

Title: Southern IFCA ‘Fishing for Cockles’ Byelaw IA No: SIFCA 011 Lead department or agency: Southern Inshore Fisheries and Conservation Authority (SIFCA) Other departments or agencies: Natural England	Impact Assessment (IA)
	Date: 11/11/2014
	Stage: Development/Options/consultation
	Source of intervention: Domestic
	Type of measure: Secondary legislation
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Summary: Intervention and Options

What is the problem under consideration? Why is government intervention necessary?

The Inshore Fisheries and Conservation Authorities have a nationally agreed high level objective (HLO) of completing a review of all legacy byelaws by April 2015. As a result of the review, some byelaws will be remade, some will be amended, others will be amalgamated and those that are irrelevant or no longer needed will be revoked. The subject of this IA is the Southern Sea Fisheries District Committee (SSFDC) ‘Cockles’ legacy byelaw¹, introduced on 27th July. This byelaw prohibits the fishing for cockles between 1st February and 30th April each year, describes the methods by which cockles are permitted to be fished, prohibits the removal of any cockle that will pass through a square opening of 23.8mm and describes the method by which sorted or sifted cockles shall be returned to the fishery.

The Poole Fishery Order (1985)² is a hybrid Several Order and Regulating Order which allows for the development and promotion of aquaculture and the regulation of wild shellfish harvesting for oysters, mussels and clams. The present Order was originally created in 1915 under the Sea Fisheries (Shellfish) Act 1967 with the last renewal in 1985. The Poole Fishery Order (1985) is due to expire on 30th June 2015 and Southern IFCA intends to create the ‘Poole Harbour Dredge Permit’ byelaw in order to effectively manage the Harbour’s shellfish dredge fishery.

To ensure that there is no duplication in legislation and that shellfish gathering activities are compatible with Poole Harbour’s environmentally designated features it is necessary to consider the revocation and amendment of the ‘Cockles’ byelaw and the simultaneous making of a ‘Fishing for Cockles’ byelaw³.

A ‘Fishing for Cockles’ byelaw will prohibit the fishing for cockles between 1st February and 30th April each year except by use of a dredge from a vessel in Poole Harbour, the byelaw will also describe the methods by which cockles are permitted to be fished and to prohibit the removal of any cockle that will pass through a square opening of 23.8mm. These measures will represent consistency with the existing ‘Cockles’ legacy byelaw whilst the definition of a dredge will develop the robustness of the byelaw.

Through developing a ‘Fishing for Cockles’ byelaw, Southern IFCA is seeking to enhance the environmental, socio-economic and fisheries sustainability of the District’s cockle fisheries, thus fulfilling their obligations under Section 153 of the Marine and Coastal Access Act, 2009⁴. Through maintaining measures that are consistent with the ‘Cockles’ legacy byelaw Southern IFCA is ensuring that the overall environmental sustainability associated with existing cockle fishing methods are maintained. The species is often found within intertidal and shallow tidal areas within the Solent Harbours and Poole Harbour, commonly within environmentally designated areas. These areas are often sensitive to disturbance and as a consequence it may be necessary to review the impacts of cockle fishing methods within these areas on a case by case basis.

What are the policy objectives and the intended effects?

1. To review Southern IFCA's legacy byelaws against the current evidence base and ensure that redundant and duplicate byelaws have been removed and gaps covered.
2. To enhance the environmental, socio-economic and fisheries sustainability within the Southern IFCA District.
3. To introduce effective, robust and consistent management for the Southern IFCA cockle fisheries.
4. To support the development of effective and robust management for the Poole Harbour shellfish fisheries.

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

1. Do nothing.
2. Revoke and amend the 'Cockles' legacy byelaw and simultaneously remake a SIFCA byelaw that provides consistency with preceding legislation and compliments proposed changes to the management of the Poole Harbour shellfish fisheries to manage cockle fisheries within the Southern IFCA District.
3. Revoke the 'Cockles' legacy byelaw.
3. Voluntary measures.
4. MMO management measure.

