Eastern Inshore Fisheries and Conservation Authority

Addendum

July 2024

Eastern IFCA

Version 2.0

Revision History				
Date	**Version**	**Edits**	**Status**	**Author**
24/07/2024	v.1.0	Document created	Draft	WW
30/07/2024	v.2.0	Revisions based on NE informal advice including additional explanation of evidence and progression one pressure to Appropriate Assessment.	Final	LG/RWJ

This document should be viewed in conjunction with the following documents:

- Wash Fishery Order 1992 Cockle Fishery Management Plan (2019)[1]

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[1] https://www.eastern-ifca.gov.uk/wp-content/uploads/2019/09/WFO-Cockle-Fishery-Management-Plan-2019.pdf

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1. Introduction

This addendum details the assessment of a proposed change to the management measures of the 2024 Wash cockle fishery. The original HRA (v2) concluded that to ensure the fishery had no adverse effects on the high density cockle spat areas, spatial closures were required to protect future cockle fishery stocks. However, as stated within the WFO Cockle Fishery Management Plan:

"On occasions, when cockle mortality is predicted to be high on specific beds, fishers may be directed to harvest these stocks in preference to other beds to reduce potential in-combination effects the mortalities would otherwise cause. "[2]

An assessment was carried out on the 22nd July 2024 inside one of the Roger Sand's closed areas (Figure 1). This assessment included visually observing the density of cockles throughout the closed area and measuring a small but representative sample of cockles on the sand to determine their size and evidence of recent growth from their annual growth rings.. The size and growth seen on these measured samples were consistent with that seen on cockles observed throughout the closed area.

The assessment identified that:

- The 2023 year-class cockles are still present in high densities within the closed area. These have grown significantly from 5-7mm width at the time of the spring survey to 12-14mm width.
- Throughout the majority of the closed area, these cockles are now closely packed together with very little space between them to allow for further growth.
- There has been another heavy spatfall in the past month within the closed area. High densities of spat, approximately the size of match-heads, fill all of the gaps between the larger cockles.

Together, the high densities of the 2023 year-class cockles and the newly settled spat present a significant risk of die-off due to ridging-out events as these cockle continue to grow. In the opinion of experienced officers, this will most likely result in the loss of the majority of the 2023 year class cockles, which will be pushed out of the ground by the smaller cockles as they grow. This struggle is also likely to weaken any surviving cockles, including the spat, increasing their susceptibility to further mortalities.

[2] Eastern IFCA. (2019, p9). Wash Fishery Order 1992 – Cockle Fishery Management Plan. Retrieved from https://www.eastern-ifca.gov.uk/wp-content/uploads/2019/09/WFO-Cockle-Fishery-Management-Plan-2019.pdf [Accessed 26.07.24].

This addendum details the assessment to open the closed area to the public cockle fishery to allow fishable stocks to be thinned out, improving the survival rates of juvenile cockle stocks to benefit future fisheries.

