



14th EIFCA Meeting

To be held at:

**The Boathouse Business Centre
1 Harbour Square, Nene Parade, Wisbech PE13 3BH**

**4th June 2014
1030 hours**

Meeting: 14th Eastern IFCA Meeting
Date: 4 June 2014
Time: 10:30hrs
Venue: The Boathouse Business Centre,
1 Harbour Square, Nene Parade,
Wisbech, Cambridgeshire, PE13 3BH



"Eastern Inshore Fisheries and Conservation Authority will lead, champion and manage a sustainable marine environment and inshore fisheries, by successfully securing the right balance between social, environmental and economic benefits to ensure healthy seas, sustainable fisheries and a viable industry."

Agenda

- 1 Welcome - *Chair*
- 2 To accept apologies for absence - *Chair*
- 3 Declaration of Members' interests - *Chair*

Action items

- 4 To receive and approve as a true record, minutes of the 13th Eastern IFCA Meeting, held on 23 April 2014 - *Chair*
- 5 Matters arising (including actions from last meeting) - *Chair/CEO*
- 6 Research report concerning impact of cockle fishing method on muddy sediments - *Presentation by Seamus Whyte, EMU*
- 7 2014 Wash cockle fishery - *Senior Research Officer/CEO*

Any other business

- 8 To consider any other items, which the Chairman is of the opinion are Matters of Urgency by reason of special circumstances, which must be specified in advance.

P J Haslam
Chief Executive Officer
19 May 2014

13th Eastern IFCA Meeting



"Eastern IFCA will lead, champion and manage a sustainable marine environment and inshore fisheries, by successfully securing the right balance between social, environmental and economic benefits to ensure healthy seas, sustainable fisheries and a viable industry".

A Meeting of the Eastern Inshore Fisheries & Conservation Authority took place at The Boathouse Business Centre, Wisbech, Cambs, on 23rd April 2014 at 1030 hours.

Members Present:

Cllr Tony Turner MBE JP	Vice-Chair	Lincolnshire County Council
Cllr M Baker		Norfolk County Council
Cllr Richard Fairman		Lincolnshire County Council
Shane Bagley		MMO Appointee
Peter Barham		MMO Appointee
Stephen Bolt		MMO Appointee
Roy Brewster		MMO Appointee
Paul Garnett		MMO Appointee
Roger Handford		Environment Agency representative
Ceri Morgan		MMO Appointee
Tom Pinborough		MMO Appointee
Rob Spray		MMO Appointee
John Stipetic		MMO representative
Koen Vanstaen		MMO Appointee
Stephen Worrall		MMO Appointee

Eastern IFCA (EIFCA) Officers Present:

Philip Haslam	Chief Executive Officer (CEO)
Andrew Bakewell	Head of Finance
Nichola Freer	Head of HR
Julian Gregory	Head of Marine Protection
Judith Stoutt	Senior Environment Officer
Ron Jessop	Senior Research Officer
Luke Godwin	Marine Environment Officer - Data
Dan Steadman	Temporary ICT Project Officer
Robin Strigner	Research Officer
Stephen Thompson	Research Officer
Pete Welby	Research Officer

Other Bodies Represented:

Neville Copperthwaite	Blue Marine Foundation
Rob Davies	Defra
Tim Glover	Blue Marine Foundation
John Hiskett	Norfolk Wildlife Trust
Richard Inman	Defra
Roger Mason	MMO
Emma Thorpe	Natural England

Minute Taker:

Jodi Hammond

EIFCA14/23 Item 1: Re-election of Chair

The Clerk advised that under the Authority's constitution it was necessary to re-elect the Chair on an annual basis. As there is an understanding that the Chair of EIFCA shall remain in post for a period of two years unless there is a proposal for an alternative chair the Clerk asked for any other proposals. As there were none forthcoming the current incumbent, Cllr Cox, was elected to position of Chair for the second year.

Proposed: Dr Bolt
Seconded: Tom Pinborough

EIFCA14/24 Item 2: Apologies for Absence

Apologies for absence were received from: Cllrs Cox, Cllr Wilkinson (NCC), Goldson (SCC) and Patience (SCC) and Mr Donnelly (NE Rep). Members considered the reasons given for not be able to attend and formally agreed to accept the apologies.

Proposed: Ceri Morgan
Seconded: Paul Garnett

Members who did not attend and did not forward their apologies were: Mr Lake (MMO appointee).

EIFCA14/25 Item 3: Declarations of Members Interest

Messrs Bagley, Brewster, and Garnett all re-acknowledged the declarations of interest they have made at previous meetings in relating to lay holdings and licence entitlement holders.

EIFCA14/26 Item 4: Re-election of Vice Chair

Following on from Item 1, there is a requirement to annual re-elect the Vice-Chair, as there were no alternative proposals put forward it was agreed Cllr Turner would retain the position for a second year.

Proposed: Dr Bolt
Seconded: Tom Pinborough

EIFCA14/27 Item 5: Minutes of the 12th EIFCA Meeting, held on 29th January 2014

Mr Garnett advised that he had also declared an interest as his family and lay and WFO entitlement holders.

With this amendment in place members agreed to accept the minutes as a true record of proceedings.

EIFCA14/28 Item 6: Matters Arising

14/12: SEA ANGLING 2012 SURVEY: The CEO advised that a Recreational Sea Angling strategy had been produced. This will appear on the EIFCA website by the end of the month for comment. The CEO would also be contacting the three County Councils to request the strategy is featured in their newsletter to stakeholders and to alert them to the potential economic benefits of promoting regional RSA activity.

14/14: MUSSEL FISHERY 2014: As a result of the last meeting the CEO had consulted the fishing industry and held a meeting with representatives of local associations. As a result agreement had been reached to open a seed relaying fishery with 40% of the overall available stock forming the TAC. This fishery would commence on 28th April 2014. The remaining 60% would be left to promote future fisheries.

14/16: WASH LAY APPLICATIONS UPDATE: As requested the Wash Bio-security Plan had been published.

EIFCA14/29 Item 7: Health & Safety Risks and Mitigation

The CEO advised members that since the last meeting there had been two incidents:

1. An officer had tripped and fallen in shallow water, the outcome of the incident was that the H&S in place had been successful as the officer was correctly attired and the protective gear had worked when it was submersed in water.
2. An officer tripped and fell down a ladder when he had been working in the engine room of the vessel. The lesson learnt from this was that the oil which had collected on the soles of his boots should have been removed before exiting the engine room.

The moorings remained an outstanding risk, however Fenland District Council and Lincolnshire County Council are in discussion with a view to improving the moorings. Options are being drawn up by the two bodies to redevelop the moorings and EIFCA may be invited to contribute to the capital costs in order to secure appropriate moorings at a preferential rate into the future. It should be noted that the lease on the existing moorings will end in October 2014 and may not be renewed which will prompt a review of moorings provision.

Members agreed to note the content of the report.

EIFCA14/30 Item 8: IFCA Parliamentary Report

Mr Richard Inman from Defra, gave a brief explanation on the consultation process in place. Every four years the Secretary of State must prepare a report on the conduct and operation of IFCAs, measured against the 7 success criteria:

- IFCAs have sound governance and staff are motivated and respected
- Evidence based, appropriate and timely byelaws are used to manage the sustainable exploitation of sea fisheries within the district
- A fair, effective and proportionate enforcement regime is in place
- IFCAs work in partnership and are engaged with their stakeholders
- IFCAs make the best use of evidence to deliver their objectives
- IFCAs support and promote the sustainable management of the marine environment
- IFCAs are recognised and heard

The inaugural report would cover the period to 30th August 2014. It was anticipated the report would be put before Parliament prior to the Christmas recess in December.

Information on the consultation process is available via a link on the EIFCA website, all consultations should be provided to Defra by the deadline of Friday 1st August 2014.

EIFCA14/31 Item 9: Wash Fishery Development Project

Mr Tim Glover from the Blue Marine Foundation (BMF) provided a presentation on the work they were carrying out. Members were advised that the aim of the Foundation was to facilitate putting 10% of the worlds' oceans under proper management by 2020.

A brief resume of the work being carried out in Lime Bay was given, this was the initial project being undertaken which had attracted the support of Marks & Spencer, Defra and other charities to make it possible. Achievements to date included:

- Voluntary Codes of Conduct
- Potting Study
- IVMS on all vessels in the area
- Marine Planning Consultations

The Blue Marine Foundation was looking into four others areas around the country which could potentially benefit from their facilitation process. The Wash was one of the areas being considered and an initial meeting had been held with local fishing representatives which had been well attended and constructive. It was emphasised that the collaboration of stakeholders was essential for the process to be effective.

Following the presentation Mr Pinborough questioned whether all stakeholders would benefit in some way as the presentation appeared to him to emphasise the benefit to commercial fishermen. It was advised that the project is not intended to benefit individual stakeholders but RSA and diving representatives have been included on the BMF committee in order that they have the opportunity to put across their points of view, essentially the aim of the project is conservation.

Mr Spray noted that the initial outline was for The Wash but as the North Norfolk fisheries about the area being looked at would it be possible to extend this to include the North Norfolk Coast. Mr Glover advised that if there was support to cover this area then it was entirely possible.

Mr Barham expressed his support for the project but asked whether decisions were being made based on scientific management. The response to which was that whilst the BMF committee owns the data it has collected, with the exception of the potting study which Defra has funded, they had a signed agreement that the data will be used to ensure proper management is in place.

EIFCA14/32 Item 10: Report on the Planning & Communication sub-committee held on 26 February 2014

Members were reminded that the P&C sub-committee had been delegated powers to approve the Annual Plan. At the meeting the Annual Plan 2014-2015, the Communications Report 2013-2014 and the

Corporate Communication Plan 2014-2015 had all been reviewed, following which the Annual Plan and Corporate Communication Plan had been approved for publication. Both plans were made available for Members' information.

Members agreed to note the report.

EIFCA14/33 Item 1: Review of the EIFCA Constitution

Members were reminded that the Constitution must be reviewed on an annual basis. Nplaw were involved in the review and highlighted recommended changes. Members were also asked to take into account that legislation may come in to place concerning The Openness of Local Government Bodies Regulation 2014 which would make it possible for any member of the public to record, film or blog during a public meeting.

A further issue was the continuing representation by MMO Appointees. Initially MMO Appointees are elected for a period of 4 years, following this they can be retained on an annual basis for a period of a further 6 years, following an appraisal process. The CEO advised there needs to be a mechanism in place to administer such an appraisal process. The CEO believed this process would need to be predominantly carried out by elected members, and suggested the process should be developed by the Finance & Personnel sub-committee. Mr Pinborough questioned whether the suggested process would be taken back to full committee for final approval, which the CEO agreed it would.

There followed further discussion on whether such a process should be set up at a national level rather than by individual IFCA's, and what mechanisms would be in place to ensure the right balance of stakeholder representation was maintained at such time as MMO Appointees were replaced.

Members Resolved to:

- **Agree to the proposed changes to the Constitution and Standing Orders**
- **Note the pending legislation concerning The Openness of Local Government Bodies Regulations 2014 which may require changes to Section 10 of the Constitution and Standing Orders in due course**
- **Direct the CEO to make changes to Section 10 if legislation changes before April 2015**
- **Agree to delegate to the F&P sub-committee the development of an MMO appointee review mechanism.**

Proposed: Stephen Worrall

Seconded: Peter Barham

All in favour

EIFCA14/34 Item 12: Sub-Committee output for the year 2013/2014

The CEO had carried out a review of the sub-committee structure to gauge relative workloads and assure members that those sub-committees charged with making executive decisions on behalf of the full Authority were enabled to do so. Whilst compiling the report the CEO had consulted with the Chair of the various sub-committees.

The outcome of the review was that the CEO considered the sub-committees at this time were fit for purpose.

Members Resolved to:

- **Agree that the sub-committee structure remains fit for purpose**
- **Agree with the sub-committee Chairs that the current structure is maintained for the forthcoming year**
- **Direct the CEO to conduct a review of the sub-committee structure to be presented at the Authority meeting of April 2015**

Proposed: Ceri Morgan

Seconded: Tom Pinborough

All in favour

EIFCA14/35 Item 13: Payments made and monies received during the period 18th January 2014 to 9th April 2014

The report provided a breakdown of the amounts expended and received during the period. The Head of Finance advised that this was not the full expenditure for the 12th month as the ledgers would not be complete until the end of the week. Income was higher than expected as it included two of the Levy payments for the forthcoming financial year. The CEO and Vice-Chair both highlighted their appreciation that levies had been paid promptly.

Members Resolved to accept the report on payments made amounting to £357,378.51 and monies received amounting to £1,023,750.21

Proposed: Paul Garnett

Seconded: Stephen Worrall

All Agreed

EIFCA14/36 Item 14: Quarterly Management Accounts

The figures for the fourth quarter were not complete as the ledger for the financial year had yet to be completed. The initial indication of a 6% saving against budget was therefore likely to be much closer to the actual budget. Any savings which were made would be due to savings in salaries as a result of not having a full compliment of staff for the whole financial year, and savings in vessel fuel costs having estimated fuel for a vessel which there was no background to based consumption on as opposed to the previous ESF Protector III.

Members Agreed to note the Management Accounts

Proposed: Stephen Worrall

Seconded: John Stipetic

All Agreed

EIFCA14/37 Item 15: Report on the update of expenditure approval limits

The Head of Finance advised that the current expenditure approval limits had been in place for a number of years and he believed they needed to be revised to create a slightly less onerous process which would be less resource hungry but still fell within the best value

practice. With this in mind members had been provided with a paper outlining the suggested amendments to the purchasing arrangements. Mr Worrall questioned whether the cheapest option is always the one which is taken. The Head of Finance advised that this was not the case, there is a list of preferred suppliers based on service and quality they provide. Cllr Baker advised that he would hope this list was skewed towards the Eastern region. It was noted the list was predominantly local but use was also made of the Government purchasing schemes.

Members agreed to the updated expenditure approval limits and the slightly amended procurement process which would streamline the process whilst still maintaining best value.

Proposed: Councillor Baker
Seconded: Peter Barham
All Agreed

EIFCA14/38 Item 16: Report on alternative banking and investment arrangements

The Head of Finance advised members that the current investment bonds were about to be withdrawn which meant there was a need to review the manner in which the funds in the reserve accounts were invested. It was felt there were alternative investment opportunities available, which would give a better return than a standard savings account, whilst still maintaining the safety of the funds. The Head of Finance was therefore requesting consent for himself and the CEO, to investigate alternative investment arrangements, under advice from the County Council treasury departments.

Members Resolved:

- **that the Responsible Finance Officer and the Head of Finance should secure the best 'low risk' interest rates for the Authority's deposits.**
- **The Authority withdraw its deposits with Suffolk County Council and places them in a higher yielding investment.**

Proposed: Peter Barham
Seconded: Dr Bolt
All Agreed

EIFCA14/39 Item 17: Lay review and application process update

As previously requested an update on the lay review and application process was provided to members for information. Since the last meeting the lease agreements were being updated and it was hoped they would be ready for consideration at the meeting in July. Habitats Regulation Assessments were being prepared with biotope surveys potentially taking place in mid June which would assess whether new lays can go ahead.