The preferred option is **OPTION 2**. A 'Fishing for Cockles' byelaw to prohibit the fishing for cockles between 1st February and 30th April each year in all areas except by the use of a dredge in Poole Harbour.. The byelaw will describe the methods by which cockles are permitted to be fished and will prohibit the removal of any cockle that will pass through a square opening of 23.8mm is the most effective approach for Southern IFCA to support the development of environmental, socio-economic and fisheries sustainability within the Southern IFCA District. This approach will enable Southern IFCA to fulfil their obligations under Section 153 of the Marine and Coastal Access Act, 2009. IFCA's are the lead fisheries management authority in inshore waters.

Will the policy be reviewed? It will be reviewed. **If applicable, set review date:** 01/01/2017

What is the basis for this review? Duty to review. **If applicable, set sunset clause date:** Month/Year

Are there arrangements in place that will allow a systematic collection of monitoring information for future policy review?

Yes

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

Signed by the responsible Chairman: _____ Date: _____

Summary: Analysis & Evidence

Policy Option 2

Description:

FULL ECONOMIC ASSESSMENT

Price Base Year NA	PV Base Year NA	Time Period Years NA	Net Benefit (Present Value (PV)) (£m)		
			Low: Optional	High: Optional	Best Estimate: NA

COSTS (£m)	Total Transition (Constant Price) Years	Average Annual (excl. Transition) (Constant Price)	Total Cost (Present Value)
Low	Optional	Optional	Optional
High	Optional	Optional	Optional
Best Estimate	£3,000	-	-

Description and scale of key monetised costs by 'main affected groups'

The effect of the recommended byelaw to commercial fishermen is described in this section as a non-monetised cost. It is estimated that the administrative and legal costs incurred by Southern IFCA in introducing the recommended byelaw will be approximately £3,000. This is discussed further in section 7.

Other key non-monetised costs by 'main affected groups'

As a result of the recommended byelaw there is the potential for cockle fishermen to experience a loss of catch and income, however the compliance with the existing 'Cockles' byelaw has been generally high with a total of four cockles related prosecutions in the area since 1988. Due to the consistency between the recommended byelaw and the existing 'Cockles' byelaw and the high levels of compliance with this legislation it is anticipated that the District's cockle fishermen outside of Poole Harbour will experience no loss in catch or income as a result of the recommended byelaw. As a result of the recommended byelaw there is the potential for cockle dredge fishermen within Poole Harbour to experience a loss of access, catch and income for the cockle fishery. It is anticipated that access, dredge design and season for the Poole Harbour cockle fishery will be restricted through the introduction of the 'Poole Harbour Dredge Permit' byelaw. The dredge permit byelaw is intended to increase the sustainability of the Poole Harbour cockle fishery; however, as this fishery will be managed independently of District wide cockle fisheries there is the potential for the value of the resource to change in relation to the District wide cockle fisheries. It is not possible to estimate the additional cost to enforcement as likely levels of compliance are not known. This is discussed further in section 7.

BENEFITS (£m)	Total Transition (Constant Price) Years	Average Annual (excl. Transition) (Constant Price)	Total Benefit (Present Value)
Low	Optional	Optional	Optional
High	Optional	Optional	Optional
Best Estimate	-	£12,600	-

Description and scale of key monetised benefits by 'main affected groups'

The effect of the recommended byelaw to commercial fishermen is described in this section as a non-monetised cost. This is discussed further in section 7.

Other key non-monetised benefits by ‘main affected groups’

The recommended byelaw is anticipated to provide environmental, socio-economic and fisheries benefits associated with the consistency of managing the District’s cockle fisheries. It is not possible to estimate the potential increase in income through increased catches. It is anticipated that both commercial and recreational cockle fishermen will benefit through maintaining sustainable cockle fisheries. This is discussed further in section 7.

Key assumptions/sensitivities/risks (%)

Discount rate

Information has been gathered from stakeholders through stakeholder consultation meetings. Information gathered from IFCA officers’ and members’ personal knowledge is anecdotal. A key assumption of intervention is that levels of compliance will be high and that the byelaw will continue to support sustainable cockle fisheries within the Southern IFCA District. IFCA Officer’s sightings and landing records have been used to estimate the level of current fishing effort within the District.

