

**Proposal for a hand-worked cockle fishery on Regulated cockle beds in the Wash**

**Notification under The Countryside & Rights of Way Act 2000, regarding**

- The Wash Site of Special Scientific Interest (SSSI)

**Record of Appropriate Assessment under Regulation 61 of the Conservation of Habitats and Species Regulations 2010 (SI No. 2010/490), regarding**

- The Wash and North Norfolk Coast Special Area of Conservation (SAC)
  - The Wash Special Protection Area (SPA)

<b>Version</b>	<b>Status</b>	<b>Date</b>	<b>Author</b>
1	Draft	10 January 2017	Stephen Thompson

This is a record of the Appropriate Assessment, required by Regulation 61 of the *Habitats Regulations 2010*, undertaken by the Eastern Inshore Fisheries and Conservation Authority, in respect of the above plan/project, in accordance with the Habitats Directive (Council Directive 92/43/EEC). In addition, this document serves as notification of this activity under the *Countryside and Rights of Way Act 2000*. Having been advised that the plan or project could have a significant effect on the Wash and North Norfolk Coast SAC, the Wash SPA and Ramsar site, and the Wash SSSI, and that the plan or project is not directly connected with or necessary to the management of the site, an appropriate assessment has been undertaken of the implications of the application in view of the site's Conservation Objectives.

The nature conservation interests that could be affected, and the impact mechanisms that have been considered are:

- Intertidal mudflats and sand-flats (intertidal cockle beds):
  - Physical damage
  - Physical loss
  - Biological disturbance through selective extraction of species
- Common seal:
  - Disturbance by noise or visual presence during fishing
- SPA bird interest:
  - Disturbance by noise or visual presence
  - Physical loss through removal of intertidal mud and sand-flat habitats
  - Selective extraction of prey species.

The assessment has also considered the potential for in-combination effects of the proposal with existing activities taking place within the site as listed below:

- Possible Le Strange dredge cockle fishery

The following information supports this appropriate assessment:

Appendix 1: Management Plan for The Wash Regulated cockle fishery

**The assessment has concluded that the plan or project, as proposed and managed, would not adversely affect the integrity of the site.**

<b>Interest Feature 1:</b> Intertidal mud and sand-flats, in particular the cockle bed community attribute
--

### **Conservation Objective:**

*Distribution and extent of biotopes and presence and abundance of composite species of the biotopes should not deviate significantly from an established baseline, subject to natural change.*

### **Condition Assessment:**

The Condition Assessment will examine against defined targets and determine if the feature is favourable or otherwise at the conclusion of the fishing activity planned in any year -

- Distribution of cockle beds.
- Extent of cockle beds.
- Abundance of cockle.
- Cockle population metrics to support SPA species.

In more detail:

- Distribution target = *Subject to natural change cockle beds should be present on the inshore and offshore banks in each of the following sectors of The Wash: Wainfleet – Freiston, Witham – Nene, Nene to the Ouse and Eastern Wash.*
- Extent target = *Subject to natural change, area of bed containing cockles that have survived their first winter should not fall below 3000 Ha (mean area over reporting cycle).*
- Abundance of Cockle = *Subject to natural change, stock levels of cockle that have survived their first winter should be no lower than 11,000 t in The Wash (i.e. Wash Fishery Order fishery and le Strange Estate) (mean over reporting period).*
- Cockle population metrics to support SPA species = *To support the SPA interest total stock of mussel ( $\geq 20$  mm length) and cockle ( $\geq 15$  mm length) should not fall below 40 kg Ash Free Dry Matter (AFDM) per bird at the start of winter (based on supporting the population of birds which eat cockles, as defined in the Conservation Objectives of the site defined by Natural England. As at November 2016, the most recent advice from Natural England is for a target of 19602 oystercatchers, each of which will require 40 kg. AFDM derived from cockles and mussels).*

### **Physical damage (abrasion)/physical loss**

Information on the condition of the intertidal flats will be obtained from Natural England prior to the commencement of each cockle fishing season. As at November 2016, the most recent such classification was “recovering”.