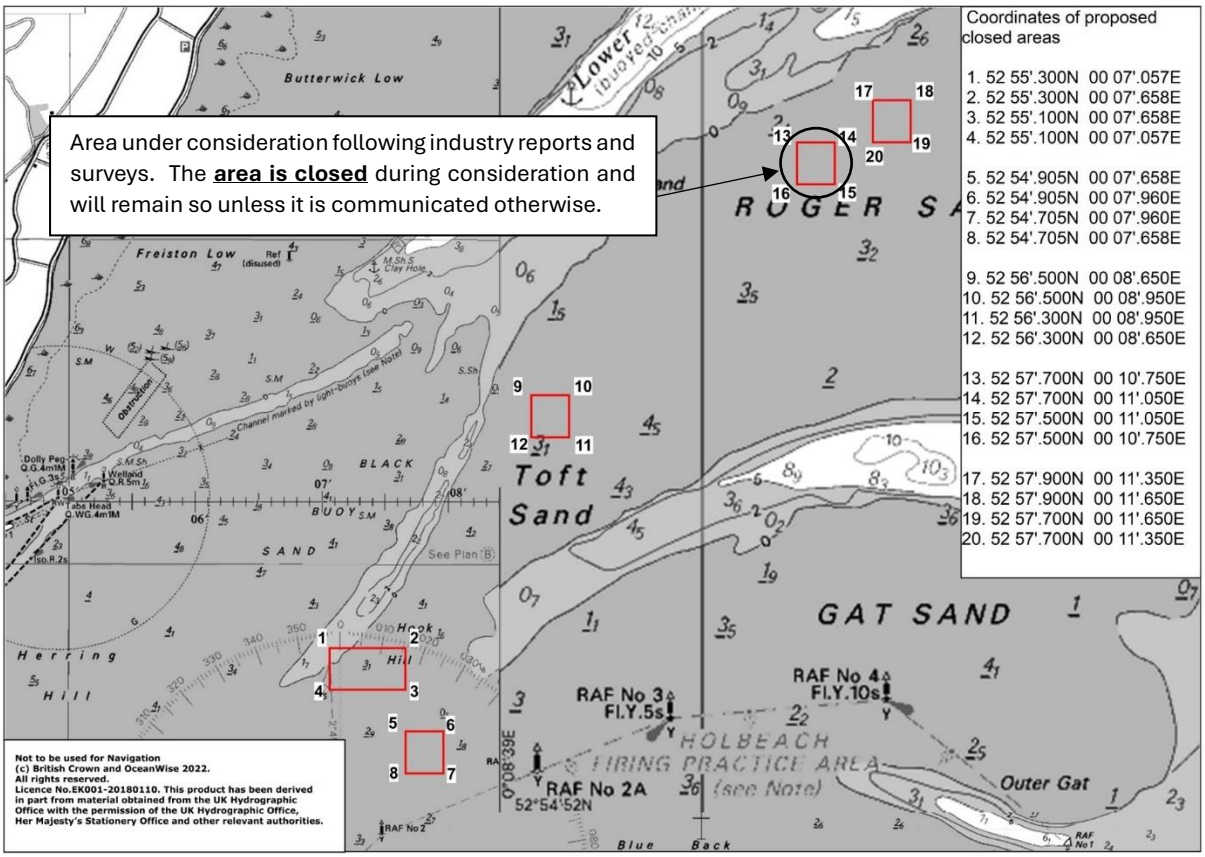

Figure 1: Location of closed area for juvenile cockles.

1.1 Proposed duration

Opening date: August (tbc)

Closing date: will be immediately prior to the commencement of Eastern IFCA's cockle surveys in **March 2025, or on exhaustion of the TAC** prior to this (which is anticipated as being during September / October depending on uptake and the start date of the fishery).

1.2 Designated sites

The closed area that is being proposed for opening overlaps with designated marine sites situated within the Wash. These are:

- The Wash and North Norfolk Coast SAC
- The Wash SPA

The qualifying features and sub-features of these sites are listed in Table 1 of the Habitats Regulations Assessment for the Hand Worked Cockle Fishery in The Wash.

1.3 Scoping

A scoping exercise was performed to identify the features and sub-features where there is a pathway for impact and, consequently, required a test of likely significant effect (TSLE). The relevant features/sub-features are outlined below due to their interaction with the fishery:

- Intertidal mud
- Intertidal sand and muddy sand
- SPA assemblage
- Harbour seal

The sensitivities of the above features to associated pressures are provided in Table 3 and 4 of the main HRA document. The sensitivities of these features, sourced from the respective pages of Natural England's Advice on Operations, have not changed since the publication of the original assessment.

2. Test for likely significant effect

Table 1 examines whether there is likely to be a significant effect on site features as a result of the pressures associated with the proposed activity alone, and in combination with other consented activities.

Table 2: Test of likely significant effect for scoped-in features of the relevant EMS designations.

