

Leasowe (Wirral) Cockle Fisheries Habitats Regulations Assessment September 2019

Introduction

There is a long history of management of hand-gathered cockle fisheries in the NWIFCA district. The NWIFCA has carried out Habitats Regulations Assessments for these fisheries each time they have been opened since 2016. The most recent HRAs are available on the NWIFCA website: <https://www.nw-ifca.gov.uk/marine-protected-areas/hra/>. Leasowe was opened in September 2017. The HRA produced for this fishery contains lengthy detail about the nature of the fisheries, the variability of the stock, the conservation features for which the site is designated, their conservation status, the potential risks fishing activity could pose to the features, along with detail on potential impacts, vulnerability, and features' exposure to pressures. Finally the HRA contains detail of the management (byelaws, and specific measures for each year depending on circumstances of the management and the stock) to ensure no risk to the integrity of the European Site.

Considering the history of this fishery there seems little point in producing a lengthy document which repeats the information contained in previous versions. The NWIFCA has taken the approach to summarise the factors that have changed since the opening of the fishery in September 2017, and carry out an Appropriate Assessment on these. This is provided in concise format below.

Please refer to the HRA for these cockle fisheries carried out for 2017 for the most up-to-date detailed information on all factors that are not covered in this document: **Leasowe (September 2017) – Leasowe Cockle Fishery** which is available at: <https://www.nw-ifca.gov.uk/marine-protected-areas/hra/>

1. Change to Site Information

Liverpool Bay SPA extension designated – no change to the assessment as Liverpool Bay SPA extension was included in the assessment when it was a proposed SPA.

There has been the following updates to the Conservation Advice for Mersey Narrows and North Wirral Foreshore SPA. Changes specific to the HRA;-

- Bar-tailed godwit, knot and waterbird assemblage - reduce the frequency, duration and /or intensity of disturbance affecting roosting, foraging, feeding, moulting and/or loafing birds so that they are not significantly disturbed.
- Common Tern and Little Gull - restrict the frequency, duration and or intensity of disturbance affecting roosting, foraging, feeding, moulting and/or loafing birds so that they are not significantly disturbed.

2. Information about the fishing activity within the site

Regulation of Hand-gathering – change in number of permit holders

There are currently a maximum of 136 NWIFCA Byelaw 3 permits which could be issued for the 2019 – 2020 season (correct 29-07-19).

NWIFCA are currently in the process of consulting on NWIFCA Byelaw 3 Cockle and mussel hand fishing permit 2019 which if it comes into force during the 2019 – 2020 fishery will replace the current management. There are no changes in the byelaw that need to be considered in the HRA as the byelaw will build on and improve the current ability to management the fishery, through a raft of permitting conditions allowing for temporal and spatial closures for:

- a) controlling the rate of exploitation with regard to cockles or mussels;
- b) the recovery of any bed from exploitation;
- c) the protection of immature shellfish;
- d) the protection of a protected feature.

3. Current Status of Stock

From survey data means were calculated from all stations with zero counts on the edges of the bed removed. Less than 5mm cockle was not used in the undersize figures due to the high variable survivability of cockle at this small size but has been included as a separate figure.

Maps were created showing the overall survey area, density of size cockle, density of undersize cockle (excluding cockles in the 0-5mm size range) and the frequency of size classes (pie charts show the frequency of different size classes, the size of the pie chart indicates the total density of cockles present).

For biomass calculations - size cockle is defined as cockle which will not pass through a square gauge 20 x 20mm in size. The biomass of undersize cockle does not include any estimates of cockle less than 5mm due to the high variability of survival of this size class.

Leasowe Cockle Survey 1st August 2019

64 survey stations were sampled from a 250m grid with an additional two stations added to areas that could not be accessed and one station added to include the recommended monitoring point for food hygiene purposes. Due to very soft ground and the location of the tide at low water several of the survey stations from the grid could not be sampled. The density of size cockle across the bed had increased since the bed was last surveyed in June 2019, and was situated in a similar area high up the beach in a band running along the bed on the upper shore as well as in the muddy area between the groynes. The undersize cockle was distributed more patchily across the upper shore than when last surveyed; however a 2019 settlement of cockle had greatly increased the density of undersize cockle in the muddy area between the groynes, and in a discrete area of the upper shore when compared to the June 2019 survey.