The extent of the fishing activity is limited by physical factors, including the availability of harvestable cockles in sufficient densities to support hand-working, and access to cockle beds (restricted by tidal cycles).

The hand-worked cockle fishery is accessed from the sea, using vessels that dry out on the intertidal cockle beds at low water. It is common practice for cockle hand-workers to prepare the area to be fished by manoeuvring the fishing vessel in shallow water in such a manner as to displace the upper layer of sediment from the substratum, effectively bringing cockles to the surface of the seabed. The impacts of this activity, referred to as "prop wash", have been assessed and were not found to cause significant adverse effects to the seabed habitat<sup>1</sup> (Pears *et al* 2011). This study supports the conclusion of Natural England and Eastern Sea Fisheries Joint Committee's previous fishery impact assessment<sup>2</sup> (Jessop *et al* 2010) that cockle hand working did not cause the interest feature to decline in its integrity. The Authority places restrictions on this practice to minimise the level of disturbance to the seabed (Wash Fishery Order Regulation No.1 – see Appendix 1). In addition, Natural England has developed a Code of Best Practice for the hand-worked cockle fishery, to help direct fishers to minimise physical impacts to the seabed. The Code of Best Practice is auxiliary to the Authority's Byelaws and the Wash Fishery Order Regulations; as such the Code is not the main mechanism to prevent damage, but provides additional mitigation against damage. The Authority has ensured that fishermen are made aware that if their activities are considered to be damaging to the site, the Authority may close the fishery.

There is no mechanism identified whereby the hand worked cockle fishery will cause the physical loss of the intertidal mud and sandflat feature.

### **Biological impacts**

The basis for the calculation of the annual Total Allowable Catch (TAC) is set out in detail in the Management Plan. In brief, the basis is that 33.3% of adult (>14 mm width) cockle stocks in the Regulated fishery will form the TAC, always provided that this will not drive the stock remaining at the conclusion of the fisheries below the "floor" level for SPA features. This TAC is proposed on the basis that the Wash cockle population is able to withstand this level of fishing mortality without suffering adverse effects; it is consistent with the measures laid out in the ESFJC Cockle Management Policy – agreed with Natural England and members of the fishing industry to ensure fishing activities do not prevent the site's conservation objectives being achieved. The overall cockle population abundance target is 11,000t (mean over 6-yr reporting cycle).

Hand raking cockles does not result in significant mortalities in undersized "discards" since fishermen are locally selective and target effort at adult-dense areas, using site knowledge and the survey charts supplied by the Authority. If juvenile cockles are being disproportionately targeted and landed, the Chief Executive Officer has powers delegated from the Authority to close such areas. Eastern IFCA Officers will monitor landed cockle sizes (through liaison with shellfish processing companies) to detect if smaller cockles are being landed.

In order to protect sustainability of the stocks, it is the Authority's policy to protect areas in which Year-0 spat is present in densities in excess of 1,000 /m<sup>2</sup>. Such areas will be identified each year, and excluded from the areas open to fishing. Should exceptional circumstances indicate that areas with levels in excess of 1,000 Year-0 spat/m<sup>2</sup> be included within an area open to the fishery, a case for this will be presented for a decision by a full Authority meeting.

---

<sup>1</sup> Pears S, Finbow LA & Worsfold TM (2011) *Assessment of potential impacts of experimental cockle fishing on the benthos at a sandbank in the Wash, July – November 2012*. Unicmarine Report ESFWASH10 to Natural England and Eastern Sea Fisheries Joint Committee, February 2011.

<sup>2</sup> Jessop R, Hinni S, Skinner J & Woo JR (2010) Eastern Sea Fisheries Joint Committee Research Report 2010.