Scoped in features	**Test of Likely Significant Assessment**			
	Is the potential negative effect(s) likely to be Significant alone? *(Yes/No)*	**Justification**	**If not, is the potential negative effect(s) likely to be Significant In-combination with the potential effects of other live plans/projects?** *(Yes/No)*	**Justification**
Intertidal mud	Yes – in relation to removal of target species No – (for all other pressures)	Pressures considered to be high-risk to the integrity of the site include: abrasion/disturbance of substrate on surface of seabed, habitat structure changes - removal of substratum (extraction), removal of non-target species, and removal of target species. These feature and pressure interactions were considered within the original HRA which found that the fishery will not have an adverse effect on the site's integrity. With the exception of 'removal of target species' the pressures exerted as a consequence of the proposed opening of the closed area will not change and therefore, as a consequence of mitigation in place per the full HRA, there is no likely significant effect.	Yes – in relation to removal of target species No – (for all other pressures) this activity will be in-combination with the wider public cockle fishery	**Wider public cockle fishery –** The pressures abrasion/disturbance of substrate on the surface of seabed, habitat structure changes - removal of substratum (extraction), removal of non-target species will not change as a consequence of the proposed opening as fishing activity methods will be consistent with those outlined in the full HRA. Pressures to the intertidal mud will be negligible because of the small size of the area to be opened relative to the area of the feature within the site. Further, the extent of these pressures will not increase compared to that considered in the full HRA because activity is limited by the Total Allowable Catch which remains the

		With regards to the removal of target species, the closures were originally included to mitigate the potential for the pressure to remove juvenile cockles which could impact on recruitment to cockle stocks in the future. This was particularly important this year given that cockle spatial was limited during 2024 with the potential of reduced cockle biomass (and therefore spawning biomass) in 2025. Therefore, it cannot be ruled out that removal of target is likely to have a significant effect without further consideration.		same. Therefore there is no likely significant effect on site integrity with respect to these pressures.
Intertidal sand and muddy sand	Yes – in relation to removal of target species No – (for all other pressures)	Pressures considered to be high-risk to the integrity of the site include: abrasion/disturbance of substrate on surface of seabed, habitat structure changes - removal of substratum (extraction), removal of non-target species, and removal of target species. These feature and pressure interactions were considered within the original HRA which found that the fishery will not have an adverse effect on the site's integrity. With the exception of 'removal of target species' the pressures exerted as a consequence of the proposed opening of the closed area will not change and therefore, as a consequence of mitigation in place per the full HRA, there is no likely significant effect.	Yes – in relation to removal of target species No – (for all other pressures) this activity will be in-combination with the wider public cockle fishery	**Wider public cockle fishery –** The pressures abrasion/disturbance of substrate on the surface of seabed, habitat structure changes - removal of substratum (extraction), removal of non-target species will not change as a consequence of the proposed opening as fishing activity methods will be consistent with those outlined in the full HRA. Pressures to the intertidal mud will be negligible because of the small size of the area to be opened relative to the area of the feature within the site. Further, the extent of these pressures will not increase compared to that considered in the full HRA because activity is limited by the Total Allowable Catch which remains the

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SPA assemblage	No	Pressures considered to present high-risk to the integrity of the site include: removal of non-target species, removal of target species and visual disturbance. These feature and pressure interactions were considered within the original HRA which found that the fishery will not have an adverse effect on the site's integrity. The proposal will not increase the amount of cockle (bird food) removed by the fishery as such will occur within the existing Total Allowable catch. Further investigations confirmed that there are no overlaps between the closed area and high bird activity areas.	No - this activity will be in-combination with the wider public cockle fishery	Removal of non-target species, removal of target species and visual disturbance pressures to the SPA assemblage will be negligible due to the small site size and the lack of high bird activity areas overlapping the closed area. Therefore, will not pose significant risk to the site's integrity. The proposed opening of a closed area will not change the conclusion in the main assessment because the overall pressure over the entirety of the sub-feature will not increase.

Seals	No	Pressures considered to present high-risk to the integrity of the site include: removal of non-target species and visual disturbance. These features were considered within the original HRA which found that the fishery will not have an adverse effect on the site's integrity. Further investigations confirmed that there are no overlaps between the closed area and seal haul out areas.	No - this activity will be in-combination with the wider public cockle fishery	Non-target species and visual disturbance pressures to seals will be negligible due to the small site size and the lack of seal haul out areas in its vicinity. Therefore, will not pose significant risk to the site's integrity. The proposed opening of a closed area will not change the conclusion in the main assessment because the overall pressure over the entirety of the sub-feature will not increase.