A further matter relating to the lays had arisen which required the attention of the Authority. Two lay holders had put forward a request to be able to swap their lay ground. One was reaching retirement age and wanted a slightly smaller lay closer to the shore whilst the other was happy to work a larger lay further out to sea. It was felt there were 3 options available for the Authority to consider although it was felt option

2 was the most sensible mechanism to enable an exchange of lays without setting a precedent.

Mr Garnett stated that there was potentially a 4th option should also be taken in to account where under the Wash Fishery Order a lay lease could be assigned to another party, this could be done under para 6(2) of the WFO with the consent of the Authority, and would not lead to complications with subleasing.

During discussion it became apparent there were several outstanding structural issues with regard to the Wash Fishery Order and relating to custom and practice with lay leases management. Officers are fully aware of these issues and, as lays are potentially a finite resource, it was felt the issues needed far more considered thought than could be given at the current meeting.

CLlr Baker expressed concern that there were so many unresolved issues that the matter being discussed should be deferred until the next meeting when all the facts could be presented, he made a counter proposal to this affect which was not seconded and therefore the proposal did not proceed any further.

A request was made for the issues raised to be looked into, the CEO advised a wholesale review would be factored into the overall review of the Wash Fishery Order.

Option 1, to agree to the lay exchange through the exchange of leases and to direct officers to seek ministerial consent for the exchange was proposed by Mr Stipetic, this also received no seconder and therefore did not proceed.

Option 3 also received no proposal.

The question of what level of Ministerial scrutiny would be involved was raised. The Data MEO advised that as one lay holder would be in control of more than 10 hectares of lay ground Ministerial consent would need to be applied for in accordance with WFO Article 6(7). Members were advised for the purposes of lay ground an individual lay holder included anyone in business together or a spouse or child, meaning their combined lay holding would count.

Members Resolved to take Option 2, to agree to the lay exchange through subleasing mechanism and directed Officers to seek Ministerial consent for the sublease.

Proposed: Dr Bolt

Seconded: Ceri Morgan

With 7 votes in favour the proposal was moved.

EIFCA14/40 Item 18: Research & Environment Report 2013-14

The Head of Research began by outlining the research work which had been carried out during the previous year, and explaining the mechanism in place which dictated which projects would be undertaken during the year. He also advised detailed results of all these projects were available in the recently published Annual Research Report.

The Head of Research then gave a brief summary of the Cockle Growth Rate project, the methods used and the findings of the survey.

Further presentations were given by Research Officers outlining projects carried out in Crustacean fisheries and juvenile fish. Both presentations highlighted anomalies between data provided by either Cefas or Defra which compared to data provided by EIFCA officers, it was questioned whether any discussion would be taking place to ascertain the cause of these anomalies. It was noted that some discussions were ongoing, but part of the difference was attributable to vary methods of data collection.

*At this point the meeting stopped in order to allow a half hour break for lunch.
The meeting reconvened at 1330 hrs.*

At this point the Senior Environment Officer gave a brief overview of the work carried out by the Environment team and explained how it fitted together with the work being carried out by the research team. During the presentation members were advised that the workload for the previous year and been largely dictated by the most pressing work to ensure EIFCA met its conservation objectives.

EIFCA14/41 Item 19: Research and Environment Plan 2014-2015

Having been informed in detail of the work of the Research and Environment teams members Resolved to Agree to the Research and Environment projects for 2014-2015 as set out in the Research and Environment Plan.

**Proposed: Peter Barham
Seconded: Stephen Worrall
All Agreed**

EIFCA14/42 Item 20: Quarterly Progress against Annual Plans

This report was included for information only.

EIFCA14/43 Item 21: Update of HR Activity

Although this paper was included as a matter of report the Head of HR advised members that EIFCA were currently recruiting new staff. As a result of recent departures from the Authority the Exec team had reviewed the structure and looked at particular pinch points, consequently they had revised the available posts in order to alleviate these problems without any additional expenditure. Posts being recruited were; 1 IFCA/crewman, 1 IFCO/Project Officer and 1 MEO/Consultations lead. Prior to advertising these the CEO had sought approval from the Chair of the Authority and the Chair of the F&P sub-committee.

EIFCA14/44 Item 22: Marine Protection Quarterly Reports

The Report was included for information only.

EIFCA14/45 Item 23: Senior Research Officers Quarterly Report

This report was included for information only.

EIFCA14/46 Item 24: Senior Marine Environment Officers Quarterly Report

This report was included for information only.

EIFCA14/47 Item 25: *It was Resolved that under Section 100(A)(4) of the Local Government Act 1972, the public be excluded from the meeting for items 26 and 27 on the grounds that it involves the likely disclosure of exempt information as defined in Paragraph 1 of Schedule 12A of the Act.*

Proposed: John Stipetic

Seconded: Stephen Worrall

EIFCA14/48 Item 26: Report on the six month probationary period of a Research Officer

Members were advised that the most recently recruited Research Officer had passed their six month probationary period and it now required members to decide whether or not to approve him as a permanent member of staff. It was noted that this officer had successfully developed into the role and was taking responsibility for his own research projects.

It was Resolved to confirm the permanent appointment of the Research Officer.

Proposed: Tom Pinborough

Seconded: John Stipetic

All Agreed

EIFCA14/49 Item 27: Report on a complaint against EIFCA

The CEO brought to the Members' attention what Defra considered to be a complaint against EIFCA. A deputation of 3 Kings Lynn fishermen had met with the Fisheries Minister, hosted by Henry Bellingham MP. Whilst Defra had invited input from EIFCA for the Ministers' brief, there had been no contact from H Bellingham MP or his office so it was not possible to ascertain the purpose of the meeting. Subsequently, it became apparent that during the 20 minute meeting, the Minister had been apprised of a perception that the fishermen with larger vessels/businesses were being dictated to by artisan part-time fishermen. The key issue which was discussed was the potential for damage caused by poorly conducted 'prop washing', the contention being that it is equally as damaging as suction dredging for cockles.

Mr Brewster commented that he did not believe the fishing method being employed was damaging as NE had been out and inspected the grounds and found them satisfactory, he also felt dredging did not provide a sustainable fishery it was more a case of 'boom & bust'.

The CEO had been in contact with the Minister and felt he was reasonably assured EIFCA were responsible enough to deal with the fisheries in their district.

Following discussion it was Resolved to note the content of the paper and to agree that the Chair should write to Henry Bellingham MP to:

- **Express concern that the meeting as held without any prior engagement with the Authority**
- **Encourage him to speak with other fishermen within the Wash fishery to assure a balanced perspective**
- **Invite him to the Authority meeting in June 2014 to witness the debate surrounding the 2014 cockle fishery**

It was also Resolved to direct the CEO to liaise with Defra to ensure his visit to the region includes an opportunity to discuss Wash fishery management with IFCA members and officers.

**Proposed: Rob Spray
Seconded: Koen Vanstaen
All Agreed**

EIFCA14/50 Item 28: Report on payment of expenses to MMO Appointees

The Head of Finance advised that this was another matter which needed to be reconsidered on an annual basis. He advised that under the current budget framework and based on the expenses claims made during the previous year there should be sufficient funds available to allow payment of Expenses to MMO Appointees for a further year.

Members Resolved to approve the payment of expenses to MMO appointees for a further year.

**Proposed: Roger Handford
Seconded: John Stipetic
All Agreed**

EIFCA14/51 Item 29: Any Other Business

No further items of Business had been put to the Chairman for discussion at the meeting.

There being no other business the meeting closed at 1400 hours.

Vision

The Eastern Inshore Fisheries and Conservation Authority will lead, champion and manage a sustainable marine environment and inshore fisheries, by successfully securing the right balance between social, environmental and economic benefits to ensure healthy seas, sustainable fisheries and a viable industry



Action Item 7

14th Eastern Inshore Fisheries and Conservation Authority meeting

4 June 2014

The Wash Cockle Fishery 2014

Report By: P J Haslam, CEO, Ron Jessop, Senior Research Officer

Purpose of report:

The purpose of this report is to enable the members to debate issues surrounding the opening of the 2014 cockle fishery and to decide upon the most appropriate time and methods taking into account all relevant factors presented in the paper.

Context

The paper is intentionally detailed as it aims to expose the plethora of issues surrounding the management of a successful cockle fishery. On the face of it, this paper represents a routine procedure to open the annual cockle fishery but the decisions taken must be made with full awareness of the significant division of opinion within the Wash fishing community and the antagonistic behaviours that this subject routinely provoke.

Members would wish to note that some within the Wash fishing community perceive institutional bias at Authority level (members and officers) towards artisanal/part time fishermen over those with larger commercial operations. To assure objectivity Members are requested to re-acquaint themselves with the provisions of the Eastern IFCA constitution and MMO appointees should revisit the Terms and Conditions of Appointment provided by the MMO and in particular the following:

*'Appointees to IFCA's are legally required to represent all the local fishing and marine environmental interests in the waters of the IFCA district, in a balanced way, taking full account of all the economic, social and environmental needs of that district. Appointees should recognise that they are part of a committee and should not regard themselves as representing solely one particular interest within the IFCA district.'*¹

In developing this paper the Risk Assessment at Appendix 3 together with a narrative on the opportunities and threats associated with hand worked and dredge fishing have been circulated to commercial fishing members of the Authority to draw upon their experience and reflect their opinions and comments.

¹ Eastern IFCA Constitution Chpt 3, Marine Management Organisation appointees: Terms and Conditions of Appointment Section 151(6)(c) Marine and Coastal Access Act 2009.

Assumption

This report is written on the assumption that both the provisions of the Wash Fishery Order 1992 and Eastern IFCA byelaws will be adhered to and fishing activity will be carried out in a legal and professional manner by all participants.

Recommendations

Recommendations have been formulated through risk analysis, dialogue with Industry representatives and with due regard to the statutory duties of Eastern IFCA.

Members are recommended to:

Note that the total adult stock is 11,009 tonnes in the Wash cockle fishery in 2014.

Note the responses to Entitlement holder consultation at Appendix 2

Note the risks associated with each harvest method as presented at Appendices 3 & 4

Note that the results of the 2014 cockle survey indicate that there is potential to support either a hand-worked fishery or a combination of a hand worked and a dredged fishery.

Agree to a Total Allowable Catch (TAC) of 3,670 tonnes.

Agree to Option 2 to open a hand work fishery on all sands at a time determined by the preference of the majority of Wash fishery Entitlement holders.

Approve the introduction of standard bags for landing catch.

Approve the delegation to officers to determine opening times for the fishery based upon:

- The preferences of Entitlement holders
- Appropriate tides
- A regular break in the fishery by operating four days per week
- A mechanism to enable Holbeach to be exploited when the range is closed.
- Extension to five days per week should atypical mortality be judged to be a significant factor

Approve the delegation of powers to the Chief Executive Officer to immediately (without seven days' notice) close a fishery or parts of a fishery should malpractice and/or unacceptable levels of damage be observed.

Approve the delegation of powers to the CEO to restrict access to cockle beds if juvenile stocks are judged to be disproportionately targeted.

Background

The Authority is the Grantee of the Wash Fishery Order 1992, which confers upon the Authority the right of a regulating fishery for the prescribed species with respect to the regulated fishery. The prescribed species include cockles, mussels and clams.

In exercising its right of a regulating cockle fishery the Authority must remain fully aware of its obligatory duties and responsibilities as set out in the Marine and Coastal Access Act 2009. The statutory duties of the Authority are as follows:

- 1) Manage the exploitation of sea fisheries resources in its district; in doing so it must:
 - a) Seek to ensure that the exploitation of sea fisheries resources is carried out in a sustainable way
 - b) Seek to balance the social and economic benefits of exploiting the sea fisheries resources of the district with the need to protect the marine environment from, or promote its recovery from, the effects of such exploitation
 - c) Take any other steps which in the Authority's opinion are necessary or expedient for the purpose of making a contribution to the achievement of sustainable development
 - d) Seek to balance the different needs of persons engaged in the exploitation of sea fisheries resources in the district
- 2) Seek to ensure that the Wash Fishery Order 1992 is managed by the Authority in a manner that supports the local fishing industry whilst not having a detrimental impact upon the conservation features within a protected site

Additionally, because the fishery is within a Site of Special Scientific Interest (SSSI), Special Protection Area (SPA) and Special Area of Conservation (SAC), the Authority must exercise care to ensure that there is no unnecessary disturbance to the site.

To manage its responsibilities set out under the Habitats Regulations 2010 as the 'Relevant Authority' the Authority has set out management policies as well as an agreed process to open a fishery ('The Cockle Charter'). It is against these criteria that the options presented below have been weighed and from which the recommendations of officers are derived.

Industry Perspective

Entitlement holders have been surveyed as to their opinions. This was followed by a meeting with Entitlement holders Tuesday 27 May 2014. Comments from both the written responses and the meeting have been factored in where appropriate. Results are included at Appendix 2

Cockle Survey

The Senior Research Officer has reported, to the Authority, his findings on the cockle survey conducted between March 29th and Apr 29th 2014. A full report is attached at Appendix one. From this survey, a summary of stocks was calculated (below)

	Tonnes of Stock
Total Adult Stock (≥ 14 mm width)	11,009 tonnes
Total Juvenile Stock (< 14 mm width)	8,310 tonnes
Total Stock (all sizes)	19,319 tonnes

In 2013 the stocks had supported a high proportion of adult (≥ 14 mm width) cockles. Because these larger cockles are more vulnerable to "atypical" mortality losses, it was predicted that unless there was a significant spatfall over summer, the stocks would decline by 2014. Although the above figures show the total stock had declined from 20,932 tonnes and the adult stock from 11,159 tonnes, these losses are lower than had been anticipated following a successful fishery. This is partially due to a successful spatfall in 2013 and a warm spring prior to the 2014 surveys encouraging growth.

The TAC for the cockle fishery has traditionally been 33.3% of the adult (≥ 14 mm width) cockle biomass. The adult biomass identified during the surveys was 11,009 tonnes. Based on this figure, the TAC for the 2014/2015 fishery should be **3,670 tonnes**.

The table below shows which beds fulfil the 70% adult cockle criteria, their predominant sediment composition and their biomass of adult stock. Additionally, the table provides an indication of how many of these stocks are present in densities exceeding 1.5 tonnes/hectare, which equates to a dredge harvest rate of approximately 0.75 tonnes/hour.

Bed	Adult Biomass (t)	Biomass > 1.5 t/ha	Sediment
Butterwick	260	164	Sand
Wrangle	243	8	Sand
Friskney	79	6	Sand
Friskney Extension	76	0	Sand
Gat	130	55	Sand
Holbeach	2341	1561	Mixed
Thief	22	7	Sand

Of the seven beds that fulfil the 70% adult cockle criteria, six have predominantly sandy sediments that are permissible for dredging. Of these, however, the cockles on Wrangle, Friskney, Friskney Extension and the Thief are only present in low densities that would not support a viable dredge fishery without causing widespread disturbance to the ground. Those on the Gat are within and bordering the Gat mussel bed, and as such could not be exploited using this method without damaging the mussel bed.

The Butterwick bed has sufficient adult cockle densities to support a small dredge fishery but is unlikely to yield more than 164 tonnes. Care would need to be taken if opening this area to the dredge fishery that the areas of Butterwick Extension that border this bed are not disturbed as Butterwick Extension does not fulfil the 70% adult criteria and is predominantly muddy.

