the monitoring of nationally agreed standards and metrics to demonstrate the effective delivery of the IFCA's and which communicate the collective activity of the IFCA's against, amongst other things, national marine fisheries, and conservation targets.

Activity	Indicator	Status
<b>Performance Indicators</b> Lead and support the implementation of performance indicators	At the beginning of the year, as per the plan, we set out to develop an agreed set of metrics with Defra. As part of that process, we collated the existing reporting methodology and shared that with national colleagues. As part of that work, we mapped the reporting lines. Following this collation exercise it was agreed that the current reporting system was sufficient to meet the reporting needs, and that the sharing of the reporting structures supported the ongoing work on the development of national performance indicators. Furthermore, we worked with national colleagues in emerging systems of reporting in the Fisheries Management Plan programme system. As further work is ongoing in this area the status has been ranked accordingly	
<b>Social Science Programme – SR21 Externally Funded</b> Deliver a project to support the development of a framework to demonstrate performance.	We worked with Defra on the development of national social science frameworks. This has resulted in the development of pilot measures to support the development of indicators in this area. The AIFCA also commissioned Newcastle University to develop the IFCA Stories project this programme was extended into FY 24/5 following a short extension to the project. As this programme is yet to report further work is ongoing.	

## Develop Joint Projects

The AIFCA will identify, deliver, and participate in relevant joint projects to increase capacity, access to new knowledge and expertise and access greater resources

Activity	Indicator	Status
<b>Joint Projects</b> <i>Develop project(s) to support innovative policy development</i>	The Cockle Fisheries Management Plan, the work associated with the marine Natural Capital Ecosystems Assessment, the development of Coastal Health and Livelihoods Programme substantially developed the role of the IFCA's in wider national policy and supported the wider objectives of the members.	



## An Effective Forum ~ driving collaboration

We provide an effective forum to ensure communication and dialogue between IFCAs and partners to underpin all our work. The AIFCA supports local leadership and innovation in inshore fisheries management.

### Regular Engagement

The AIFCA provide a forum for the development of national strategy, the sharing and promulgation of ideas as well as providing a space to identify opportunities and solve collective issues. AIFCA meetings and conferences are well attended and supported by IFCA members.

Activity	Indicator	Status
Attend IFCA meetings	The AIFCA was represented and attended the meetings of four IFCA in the year.	
Members forum held quarterly	The Association held meetings in accordance with standing orders. We hosted a mixture of online and in person meetings. The meetings were well attended, and members made a meaningful contribution to the governance and direction of the AIFCA. The minutes are published on AIFCA website	
Director's meetings held	Minutes produced in accordance with standing orders	

### Joint positions statements

The AIFCA provides a forum which identifies where it is necessary to develop collective positions. The work of the members, through joint position statements, is to set the direction on national policy and issues of collective benefit to all IFCAs, as well as the management of and sustainable inshore fisheries and conservation”

Activity	Indicator	Status
<b>Joint Positions Statements</b> Position statements on key IFCA work areas.	The AIFCA developed joint statements and policy support, where appropriate we published these on our website, including on <a href="#">marine protected areas</a> and <a href="#">aquaculture</a> . One aspect of this included the support provided by the IFCA Law Group and the work led by Dr Emma Bean who lead the delivery of the role of IFCAs in decision making paper.	

## Briefings

The AIFCA provides regular briefings to members to enable a collective understanding of issues and opportunities.

Activity	Indicator	Status
<b>Policy Updates</b> Produce regular updates and briefings on Defra national initiatives	The AIFCA represented the IFCA on national policy delivery forums including the Marine Protected Area Programme Board, the Fisheries Management Plan Programme Board, the Highly Protected Area Programme Board.	
<b>AIFCA Briefings – Externally Funded</b> Provide briefing meetings to inform members of key policy development areas, allowing specialist expertise from membership to be considered in policy development	The AIFCA held a series of members briefings meeting to provide the IFCA members and officers the opportunity to a) learn from recognised experts in marine and fisheries policy relevant to their role as a member of the IFCA and b) share their knowledge skills and experience to support and enrich their role as a member and to share best practice. We contracted the IFM, to facilitate these “Virtual Briefings”, via “Zoom”. We developed a calendar of briefing events, and liaised with some brilliant speakers and chairs to facilitate the delivery of the events, Whilst the project is substantially complete, as per the project specifications we are finalising the last event and making the materials available to members.	

## Support to IFCA members and national groups

The AIFCA provides advice and information to members and to IFCA national groups, maintaining regular engagement and sign-posting information to support resilience, collaboration and driving a coordinated approach which respects local diversity.