2.1 SPA assemblages

The original assessment did not identify any overlapping areas of high SPA assemblages activity with the closed area situated on the Roger Sands, as seen in Figure 2. Scoters were the only species from the SPA assemblage that are found to have areas of high activity on the Roger Sand, however, this does not overlap with the closed area. Therefore, a likely significant effect can be ruled out.

The populations distribution of the following key species within the SPA assemblage were assessed against the potential closed area and no high risk overlaps were identified:

- Scoter (*Sterna hirundo*)
- Sanderling (*Calidris alba*)
- Redshank (*Tringa totanus*)
- Oystercatcher (*Haematopus ostralegus*)
- Knot (*Calidris canutus*)
- Dunlin (*Calidris alpina alpina*)
- Curlew (*Numenius arquata*)
- Bar Tailed Godwit (*Limosa limosa islandica*)
- Turnstone (*Arenaria interpres*)
- Shelduck (*Tadorna tadorna*)

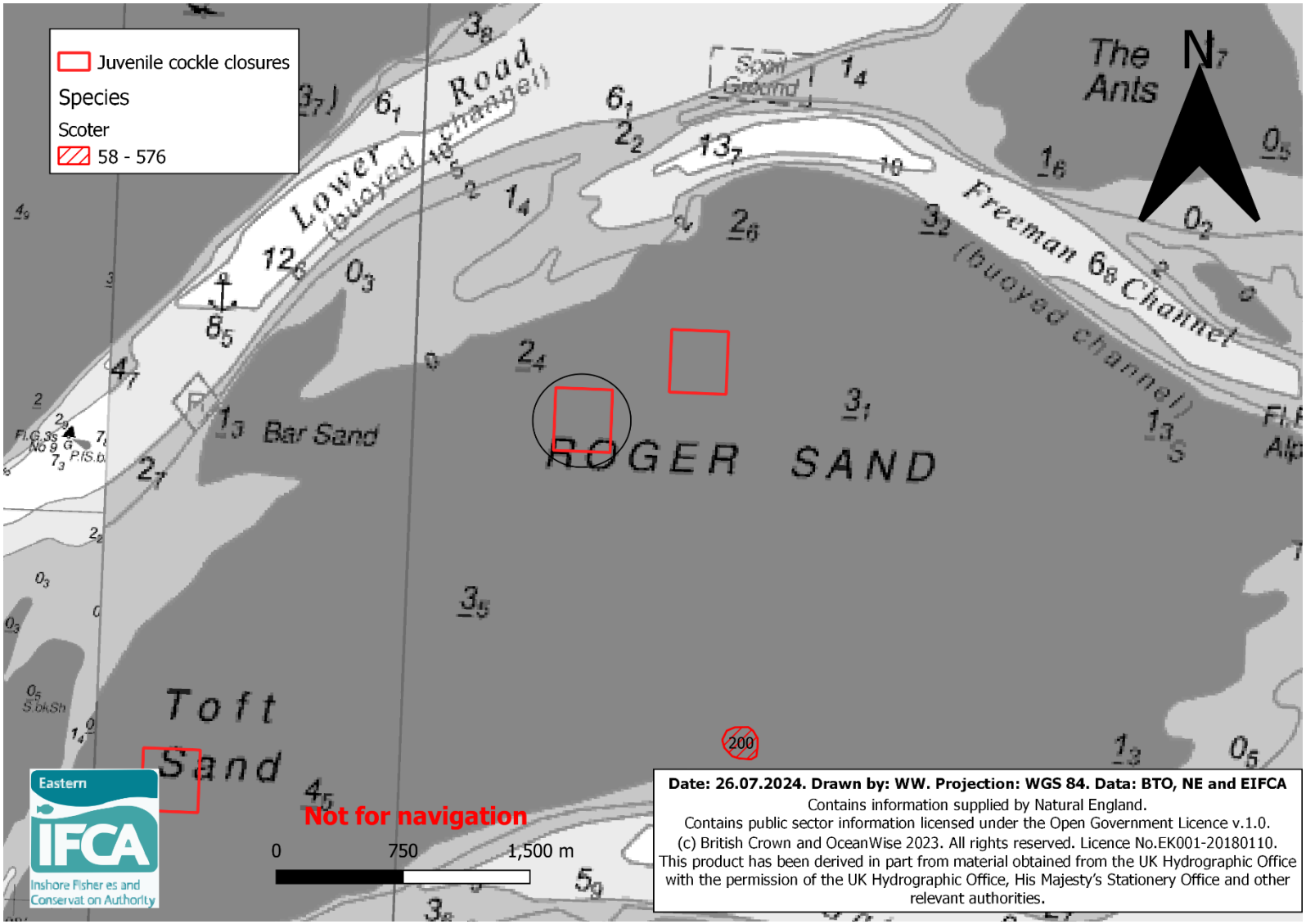

Figure 2: Location of high bird activity on the Roger Sand. The location of the relevant closed area is encircled.

2.2 Seals

Seal haul out areas had been mapped out between 2018-2023 by the Sea Mammal Research Unit (SMRU) which have been classified by the number of times they are used. The original assessment identified one seal haul out site on the Roger Sand, however, did not identify any overlapping areas of high seal activity with the closed area, as seen in Figure 3. Therefore, a likely significant effect can be ruled out.