Means

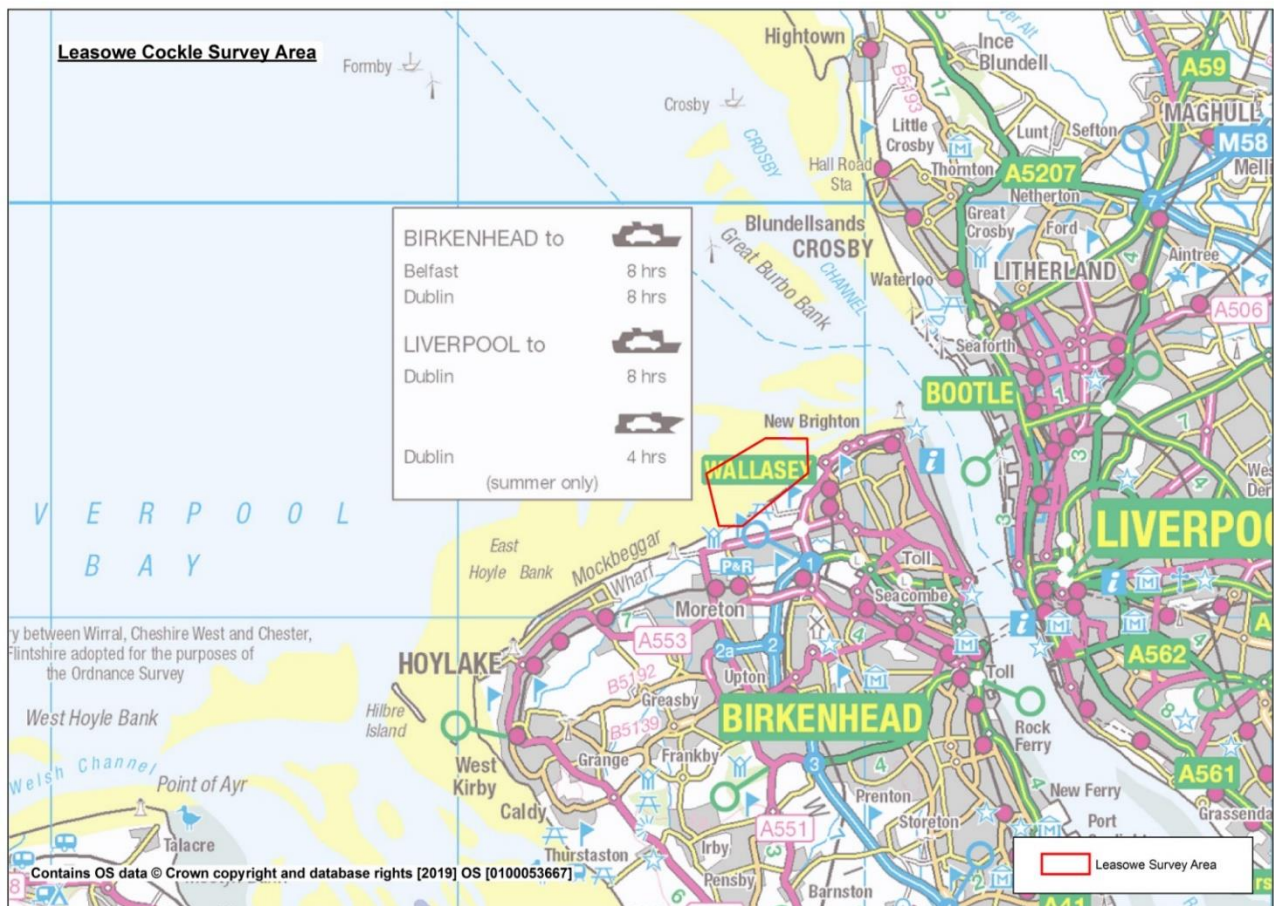
Mean number of size cockle	51 per m ²	(min 0, max 182)
Mean number of undersize cockle	367 per m ²	(min 0, max 2260)
Mean number of 0-5mm cockle	117 per m ²	(min 0, max 2000)

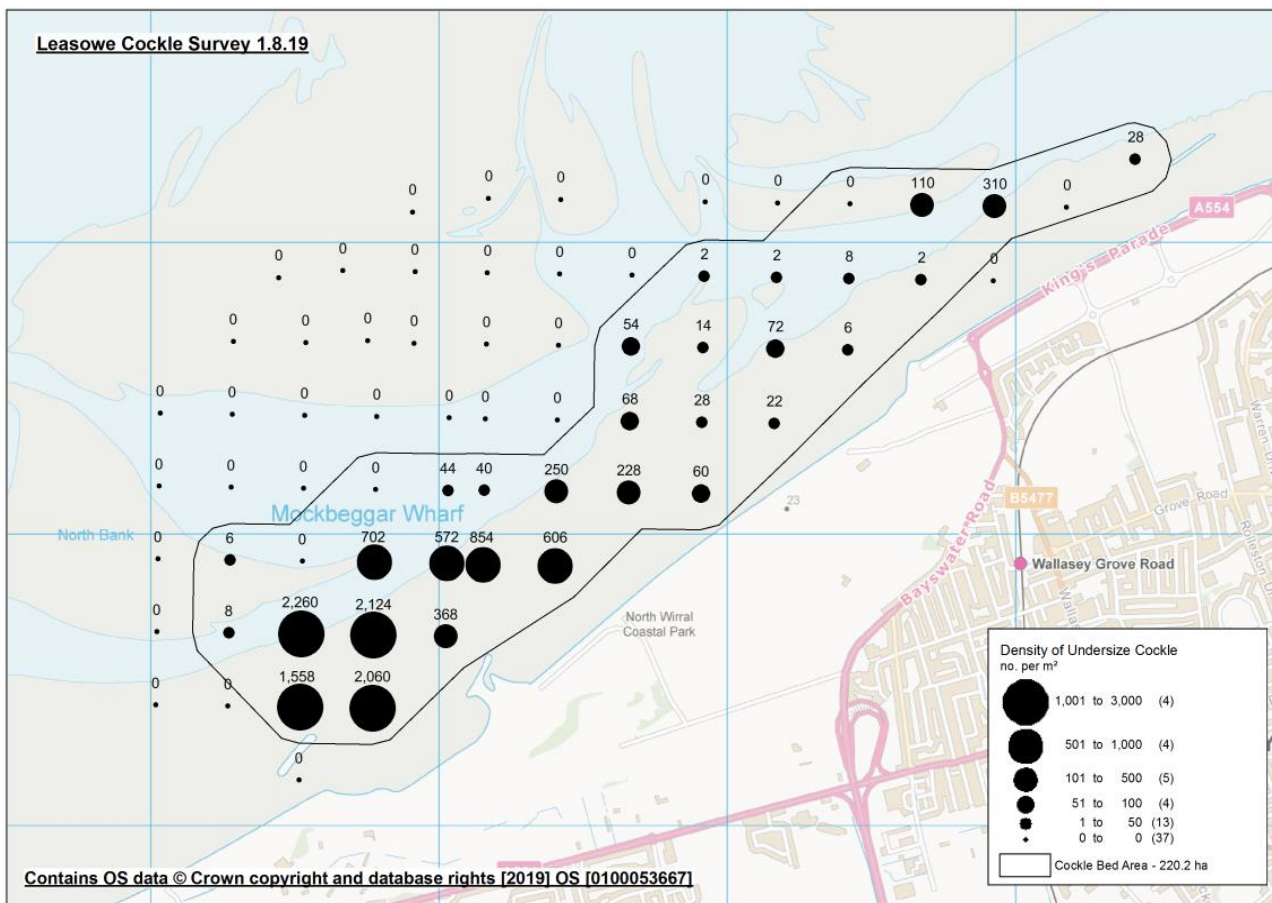
Biomass

	Area (ha)	Size Cockle (tonnes) ¹	Undersize Cockle (tonnes)
Leasowe	220.2	~1200	~500