Of the beds that fulfil the 70% adult criteria, the majority of the stocks are situated within Holbeach. This is a large bed that contains a variety of sediments that range from fine silts and muds to mobile sands. Because an extensive area within this bed is predominantly sandy, it has been possible in the past to open this discrete area to the dredge fishery. This area supports 1,176 tonnes of adult cockles of which 683 tonnes are present in densities above 1.5 tonnes/hectare.

Holbeach sand is part of a Ministry of Defence air weapons range and is closed to fishing activity when active². This means that the cockles can only be exploited at night or over the weekend. Whilst there is no restriction to prevent hand-working, the limited availability of access means that the most efficient means to harvest the cockles on this sand is by suction dredge.

Risk

The Officers of the Authority would encourage Members to consider the risks involved in each of the management options of the fishery. The matrix at Appendix 3 captures the key risks that are judged likely to be introduced to the delivery of the statutory duties laid out in MaCAA 09 by both methods, dredge and hand-work, and is provided to guide members in their decision making. The matrix is necessarily subjective in places but has been compiled drawing upon the experience and professional knowledge of Eastern IFCA staff, Natural England, commercial fishing members of the Authority and the wider commercial fishing community.

For completeness, a bespoke analysis of the enforcement risks associated with both methods of fishing is at Appendix 4. This is designed to inform Authority members that there are distinct differences in providing the expected protective effect between a dredge and hand worked fishery.

Options

Option 1 – Dredge fishery only

The option of a dredge fishery only has been included in order to air the issues associated with this type of fishery. In reality, there are insufficient cockles available on the sands that are able to be dredged to enable the TAC to be fulfilled.

The suction dredge method involves extracting cockles by mechanical means using a hydraulic dredge with solid handling pumps. A jet of water liquefies the sand and pumps on the boat create suction that draws cockles up through pipes onto the fishing boat.

² Opening times 1 May – 31 Aug; 0900-1700 Mon-Thu; 0900-1200 Fri

The cockles pass through a riddle, which allows undersized animals to be returned to the sea. The retained cockles collect in large tonne bags.

A dredge only fishery could enable the efficient gathering of the available TAC over a shorter space of time. It is more beneficial to the business models of the larger fishing operations within the Wash which are attuned to a high volume, high tempo fishery and promotes the viability of those businesses by enabling the efficient harvest of cockles at maximum yield. It allows catch volumes to match the output volumes of the processing plants thereby promoting end to end efficiency across the cockle production process.

The last dredge fishery in the Wash was conducted in 2008 and there is some depth of opinion amongst Wash fishing community that following a dredge fishery the grounds have taken a longer period to recover and regain viability. It should be noted that a significant proportion of the commercial sector is fundamentally opposed to a dredge fishery, citing the threat to future sustainability described above and previous behaviours as causal factors in the decline of viable cockle stocks. Whilst the potential damage caused by dredge fishing has been studied, there is no conclusive proof to suggest that it does hazard future fisheries.

As the fishery will be conducted within a European Marine Site there is a requirement to apply to Natural England to secure the requisite permissions to conduct the fishery. In making application it will need to be demonstrated that the fishery will not hazard the overall conservation integrity of the site. Whilst it may be possible to gain permissions for some grounds comprising predominantly mobile sandy sediments, it would not be possible for all.

The tempo, intensity and highly dynamic nature of a dredge fishery mean that applying the requisite enforcement effect to the fishery is challenging and this is expanded upon in Appendix 4.

Given the inherent efficiency of a dredge fishery any employment opportunities associated with the fishery are likely to be shorter term and may introduce socio-economic factors that will require consideration. A rapid fishery does not suit all business models and for the smaller operators does introduce risk in terms of continuity of earnings throughout the year. Similarly, a relatively rapid cockle fishery may introduce a risk of displacement and further threats to the sustainability of other stocks as fishing operators seek to supplement their income from other fishing activities.

The opportunities and threats associated with this type of fishery can be summarised as follows:

Opportunities

- A dredge only fishery could enable the efficient gathering of the available TAC over a shorter space of time.
- It is more beneficial to the business models of the larger fishing operations within the Wash which are attuned to a high volume, high tempo fishery and promotes the viability of those businesses by enabling the efficient harvest of cockles at maximum yield for subsequent processing.

- It allows catch volumes to match the output volumes of the processing plants thereby promoting end to end efficiency across the cockle production process.
- Cockle fisheries in the Thames Estuary and the private Le Strange estate are routinely conducted using suction dredges and at least the Thames fishery retain viability year on year. The key differences are the larger grounds in the Thames and the number of vessels prosecuting the fishery (14 in the Thames and less than 5 in Le Strange; (a dredge fishery in the Wash would involve up to 40 vessels.)), which allows intensity of effort to be balanced with sustainability of stocks.

Threats

- Damage to grounds - there is evidence that dredging can cause damage to sheltered sands and muddy sediments which threatens the recovery of the fishery and the overall biodiversity of the Wash. To protect the stable biota associated with muddy sediments, dredge fisheries are restricted to areas that are predominantly composed of mobile sandy sediments.
- Stock sustainability - due to its efficiency a hydraulic dredge can remove a larger number of cockles from an area than several hand workers leading to a risk of over exploitation. A ground can be commercially fished out by dredges in a much shorter time and the densities remaining are usually much less than those left after hand working. This could result in a reduction in numbers of potentially spawning cockles below a critical density thereby affecting future fisheries.
- Stock sustainability - the last dredge fishery in the Wash was conducted in 2008 and there is some anecdotal evidence that following a dredge fishery the grounds have taken a longer period to recover and regain viability.
- Stock sustainability – poorly considered fishing efforts may mean that juveniles are exploited over adult stock because they occupy beds that are easier to access and/or are present in greater densities so that the vessel may fish it's daily quota more quickly, e.g. over a single high water with 4hrs at sea rather than 12hrs. This results in future years stocks being depleted while older, potentially more valuable stock is left unexploited
- Stock sustainability – complete loss of any cockle spatfall on a bed which occurs before or whilst a bed is subject to dredge fishing effort³.
- Stock sustainability - should dredge gear not be tuned correctly it can cause a cockle smash rate that is not sustainable which directly threatens

³ MAFF Technical Report No 42, Franklin & Pickett [1978] although this relates to WFA hydraulic dredges. Anecdotal reports of this in respect of widespread abundant spatfall on Daseleys Sand in June 2007 – what little part of that spatfall was not affected by dredging effort (late July and August 2007) did survive it's first winter (the critical part) to give a small bed of cockles on the east side of Daseleys/west Rooks Middle (EIFCA = Pandora) in September/October 2010; therefore had the entire spatfall not been lost due to dredging activity it is likely the fishery would have had an additional bed of circa 3,000t adult cockles in 2010.

stocks of cockles. In order to protect juvenile cockle stocks, dredge fisheries are restricted to those beds that support a cockle stock composition consisting of at least a 70% adult cockle (≥ 14 mm width) biomass. Because only 7 beds fulfil the criteria, of which only two offer viable fisheries, they are unlikely to support sufficient adult cockles to achieve the full TAC of 3,670 tonnes.

- Marine Environment - scientific analysis of the impact of suction dredging on the marine environment has been carried out. Concerns surrounding the mortality of rejected cockles, disturbance to muddy sediments and impact upon non target fauna are highlighted but there is no distinct statement that suction dredging is disproportionately damaging. That said, it should be noted that the Project Inshore report for the Eastern region stated that: *'the pre-assessment suggests that dredge fisheries for bivalves (mussel and cockle) would have a challenge to pass MSC principle P2⁴, and this remains the default position.'*⁵
- Balancing the needs of all - not all Entitlement Holder's vessels are capable of carrying dredges, associated equipment and a reasonable quantity of retained cockles which challenges the Authority's remit to balance the needs of all within the fishery.
- Balancing the needs of all - It should be noted that a significant proportion of the commercial sector is fundamentally opposed to a dredge fishery citing the threat to sustainability of stocks and previous behaviours as causal factors in the decline of viable cockle stocks.
- Balancing the needs of all - given the inherent efficiency of a dredge fishery any employment opportunities associated with the fishery are likely to be shorter term and may introduce socio-economic factors that will require consideration. A rapid fishery does not suit all business models and for the smaller operators does introduce risk in terms of continuity of earnings throughout the year
- Balancing the needs of all - a relatively rapid cockle fishery may introduce a risk of displacement and further threats to the sustainability of other stocks as fishing operators seek to supplement their income from other fishing activities.

Whilst it is undoubtedly an efficient and modern means to gather the maximum amount of cockles in the minimum time, a dredge fishery does introduce a number of other risks that directly challenge the ability of Eastern IFCA to deliver against its MaCAA 09 duties.

Due to the higher levels of risk judged to be associated with a dredge fishery this option is not recommended.

⁴ Fishing operations should allow for the maintenance of the structure, productivity, function and diversity of the ecosystem (including habitat and associated dependent and ecologically related species) on which the fishery depends.

⁵ Draft Project Inshore Stage 3 report, Dec 13,

Option 2 – Hand-worked fishery (augmented with prop washing) only

Hand working is the practice of gathering cockles by rake and cockle net over the period of a tidal cycle where the vessel lays on the sand and the crew disembark to work the ground. Hand working is labour intensive and to ease the burden the practice of prop washing is utilised which is using the wash from the vessel's propellers prior to settling on the sand in order to remove the top layer of sand and shell away from the area about to be harvested. Some degree of prop-washing may be required on all but the densest pockets of cockles. This makes the cockles easier to access, and also enables the retention of pools of water in which the cockles can be washed. A code of best practice associated with prop washing has been drawn up which, if adhered to, reduces disturbance from this activity to acceptable levels. It is relevant to note that previous behaviours have demonstrated that some are willing to use malpractice such as 'blowing out'⁶ in order to exploit the resources available by the most effortless means.

It is relevant to note that current interpretation of Regulation 1 of the Wash Fishery Order prohibits the use of bags or anchors to hold the head inasmuch as *'no vessel participating in the hand-worked cockle fishery may employ any equipment that either fixes the vessel to the seabed or slows the vessel's movement while the vessel's engine is running. This includes anchors, sea anchors, drogues or any other equipment that could be used as an anchor or sea anchor.'*

The reason for this prohibition is that it was previously considered to carry a high risk of excessive damage to the sands. An experiment conducted by Eastern IFCA officers during the 2013 cockle season indicates that when done responsibly, the use of a bulk bag to hold the head of the vessel whilst 'prop washing' resulted in less disturbance to the sand than a vessel not using a bag. These findings have yet to be fully validated and as a consequence the prohibition remains in effect.

There is a risk of damage with a hand-worked fishery which will need to be closely monitored. The code of best practice associated with prop washing has the effect of reducing disturbance from this activity to acceptable levels. It is the officers' opinion that this activity is not detrimental to the site, provided it is conducted in a responsible manner that does not cause excessive physical disturbance to the seabed.

The tempo and relatively fixed nature of hand worked fishing operations allows for more sustained and sustainable enforcement options to monitor behaviours, albeit over a longer period of time. In addition, there will not be a need to mobilise the majority of EIFCA staff which will help militate against any risks introduced to the delivery of other IFCA core outputs such as the ongoing work to address regulation to protect features within European Marine Site.

A hand worked fishery will enable the gathering of the TAC and will also provide an opportunity for a fishery of greater duration presenting business opportunities across the breadth of the commercial cockle fishing sector. Whilst it will not play to the strengths of the business models of the larger fishing operators, it is judged not to introduce any hazard to the overall viability of any business model.

⁶ An extreme form of prop washing, sometimes using anchors, which results in deeper holds in the sands

In socio-economic terms, this option will provide for greater and more sustained employment opportunities across the commercial sector and may assist in reducing the impact of displacement caused by lack of alternative fishing opportunities.

The Entitlement holders consultation indicated that hand working was the preferred fishing method (see appendix 2).

The opportunities and threats associated with this type of fishery can be summarised as follows:

Opportunities

- Hand working represents a proven and sustainable method of harvesting cockles.
- Hand working will occupy the majority of Wash based fishermen for a longer duration reducing the impact of displacement caused by lack of alternative fishing opportunities.
- Hand working using judicious prop washing is acknowledged as offering little threat to designated marine protected areas.
- A hand worked fishery presents an opportunity for all with the Wash fishing community to participate in the fishery.
- Hand working requires minimal capital investment in the vessel⁷ and associated fishing equipment, and minimal cost in on-going equipment maintenance
- Hand working will enable the gathering of the TAC
- Hand working provides an opportunity for a fishery of greater duration presenting business opportunities across the breadth of the commercial cockle fishing sector.
- Whilst it will not play to the strengths of the business models of the larger fishing operators, it is judged not to introduce any hazard to the overall viability of any business model.
- In socio-economic terms, this option will provide for greater and more sustained employment opportunities across the commercial sector.

Threats

- Damage to grounds - the deep circular scarring caused by malpractice when conducting the process of 'prop washing', which accompanies a hand-worked fishery, and results in significant and lasting 'blowing out' rings.

⁷ Most vessels belonging to Wash fishermen are likely to already be suited to hand working due to the other constraints of vessels suited to exploiting the other Wash fisheries

- Further damage to sands can be caused by the keel of boats attempting to move off sands before there is sufficient water to allow the vessel to fully re-float.
- Stock sustainability – prop washing can also cause large residual piles of cockles to be left on the sand which inevitably die as a result if the Code of Practice, which recommends that residual cockles are spread out on completion of fishing activity, is ignored.
- Stock sustainability – poorly considered fishing efforts or raw economics mean that juveniles are exploited over adult stock because they occupy beds that are easier to access and/or are present in densities that makes hand working easier. This results in future years stocks being depleted while older, potentially more valuable stock is left unexploited.
- Stock sustainability - a hand worked fishery can easily change to fish for another target species increasing the overall pressure on fisheries. This is mitigated by the tempo of fishing activity and the need for crew rest and recovery which means that in practice most only hand work cockles, unless there is a significant break in the fishery owing to neap tides.
- Larger business models reportedly struggle for viability during a hand worked fishery

A hand worked only fishery is recommended as the most risk free means to exploit the cockle stock available in 2014 and meet the MaCAA 09 duties and responsibilities of the Authority.

Option 3 – Combined dredge/hand-worked fishery

This option provides for a blend between option 1 and 2 above whereby individual sands will be identified for different methods of exploitation. The opportunities and threats that present themselves are the same as outlined above. The risks associated with individual fishing techniques are exacerbated when seeking to manage both methods concurrently.