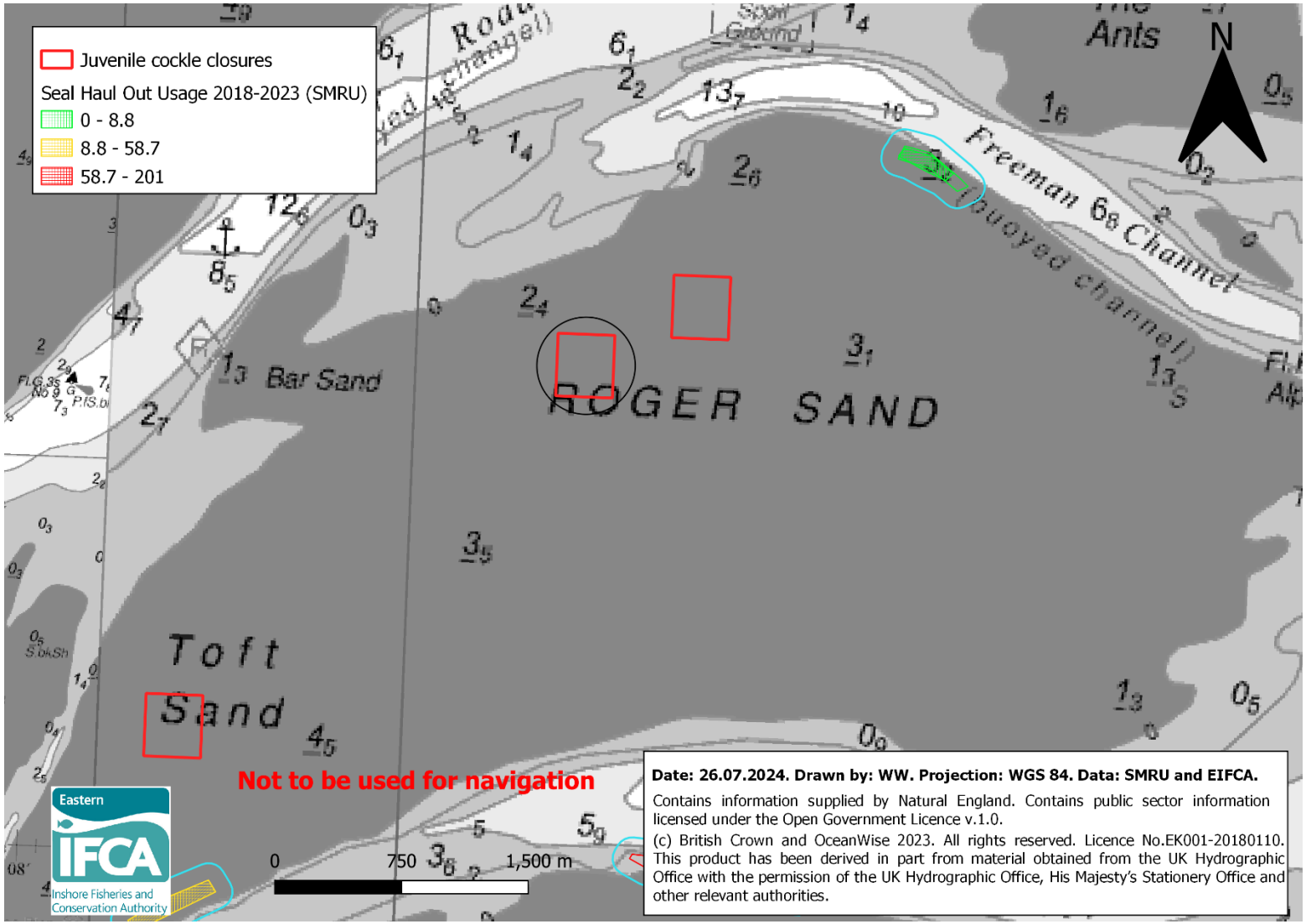

Figure 3: Location of high seal haul usage areas found on the Roger Sand. The location of the relevant closed area is encircled.

3.0 Appropriate Assessment

The pressure considered further is removal of target species (cockles) across the intertidal mud and Intertidal sand and muddy sand features.

Areas of high density (>1000 individuals per m^2) Year-0 cockles are closed to hand-work cockle fisheries to ensure that juvenile cockles are provided the opportunity to spawn and contribute to future stocks. However, the recent survey identified that the cockles within the closed area have grown significantly since the spring survey, leaving little room between them for further growth. Further, the same area has recently been heavily set with cockle spat, that now occupy the remaining space between the larger cockles. Despite there being no room in the ground for them to do so, these cockles will continue to grow until the end of Autumn. Unless these cockles are thinned out imminently, their high densities will result in them ridging out, the consequence of which will be the loss of a high proportion of the 2023 year-class cockles and the weakening of any survivors (including the spat).

The intention of the closure was to protect the 2023 year-class juvenile cockles from fishing mortality until they could reach spawning size. However, given this cohort is likely to be lost to the fishery entirely before they have an opportunity to spawn, the benefit of the closure has been significantly diminished. Further, verified observations of extensive cockle spat settlement within this and some other areas of The Wash, plus several unverified reports of widespread settlement elsewhere across The Wash indicate there has been a successful settlement this summer. As these grow, they will replenish losses of older cockles that occur this year.