BUSINESS ASSESSMENT (Option 2)

Direct impact on business (Equivalent Annual) £m:				In scope of OIOO?	Measure qualifies as		
Costs:	NA	Benefits:	NA	Net:	NA	No	IN/OUT/Zero net cost

Evidence Base (for summary sheets)

1. Introduction
2. Rationale for intervention
3. Policy objectives
4. The options
5. Evidence base
6. Sectors affected
7. Analysis of costs and benefits
 - Costs
 - Analysis of fisheries costs
 - Analysis of administration costs
 - Benefits
 - Analysis of fisheries and environmental benefits
 - Analysis of socio-economic benefits
8. Summary
- References

Evidence Base

1. Introduction

- 1.1 The nationally agreed vision of the IFCAs is that they will *“lead, champion and manage a sustainable marine environment and inshore fisheries within their Districts by successfully securing the right balance between social, environmental and economic benefits to ensure healthy seas, sustainable fisheries and a viable industry”*.
- 1.2 Section 153 of the Marine and Coastal Access Act, 2009 (MaCAA) requires that for the management of inshore fisheries:-
 - (1) The authority for an IFC district must manage the exploitation of sea fisheries resources in that district.
 - (2) In performing its duty under subsection (1), the authority for an IFC district 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, and
 - (d) Seek to balance the different needs of persons engaged in the exploitation of sea fisheries resources in the district.
- 1.3 As a direct consequence of Section 153, the ten Inshore Fisheries and Conservation Authorities (IFCAs) in England are obliged under a nationally agreed high level objective (HLO) to demonstrate that by April 2015, all legacy byelaws have been reviewed and evaluated against current evidence base; redundant and duplicate byelaws have been removed and gaps covered.
- 1.4 Section 154 subsection (1) of the Marine and Coastal Access Act, 2009 (MaCAA) requires that for the management of inshore fisheries the authority for an IFC district must seek to ensure that the conservation objectives of any MCZ in the district are furthered.
- 1.5 The ‘Cockles’ byelaw was introduced on 27th July 1995 and is a Southern Sea Fisheries District Committee (SSFDC) legacy byelaw. This byelaw prohibits the fishing for cockles between 1st February and 30th April each year, describes the methods by which cockles are permitted to be fished, prohibits the removal of any cockle that will pass through a square opening of 23.8mm and describes the method by which sorted or sifted cockles shall be returned to the fishery.
- 1.6 The Poole Fishery Order (1985) is a hybrid Several Order and Regulating Order which allows for the development and promotion of aquaculture and the regulation of wild shellfish harvesting for oysters, mussels and clams. The present Order was originally created in 1915 under the Sea Fisheries (Shellfish) Act 1967ⁱ with the last renewal in 1985. The Poole Fishery Order

(1985) is due to expire on 30th June 2015 and Southern IFCA intends to create the 'Poole Harbour Dredge Permit' byelaw in order to effectively manage the Harbour's shellfish dredge fishery.

2. Rationale for intervention

- 2.1 The Poole Fishery Order (1985) is due to expire on 30th June 2015. In order to effectively manage the fishing for shellfish through the use of a dredge in Poole Harbour following the expiry of the Poole Fishery Order (1985) Southern IFCA intends to create the 'Poole Harbour Dredge Permit' byelaw. Clam and cockle species co-exist, and to a certain extent overlap, within the harbour and they are mostly targeted using very similar fishing methods, either through the use of a hand operated dredge or a mechanically operated pump scoop dredge. The similarity between habitats and fishing methods therefore represents similar issues when considering the impacts of the fisheries on Marine Protected Areas and the management of compliance with regulations. Due to these similarities in habitat and fishing methods the permit issued under the proposed byelaw will include measures to manage the cockle fishery in line with the Harbour's clam fishery. As a consequence of the expected introduction of the 'Poole Harbour Dredge Permit' byelaw, there is the potential for the conditions of the permit issued under this byelaw to conflict with the existing 'Cockles' legacy byelaw.
- 2.2 The inshore waters of Dorset, Hampshire and the Isle of Wight support substantial cockle fisheries, producing combined vessel landings of 22,302kg in 2013 at a value of £36,574⁵. From this total £30,019.60 worth of cockles were caught within the confines of Poole Harbour, representing a significant percentage of the District's total cockle fishery value.
- 2.3 As a direct consequence of Section 153, the ten Inshore Fisheries and Conservation Authorities (IFCAs) in England are obliged under a nationally agreed high level objective (HLO) to demonstrate that by April 2015, all legacy byelaws have been reviewed and evaluated against current evidence base; redundant and duplicate byelaws have been removed and gaps covered. To aid the development of this process Southern IFCA has established a working group to oversee the review of legacy byelaws and the implementation of new regulation.
- 2.6 A proposal from a Southern IFCA working group to manage the Poole Harbour shellfisheries through a dredge permit byelaw was agreed by the Southern IFC Authority at a Joint Committee meeting on the 6th March 2014. During the development of this byelaw the Southern IFCA working group has identified the need to revoke and amend the 'Cockles' legacy byelaw and simultaneously make the 'Fishing for Cockles' byelaw.