**Will there be an adverse effect on the feature, alone or in combination with other plans or projects?**

**Alone:**

**No.**

The management policies under which this fishery will operate have been designed to ensure fishing activities do not prevent the conservation objectives of the site from being achieved. In addition to the policies, specific management measures relevant to each year's fishery will be set as defined in the detailed Management Plan of the cockle fishery.

**In-combination effects:**

It is possible that a dredged cockle fishery will take place on the private Le Strange Estate in the East of the Wash coincident the regulated cockle fishery. Eastern IFCA is not provided with stock data in this private fishery, nor with any impact assessment for the private fishery, so it is difficult to make a judgement on in-combination physical damage/physical loss impacts. However, the Le Strange fishery is thought to be subject to its own controls that limit such impacts. For a considerable number of years, Wash Fishery Order cockle fisheries have operated concurrently with the private Le Strange Estate cockle fishery without adverse effects on site integrity, so it is suggested that the coincidence of the two fisheries in future is similarly not likely to affect site integrity.

**Therefore, no adverse in-combination effects are predicted.**

<b>Interest Feature 2:</b> Common / harbour seal ( <i>Phoca vitulina</i> )
--

Information on the condition of the feature of conservation interest Common / harbour seal (*Phoca vitulina*) will be obtained from Natural England prior to the commencement of each cockle fishing season. As at November 2016, the most recent such information was-

**Conservation Objective:**

*Disturbance: No significant reduction in numbers or displacement of common seals from an established baseline, subject to natural change.*

**Condition Assessment (Natural England's draft Condition Assessment, September 2008):**

Seal population present during moulting season is **unfavourable declining**. Distribution of breeding seals and seal population present during breeding season are both **favourable**.

**Operations which may cause disturbance or deterioration:**

Non-physical disturbance:

- Noise (e.g. boat activity)
- Visual presence (hand-workers on cockle beds at low water).

**Will the operation have a likely significant effect on the feature or attribute? (See Test of Likely Significance)**

No.

**Will there be an adverse effect on the feature, alone or in combination with other plans or projects?**

**Alone:**

**No.**

A hand-worked fishery could potentially disturb hauled-out seals as the fishing activity is carried out over low water periods. The cockle fishery may coincide with the sensitive seal pupping and moulting season (June through to August).

The limits to the total amount of activity, and the measures identified in the Management Plan such as buffer zones, mean that disturbance of seals by active cockle gatherers is at a level below which it can be considered to have an effect.

The hand worked fishery takes place on a limited number of days over a tidal cycle (most sands are only exposed on spring tides) and is restricted to daylight hours for safety reasons. Therefore, the potential for disturbance does not exist for every haul-out period. In addition, "rest periods" will be built into the fishing patterns, based on tidal patterns and weekend closure of the fishery. This means that the potential for disturbance to hauled-out seals is further reduced. Reliable anecdotal evidence has shown that seals habituate to the presence of fishing vessels and fishermen engaged in hand working activities on intertidal sands.

**In-combination:**

- (i) No in-combination impacts are anticipated with regard to other Wash Fishery Order Fisheries.
- (ii) There is the potential for a dredged cockle fishery to open in the Le Strange fishery. Dredge fisheries operate over high water. As such there is no disturbance interaction between the Annex II common seal feature and the potential dredge fishery.

**Therefore, no adverse in-combination effects are predicted.**

**Interest feature 3:** SPA species, in particular the cockle-predating species oystercatcher *Haematopus ostralegus* and knot *Calidris canutus*, and Shelduck *Tadorna tadorna*.

Information on the condition of the feature of conservation interest *Haematopus ostralegus* and knot *Calidris canutus*, and Shelduck *Tadorna tadorna*. will be obtained from Natural England prior to the commencement of each cockle fishing season. As at November 2016, the most recent such information was-

**Conservation Objective:**

*Presence and abundance of prey species should not deviate significantly from an established baseline, subject to natural change.*

*Disturbance in feeding and roosting areas. No significant reduction in numbers or displacement of birds attributable to human disturbance from an established baseline, subject to natural change.*

**Condition Assessment (Natural England's draft Condition Assessment, September 2008):**

Population of regularly occurring migratory birds: **unfavourable declining** (as shelduck population 58% lower than baseline level). Oystercatcher: 27% decline; knot: 40% increase (all compared with baseline level).