A further benefit of enabling fishing activity now, is that the newly settled spat are still very small. As such, they will be easily riddled out when the larger cockles are harvested. At this size, they are also more resilient to disturbance and better able to resettle than larger cockles. Disturbing them at this size will, therefore, be less disturbing to them than when they have grown further.

It should be noted that the hand-worked fishery is an inefficient method of harvesting, in which significant numbers of cockles remain after their densities become unviable to commercially harvest. The fishery, therefore, only thins the stocks rather than removing them entirely. A similar situation occurred at this site in 2015, when a closed area was opened to the fishery when it showed similar signs of imminently ridging out. That fishery not only provided a valuable resource to the fishermen, by thinning out the stocks, sufficient survived and grew that the biomass in the area was actually even higher the following year.

4.0 Conclusion

The benefit and protective effect of the high-density juvenile closure (SW closure on Roger Sand) has been diminished because the cockles therein have grown significantly and are the subject of mortality as a consequence of ‘ridging-out’. Further, the effect of their removal now could provide longer term benefit from the perspective of maximizing the potential for increased biomass by

providing more space for growth of recently settled cockles. The Total Allowable Catch will remain unchanged, and therefore the overall effect of removal of target species will remain unchanged compared to the full HRA (as is the case for the other pressure scoped into the TLSE).

Therefore, adverse effect on site integrity is ruled out primarily on the basis that retaining the closure is unlikely to increase the survivability of the cockles in this area, whereas opening the area will reduce density to the effect that cockle growth may be enhanced.