3. Policy objective

- 3.1 The policy objective pertinent to this impact assessment is to ensure that effective, robust and consistent management is introduced for Southern IFCA's cockle fisheries. A 'Fishing for Cockles' byelaw will prohibit the fishing for cockles between 1st February and 30th April each year in all areas except

by the use of a dredge from a vessel within Poole Harbour. The byelaw will describe the methods by which cockles are permitted to be fished and will prohibit the removal of any cockle that will pass through a square opening of 23.8mm. These measures will represent consistency with the existing 'Cockles' legacy byelaw whilst the addition of a definition of a dredge will develop the robustness of the byelaw.

- 3.2 The revocation and amendment of the 'Cockles' byelaw and the simultaneous making of the 'Fishing for Cockles' byelaw will ensure that redundant and duplicate byelaws have been removed and gaps in the management of Poole Harbour's shellfish fisheries are covered following the expiry of the Poole Fishery Order (1985) on 30th June 2015 and the subsequent introduction of a dredge permit byelaw.
- 3.3 Through developing a 'Fishing for Cockles' byelaw, Southern IFCA is seeking to enhance the environmental, socio-economic and fisheries sustainability of the District's cockle fisheries, thus fulfilling their obligations under Section 153 of the Marine and Coastal Access Act, 2009. Through maintaining measures that are consistent with the 'Cockles' legacy byelaw Southern IFCA is ensuring that the overall environmental sustainability associated with existing cockle fishing methods are maintained. The species is often found within intertidal and shallow tidal areas within the harbours of the Solent system and Poole Harbour, commonly overlapping with environmentally designated areas. These habitats are often sensitive to disturbance and as a consequence it may be necessary to review the impacts of cockle fishing methods within these areas on a case by case basis.

4. The options

4.1 As part of Southern IFCA's review of the 'Cockles' legacy byelaw a range of options were considered:

4.2 Option 1 'Do Nothing'

4.2.1 This option would involve allowing the 'Cockles' legacy byelaw to remain un-reviewed and potentially conflicting with the permit conditions of the proposed 'Poole Harbour Dredge Permit' byelaw.

4.3 Recommended option

Option 2 A Southern IFCA 'Fishing for Cockles' byelaw.

4.3.1 Under this option the 'Cockles' legacy byelaw will be revoked and amended and the 'Fishing for Cockles' byelaw will be simultaneously made.

4.3.2 Under this byelaw the fishing for cockles between 1st February and 30th April each year will be prohibited in all areas except by the use of a dredge from a vessel within Poole Harbour and the methods by which cockles are permitted to be fished will be restricted to handpicking, the use of a handrake with spaces of no less than 22.5mm between teeth or, except when fished using a dredge from a vessel within Poole Harbour and when the bed is covered by water, a dredge not exceeding 460mm in width by 460mm in depth by 300mm

high with spaces no less than 22.5mm between wires. When using a dredge from a vessel, cockles may only be removed when the dredge has been hauled and lifted into the vessel. The removal of any cockle that will pass through a square opening of 23.8mm will also be prohibited.

4.3.3 The recommended byelaw will include a closed season for all areas other than the Poole Harbour dredge fishery, representing consistency with the 'Cockles' legacy byelaw. Within Poole Harbour the fishing for cockles through the use of a dredge will be managed through the proposed 'Poole Harbour Dredge Permit' byelaw. The recommended byelaw will provide consistency with the fishing method measures outlined in the 'Cockles' byelaw with the addition of the definition of a dredge to ensure that the byelaw is robust. The restrictions on the design of a dredge will be exempt from the area of Poole Harbour to ensure that there is no conflict with the proposed 'Poole Harbour Dredge Permit' byelaw. The minimum cockle size will be maintained at a square opening of 23.8 mm to maintain the sustainability of the fishery and the requirement to evenly spread siftings will be removed as this is not believed to be necessary.