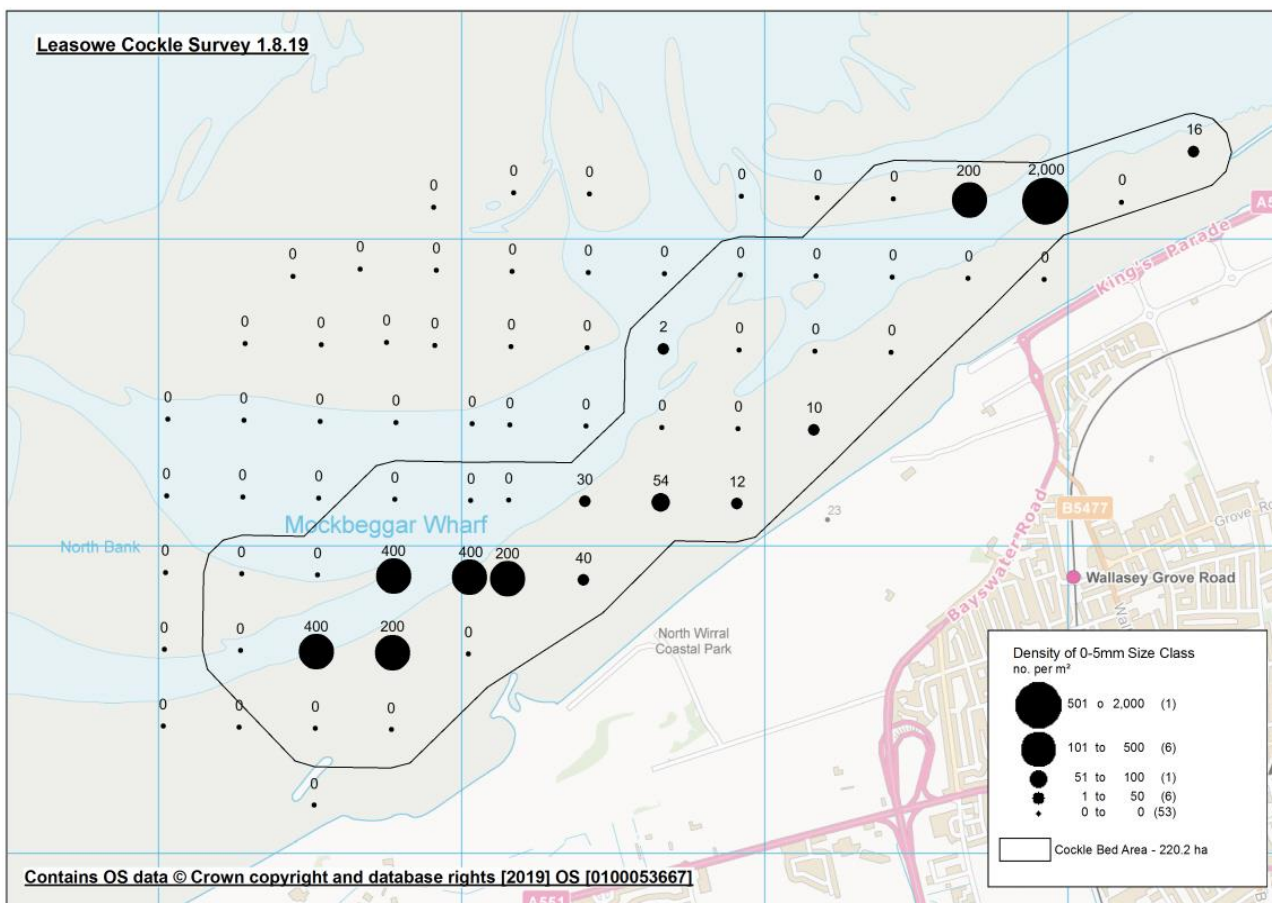
¹In regards to biomass size cockle defined as cockle which will not pass through a square gauge 20 x 20mm in size.

²The biomass of undersize cockle does not include any estimates of cockle less than 5mm due to the high variability of survival of this size class.