Should this option be chosen it will be necessary to determine the division of the TAC between the two fisheries. The Authority does not have any fixed protocols in place for doing this and past fisheries have varied in allocation of TAC for the dredge fishery of between 0% and 95%. Various methods could be used to allocate quota to each fishery. These include, but are not exclusive to:

1. Allocating all of the available adult stocks on the beds opened to the dredge fishery to the dredge fishery. From the table below it can be seen if this method were applied the dredge TAC would be 1,436 tonnes if both Holbeach and Butterwick were opened for dredging. Because it is unlikely that all of the available stocks could be harvested, the dredge fishery would not be able to achieve its full allocation of TAC from these areas. As stocks within the open areas became depleted, this would result in heavy disturbance to the seabed and encourage poaching of nearby closed areas

2. The dredge TAC could be determined by how many stocks within the open areas are present in densities above 1.5 tonnes/hectare, which equates to average harvest rates of 0.75 tonnes/hour. This is a slightly lower density than that which the Thames fishery would close their fishery. Applying this method would result in a dredge TAC of 847 tonnes. Because this is a more realistic amount that could be harvested from these two beds without causing heavy disturbance to the ground, the officers would recommend this option should a mixed fishery be opened.
3. The dredge TAC could be determined by how much each of the open beds has contributed towards the overall TAC. Using this method the dredge TAC would be 479 tonnes.

Sand	Adult Tonnage	Biomass >1.5t/ha	Contribution towards TAC
Holbeach (Open)	1176	683	392
Butterwick	260	164	87
Total Tonnage	1436	847	479

In practical terms it is relevant to note that the daily quota per vessel for a dredge fishery is 4 tonnes. Working on the basis that circa 35 boats would engage in the dredge fishery, with each filling their daily quota, the largest TAC option would be exhausted in 10 days, the middle option in 6 days and the lower in less than four days. The regulatory issues associated with this are set out in the Enforcement Capability Risk Assessment at Appendix 4. Additionally, whilst the requirement for renewal, refurbishment and fitting of dredging gear would not be an issue for the larger operators it would be likely to be an unwelcome complication by the majority within the industry, particularly for a dredge fishery of very short duration.

It would be possible to determine a TAC for those beds which qualify for a dredge fishery making this option a viable possibility but it is not supported by the majority of Entitlement holders. In reality this would likely cause some vessels to gear up to exploit what be a relatively short (c8-10day) dredge fishery before (re)turning to the hand-worked fishery. To manage two concurrent methods of cockle exploitation would stress the resources of the Authority but is achievable if behaviours within the fishery are responsible. To balance the needs of all within the fishery, there is merit in this option but noting the preferences of Entitlement holders, it is not recommended.

Days of Operation

Over the last three seasons, days of operation have been limited. In 2011 there were breaks around small tides, while in 2012 & 2013 a four day a week fishery was operated with some adjustment for tidal changes (still averaging four days a week). Comments from fishers on this limitation have been that it will:

- Allow the sands to recover
- Extend the duration of the fishery

- Allow Shrimp growth to occur, by reducing fishing effort on juvenile shrimps and subsequently increasing Shrimp landings later in the season
- Allow for periods of enforced rest for both fishing operators and EIFCA staff to mitigate against health and safety risk introduced through over-tiredness.
- Provide a schedule for processors and other industries.

For a handwork fishery the Entitlement holder consultation indicated a preference (24 votes for, 12 against) for the following criteria:

- Minimum 6.4m tide height
- Open four days per week
- Open weekdays (Monday to Friday)
- Open Monday to Thursday where possible

In contrast, the majority of votes regarding a dredge fishery operating times were not in favour (9 votes for, 14 against) of the above criteria. However, of the entitlement holders who voted for a dredge fishery (or both) all were also in favour of the criteria as presented above.

Opening Date of the fishery

The consultation carried out with the industry has indicated that there is a preference for an early handwork fishery (June/July) and a later start for a dredge fishery (July/August).

The opening date of the fishery will depend upon:

1. The advice of Natural England following their appraisal of the Habitats Regulation Assessment; and
2. In accordance with the Cockle Charter, once agreement has been reached with Natural England, the Authority will provide at least seven calendar days' notice of the opening date to allow fishermen to prepare their vessels and obtain a licence.

In preparation of this, the Authority has already submitted the Habitats Regulation Assessment for hand working to Natural England (NE) so this will not delay the opening of the fishery.

Authority Officers have not prepared an assessment for a dredge fishery at this time. Noting the considerable notice of dredge fishing that would be required by the Industry to allow time for the renewal, refurbishment and fitting of dredging gear this would allow sufficient time for associated permissions to be sought from NE.

Daily Quota

In accordance with Regulation Number 2 of the Wash Fishery Order 1992, the daily quota per vessel will be

Quota Limitation	Method
2 Tonnes	Hand worked
4 tonnes	Dredge

Catch Returns Data

In order to manage the TAC and monitor where cockles have been lost or harvested it is important that fishermen provide to Eastern IFCA the details of their fishing activities. A catch return book and pre-paid envelopes will be distributed to fishermen on payment of their licence money. Catch returns are expected weekly. Entitlement holders who fail to return catch forms by the allotted day could see their entitlement licence suspended or for repeat infractions, cancelled. Skippers working on behalf of entitlement holders could see financial penalties used.

Introduction of standard bags

Entitlement holders were consulted upon and the majority supported the introduction of a bag of standard dimensions in which to land catches of cockles. This would allow fishermen to achieve commonality between bags to reduce the tensions often evident over the size and shape of bags used in the fishery and the resulting insinuations regarding over quota landings. It will ease the enforcement burden for Authority officers monitoring landings to enable a straightforward visual assessment of catch. It will also reduce regulatory interference on businesses by reducing the number of bags that will need to be weighed to check landing weight. Officers have expressed concern regarding the safety of using some of the bags witnessed in the fishery and the introduction of a standardised bag may assist in promoting a safer working environment for all.

Appendices

1. Summary of the 2014 Annual Spring Cockle Survey.
2. Wash fishing industry consultation responses
3. Risk matrix
4. Wash Cockle Fishery Enforcement Capability Risk Assessment

Background documents:

- Marine and Coastal Access Act 2009
- Wash Fishery Order 1992
- Eastern IFCA byelaws
- Minutes Wash fishermen's Association meeting 27 May 2014
- MMO Commercial Fishing appointee comments
- Historical and current status of cockle and mussel stocks in The Wash, Dare et al, Cefas, 2004
- The Impact of Mechanical Harvesting on the Thames Estuary Cockle fishery, , Graham Pickett, Laboratory Leaflet No 29, MAFF, Nov 1973.
- English Nature Research Information note No 670, C Donnelly, English Nature Oct 2005.
- Technical Report 348, MAFF Commission, Nov 1988.
- Harvest impact on cockles, Fowler, S. 1999, UK Special Marine SACs project
- Effects of suction-dredging for cockles on non-target fauna in the Wadden Sea, J.G. Hiddink, University of Groningen, 5 June 2003.
- Project Inshore Draft Stage 3 report on Eastern IFCA inshore fisheries, 2014
- Natural England review of cockle suction dredging, S Unterhollenburg, 2014

14th Eastern Inshore Fisheries and Conservation Authority meeting**4 June 2014**SUMMARY OF THE 2014 ANNUAL SPRING COCKLE SURVEYS

The Authority conducted the annual spring cockle surveys between March 29th and April 29th. The timing of these surveys is consistent with the majority of Eastern-IFCA's and ESFJC's previous spring cockle surveys, and allows sufficient time for the data to be analysed and an Habitat Regulations Assessment to be conducted for potentially a mid-June opening.

During the course of the surveys, 1,282 stations from a total of 21 sands were sampled. Figures 1 and 2 show the distributions of adult and juvenile stocks found during these surveys, while Table 1 provides a summary of these stocks. From this table the current stocks can be seen to be at the following levels:

Total Adult Stock ($\geq 14\text{mm}$ width) 11,009 tonnes

Total Juvenile Stock ($< 14\text{mm}$ width) 8,310 tonnes

Total Stock (all sizes) 19,319 tonnes

In 2013 the stocks had supported a high proportion of adult ($\geq 14\text{mm}$ width) cockles. Because these larger cockles are more vulnerable to "atypical" mortality losses, it was predicted that unless there was a significant spatfall over summer, the stocks would decline by 2014. Although the above figures show the total stock had declined from 20,932 tonnes and the adult stock from 11,159 tonnes, these losses are lower than had been anticipated following a successful fishery. This is partially due to a successful spatfall in 2013 and a warm spring prior to the 2014 surveys encouraging growth.

When surveyed in 2013 the adult stocks had been dominated by individuals from the 2010 year-class cohort, plus some dense patches of 2011 year-class cockles on the Dills and Daseley's beds. Although the 2010 year-class stocks had not contributed greatly to the fishery, "atypical" mortality had caused their numbers to decline significantly by the time of the 2014 surveys. These losses had been expected and caused stock declines on the Friskney, Wrangle, Butterwick, Herring Hill and Inner Westmark Knock beds. The losses among the 2010 year-class cohort has been compensated to an extent by the growth of the 2011 year-class stocks, which in terms of biomass is now the dominant cohort. Most of the beds that supported high proportions of 2011 year-class cockles in 2013 have increased in biomass. These include the Roger/Toft, Mare Tail, Holbeach, Breast and Pandora beds. Although the Dills and Daseley's sands were also dominated by this cohort, these two beds attracted heavy fishing effort last year and as a consequence have both declined. Last year officers suggested keeping these two beds closed for a short period at the beginning of the fishery to encourage some of the older, lower density patches of cockles to be fished before they died. The data suggests that had this occurred, the stocks on these two sands would have increased rather than declined.

The survey found there had been a successful settlement of spat during 2013, which while not covering all of the beds had settled in high densities in several patches on the Roger/Toft, Black Buoy, Herring Hill, Inner Westmark Knock, Breast and Daseley's beds. Figure 3 shows the distribution of this settlement.

DETERMINING MANAGEMENT MEASURES FOR THE 2014/2015 COCKLE FISHERY

The Authority encourages a co-management approach with regard to the Wash shellfisheries. As such the Authority will be consulting with all Wash Fishery Order 1992 Entitlement Holders regarding the management of the 2014/2015 cockle fishery. All Entitlement Holders will be provided with a consultation form with which to provide their opinions on various management measures.

In addition to considering the views of the Entitlement Holders, when determining management measures for the cockle fisheries in the Wash, the Authority must comply with local byelaws and the Wash Fishery Order regulations. Further, as the Wash is designated a Special Area of Conservation (SAC) and a Site of Special Scientific Interest (SSSI), management measures applied to the shellfisheries must not have a detrimental impact to the Conservation Objectives for the site. To this end, when determining management measures for these fisheries, the Authority follows a number of management policies that were agreed in 2007 with Natural England and industry representatives. These policies have helped guide the following proposals for the 2014/2015 cockle fishery.

Total Allowable Catch (TAC)

The TAC for the cockle fishery has traditionally been 33.3% of the adult (≥ 14 mm width) cockle biomass. The adult biomass identified during the surveys was 11,009 tonnes. Based on this figure, the TAC for the 2014/2015 fishery should be **3,670 tonnes**.

Potential Fisheries

In recent years there has been considerable debate over whether fisheries should be opened to dredges or limited only to hand-working. By taking into account the results from the surveys and the various regulations and management policies, this report aims to provide an unbiased assessment of what fisheries could potentially be allowed in 2014.

Dredge Fishery - In order to protect juvenile cockle stocks, dredge fisheries are restricted to those beds that support a cockle stock composition consisting of at least a 70% adult cockle (≥ 14 mm width) biomass. Further, in order to protect the stable biota associated with muddy sediments, dredge fisheries are restricted to areas that are predominantly composed of mobile sandy sediments. The table below shows which beds fulfil the 70% adult cockle criteria, their predominant sediment composition and their biomass of adult stock. Additionally, the table provides an indication of how many of these stocks are present in densities exceeding 1.5 tonnes/hectare (a density which equates to a dredge harvest rate of approximately 0.75 tonnes/hour).

Bed	Adult Biomass (t)	Biomass >1.5t/ha	Sediment
Butterwick	260	164	Sand
Wrangle	243	8	Sand
Friskney	79	6	Sand
Friskney Extension	76	0	Sand
Gat	130	55	Sand
Holbeach	2341	1561	Mixed
Thief	22	7	Sand

From this table it can be seen that of the seven beds that fulfil the 70% adult cockle criteria, six have predominantly sandy sediments permissible for dredging. Of these beds, however, the cockles on Wrangle, Friskney, Friskney Extension and the Thief are only present in low densities that would not support a viable dredge fishery without causing widespread disturbance to the ground. The small patch on the Gat, while supporting higher densities of cockles, is located within and bordering the Gat mussel bed, which would be damaged by a dredge fishery in that area.

Of the six beds situated on sandy sediments, only the Butterwick bed has sufficient adult cockle densities to support a viable fishery, albeit of only 164 tonnes. Care would need to be taken if opening this area to the dredge fishery that the areas of Butterwick Extension that border this bed are not disturbed as Butterwick Extension does not fulfil the 70% adult criteria and is predominantly muddy.

Of the beds that fulfil the 70% adult criteria, the majority of the stocks are situated within Holbeach. This is a large bed that contains a variety of sediments that range from fine silts and muds to mobile sands. Because an extensive area within this bed is predominantly sandy, it has been possible in the past to open this discrete area to the dredge fishery. This area supports 1,176 tonnes of adult cockles of which 683 tonnes are present in densities above 1.5 tonnes/hectare. Because the Holbeach bed is within a bombing range, access for fishing is greatly restricted making it more suitable for dredging than hand-working.

Figure 4 shows the areas of Butterwick and Holbeach that could potentially be opened to a dredge fishery.

Hand-worked Fishery

Because it is possible for the handwork fishery to identify and operate within discrete patches of larger cockles, it is possible to open beds to the hand-worked fishery that fall below the 70% adult biomass threshold. It is nevertheless important to still protect high densities of Year-0 juvenile cockles. Taking these factors into consideration, it would be possible to open all beds to the hand-worked fishery with closures around areas in which the Year-0 cockles exceed densities of 1,000 cockles/m². These closed areas are highlighted in figures 5-7.