4.3.3 The recommended byelaw will come into effect on 1st July 2015 upon the expiry of the Poole Fishery Order (1985). At this point the 'Cockles' byelaw will be revoked.

4.4 **Option 3 Revoke 'Cockles' legacy byelaw**

4.4.1 Under this option the 'Cockles' legacy byelaw will be revoked and regulation will not be introduced in its place. Should this option be pursued there would be a significant gap in the management of the Southern IFCA cockle fisheries, potentially placing the environmental, socio-economic and fishery sustainability at jeopardy.

4.5 Other management options have been considered and rejected based on the following rationale:

4.5.1 Voluntary Agreement

Due to the size and the value of the District's cockle fisheries and the extent of the area's environmental features it is believed that a voluntary agreement would be impractical and would pose too greater risk to the sustainability of the District's cockle fisheries and the wider marine environment.

4.4.2 MMO management measure – permanent byelaw or fishing licence condition

IFCAs have been established as the lead regulator for the sustainable management of inshore fisheries. As such, the SIFCA is the most appropriate authority to implement, manage and enforce fisheries management measures within 6 nautical miles.

5. Evidence base

5.1 Cockle size of reproduction

5.1.1 Literature suggests that Cockles (*Cerastoderma edule*) first mature and spawn in their second summer, at about 18 months old and 15-20mm in length, however, large cockles (>15mm) may mature in their first year suggesting that size and maturity are linked^{6,7,8}. This suggests that the minimum size of a square opening of 23.8mm is sufficient to allow the cockle population to reproduce at least once before their removal from the fishery.

5.2 Cockle landings data

5.2.1 Marine Management Organisation landings data for fishing vessels indicates that the 2013 annual value of Southern IFCA cockle landings totalled £36,574 with £30,019.60 coming from the Poole Harbour fishery. 2013 was believed to be a poor year for the fishing of cockles and represents a decrease from the 2011 value for the Poole Harbour fishery when the landings of cockles totalled £148,982.20. It is estimated that as much as 50% of Poole Harbour's shellfish landings are not accurately recorded by unregistered, unlicensed fishing vessels.

5.3 Cockle fishing methods

5.3.1 Southern IFCA sightings data suggests that the commercial exploitation within the District is almost entirely through dredging from vessels within the areas of Poole Harbour, Southampton Water, Portsmouth Harbour and Langstone Harbour. Southern IFCA officer sightings and landings inspection data suggests that there are approximately 5 vessels that seasonally target cockles within the Solent area and approximately 40 vessels that target cockles with Poole Harbour. There is the potential for the commercial removal by hand-gatherers, especially within Portsmouth Harbour and Langstone Harbour and regular recreational hand-gathering takes place in all of these sites, especially in the Whitley Lake and Evening Hill area of Poole Harbour. It is estimated that there are approximately 15-20 commercial cockle hand-gatherers operating mostly within Langstone Harbour on a seasonal basis.

6. Sectors affected

6.1 Fishing

6.1.1 There is the potential for any person wishing to fish for cockles within the Southern IFCA District to be affected by this byelaw.

6.1.2 There is the potential for any person wishing to fish for cockles using a dredge from a vessel within Poole Harbour to experience an increase or a reduction in catches and income as a result of this byelaw.

6.1.3 There is the potential for any person wishing to hand-gather cockles within Poole Harbour to experience an increase in access to the fishery as a result of this byelaw.

6.1.2 The wider financial costs and benefits to the District's fishing industry are outlined in section 7.

6.2 Local economies and society

6.2.1 There is the potential for the local society and individuals associated with the cockle industry to be affected by the proposed byelaw.

6.2.2 The wider benefit of protecting the marine fisheries resources within the Southern IFCA District is outlined in section 7.

6.3 Enforcement bodies

6.3.1 The lead responsibility of enforcing the proposed byelaw would fall to the Southern IFCA. It is anticipated that there will be no increase in enforcement costs as a consequence of the proposed byelaw. The cost associated with enforcement and administration is outlined in section 7.