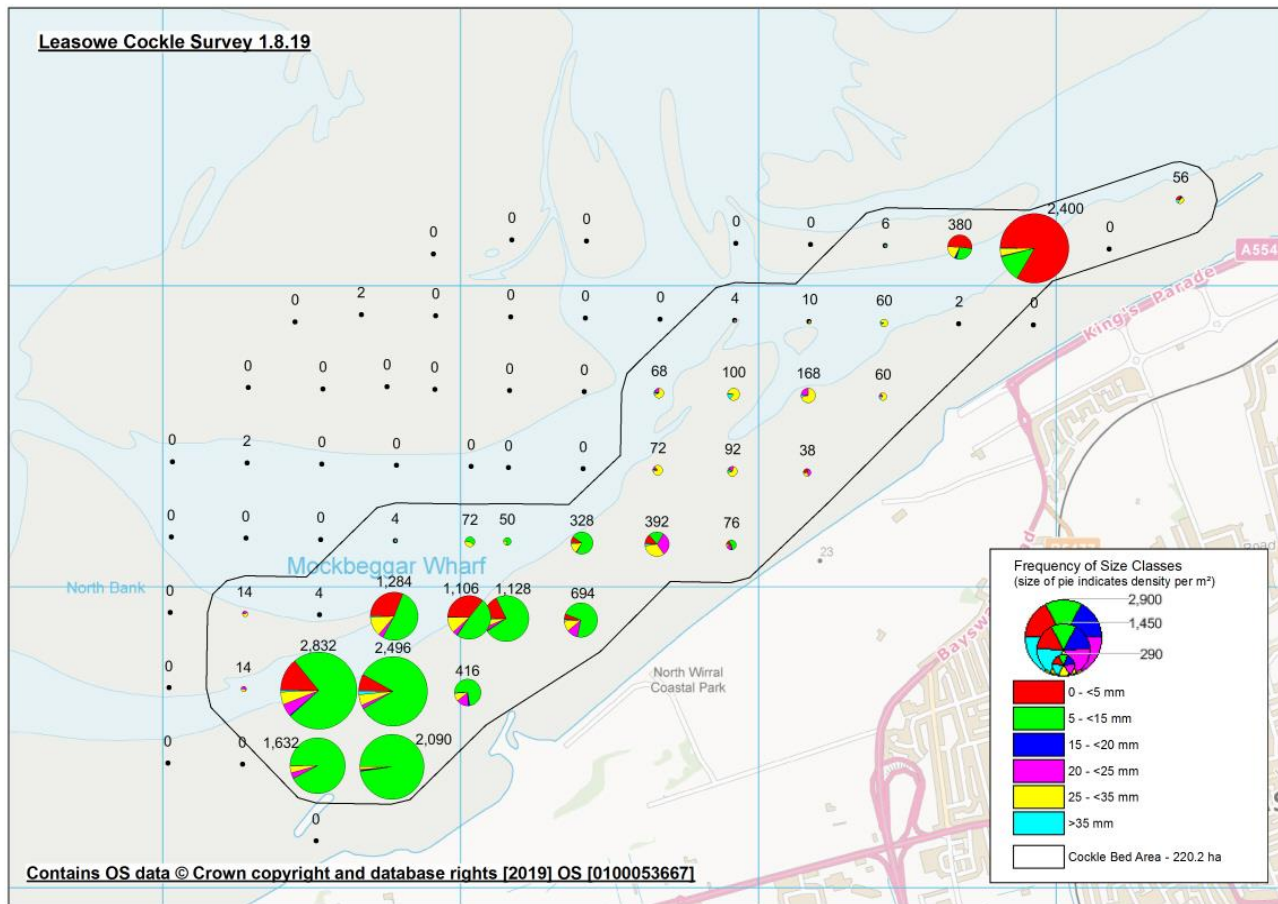




Density of undersize cockle per m² Leasowe August 2019



Density of 0-5mm cockle per m² Leasowe August 2019



Frequency of size classes of cockle per m² Leasowe August 2019

4. Proposal

The proposal is to authorise the removal of size cockles in a hand-gathered cockle fishery at the Leasowe cockle bed, on the North Wirral coast, to open 30th September 2019 until the closed season which starts on 1st May 2019 unless closed by NWIFCA prior to this date for management reasons.

5. Test for Likely Significant Effect (LSE)

- No change to TLSE table within 2017 HRA - the same features and pressures have been taken through to appropriate assessment as listed below.

6. Appropriate Assessment

Potential risks to features

6.1 Potential risks to SAC features

- Intertidal sand and muddy sand
- Intertidal mixed sediments, intertidal coarse sediment

6.1.1 Pressures and Potential Impacts

i. Litter

Past fisheries have had a poor reputation for large amounts of litter being deposited on the parking and access areas, and being left on the cockle beds. Items have included food and drink receptacles, cockle net bags and sacks. Potential impacts could include entanglement of fish and birds in the bags and sacks, and swallowing / entanglement of birds and mammals (both marine and terrestrial) of other litter.

ii. Removal of target species - Intertidal sand and muddy sand, mixed and coarse sediments only

Potential to affect the presence and spatial distribution of feature communities, the presence and abundance of typical species and the species composition of component communities.

6.1.2 Exposure

i. Litter

Since 2016 there have been a number of cockle fisheries in NWIFCA District including a cockle fishery at Leasowe in 2017, and in most years there have been on-going size mussel fisheries in the NWIFCA district. There have only been a few reports of litter being an issue at any of these fisheries, which are regularly inspected by fishery officers. Where issues have been raised officers work with gatherers, buyers and the local authority to resolve the issues. A Code of Conduct of Intertidal Hand-gathering includes responsibility for littering. NWIFCA takes a swift response to any alerts to littering issues.

The NWIFCA is confident that littering will be minimal and controlled and monitoring will be in place to identify quickly if litter is a problem. ***Therefore the NWIFCA can conclude that litter will have no risk of adverse effect on the integrity or conservation status of the designated features within the site.***

ii. Removal of target species - Intertidal sand and muddy sand, mixed and coarse sediments only

The removal of target species from supporting habitats and bird food requirement for SPA features have been assessed below in section 6.2.2.

The proposed fisheries would be managed under NWIFCA Byelaw 3 – Permit to Fish for Cockle and Mussels which includes management measures such as a minimum size, fishing methods and the requirement of a permit for commercial fishing. There are currently a maximum of 136 permits which could be issued for 2019 / 2020 for the whole NWIFCA District. It is predicted from the stock information, communication with permit holders and from officers' experience of cockle fisheries within the NWIFCA district since 2016, that the maximum number of gathers at Leasowe would be 60 permit holders fishing at any one time.

Cockle stocks on the Leasowe bed are naturally highly variable and not a regular feature of this shoreline and it is not uncommon for there to be minimal cockle stock for a number of years. The Leasowe cockle

bed is one of a number of cockle beds within the Dee Estuary SAC. The majority of the cockle beds within the Dee Estuary SAC are managed by Natural Resources Wales (NRW) under the Dee Cockle Regulating Order (2008). NRW complete a HRA on the cockle fisheries within the Dee Cockle Regulating Order area. In their HRA, NRW assigned 5600 tonnes for bird food requirements. From the April surveys NRW estimated 7,523.3 tonnes of cockle on the beds and have set a TAC of 1,431 tonnes from 1st July until 31st August leaving an estimated total of 6,094.3 tonnes of cockle on the beds on the 1st September. The TAC will be assessed for the remainder of the fishery from the 1st September to 31st December 2019.

At the proposed Leasowe fishery the minimum landings size and other byelaw measures will be enforced rigorously to protect and return juvenile stock to the bed. There is an economical level below which the financial return is not worth the time and effort of gathering the cockle, and the fishermen do not gather all the cockles present on a bed. This ensures that cockles of all sizes are left across the beds for future spawning stock.