Table 1 Summary of cockle stocks on the Wash intertidal beds										
SAND	ADULT				JUVENILES				Total Biomass	% Adult
	Area (ha)	Mean Density (no/m²)	Mean Weight (t/ha)	Biomass (t)	Area (ha)	Mean Density (no/m²)	Mean Weight (t/ha)	Biomass (t)		
Butterwick	126	41.33	2.06	260	119	68.75	0.55	65	325	80
Wrangle	235	12.73	1.04	243	123	13.08	0.12	14	257	95
Friskney	72	11.25	1.11	79	43	14.00	0.18	8	87	91
Butterwick Ext	162	27.27	1.12	182	217	92.94	0.60	131	313	58
Wrangle Ext	107	10.00	0.37	40	132	41.43	0.33	43	83	48
Friskney Ext	121	10.80	0.63	76	84	10.00	0.13	11	87	87
Boston Main Total	823			880	718			272	1152	76
Roger/Toft	208	40.53	2.98	621	84	978.57	3.26	275	896	69
Gat	73	35.00	1.79	130	36	30.00	0.76	27	157	83
Longsand									0	
Herring Hill	167	57.78	2.35	392	285	194.19	0.93	264	656	60
Black Buoy	163	81.17	3.34	546	168	406.47	4.24	712	1258	43
Mare Tail	309	104.41	4.60	1418	374	517.25	7.50	2801	4219	34
Holbeach	755	67.59	3.10	2341	435	136.79	2.12	922	3263	72
IWMK	300	91.67	4.03	1210	258	328.57	2.55	657	1867	65
Breast	730	63.49	2.90	2114	662	415.30	2.07	1368	3482	61
IWMK/Breast Total	1030			3324	920			2025	5349	62
Thief	9	20.00	2.40	22	0	0.00	0.00	0	22	100
Whiting Shoal	0	0.00	0.00	0	7	10.00	0.02	0	0	0
Daseley's	470	44.89	2.06	967	484	402.87	1.61	778	1745	55
Styleman's	0	0.00	0.00	0	0	0.00	0.00	0	0	0
Pandora	76	98.33	4.68	355	46	1703.00	4.62	212	567	63
Blackguard	0	0.00	0.00	0	0	0.00	0.00	0	0	0
Peter Black	149	23.08	1.09	13	117	23.00	0.19	22	35	37
TOTAL	4232			11009	3674			8310	19319	57
TAC @ 33.3% of Adult	3670									

Figure 1. Distribution of cockles $\geq 14\text{mm}$ Width. The Wash. April 2014

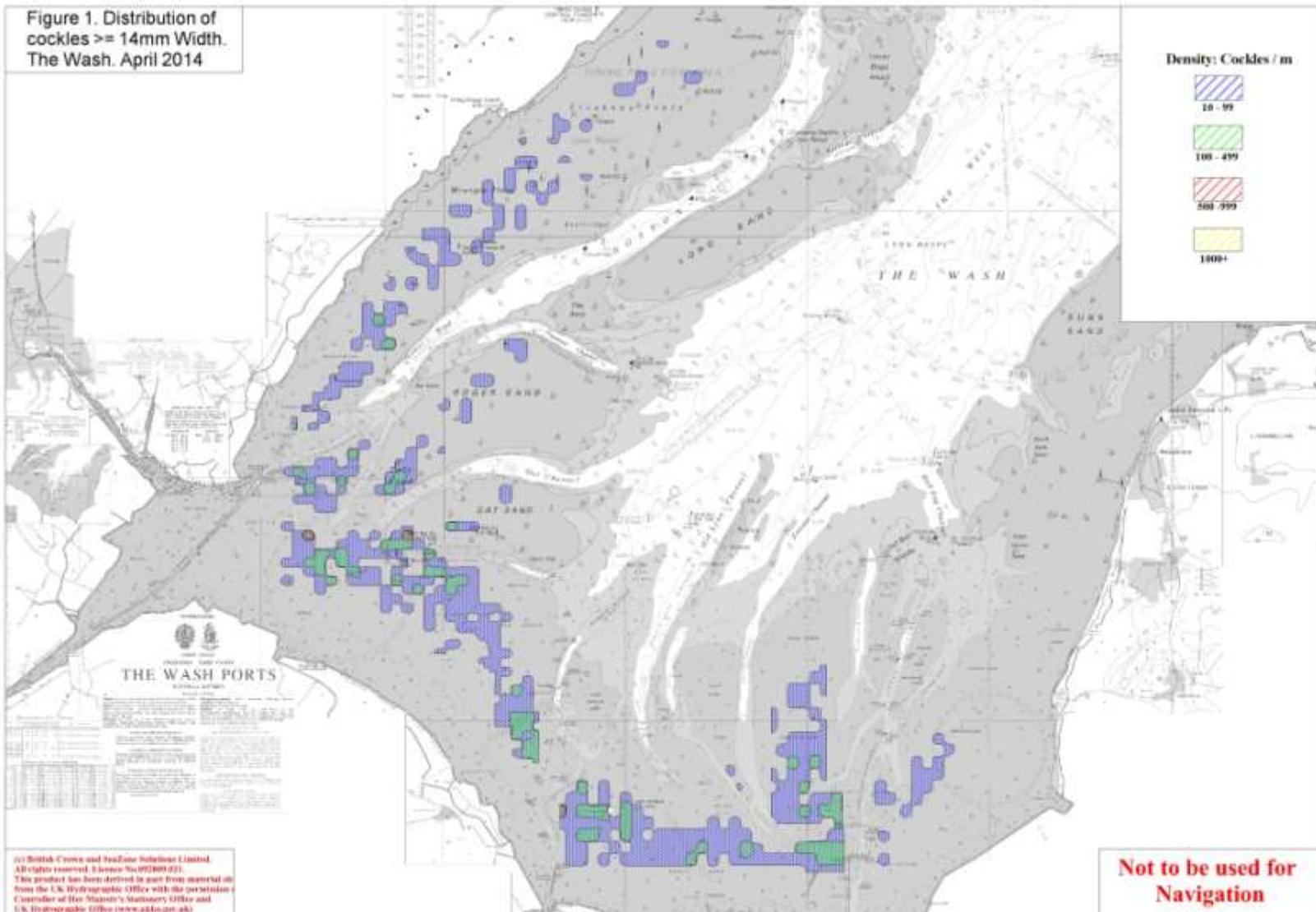


Figure 2. Distribution of cockles <14mm Width. The Wash, April 2014

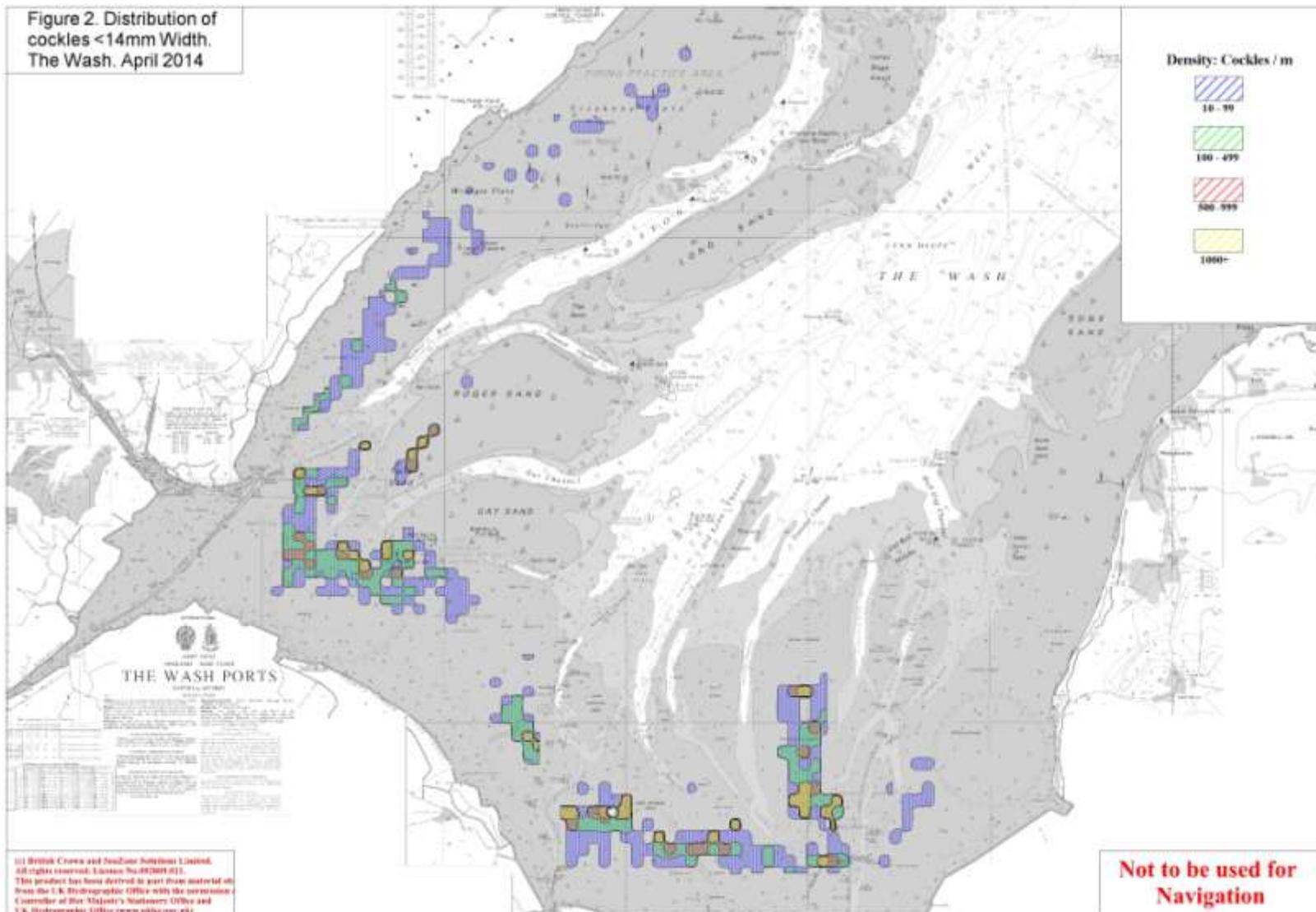


Figure 3. Distribution of 2013 year-class cockles. The Wash, April 2014

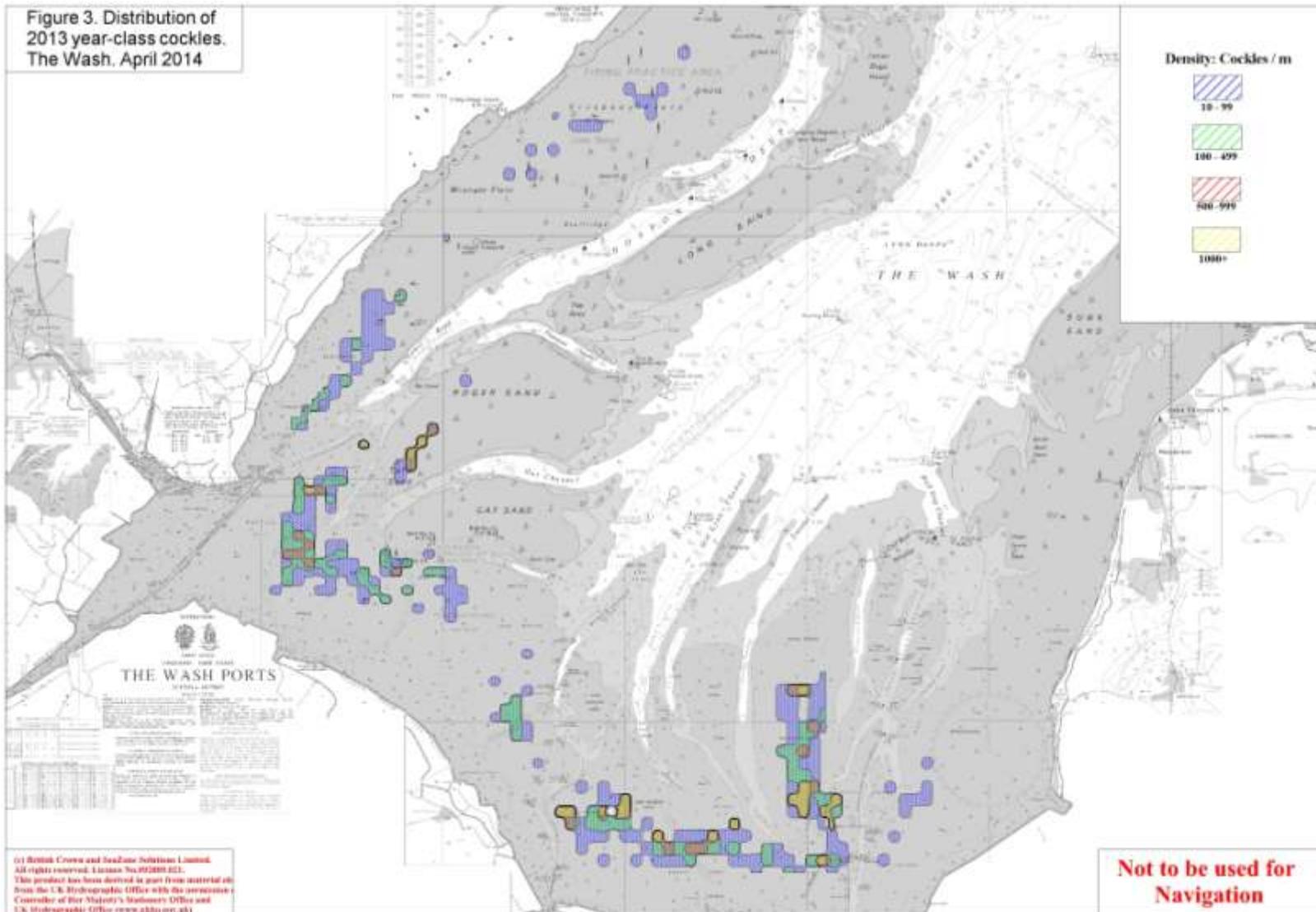


Figure 4. Chart showing areas potentially open for 2014 dredge fishery

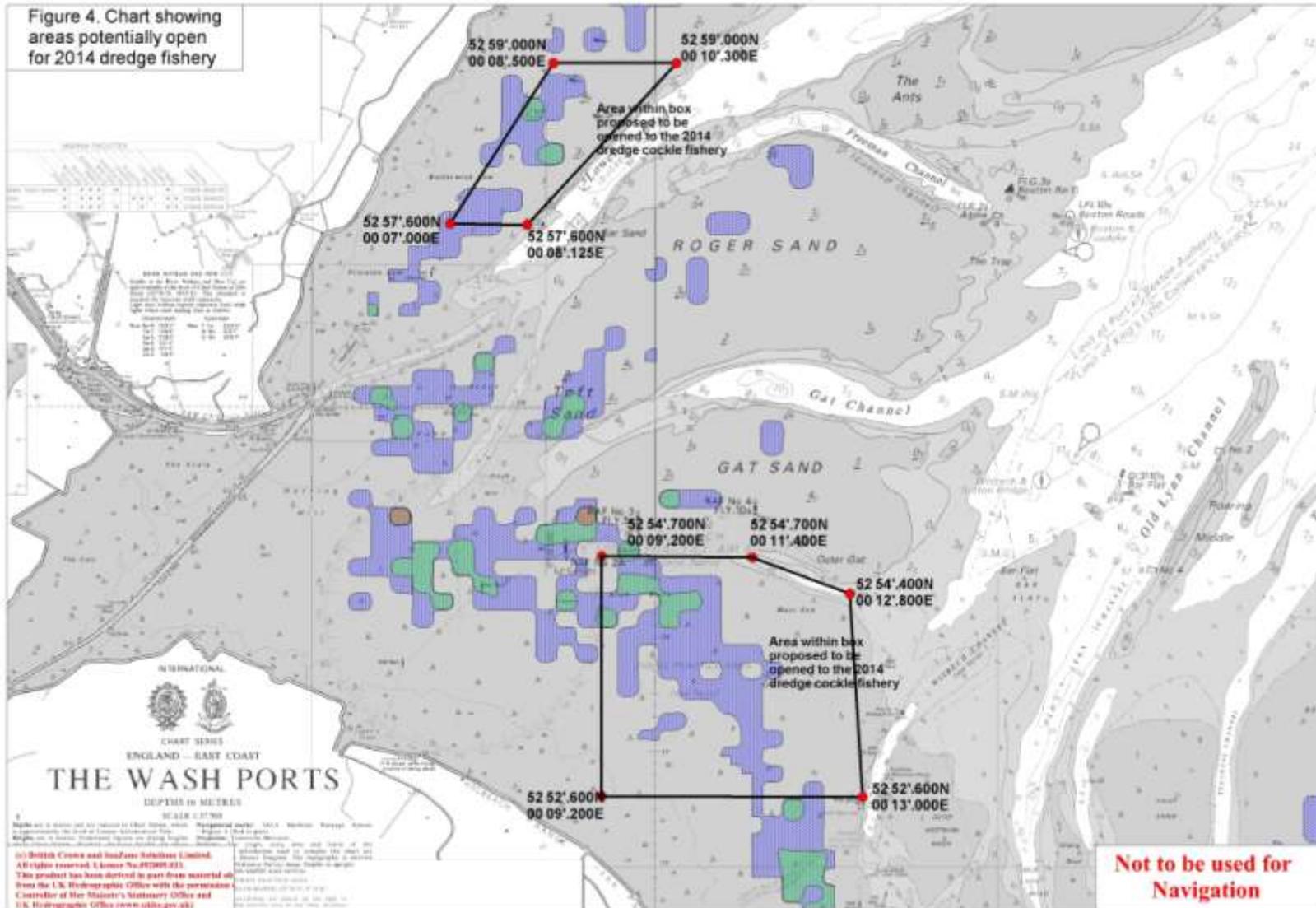


Figure 5 Areas proposed to be closed to the 2014 cockle fishery to protect juvenile cockles