7. Analysis of costs and benefits

7.1 Costs for the recommended option

7.1.1 The introduction of a Southern IFCA 'Fishing for Cockles' byelaw to manage the way in which cockles are fished within the Southern IFCA District may result in the following costs:

- Seasonal loss of access to cockle fisheries within the District between 1st February and 30th April each year
- Loss in catch and income through the required retention of only cockles that do not pass through a 23.8mm square opening
- Loss in catch and income through the requirement to fish either by handpicking, by use of a handrake of certain dimensions or a dredge of certain dimensions that must be hauled in board when emptied
- There is the potential for any person wishing to fish for cockles using a dredge from a vessel in Poole Harbour to experience a reduction in catch and income
- There will be an administrative cost incurred by Southern IFCA as a result of introducing this byelaw

7.1.2 Potential loss of access to fisheries, the potential loss of catch and income and enforcement costs are difficult to value and are therefore described here as non-monetised costs.

7.2 Analysis of fisheries costs

7.2.1 It is believed that the levels of compliance with the existing 'Cockles' legacy byelaw are high and as a result the District's cockle fishermen currently do not fish for cockles between the 1st February and 31st March each year. Since 1988 there has been one successful prosecution of a cockle fisherman due to the fishing for cockles during this closed season. It is therefore believed that fishermen outside of Poole Harbour will not experience a loss in access to cockle fisheries, compared to the current situation, during the period from 1st February to 30th April each year as a result of the recommended byelaw.

7.2.2 The following feedback relating to the management of the District's cockle fishery was received when stakeholders were asked to comment on whether the 'Cockles' byelaw should be revoked, remade or changed during a byelaw review consultation during June 2012:

"I catch most of my cockles in May, June and July. The current season works and should be kept the same"

"Why move the seasons from where they are?"

"The current cockle season is good, leave it the same as prices are low during the current closed season"

"The meat content and market for cockles is at its best in May, June and July"

"Change the cockle MLS to measure across the width for ease of sorting"

"Spring mortality for clams and cockles occurred this year and 60-70% died. March, April and May are the months when clams and cockles are at their weakest and most vulnerable to disturbance. There is a good market in January."

7.2.3 This stakeholder feedback suggests that there is industry support for a cockle closed season between 1st February and 30th April each year.

7.2.4 There have been no instances since 1988 of a fisherman being prosecuted for using a fishing method other than that permitted under the 'Cockles' legacy byelaw, indicating that the methods described in the byelaw are those regularly used by cockle fishermen within the Southern IFCA District. This therefore suggests that there will be no loss in catch and income experienced by cockle fishermen as a result of the fishing method requirements of the recommended byelaw compared to the current situation.

7.2.5 There have been three instances since 1988 of fishermen within the Southern IFCA District being prosecuted for retaining undersized cockles, all of which have taken place within Poole Harbour. There is the potential for a national cockle market for cockles measuring less than 23.8mm due to the permitted removal of cockles below this size in other areas of the country. The minimum size measure is regarded as a conservation measure to allow the cockle to

reproduce at least once before its removal from the fishery and this is a measure that appears to be supporting a sustainable cockle fishery within the Southern IFCA District. As a result of the minimum size measure of 23.8mm across a square opening, fishermen would not experience a loss in catch or income compared to the current situation.

7.2.6 The Poole Harbour dredge fishery for cockles will be managed through the introduction of a 'Poole Harbour Dredge Permit' byelaw and restrictions relating to the access to the fishery, the type and size of dredge permitted, fishing seasons and spatially and temporally closed areas will be introduced through the allocation of permits. The permit byelaw will align the management of the harbour's clam and cockle fisheries. Should these measures be more restrictive than the current 'Cockles' byelaw then there is the potential for fishermen to experience a loss in catch and income within the Poole Harbour cockle fishery as a result. The recommended 2015 permit conditions for the 'Poole Harbour Dredge Permit' byelaw include a 5 month closed season running from 25th December to 24th May the following year. This represents an additional two month closure of the cockle fishery compared to the current management and as a result there is the potential for cockle dredge fishermen in Poole Harbour to experience a loss in catch and income. Due to the alignment of the clam and cockle fishery management within Poole Harbour the restrictions on the bar spacing of dredges used will be reduced, potentially increasing catch and income.