**Operation which may cause disturbance or deterioration:**

Biological disturbance (removal of prey species);

Non-physical disturbance:

Noise (e.g. boat activity);

Visual presence (hand workers on beds at low water):

**Will the operation have a likely significant effect on the feature or attribute?**

Possibly, in terms of potential non-physical disturbance (visual presence) to shelduck whose population is in unfavourable condition (as at November 2016). In mitigation, the main effort in the hand-worked cockle fishery is likely to occur in June, July and August of each year, i.e. before the key overwintering months for the classified SPA bird species (September to April). Should a fishery be planned which will co-incide with the overwintering months, measures will be taken to ensure that the locations of the fishery will not cause disturbance to SPA species, as identified in the Management Plan.

There is not predicted to be any significant biological disturbance effect on the SPA species, since the TAC for each year is set at a level that will ensure sufficient shellfish stocks remain in the fishery to support dependent bird populations, as specified in the Management Plan.

**Will there be an adverse effect on the feature, alone or in combination with other plans or projects?**

**Alone:** No

**In combination:** No.

***Non-physical disturbance: Noise (e.g. boat activity) & Visual presence (hand workers on beds at low water)***

The hand-worked fishery will take place over low water, and therefore particular consideration is given to the potential for disturbance to wading birds that utilise the site at low water. During hand-work cockle fisheries, fishermen tend to target the highest density cockle beds.

The Management Plan specifies how consideration of the locations of the highest density of adult cockles is compared against best available evidence on the location of favoured SPA species feeding and roosting areas, with the aim of avoiding potentially damaging interactions.

Whilst there is potential for shelduck and other key SPA classified species to be experience a level of disturbance from the hand-worked fishery, management measures will mitigate this risk. Key mitigating factors include:

- The main part of this fishery, with the greatest level of effort, will take place during the summer months – this does not coincide with the critical winter months when these migratory SPA species are more vulnerable to disturbance. Although this fishery will offer the opportunity to hand-work for cockles into the autumn and winter months, it is likely that the majority of fishermen will target alternative fisheries (shrimps, mussel lays) after the main summer cockle season;
- The hand-worked fishery will target relatively small pockets of dense adult cockles, limiting the disturbance effect to a small proportion of the intertidal area used by certain SPA species;
- The open fishery areas do not coincide with dense juvenile cockle areas, which are favoured by certain SPA species (e.g. knot) according to prey preferences.

Further protection is provided by the Authority's ability to close the fishery if the fishing activities are deemed to be damaging the site.

***Physical loss through removal of intertidal mud and sand-flat habitats***

As identified above under Interest Feature 1, there is no identified mechanism whereby the hand worked cockle fishery will cause this impact.

***Removal of prey species:***

The TAC for the fishery is calculated so as to leave sufficient food available for the overwintering bird populations. The mechanism by which this is achieved is set out in the Management Plan.

Private mussel lays in The Wash contain additional stocks (although these are not surveyed by the Authority); these are not included in AFDM estimates because there is no management control on these stocks. Further cockle and mussel stocks exist in the private Le Strange Estate area of The Wash; these stocks are not counted because they do not fall within Eastern IFCA management. Both the mussel lay stocks and those in the Le Strange Estate will contribute to food stocks for the relevant SPA species.

It is concluded that the proposed fishery will not have an adverse effect on SPA features through the removal of prey species when managed in accordance with the Management Plan.

**In-combination:**

It is possible that a dredged cockle fishery will take place on the private Le Strange Estate in the East of the Wash during the same time as the regulated cockle fishery. As the dredge fishery would operate over high water, no impacts are anticipated in terms of bird disturbance.

**Therefore, no in-combination effects are predicted.**