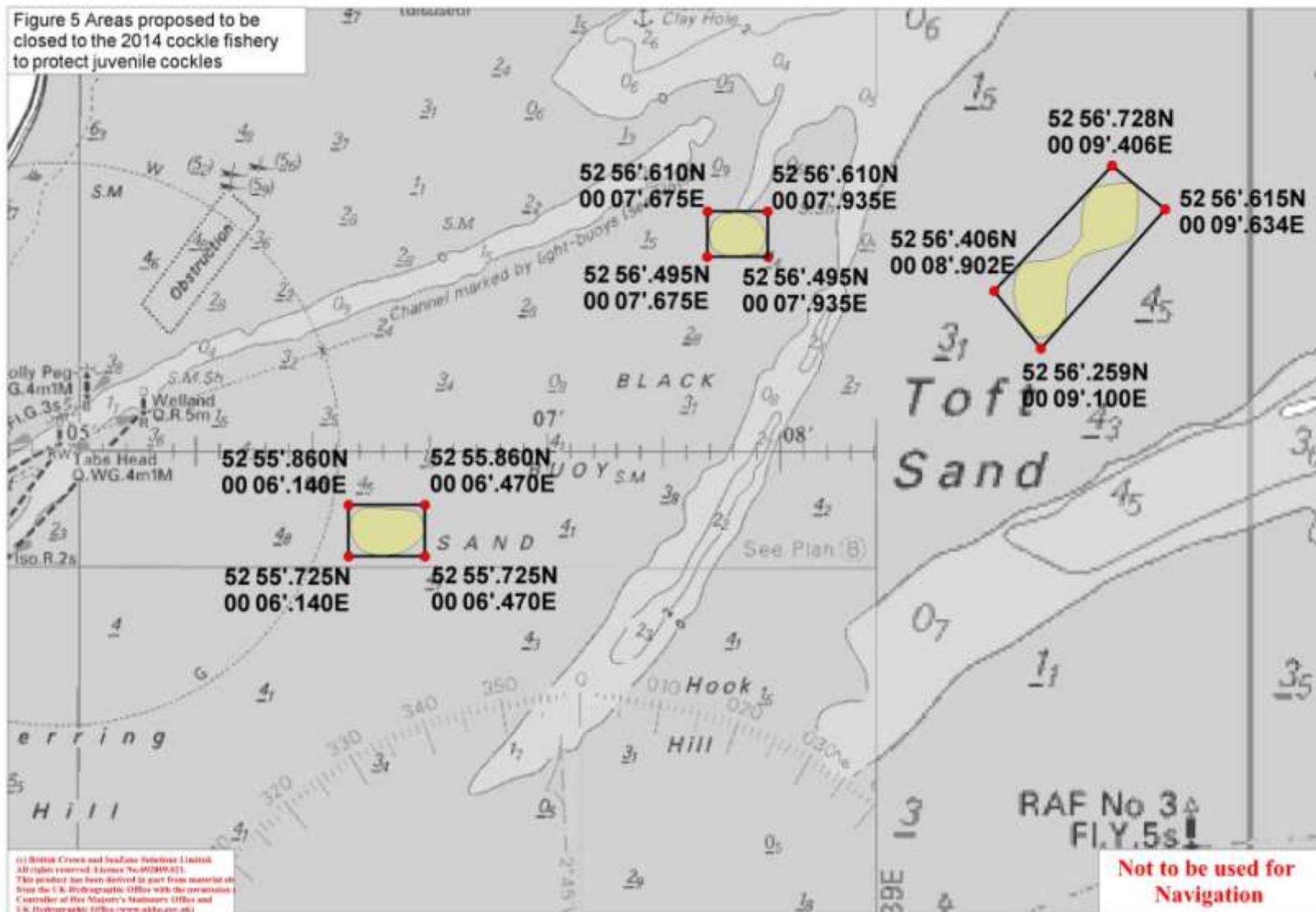


Figure 6. Areas closed to 2014 cockle fishery to protect 2013 year-class juvenile cockles

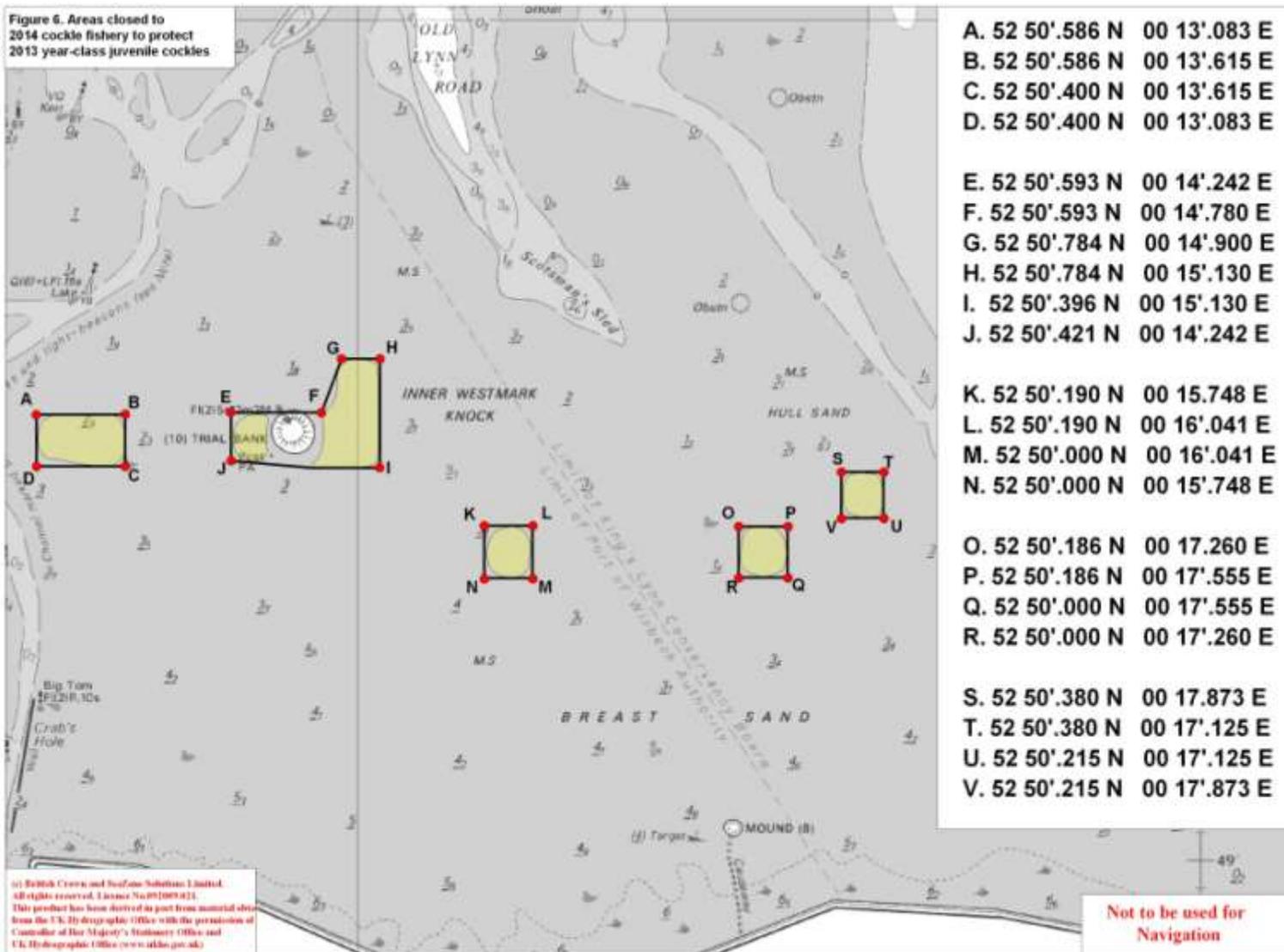
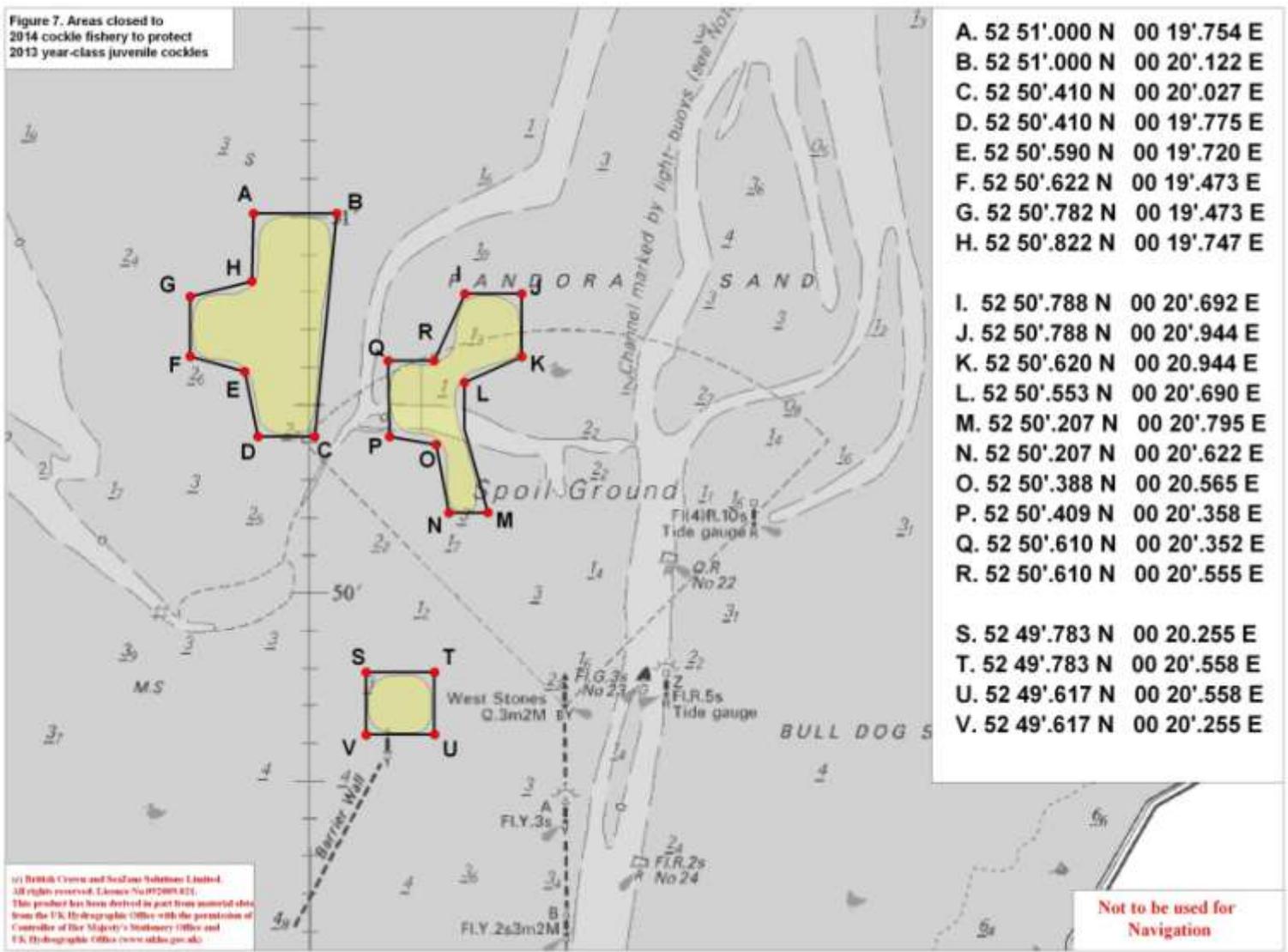


Figure 7. Areas closed to 2014 cockle fishery to protect 2013 year-class juvenile cockles



- A. 52 51'.000 N 00 19'.754 E
- B. 52 51'.000 N 00 20'.122 E
- C. 52 50'.410 N 00 20'.027 E
- D. 52 50'.410 N 00 19'.775 E
- E. 52 50'.590 N 00 19'.720 E
- F. 52 50'.622 N 00 19'.473 E
- G. 52 50'.782 N 00 19'.473 E
- H. 52 50'.822 N 00 19'.747 E

- I. 52 50'.788 N 00 20'.692 E
- J. 52 50'.788 N 00 20'.944 E
- K. 52 50'.620 N 00 20.944 E
- L. 52 50'.553 N 00 20'.690 E
- M. 52 50'.207 N 00 20'.795 E
- N. 52 50'.207 N 00 20'.622 E
- O. 52 50'.388 N 00 20.565 E
- P. 52 50'.409 N 00 20'.358 E
- Q. 52 50'.610 N 00 20'.352 E
- R. 52 50'.610 N 00 20'.555 E

- S. 52 49'.783 N 00 20.255 E
- T. 52 49'.783 N 00 20'.558 E
- U. 52 49'.617 N 00 20'.558 E
- V. 52 49'.617 N 00 20'.255 E

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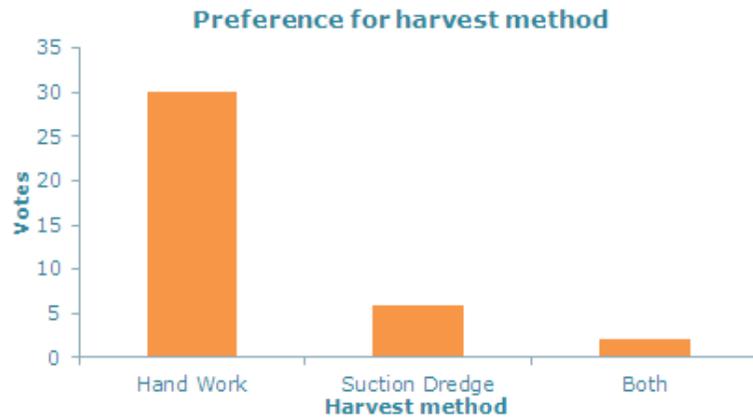
Action Item 7