Activity	Indicator	Status
<b>Members Forum</b> Quarterly members update	The AIFCA members Forum met regularly and developed national programmes of delivery and oversaw the running of the organisations.	
<b>Working Groups</b> Attend COG / NIMEG (National Inshore Fisheries Enforcement Group) / TAG	The AIFCA attended and supported the IFCA working Groups	
<b>Defra Engagement</b> Defra AIFCA quarterly meetings	The AIFCA agenda reflected IFCA priorities, and the forum provided an opportunity for the IFCA to share knowledge and identify emerging themes.	
<b>Law Group</b> Create an AIFCA "Law Group" to develop an IFCA Community of Practice to facilitate legal advice on topics relevant to the IFCA community	An AIFCA Law Group was formed and constituted. The Group was chaired by prof Mike Williams with members from Devon and Severn IFCA and Southern IFCA, as well as an external practicing solicitor. Dr Emma Bean led the development and dissemination of a note for IFCA on their Decision making.	

<p><b>Stakeholder Groups</b> AIFCA to hold meetings with key stakeholder groups to ensure effective communication</p>	<p>The AIFCA regularly met with national non-governmental organisations, including representative organisations from the fishing industry, the angling community and the environmental charities.</p>	
<p><b>National Incidents Policy</b> Provide National Major Incidents Policy</p>	<p>The AIFCA is a partner in the Coastal Livelihoods and Health project, led by CEFAS; the project aims to develop systems for reporting and responding to marine incidents of unknown origin.</p>	
<p><b>Members Support – Project Cost - Externally Funded</b> The AIFCA supports a travel grant scheme for one member from each IFCA to attend a national conference on coastal and fisheries management to provide a greater awareness of national issues for new or existing members.</p>	<p>The AIFCA sponsored the Coastal Futures conference and, in a change from the original plan, we were able to partner with Kent and Essex IFCA to deliver a project where officers and members of the IFCA's, from around the country, collaborated to develop a national response to the front runner Fisheries Management Plans. Attendance at national conference. The conference was able to substantially develop our collective engagement and understanding of the FMP process.</p>	



## Our business ~ delivering value

The AIFCA work on behalf of IFCAs is an efficient, cost effective and forward-thinking business; we are membership led, committed to equalities and diversity and we aim to operate in an environmentally and financially sustainable way.

### Internal policies and procedures

The AIFCAs structure & internal policies establish the framework through which we deliver our business and serve the IFCAs. Working well they support our delivery and exist in the background, as a source of reference and direction, serving to ensure that the AIFCA is open, transparent, accountable. Through regular review our policies and procedures enable us to make effective decisions on behalf of its members.

Activity	Indicator	Status
<b>AIFCA Governance</b> The AIFCA has appropriate policies in place, and they are reviewed	Policies were reviewed, updated and appropriate additions made.	
<b>Risk Management</b> Risk Management for agreed risks	A risk management system is agreed	

### Annual planning process

Whilst this business plan sets out the general scope of the AIFCA's work the annual delivery plans set out specific actions against the priorities herein identified. The annual planning process enables members to shape the activities of the organisation and monitor progress against the business plan. The planning process includes regular feedback as well as quarterly & annual reporting frameworks.

Activity	Indicator	Status
<b>Annual Plan</b> Annual Delivery Plan produced	Annual Plan agreed	
<b>Annual Report</b> Annual Delivery report produced	Annual report produced	

## Financial control and planning

The AIFCA is funded by the IFCAs which in turn are funded by the public. The highest standards of financial control are necessary to ensure that the AIFCA maintains and monitors financial control through effective business planning and effective oversight. The AIFCA, acting as a coordinator and convenor of projects, develops additional resources to support its members.

Activity	Indicator	Status
<b>Budget Control</b> Quarterly Budget Control statements produced	Statements produced and reviewed to reflect feedback from members	
<b>Annual Accounts</b> Annual Accounts	Annual Accounts were approved and posted to companies house.	

## Performance monitoring

The performance of the AIFCA will continuously improve when it does excellent work that aligns to the business objectives. The AIFCA will do excellent work through establishing agreed and a shared direction. The AIFCA and members know what is expected and receive helpful feedback and critical resources through an effective feedback system.

Activity	Indicator	Status
<b>Risk Management</b> Risk register review	Risk register reviewed	
<b>Stakeholder Feedback</b> Establish members feedback mechanism	Feedback received and incorporated into the Newcastle University work	