Therefore the NWIFCA can conclude that removal of target species will have no risk of adverse effect on the integrity or conservation status of the designated features within the site.

6.2 SPA and Ramsar Features

- SPA and Ramsar birds

In addition to the 2017 HRA the following has been highlighted

Bar-tailed godwit, knot and waterbird assemblage - reduce the frequency, duration and /or intensity of disturbance affecting roosting, foraging, feeding, moulting and/or loafing birds so that they are not significantly disturbed.

Common Tern and Little Gull - restrict the frequency, duration and or intensity of disturbance affecting roosting, foraging, feeding, moulting and/or loafing birds so that they are not significantly disturbed.

6.2.1 Potential Impacts

- i) Removal of target species (cockles) for all shore feeding SPA features that feed on infaunal molluscs.

Cockles form part of an important prey resource for oystercatchers, knot and common scoter as well as forming part of a wide variety of prey items for many other species of birds. If bird populations are to be maintained in healthy condition, sufficient shellfish to meet their demands must remain for them.

The impact of removal of essential prey resource by fishing activity varies at different times of the year. For example, prey resource requirements will be far greater during autumn and at the beginning of winter than at other times of the year, as enough resource needs to be present for all the birds to feed through the cold months, when energy requirements are higher. Over-wintering waders require to put on weight and get into best condition prior to migrations north for the summer, or they will not survive long flight distances and suffer high mortalities.

Oystercatchers mainly eat larger-sized cockles, which are the target of the cockle fisheries. Although the birds can eat alternative prey species such as earthworms when shellfish are scarce, these prey often do not enable birds to survive as well, and in such good body condition, as when shellfish are abundant (Atkinson et al 2003; Goss-Custard et al 2004).

Knot eat smaller bivalves, Poot et al. (2014) suggests a modal size class of 9mm for knot when targeting cockles with a range of 4-13 mm.

Common scoters feed by diving, usually synchronously in flocks, and feed on cockles, clams, other bivalves, and a variety of other molluscs, crustaceans, and worms. Kaiser et al. (2002) conducted a review of the literature concerning the diet of common scoter. This revealed that in each of eight quantitative studies, the percentage value for the occurrence of molluscs in their diet exceeded 90% and that for bivalves exceeded 88%. They are, however, opportunistic in their diet and will often exploit whatever mollusc happens to be the most locally abundant, suitable prey resource.

Common scoters are present in Liverpool Bay/Bae Lerpwl from July to May, with the most significant numbers present during August to March. The observed distribution of common scoter is strongly associated with the distribution of its benthic prey species (Kaiser et al. 2006). Prey preference is bivalve molluscs of size < 40mm.

The over-wintering common scoter of Liverpool Bay tends to aggregate on water depth range of 2-20m and a mean depth of 10-12m (Kaiser et al. 2006). The most important areas of Liverpool Bay/Bae Lerpwl for the common scoter are Shell Flat to Formby (off Blackpool), Colwyn Bay and Conwy Bay (CCW, 2006).

- ii) Visual disturbance - All SPA species within vicinity of fishery and access route over the sandbanks.

Visual disturbance could impact on condition of any of the listed bird species, by causing unnecessary energy expenditure if flushed and taking to flight. For birds feeding on the affected areas it could also reduce feeding times, and increase competition if birds are forced to concentrate into reduced feeding areas.

Common scoter are an extremely shy species. In a review of the sensitivity of 26 species of "seabird" to the development of offshore wind-farms, Garthe & Huppopp (2004) considered that common scoter had the highest vulnerability score in relation to disturbance by ship and helicopter traffic. Kaiser et al. (2006) noted that large flocks of the birds were observed being put to flight at a distance of 2km from a 35m vessel, though smaller flocks were less sensitive and put to flight at a distance of 1km (Kaiser et al. 2006). Larger vessels would be expected to have an even greater disturbance distance (Kaiser et al. 2006). Kaiser et al., (2006) have shown that common scoter were observed in lowest numbers or were absent from areas of Liverpool Bay/Bae Lerpwl in which anthropogenic disturbance (shipping activity) was relatively intense, even when these areas held a high prey biomass (Liverpool Bay SPA Advice under Regulation 35(3) of The Conservation of Habitats and Species Regulations 2010 (as amended) and Advice on Operations).

6.2.2 Exposure

- i) Removal of target species (cockles) for all shore feeding SPA features that feed on infaunal molluscs.

Assessing bird food requirements:

There have been various 'bird food models' (BFM) designed over the years which have been adopted by some fisheries regulators. Discussions between NWIFCA and its predecessor the NW&NWSFC, Natural England and the RSPB have been on-going for at least a decade as to the suitability of using these models to set a limit on what can be fished by commercial fishing interests in bivalve (namely cockle and mussel) fisheries.

Levels of confidence in the models vary and focus not only on the parameters set in the models but also on the data that can be fed into the models in terms of stock assessments, and confidence levels in WeBs bird counts (wetland bird surveys carried out during the winter over monthly high waters). There are also significant questions around how much certain bird species rely on bivalve species that can be naturally highly variable in their recruitment and distribution. Alternative bird feeding resource is often cited as taking the form of terrestrial invertebrates such as earthworms. The UK's main expert in oystercatcher ecology and behaviour, John Goss-Custard, is known to be re-examining the efficacy of the BFM(s).

The most recent efforts to find an acceptable solution to the question in the northwest was a series of discussions between NWIFCA scientists, Natural England and the Northwest RSPB. The RSPB Marine Conservation Officer for North West England worked on a proxy bird feeding requirements spreadsheet drawn up from a literature review and the parameters in the BFM. This provided an overview of monthly requirements for the main bird species known to predate heavily on cockle and mussels - oystercatchers, knot, eiders and herring gull. Although not agreed on or progressed further it is a useful tool to be used when examining 'ball park' figures.