APPENDIX 2

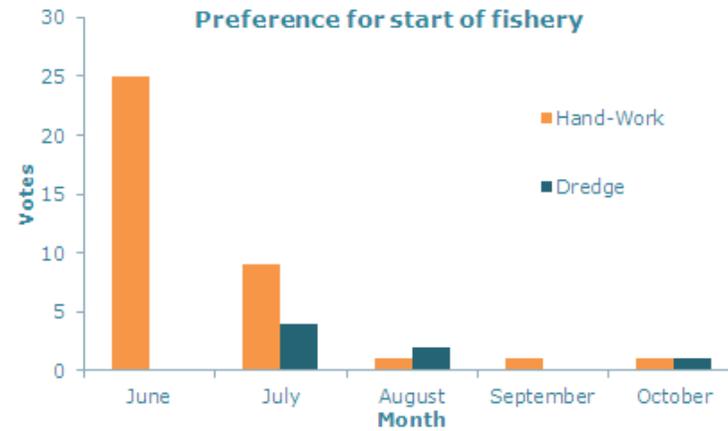
14th Eastern Inshore Fisheries and Conservation Authority meeting

4 June 2014

Consultation results

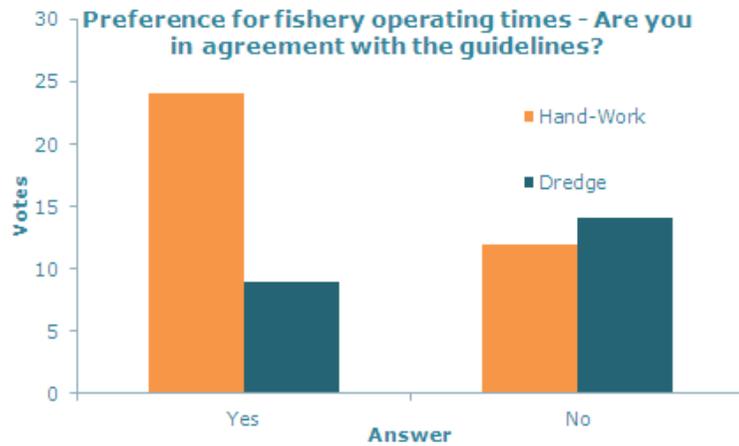


Consultation results



N.B. Votes reflect the number of Entitlement holders rather than the number of entitlements. A total of 36 Entitlement holders responded to the consultation.

Consultation results



Consultation results



N.B. Votes reflect the number of Entitlement holders rather than the number of entitlements. A total of 36 Entitlement holders responded to the consultation.

Action Item 7

APPENDIX 3

14th Eastern Inshore Fisheries and Conservation Authority meeting

4 June 2014

Key:

	Negligible risk
	Manageable risk
	Evident risk
	Significant risk

Liability of introduction of risk				
Marine and Coastal Access Act 2009 duty	Risk to delivery of MaCAA duties	Dredge	Hand-work	Comment
Seek to ensure that the exploitation of sea fisheries resources is carried out in a sustainable way	Intensity of effort	Evident	Manageable	The tempo, intensity and highly dynamic nature of a dredge fishery is judged to introduce a significant risk of over exploitation of beds that have been opened or via the opportunistic exploitation of other beds. Whilst the TAC is finite and all cockles exploited will count against the overall

Liability of introduction of risk				
Marine and Coastal Access Act 2009 duty	Risk to delivery of MaCAA duties	Dredge	Hand-work	Comment
Seek to ensure that the exploitation of sea fisheries resources is carried out in a sustainable way				<p>catch, previous behaviours have shown that closed or restricted areas are targeted when enforcement presence is not overt.</p> <p>Conversely, a hand worked fishery is operated at a lesser tempo and is a more fixed activity that will enable IFCA staff to apply a sustained and sustainable monitoring effect and thereby mitigate any risk of overfishing</p>
	Excessive breakage	High	Negligible	<p>The excessive breakage rates that may be associated with a dredge fishery through poorly tuned and/or operated fishing gear will hazard the sustainability of stocks.</p> <p>There is no correlation with a hand-worked fishery.</p>
	Displacement			A dredge fishery by its nature

Liability of introduction of risk				
Marine and Coastal Access Act 2009 duty	Risk to delivery of MaCAA duties	Dredge	Hand-work	Comment
Seek to ensure that the exploitation of sea fisheries resources is carried out in a sustainable way		Manageable	Manageable	<p>will cause the stocks of cockle to be harvested more quickly which may lead to the fishing community seeking to exploit other fisheries within the district and may introduce a risk of displacement. This must be balanced against that fact that a vessel rigged for dredging cannot exploit another fishery. Furthermore, vessels used for dredging operations often enter a maintenance period after the fishery has closed.</p> <p>The greater duration of a hand-worked fishery is likely to occupy a greater number of fishing operators for a longer period. That said, a vessel used for a hand worked fishery can easily change to fish for another target species increasing the risk of displacement.</p>

Liability of introduction of risk				
Marine and Coastal Access Act 2009 duty	Risk to delivery of MaCAA duties	Dredge	Hand-work	Comment
Seek to ensure that the exploitation of sea fisheries resources is carried out in a sustainable way				
	Threat to long term sustainability of stocks	Evident	Manageable	<p>On balance, using the detail listed below, it is judged that a dredge fishery conducted in a manner similar to that experienced previously within the Wash will introduce the most risk to the long term sustainability of stocks.</p> <p>It should be noted that dredged catch is separated at the dredge head or riddled on-board, which results in smaller cockles being discarded. However, those that are discarded suffer from very high mortality rates if they are damaged and up to 20% die even if apparently undamaged. This represents an unsustainable loss of stock when balanced against the long term viability of the fishery.</p> <p>A hand worked fishery requires</p>

Liability of introduction of risk				
Marine and Coastal Access Act 2009 duty	Risk to delivery of MaCAA duties	Dredge	Hand-work	Comment
Seek to ensure that the exploitation of sea fisheries resources is carried out in a sustainable way				cockles at a certain density to make it viable and may not include riddling. This introduces risk if dense juvenile stocks are targeted as opposed to beds with less dense adult stock. This is mitigated by the relative inefficiency of hand-working which does not enable exploitation to a level that can be achieved via mechanical means. Similarly, if hand workers knowingly target juvenile and undersized cockles in easily accessible beds whilst ignoring larger adult cockles present in lower densities on beds that are further afield, it can threaten the sustainability of stocks. In 2013, despite the recommendations of officers, fishers elected to target juvenile cockles but this behaviour was supported by market conditions that demanded smaller cockle

Liability of introduction of risk				
Marine and Coastal Access Act 2009 duty	Risk to delivery of MaCAA duties	Dredge	Hand-work	Comment
<p>Seek to ensure that the exploitation of sea fisheries resources is carried out in a sustainable way</p>				<p>meats. One of the key mitigation factors is for buyers to demand adult cockle and decline landings of juveniles.</p> <p>An additional risk to sustainability is introduced if mounds of cockles are not raked out once the daily quota has been exploited as there is a risk that large numbers of cockles may die</p> <p>There is conflicting evidence regarding recovery of the grounds. In the Wash there is evidence that some beds have taken longer to recover following a dredge fishery. Equally there are reports from Cefas and other that clearly state that either dredging has no effect on subsequent spat settlement or indeed that dredging promotes physical and chemical attraction</p>

Liability of introduction of risk					
Marine and Coastal Access Act 2009 duty	Risk to delivery of MaCAA duties		Dredge	Hand-work	Comment
					resulting in increased spatfalls.
	Trans-shipping		Evident	Manageable	<p>Transshipping is not permitted where a vessel is carrying dredge equipment (Council Regulation 850/98). The quantities that can be harvested using a dredge mean that there is a risk of trans-shipping in a dredge fishery in order to disguise the true quantity taken from the fishery by individual vessels</p> <p>There risk in a hand-worked fishery is still evident but less likely and therefore manageable.</p>
Seek to balance the social and economic benefits of exploiting the sea fisheries resources of the district with the need to protect the marine environment from, or	Disturbance	Sediment	High	High	<p>Disturbance to sediments that support other flora and fauna within the Wash European Marine site is a key concern.</p> <p>Both dredging and hand worked (augmented by prop washing)</p>

Liability of introduction of risk					
Marine and Coastal Access Act 2009 duty	Risk to delivery of MaCAA duties		Dredge	Hand-work	Comment
promote its recovery from, the effects of such exploitation					<p>methods introduce significant risk if conducted badly.</p> <p>A dredge blade that is allowed to excessively penetrate the ground will have a churning effect that enables the toxic lower sediments which do not support marine life to be exposed over wide areas relatively quickly. This is mitigated by the impact of poorly deployed dredge gear which would quickly affect the steerage of the vessel so would be evident and also the dredge would block causing an interruption to fishing effort which would not make economic sense.</p> <p>Best available evidence suggests that dredging at high intensity can increase recovery time of benthic communities to the</p>

Liability of introduction of risk					
Marine and Coastal Access Act 2009 duty	Risk to delivery of MaCAA duties		Dredge	Hand-work	Comment
<p>Seek to balance the social and economic benefits of exploiting the sea fisheries resources of the district with the need to protect the marine environment from, or promote its recovery from, the effects of such exploitation</p>					<p>detriment of the ecosystem. Again this can be mitigated by management measures including opening other beds and/or restricting effort when catch falls below a certain quantity per hour.</p> <p>The key risk associated with a hand worked fishery is the routine use of 'prop washing' or as a method of gathering cockles before harvesting. It has been used regularly within the Wash and when poorly conducted causes deep and lasting impact upon the grounds, which is judged to be at least as damaging as poorly conducted dredging. It should be noted that in 2013 the behaviours in the fishery were encouraging with no instances of excessive prop washing causing damage to the beds.</p>

Liability of introduction of risk					
Marine and Coastal Access Act 2009 duty	Risk to delivery of MaCAA duties		Dredge	Hand-work	Comment
<p>Seek to balance the social and economic benefits of exploiting the sea fisheries resources of the district with the need to protect the marine environment from, or promote its recovery from, the effects of such exploitation</p>					There is no risk of prop wash with a dredge fishery.
		Birds	Manageable	Evident	<p>There is the potential for a hand-worked fishery to have the greater disturbance effect on birds owing to the nature and duration of the fishing activity. However, this can be mitigated by the use of closed areas and appropriate enforcement presence and monitoring.</p> <p>Dredge fishing although causing a disturbance effect is more transitory and therefore less of a risk.</p>
		Seals	Negligible	Manageable	<p>A hand-worked fishery if coincident with the locations of seal populations will have an effect but this can be mitigated by the use of closed areas</p> <p>A dredge fishery is unlikely to cause any disturbance to seal</p>

Liability of introduction of risk					
Marine and Coastal Access Act 2009 duty	Risk to delivery of MaCAA duties		Dredge	Hand-work	Comment
					populations.
		Mussels	Evident	Negligible	It is judged that there is a risk of damage to adjacent mussel beds if dredges are not controlled precisely. Hand-working will have a negligible impact upon adjacent mussel beds.
	Excessive breakage		Evident	Negligible	The risk of excessive breakage rates is significant. Should excessive breakage rates remain unchecked there is a direct correlation with stocks available to support bird stocks, which would need to be reflected in the determination of Total Allowable Catch. To mitigate the impact of excessive breakage rates management measures to mandate a riddle size of 12mm and introduce restrictions on discards can help to reduce the

Liability of introduction of risk				
Marine and Coastal Access Act 2009 duty	Risk to delivery of MaCAA duties	Dredge	Hand-work	Comment
<p>Seek to balance the social and economic benefits of exploiting the sea fisheries resources of the district with the need to protect the marine environment from, or promote its recovery from, the effects of such exploitation</p>				<p>risk.</p> <p>Hand-working will not introduce a risk of excessive breakage.</p>
	Intensity of effort	Evident	Manageable	<p>The tempo, intensity and highly dynamic nature of a dredge fishery is judged to introduce a significant risk of over fishing either through over exploitation of beds that have been opened or via the opportunistic exploitation of beds situated on the inbound/outbound routes from landing ports. Whilst the TAC is finite and all cockles exploited will count against the overall catch, previous behaviours have shown that closed or restricted areas are targeted when enforcement presence is not overt.</p> <p>Conversely, a hand worked fishery is operated at a lesser tempo and is a more fixed</p>

Liability of introduction of risk				
Marine and Coastal Access Act 2009 duty	Risk to delivery of MaCAA duties	Dredge	Hand-work	Comment
<p>Seek to balance the social and economic benefits of exploiting the sea fisheries resources of the district with the need to protect the marine environment from, or promote its recovery from, the effects of such exploitation</p>				activity that will enable IFCA staff to apply a sustained and sustainable monitoring effect and thereby mitigate any risk of overfishing
	Breach of fishing gear requirements	Evident	Manageable	The risk introduced through any breach of fishing gear requirements is judged to be greater for a dredge fishery by dint of the rate of fishing enabled by mechanical means. The last dredge fishery was conducted in 2008 and gear would ideally be fully set to work and tested in advance. This is not possible and members should note that all gear must be inspected by IFCA officers and certified to assure fitness for purpose. The logistics of conducting this activity on circa 50 fishing vessels within the

Liability of introduction of risk				
Marine and Coastal Access Act 2009 duty	Risk to delivery of MaCAA duties	Dredge	Hand-work	Comment
				<p>requisite timescales will be significant. Such inspection would enable some mitigation of the risk but it is judged not to be material to the overall judgement.</p> <p>Previously the routine use of anchors and/or bags to enable prop washing was considered a distinct risk associated with a hand worked fishery. Following a brief trial in 2013 it was demonstrated that using a bag to fix the head of the vessel can, with appropriate use of engine power, reduce the impact of prop washing. This will require further experimentation before the overall risk is able to be reviewed.</p>
	Fishing in prohibited areas	High	Manageable	There is a greater risk of fishing in prohibited areas associated with a dredge fishery. Staff

Liability of introduction of risk				
Marine and Coastal Access Act 2009 duty	Risk to delivery of MaCAA duties	Dredge	Hand-work	Comment
				<p>resource constraints mean that the risk is not able to be mitigated in any meaningful way which drives an assessment of significant risk.</p> <p>By its nature a hand worked fishery is more fixed activity and any risk of fishing in prohibited areas can be mitigated relatively easily.</p>
	Displacement	Manageable	Manageable	<p>A dredge fishery by its nature will cause the stocks of cockle to be harvested more quickly which may lead to the fishing community seeking to exploit other fisheries within the district and may introduce a risk of displacement. This must be balanced against that fact that a vessel rigged for dredging cannot immediately exploit another fishery. Furthermore, vessels used for dredging</p>

Liability of introduction of risk				
Marine and Coastal Access Act 2009 duty	Risk to delivery of MaCAA duties	Dredge	Hand-work	Comment
				<p>operations often enter a maintenance period after the fishery has closed.</p> <p>The greater duration of a hand-worked fishery is likely to occupy a greater number of fishing operators for a longer period. That said, a vessel used for a hand worked fishery can easily change to fish for another target species increasing the risk of displacement.</p>
Seek to balance the different needs of persons engaged in the exploitation of sea fisheries resources in the district	Fishing capability	High	Negligible	<p>Not all within the Wash fishing community possess the capability to exploit the fishery via suction dredge means which means a decision to prefer a dredge fishery alone will effectively restrict a number from within the community from fishing at all which immediately challenges the delivery of the statutory duty to 'balance the</p>