7.3 Analysis of administrative costs

7.3.1 The lead responsibility of enforcing an IFCA byelaw under section 153 of the Marine and Coastal Access Act 2009 will fall to the Southern IFCA. The existing routine and directed patrols undertaken by the IFCA would be the most likely and effective method of enforcement. It is not possible to estimate the additional cost to enforcement through introducing the recommended byelaw as likely levels of compliance are not known.

7.3.2 At this juncture only a rough estimate the administrative costs of this process can be made. It is estimated that the administrative cost of introducing the recommended byelaw, including the costs associated with advertising the new byelaw and the cost of legal advice will be approximately £3,000.

7.4 Benefits for the recommended option

7.4.1 The introduction of a Southern IFCA 'Fishing for Cockles' byelaw to manage the way in which cockles are fished within the Southern IFCA District may result in the following benefits:

- Potential increase in catch and income for Poole Harbour cockle dredge fishermen
- Potential increase in the sustainability of the Southern IFCA cockle fisheries
- Potential increase in the environmental sustainability of the Southern IFCA District

7.4.2 Potential benefits to the sustainability of the District's cockle fisheries, environmental sustainability and socio economic benefits are difficult to value and are therefore described here as non-monetised costs.

7.5 Analysis of fisheries and environmental benefits

7.5.1 The quantification of the potential benefits to the sustainability of cockle stocks within the Southern IFCA District as a result of the recommended option is difficult. There appears to be a historical and recent fluctuating trend in cockle landings with a variation between annual landings values of £148,982.20 and £36,574 between 2011 and 2013. Reports suggest that the 2014 fishery has shown signs of improvement and this is supported through Southern IFCA's Poole Harbour annual bivalve survey which has shown an increase in the biomass and size of commercially available cockles within Poole Harbour. The 'Cockles' legacy byelaw is believed to support the sustainability of the District's cockle fisheries and the continuity of management through the introduction of the recommended byelaw will support the future sustainability of the fishery.

7.5.2 The Southern IFCA cockle fisheries are found almost exclusively within the intertidal or shallow tidal waters in the Harbours of the Solent system and within Poole Harbour. In many cases these areas overlap with environmentally designated areas and it therefore important to consider the environmental impact of cockle fishing activities upon the features of these sites. In most cases this will be conducted on a site by site basis by Southern IFCA, however at this stage it is important to maintain continuity with existing legislation in order to ensure that the impacts of cockle fishing activities are not increased within these areas. Through the restriction on the size and design of fishing equipment used to catch cockles it is expected that the environmental sustainability of the Southern IFCA District will be maintained.

7.5.3 Under the recommended byelaw the design of cockle fishing dredges and the cockle fishing season when a dredge is used from a vessel will not be restricted within Poole Harbour. Instead, the Poole Harbour cockle dredge fishery will be managed through the introduction of a 'Poole Harbour Dredge Permit' byelaw. There is therefore the potential for the catches and income of cockle dredge fishermen to increase within this area as the permit byelaw is intended to improve the sustainability of the Poole Harbour cockle and clam fisheries.

7.6 Analysis of socio-economic benefits

7.6.1 The shore based gathering of cockles is a historically important recreational activity within areas of the Southern IFCA District, including Poole Harbour and the Solent. As described, it is anticipated that the recommended byelaw will support the sustainability of the District's cockle fisheries, providing a future resource for recreational cockle gatherers.