NWIFCA began maintaining an up-to-date record of the condition of all cockle and mussel beds under its regulatory powers, listed under designated sites, with a level of confidence in the reports assigned dependent on the source of the report (eg. NWIFCA stock survey, industry report, NWIFCA enforcement officer observation). These site condition reports have been used to assess overall availability of bivalve resource for protected birds in assessments for fisheries management, whereby level of fishing effort has been taken into account alongside resource. When abundant alternative bivalve resource of varying size classes is present and effort levels are low it has not been deemed necessary to set a limit on the fisheries total allowable catch (TAC). Ensuring areas left undisturbed for birds by bivalve hand-gathering has also been considered in all assessments.

Natural England have been appreciative of this approach as a pragmatic management strategy. For example cockle, size and seed mussel hand-gathering has occurred regularly in Morecambe Bay since 2016, cockle beds are about to re-open after the seasonal closure and bird numbers and conditions are being maintained in accordance with EU Birds Directive.

Leasowe Cockle Bed 2019:

Unlike areas such as Morecambe Bay that cover a vast drying area and offer thousands of hectares of intertidal bivalve resource and with a hinterland consisting mainly of farmland, Leasowe on the Wirral is relatively limited by its mainly urban hinterland and the constraints of the position of the low water line and channel. It is bound on the north by the Mersey Estuary, which holds limited cockle and mussel resource but does have some significant intertidal mudflat and saltmarsh providing suitable habitat for other invertebrates. (NB. there are no legal commercial fisheries for bivalves in the Mersey Estuary due to the contamination of the waters).

Running to the south of the Leasowe cockle bed the beach at Hoylake is relatively barren of cockles and mussels. Round the corner into the Dee Estuary there is a major cockle fishery managed under Regulating Order by Natural Resources Wales (NRW), and occasionally mussel beds at West Kirby, Caldy and Thurstaston. NRW utilise the Stilman (Bournemouth University) BFM when assessing bird feeding requirements in the HRA for the cockle fishery. The main population of oystercatchers in the area are counted in the Dee Estuary and the cockle fishery is managed to leave 5600 tonnes of cockle for them. The mussel beds at West Kirby, Thurstaston and Caldy have no mussel on them at present (summer July 2019). There are vast areas of saltmarsh in the upper estuary holding habitat for invertebrates and some areas of farmland on both sides of the estuary.

The fact there is little alternative resource directly on the North Wirral Foreshore results in the need for a more precautionary approach to the fishery and the recommendation to set a TAC on what can be fished based on what needs to be left available for the birds. A stock assessment on the cockles has been carried out, showing around 1200 tonnes of size and around 500 tonnes of undersize cockle currently present on the beach (August 2019). However deciding on a tonnage to leave for the birds is not clear cut.

Calculating Bird Feeding Requirements:

In order to assess bird feeding requirements and to decide on an appropriate level of fishing for the Leasowe cockle fishery September 2019 data on 5 year bird numbers on the North Wirral Foreshore SSSI and surrounding areas was explored.

The numbers were assessed against the proxy spreadsheet to give an indication of resource needed to maintain birds in good condition throughout the winter and into the spring prior to migrations.

Data on counts of knot and oystercatcher, the birds that are thought to be most reliant on cockles and mussels, was tabulated from WeBs counts, BTO reports and the Dee Cockle Order, for the Dee Estuary, Mersey Estuary, Mersey Narrows SSSI, Leasowe Bay, Hoylake and the North Wirral Foreshore SSSI. Eiders were disregarded as the area is not a significant site for this species. Common scoter were also excluded from the calculations as although they are designated in Liverpool Bay SPA which borders the North Wirral Foreshore and are bivalve feeding diving ducks, they are not known to utilise this area for feeding.

Knot

The highest proportion of knot are counted in the Dee Estuary and not in the Leasowe Bay area. However the North Wirral Foreshore and Hoylake have been important areas for overwintering knot. Birds will move to where the food resource is and the Dee Cockle Order survey results showed an abundance of small cockle on the Dee this year (NRW April 2019 survey report).

For the NWIFCA to open the Leasowe cockle fishery the majority of the cockle will be above the size preference for knot - ie. > ~ 26mm shell length and therefore to remove it does not reduce their food availability. Smaller cockle will have to be riddled out and left behind and thus a figure in the region of 500 tonnes remains immediately available for knot. This is enforced by IFCOs under NWIFCA Byelaw 3 minimum landing size. (NB. it is possible that a small proportion of the undersize cockle will reach size during the time prior to or during the fishery).

Oystercatcher

The main populations of oystercatcher are found in the Dee Estuary and their requirements are accounted for under the Dee Cockle Order whereby 5600 tonnes of size cockle are left for them.

Accepting that birds are not static and will move between estuaries and foreshores, and taking a precautionary approach, for Hoylake, North Wirral Foreshore, the Mersey Estuary and Mersey Narrows SSSI the mean count for over-wintering oystercatchers is around 4000 birds for the whole of the cockle gathering season (September - April), tables of bird figures have been provided in Annex A. Some of the birds included in this count will go in and out of the other estuaries and therefore will have been included in the Dee birds' assessment.

It therefore is considered reasonable and precautionary to assume a figure of between 3000 to 4000 oystercatchers as reliant on Leasowe Bay cockles throughout their UK presence.

Setting a TAC on the cockle fishery:

Calculations for TAC:

Estimated biomass from August survey = 1200 tonnes size and 500 tonnes undersize.

Scenario 1 - Assuming 4000 birds from September to end of April and using proxy spreadsheet, adult oystercatchers require a total of 924 tonnes wet mass. Giving a TAC of 276 tonnes.

Scenario 2 - Assuming 3500 birds from September to end of April and using proxy spreadsheet, adult oystercatchers require a total of 800 tonnes wet mass. Giving a TAC of 400 tonnes.

Scenario 3 - Assuming 3000 birds from September to end of April and using proxy spreadsheet, adult oystercatchers require a total of 693 tonnes wet mass. TAC of 507 tonnes.

After discussions with Natural England it was decided that the middle TAC of 400 tonnes was most appropriate. To ensure the TAC is not exceeded the following calculations have been used to inform management. Using figures from the Leasowe fishery in 2017/2018:

- Assume 60 permit holders fishing 800 kg per tide 2 tides per day = 96 tonnes per day
- Meaning the fishery would last 4 days

Estimates made have been precautionary. The likelihood is that less than 60 permit holders will fish in this period as other cockle beds will be open in Morecambe Bay. The amount they each fish per day is dependent on cockle density and capability of each individual gatherer.