Liability of introduction of risk				
Marine and Coastal Access Act 2009 duty	Risk to delivery of MaCAA duties	Dredge	Hand-work	Comment
				needs of all within the fishery'. A hand-worked fishery can be pursued by all.
	Socio-Economic	Evident	Manageable	The shorter duration of a dredge fishery introduces a greater risk of socio-economic impact through foreshortened employment opportunities for those who rely heavily on income from the cockle fishery. It should however be noted that all Wash based vessels with the requisite licences can exploit other Wash based fisheries once the cockle season has completed and it is a matter of personal choice whether they decide to do so. That said, this can increase pressure on the other Wash fisheries and stifle attempts to rest other stocks. Greater pressure on stocks leads to lowered catches therefore

Liability of introduction of risk				
Marine and Coastal Access Act 2009 duty	Risk to delivery of MaCAA duties	Dredge	Hand-work	Comment
Seek to balance the different needs of persons engaged in the exploitation of sea fisheries resources in the district				decreased income Conversely, a hand worked fishery provides for sustained employment opportunities and represents the preference of the majority with the fishery.
	Corporate profitability	Negligible	Manageable	For the larger commercial fishing operations in the Wash, those who have invested heavily in vessels, fishing gear and ancillary processing equipment, a dredge fishery represents the most viable business opportunity. It enables cockles to be gathered quickly for subsequent processing not the live market (which is the most valuable) when they are at their maximum meat yield (and profitability) as judged by the Processors and it allows for

Liability of introduction of risk				
Marine and Coastal Access Act 2009 duty	Risk to delivery of MaCAA duties	Dredge	Hand-work	Comment
				<p>efficiencies in employment and other overheads costs. It provides a return on investments made to date and supports local employment opportunities.</p> <p>Furthermore, small business models can profit from a harvest of bigger, more valuable cockles from less dense beds allowing juveniles to grow on and support subsequent fisheries.</p> <p>A longer duration, lower tempo hand worked fishery that does not necessarily target the most profitable cockle stocks introduces more risk to the larger business model and does not allow for business efficiencies which may introduce overall risk to the viability of the business and hence the</p>

Liability of introduction of risk				
Marine and Coastal Access Act 2009 duty	Risk to delivery of MaCAA duties	Dredge	Hand-work	Comment
				employment opportunities associated with it.
	District wide impact	High	Manageable	<p>A dredge fishery will consume all Enforcement resource and the majority of other officers for the duration which means that resources will be withdrawn from duties elsewhere in the district which will hamper support to other commercial and recreational fishing activities</p> <p>A hand-worked fishery gives greater latitude to manage district wide duties in tandem with Wash based activity.</p>
	Regulatory interference	High	Manageable	The requirement for EIFCA officers to individually board each fishing vessel to inspect all dredge gear will inevitably drive

Liability of introduction of risk				
Marine and Coastal Access Act 2009 duty	Risk to delivery of MaCAA duties	Dredge	Hand-work	Comment
				<p>a higher risk of interference with fishing operations.</p> <p>This will not be the case for a hand worked fishery as routine presence and monitoring will be sufficient to assess compliance.</p>

14th Eastern Inshore Fisheries and Conservation Authority meeting

4 June 2014

Wash Cockle Fishery Enforcement Capability Risk Assessment

Introduction

The cockle survey report for 2014 indicates that there is the potential for either a hand worked or a combined hand worked and dredge fishery. Previous experience would suggest that each option will present different challenges in terms of ensuring compliance with the Wash Fishery Order (WFO) and associated regulatory requirements. The purpose of this risk assessment is to inform the decision making process on the type and extent of the fishery for 2014.

It is relevant to note that the fishery takes place in a European Marine Site and as such there is an obligation upon Eastern IFCA to ensure that it operates in a proper manner. It could be said that the increasing scrutiny surrounding the management of such sites provides an additional focus on this responsibility and it should be noted that there has previously been a challenge to the hand worked fishery in the form of legal correspondence complaining about the level of damage to sandbanks in the Wash.

It is also relevant to note that there hasn't been a dredge fishery in the Wash since 2008 and that since then there have been some significant changes in enforcement capability.

Better Regulation and Enforcement

Eastern IFCA recognises that the best way to achieve compliance with the law in the first place is to ensure, by guidance and advice, that those carrying out regulated activities understand the nature and extent of their responsibilities and comply voluntarily.

The Legislative and Regulatory Reform Act 2006 placed the seven Hampton principles of good regulation on a statutory footing. The Act introduced a new code of practice for regulators known as the Regulators' Compliance Code. The Code, which came into force on 8 April 2008, specifies the regulatory functions to which the seven principles should apply.

The effective use of enforcement powers in regulatory schemes is important to secure compliance with the law and, where necessary, to ensure that those who have not complied may be held to account. Enforcing authorities need to take into account the need to maintain a balance between enforcement and other advisory activities when allocating resources.

i) Proportionality

Proportionality in securing compliance will generally involve taking account of the degree of the risk of harm caused by non-compliance. Sometimes, however, the precautionary

principle will require enforcement action to be taken even though the risks may be uncertain.

ii) Consistency

Consistency means taking a similar approach in similar cases to achieve similar outcomes within which a degree of discretion is available. There are many variables to be taken into account in using discretion to achieve an outcome, such as the attitude and competence of the regulated person to bringing about the outcome sought.

iii) Transparency

Transparency means helping those regulated to comprehend what is required of them at the outset and setting out what they may expect from Eastern IFCA in return. It also involves making clear what remedial action is required from the regulated person and providing details of any rights of appeal etc.

iv) Targeting

Targeting of enforcement action means prioritising and directing regulatory effort effectively. This means concentrating on the activities which create the most serious risk, either because the nature of the activity is inherently high-risk or because of a lack of appropriate controls or appropriate attitude in other less high-risk activities. It also involves identifying and focusing on those responsible for the risk.

Wash Fishery

Previous experience of regulating the Wash fishery indicates that many within the fishing community work responsibly and comply with the regulatory framework. However, it is also clear that there are some who are prepared to act less responsibly (e.g. excessive damage to sandbanks during 2012). This combined with the sensitive nature of the environment in the Wash means that a precautionary approach to enforcement activity is necessary to ensure compliance with regulatory requirements.

Transgressions

The potential transgressions of the regulatory framework will vary according to the type of fishery that is agreed but the primary issues are judged to be as follows:

Hand Worked

- Exceeding daily landings quota (2000 kg)
- Fishing in prohibited areas
- Use of anchor or bag when prop washing

Dredge

- Exceeding daily landings quota (4000 kg)
- Breach of fishing gear requirements
- Breakage rates in excess of 10%
- Fishing in prohibited areas
- Trans-shipping

It is judged that breach of daily quota, fishing in prohibited areas and trans-shipping are a higher risk in a dredge fishery due to the ease with which they can be committed and the ability to fish for higher volumes in a shorter space of time.

The risk of excessive damage to sandbanks exists for both fisheries. With a hand worked fishery the risk arises from excessive 'prop-washing' or driving off sands before there is sufficient water to do so, both of which occurred during the 2012 fishery. With a dredge fishery the risk arises from fishing on closed banks with muddy sediment, where the damage caused can persist for some considerable time.

Resources

As a consequence of the transition from a Sea Fisheries Committee to an IFCA the number of warranted officers on establishment reduced from 16 officers (including the CEO and Deputy CEO) to 10 including the Head of Marine Protection (HoMP). Recent re-organisation will ultimately see 11 warranted officer but ongoing recruitment processes mean that there are currently 9 including the HoMP. Whilst it is possible to supplement officers with colleagues from the research and Environment teams the reality is that the majority of these staff are not appropriately trained and are restricted to acting in a support capacity.

Changes in the enforcement environment also resulted in the sale of the 24m mother/daughter enforcement vessel, *Protector III*, and an interim cabin RIB, *FPV John Allen*, has been in operation for a year. The RIB *Pisces* is also available for deployment but has some limitations in terms of size and sea keeping capability.

The inevitable consequences of these changes are that previous tactics employed for regulating the fishery, such as a sustained presence at sea, are now more difficult to achieve. It should be noted that heavy resource requirements in the wash inevitably lead to the reminder of the District

Tactical options

The tactical options employed to regulate the fishery are similar for both types but the extent to which they are required will be influenced by the type of fishery (dredge or hand worked), the level of resource available and the risk of non-compliance. The primary tactical options are:

- Encourage compliance through education, guidance and advice
- Ensuring compliance with WFO 1992 licensing requirements
- Monitor landings through physical presence in ports (Boston and Kings Lynn)
- Monitor landings through records from Processors
- Inspection of gear in port
- Inspection of gear at sea
- Monitor activity at sea through continued physical presence
- Monitor activity at sea through targeted physical presence

Logistical Considerations

Hand Worked

The key times for an enforcement presence at sea for a hand worked fishery are when vessels are 'laying on' the sands or re-floating with the tide, when excessive damage can be caused by excessive 'prop-washing' or by vessels getting underway before there is sufficient water.

The key time for presence in ports is when vessels are landing the day's catch.

Given that fishing activity is usually conducted over a single tide during daylight hours each day and that fishing activity is usually restricted to four days at a time an effective enforcement presence is more easily achieved. This is balanced against the fact that a hand worked fishery usually goes on for a significant period of time (circa four months in 2013).

Dredge

A dredge fishery normally operates over two tides each day for a four day period. The nature of the fishery means that both landings and fishing at sea can occur throughout the 24 hour period, with no easily identified key times.

The 24 hour nature of the fishery means that an effective enforcement presence is more difficult and that a sustained presence is unachievable with existing resource levels. This is balanced against the fact that a dredge fishery is usually over fairly quickly, sometimes a matter of weeks as opposed to months.

An important factor to consider in relation to a dredge fishery is the regulation of breakage rates. The requirement to meet breakage rates of 10% or less is contained within 'Eastern Sea Fisheries Joint Committee Fisheries Management Policies', which reflects the requirements of Byelaw 3. Additionally, all dredge gear must be of a pattern specified in the Schedule to Regulation No. 1 of the Wash Fishery Order. This provides, in relation to cockle dredges, that:

- Hydraulic suction dredge width (aggregate) maximum inside opening 0.76m
- Hydraulic suction dredge head bar spacing maximum 14mm
- Number of hydraulic suction dredges 1
- Riddle bar spacing maximum 12mm
- Dredges, pipes and pumps to adhere to the requirements laid down in Byelaw 3

Byelaw 3 provides that a certificate of approval from the Authority is required for fishing gear used to fish for molluscan shellfish, Such a certificate is valid until 31st December following approval and such approval will take account of the performance and assessment during inspection of the gear whilst in operation, or that of a similar design, during the preceding 12 months. New fishing gear may be given a provisional certificate of approval for a period of one month in order to permit assessment.

Given that there hasn't been a dredge fishery since 2008 it is unlikely that any current certificates of approval are in existence. The implications of this are that it would be necessary to issue provisional certificates to a large number of vessels (circa 40) with a view to undertaking inspections during the first month of the fishery.

With regard to assessing smash rates previous practice has been to inspect every vessel at least once, with those that fail being inspected twice. Experience indicates that this would require the deployment of *RV Three Counties* with a crew of six as a working platform, together with the RIB *Pisces* to undertake inspections throughout the . It is estimated that it can take up to two weeks to undertake first inspections and that those vessels that fail will require a further inspection. Previous practice has been to undertake up to two additional inspections, taking the time required to complete the exercise in excess of 2-3 weeks.

It is relevant to note that the likely TAC for a dredge fishery in 2014 would be circa 1400 tonnes, which equates to approximately 350 individual vessel landings or ten days fishing effort for 35 boats. This would mean that inspections of gear for both certification purposes and smash rates would be unlikely to be achievable whilst the fishery is in operation.

This could be mitigated by initial inspection of the gear prior to the fishery followed by reliance upon 12mm riddles to reduce discarded cockle mortality as a consequence of damage. It is relevant to note that previous research led to the introduction of the combination of a 12mm riddle with 14mm bar spacing

Operating Hazards

Operations at sea inevitably entail an element of risk, which is mitigated through appropriate risk assessments and the introduction of mitigating factors to reduce or manage the risk. It is judged that the level of risk posed by a hand-worked fishery is relatively low as fishing vessels are afloat and underway only on passage to and from port as they dry out on the sands in order to undertake hand raking. Additionally, boarding operations are not usually a high priority as their utility as a tactical option is limited.

Operations at sea during a dredge fishery are a higher risk due to vessels being afloat and underway whilst fishing. Previous observed behaviours have been for large numbers of vessels to be circling in close proximity to each other as they undertake dredging operations both during daylight hours and during hours of darkness. Whilst it can be argued that fishing skippers are skilled at helming their vessels, such practices inevitably increase the risk of collision and they make boarding operations difficult, particularly in adverse weather conditions. It is relevant to note that only two sands are available to be opened to dredge fishing in 2014, which would mean that vessels would be concentrated in a smaller area.

Risk Assessment

The most commonly used model for risks assessments is to map likelihood of occurrence against the impact of something occurring. It is suggested that the factors for consideration here do not lend themselves to this model as it is necessary to consider the capacity and capability of Eastern IFCA to implement tactical options as well as considering the likelihood of transgressions and their potential impact. To achieve this would require a complex model so instead a relatively simple model has been use to illustrate the factors for consideration against each type of fishery.

Factor	Hand worked	Dredge	Comment
Risk of transgression			Previous experience suggests that the risk of fishing in prohibited areas, trans-shipping and breaching daily quotas are all higher for a dredge fishery
Resources			Resource requirements for a dredge fishery are significantly higher, particularly in relation to addressing smash rates
Logistics			The 24 hour nature of a dredge fishery increases resource requirements. Undertaking gear inspections would be particularly resource intensive
Operating hazards			Navigation/fishing practices by fishing vessels combined with weather conditions and the hours of darkness increase the level of risk for boardings

Key

Level	Descriptor
	Low level of risk Low risk of occurrence Able to match resource to demand
	Medium level of risk Medium risk of occurrence Difficult to match resource to demand
	High level of risk High risk of occurrence Unable to match resource to demand

Discussion

The fact that the Wash cockle fishery takes place in a European Marine Site combined with evidence of transgressions by a small number of fishers suggests that a precautionary approach to enforcement is necessary. The practical implications of this are that the described tactical options will be need to be employed to ensure that there is effective regulation of the fishery. Whilst this will be undertaken proportionately it will still represent a significant commitment for the Marine Protection team.

It is also clear that the ability of Eastern IFCA to undertake enforcement activity is significantly reduced in comparison with that which existed previously. This is as a consequence of the wider responsibilities of an IFCA when compared with a Sea Fisheries Committee.

Changes in approach such as a more targeted approach to monitoring landings and presence at sea combined with encouraging compliance through education, guidance and advice may help to mitigate this change in capability.

Conclusion

It can be seen that from an enforcement perspective a dredge fishery represents a higher risk and would be more difficult to regulate than a hand worked fishery. A combination of both fisheries running concurrently would further increase the stretch on resources and capability.