8. Summary

- 8.1 Under MaCAA 2009, Southern IFCA has a responsibility to manage the exploitation of sea fisheries resources in their district, ensuring the sustainable exploitation of sea fisheries resources whilst balancing the social and economic benefits with the need to protect the marine environment from, or promote its recovery from, the effects of such exploitation. The proposed byelaw will in part fulfil Southern IFCA's duties in MaCAA (2009).
- 8.2 As a direct consequence of Section 153 of MaCAA (2009), the ten Inshore Fisheries and Conservation Authorities (IFCAs) in England are obliged under a nationally agreed high level objective (HLO) to demonstrate that by April 2015, all legacy byelaws have been reviewed and evaluated against current evidence base; redundant and duplicate byelaws have been removed and gaps covered.
- 8.3 The 'Cockles' byelaw was introduced on 27th July 1995 and is a Southern Sea Fisheries District Committee (SSFDC) legacy byelaw. This byelaw prohibits the fishing for cockles between 1st February and 30th April each year, describes the methods by which cockles are permitted to be fished, prohibits the removal of any cockle that will pass through a square opening of 23.8mm and describes the method by which sorted or sifted cockles shall be returned to the fishery.
- 8.4 The Poole Fishery Order (1985) is a hybrid Several Order and Regulating Order which allows for the development and promotion of aquaculture and the regulation of wild shellfish harvesting for oysters, mussels and clams. The present Order was originally created in 1915 under the Sea Fisheries (Shellfish) Act 1967 with the last renewal in 1985. The Poole Fishery Order (1985) is due to expire on 30th June 2015 and Southern IFCA intends to create the 'Poole Harbour Dredge Permit' byelaw in order to effectively manage the Harbour's shellfish dredge fishery.
- 8.5 Under the recommended byelaw the fishing for cockles between 1st February and 30th April each year will be prohibited in all areas outside of Poole Harbour and the methods by which cockles are permitted to be fished will be restricted to handpicking, the use of a handrake with spaces of no less than 22.5mm between teeth or outside of Poole Harbour, when the bed is covered by water, a dredge not exceeding 460mm in width by 460mm in depth by 300mm high with spaces no less than 22.5mm between wires. When using a dredge from a vessel, cockles may only be removed when the dredge has been hauled and lifted into the vessel. The removal of any cockle that will pass through a square opening of 23.8mm will also be prohibited. The recommended byelaw will provide consistency with the fishing method measures outlined in the 'Cockles' byelaw with the addition of the definition of a dredge to ensure that the byelaw is robust. The restrictions on the design of a dredge will be exempt from the area of Poole Harbour to ensure that there is no conflict with the proposed 'Poole Harbour Dredge Permit' byelaw. The minimum cockle size will be maintained at a square opening of 23.8 mm to

maintain the sustainability of the fishery and the requirement to evenly spread siftings will be removed as this is not believed to be necessary.

- 8.6 As a result of the recommended byelaw there is the potential for cockle fishermen to experience a loss of catch and income, however the compliance with the existing 'Cockles' byelaw has been generally high with a total of four cockles related prosecutions in the area since 1988. Due to the consistency between the recommended byelaw and the existing 'Cockles' byelaw and the high levels of compliance with this legislation it is anticipated that the District's cockle fishermen outside of Poole Harbour will experience no loss in catch or income as a result of the recommended byelaw. As a result of the recommended byelaw there is the potential for cockle dredge fishermen within Poole Harbour to experience a loss of access, catch and income for the cockle fishery. It is anticipated that access, dredge design and season for the Poole Harbour cockle fishery will be restricted through the introduction of the 'Poole Harbour Dredge Permit' byelaw. The dredge permit byelaw is intended to increase the sustainability of the Poole Harbour cockle fishery; however, as this fishery will be managed independently of District wide cockle fisheries there is the potential for the value of the resource to change.
- 8.7 The recommended byelaw is anticipated to provide environmental, socio-economic and fisheries benefits associated with the consistency of managing the District's cockle fisheries.

References

no.	
1	Southern IFCA Cockles byelaw
2	Poole Fishery Order, 1985
3	Draft Southern IFCA Fishing for Cockles byelaw
4	Marine and Coastal Access Act, 2009 - http://www.legislation.gov.uk/ukpga/2009/23/contents
5	Marine Management Organisation landings data
6	Orton, J.H., 1926. On the growth rate of <i>Cardium edule</i> , part 1. Experimental observations. <i>Journal of the Marine Biological Association of the United Kingdom</i> , 14, 239-280.
7	D. A. Hancock and A. Franklin, 1972. Seasonal Changes in the Condition of the Edible Cockle (<i>Cardium edule</i> L.) <i>Journal of Applied Ecology</i> , Vol. 9, No. 2 (Aug., 1972), pp. 567-579
8	Seed, R. & Brown, R.A., 1977. A comparison of the reproductive cycles of <i>Modiolus modiolus</i> (L.), <i>Cerastoderma (=Cardium) edule</i> (L.), and <i>Mytilus edulis</i> L. in Strangford Lough, Northern Ireland. <i>Oecologia</i> , 30, 173-188.