In order to ensure the TAC is observed and over-fishing does not occur. The fishery will be managed under authorisation (Annex B) and will be open for three weekdays per week with weekly returns. NWIFCA works with the relevant statutory environmental health authorities and IFCOs will monitor landings on site which will be corroborated against landings and Food Standards Agency Registration Documents.

The fishery will be closed under NWSFC Byelaw 13a* - Cockles and Mussels - Management of the Fishery once the TAC has been reached and anyone caught gathering post closure will be subject to byelaw sanctions.

* The NWIFCA Authority 'made' a revised version of the cockle and mussel byelaw at its June 2019 meeting which increases management powers. If this new byelaw has become law in the interim the powers under that byelaw will be used to close the fishery once the TAC has been reached.

ii) Visual disturbance - All SPA species within vicinity of fishery

In addition to the 2017 HRA the following has been highlighted from the new conservation advice packages.

- Bar-tailed godwit, knot and waterbird assemblage - reduce the frequency, duration and /or intensity of disturbance affecting roosting, foraging, feeding, moulting and/or loafing birds so that they are not significantly disturbed.
- Common Tern and Little Gull - restrict the frequency, duration and or intensity of disturbance affecting roosting, foraging, feeding, moulting and/or loafing birds so that they are not significantly disturbed.

From information in the Conservation Advice package common terns arrive in April, and breeding numbers peak in May and June. Winter migration starts in August and September (Royal Society for the Protection of Birds (RSPB), 2014). Little gull mainly use this SPA during passage while migrating from their wintering grounds in southern Europe to breeding grounds in northern Eurasia and Scandinavia (BirdLife International, 2014). Spring migration of little gull brings birds to Seaforth Nature Reserve, located within the SPA (Royal Society for the Protection of Birds (RSPB), 2014). As the fishery is outside of this period it is unlikely that the fishery will interact with these SPA species.

The site provides an important feeding area for wintering knot. The extensive sandy and muddy intertidal habitat (predominantly along the North Wirral Foreshore) supports a diverse community of bivalves (Centre for Marine and Coastal Studies Ltd., 2011) which represent the majority of the knots winter diet (Robinson, 2005). Bar-tailed godwits begin arriving at this site from July with numbers peaking in January and February. Spring migration begins in March.

Designated waterbird assemblages and SSSI features: there are a number of birds that utilise the Leasowe and Hoylake areas, mainly for intertidal feeding. Full information on bird usage from the BTO Report (Still et al. 2014) has been used to inform this assessment.

Waders utilising the intertidal sand and mudflats for feeding and the shoreline for roosting include shelduck (neighbouring Hoylake), oystercatcher, ringed plover, grey plover, lapwing, turnstone, knot, sanderling,

dunlin, redshank, bar-tailed godwit, curlew and black-headed gull and all have been considered for disturbance impacts from the fishery.

Roost sites: oystercatcher and turnstone roost sites have been identified along the shoreline at the top of the Leasowe beach particularly around the physical structures of the breakwaters; while lapwing, dunlin, black-tailed godwits and curlew on the fields behind the shoreline, and redshank roosts in both.

Low-tide feeding distributions: a low number of teal, cormorants, ringed plover, sanderling, curlew, and high numbers of oystercatcher, grey plover, lapwing, turnstone, knot, dunlin, redshank and bar-tailed godwit are recorded feeding in the intertidal area at Leasowe.

Mitigation and management from section 6.2.2(i) which reduces the exposure of visual disturbance for SPA species:-

Fishery Open three weekdays per week with a 400 tonne TAC

With the fishery only being open three days per week will mean that there will be 4 days without any commercial cockle fishing disturbance reducing any potential impact on the SPA features. With a 400 tonne TAC it is unlikely that the fishery will be open for more than four weeks. This assumption is based on the level of fishing and landings from the 2017/2018 cockle fishery further reducing any impact from visual disturbance of the fishing activity.

Other Mitigating Factors

The size of the open area is 1322 hectares but from NWIFCA cockle survey the cockle bed / area that will be fished is 220 hectares. This equates to 10.6% of the Mersey Narrows and North Wirral Foreshore SPA leaving areas of the site that will remain undisturbed from the fishing activity.

Disturbance to high tide roosting birds is very unlikely due to the timing of the fishery – ie. fishers will access the beach around three hours after high water and will have left the area around two to three hours before high water. Disturbance to birds utilising the top of the beach will be limited by only having one access route on to the beds. This access route is habitually used by dog walkers, other members of the public who walk out over the sands. Birds are therefore likely to be habituated to a certain level of disturbance.

Previous fisheries have shown that birds follow the tide out and when 'put up' they typically settle again rapidly and continue to feed (pers. observation. Knott. M. NWIFCA during Leasowe cockle fishery. 2010). Birds that are less sensitive to disturbance, such as oystercatchers, that target the larger cockle have been seen to be feeding very close to hand-gatherers at Flookburgh and may benefit from loose cockle on the sand after jumbo-ing (pers. comm. Knott M. 2018).

There is therefore no reason to suggest that disturbance to birds would be damaging unless weather was exceptionally severe. NWIFCA will carry out an assessment of risk in conjunction with Natural England during periods of cold weather and may close the fishery if cold weather is predicted to be below zero for more than 12 hours a day for 5 consecutive and advice is that fishing poses a risk to SPA features. If there is evidence of high levels of disturbance and a risk of adverse effect identified to the European Site then the NWIFCA Authority will close the fishery / fisheries.

7. Summary of Management and Mitigation to Ensure No Adverse Effect on the Integrity of the European Site:

In order for the NWIFCA to be fully confident of no risk of adverse effect on the integrity or conservation status of the site, a precautionary approach is being taken, and the following management measures implemented:

- a) Fishery open three weekdays per week
- b) 400 tonnes TAC
- c) One access point to the fishery
- d) A multi-agency enforcement approach to ensure only legitimate permit holders commercially fish the bed (NB the 5kg per person daily personal consumption allowance for non-commercial gathering is removed, and this will also be checked and enforced)
- e) Rigorous enforcement of the MLS
- f) Closure of all other areas in proximity under a NWSFC Byelaw 13a closure
- g) Monitored landings through:
 - i. Regular IFCO reporting of numbers fishing and estimates of quantities removed, checked against registration documents where possible;
 - ii. Weekly landings returns from NWIFCA Byelaw 3 permit holders (required under byelaw)
- h) Monitoring and inspection to ensure that there are no litter issues
- i) NWIFCA enforcement officers will use intelligence and contacts with fellow enforcement agencies to pursue any suspicions of non-permitted or illegal cockling activity
- j) Use of the NWIFCA Compliance and Enforcement Strategy which defines how the NWIFCA will enforce local, national and international law. (<https://www.nw-ifca.gov.uk/compliance-enforcement-strategy/>)
- k) The fishery will be temporarily suspended if local temperatures (as recorded by nearest Met Office data) are below 0°C for five consecutive days and remain so until temperatures reach above 0°C.

NWIFCA in 2018 made the decision to close a cockle fishery due to non-compliance with management. Indications are that industry are now much more aware of the firm stance of the Authority to any activity that could pose a risk of non-compliance with the HRA, and that they will act to do the same again should further risk be detected. The level of NWIFCA Enforcement devoted to these cockle fisheries means non-compliance would be detected swiftly and reported back to the Authority immediately. This will deter non-compliance in the future.

Table 2: Summary of Impacts

Feature/Sub feature(s)	Conservation Objective	Potential pressure (such as abrasion, disturbance) exerted by gear type(s)	Potential ecological impacts of pressure exerted by the activity/activities on the feature (reference to conservation objectives)	Level of exposure of feature to pressure	Mitigation measures
Intertidal sand and muddy sand, (Estuaries, Mudflats and sandflats not covered by seawater at low tide, Large shallow inlets and bays, SPA supporting habitats)	Maintain or restore the extent, distribution structure or function of the feature.	Litter Removal of target species	Littering impacts could include entanglement of fish and birds in the bags and sacks, and swallowing / entanglement of birds and mammals (both marine and terrestrial) of other litter. Removal of target species could change the invertebrate community composition of the sandbanks.	Littering levels will be monitored, and fishers encouraged to act responsibly through Code Of Conduct for Intertidal Shellfisheries. NWIFCA will liaise closely with local authority and NE, for early detection of any problems. Target species is size cockle which will be removed by the fishery. Cockle stocks are naturally variable and not a regular feature of this shoreline. MLS and other byelaw measures imposed to protect and return juvenile stock to bed.	None - current management measures sufficient with monitoring of the fishery None - current management measures sufficient with monitoring of the fishery With current management and monitoring, littering and removal of target species is unlikely to have an adverse effect on the integrity of the European Site.
<i>A130 Haematopus ostralegus; Eurasian oystercatcher (Non-breeding)</i> <i>A143 Calidris canutus; Red knot (Non-breeding)</i> <i>A065 Melanitta nigra Common scoter (non-breeding)</i> shore feeding SPA features that feed on infaunal molluscs	Maintain or restore the population of each of the qualifying features, and, the distribution of the qualifying features within the site	Removal of target species (cockles)	Removal of food source / prey items has the potential to affect condition, productivity and survival of species.	The level of exposure depends on time of year of fishery, availability of alternative food resources, stock status and level of effort. Size range of cockles is outside of size preference for knot. Area is outside of important feeding area for common scoter. Observations provide evidence that oystercatcher are utilising the cockle resource at Leasowe. This is not habitual as cockle stocks are highly variable. Under the Dee Cockle Regulating Order 2017 management a stock of 5600 tonnes will remain in the Dee Estuary end of December 2017. Further a TAC of 400 tonnes has been set for this fishery to ensure precautionary approach and stock of mature adult and undersize cockle remains.	As detailed in 6.2.2 and 7.2.1 above. Specific Management -400 tonne TAC -Fishery open three weekdays per week - weekly returns

					With management and mitigation as described, removal of target species as bird prey resource is unlikely to have a significant effect on the extent, distribution, structure or function of the features in the SPA(s).
<p>A048 <i>Tadorna tadorna</i>; Common shelduck (Non-breeding)</p> <p>A052 <i>Anas crecca</i>; Eurasian teal (Non-breeding)</p> <p>A054 <i>Anas acuta</i>; Northern pintail (Non-breeding)</p> <p>A130 <i>Haematopus ostralegus</i>; Eurasian oystercatcher (Non-breeding)</p> <p>A141 <i>Pluvialis squatarola</i>; Grey plover (Non-breeding)</p> <p>A143 <i>Calidris canutus</i>; Red knot (Non-breeding)</p> <p>A149 <i>Calidris alpina alpina</i>; Dunlin (Non-breeding)</p> <p>A156 <i>Limosa limosa islandica</i>; Black-tailed godwit (Non-breeding)</p> <p>A157 <i>Limosa lapponica</i>; Bar-tailed godwit (Non-breeding)</p> <p>A160 <i>Numenius arquata</i>; Eurasian curlew (Non-breeding)</p> <p>A162 <i>Tringa totanus</i>; Common redshank (Non-breeding)</p> <p>A191 <i>Sterna sandvicensis</i>; Sandwich tern (Non-breeding)</p> <p>A193 <i>Sterna hirundo</i>; Common tern (Breeding)</p> <p>A195 <i>Sterna albifrons</i>; Little tern (Breeding)</p>	Maintain or restore the population of each of the qualifying features, and, the distribution of the qualifying features within the site	Visual disturbance	<p>Potential for tractors, quads and fishermen to disturb bird species that spend a proportion of their time feeding in the intertidal areas of the North Wirral Foreshore.</p> <p>The disturbance has the potential to force the species of birds to exert extra energy, and or displace them from the preferred feeding ground, breeding or roost site.</p> <p>Visual disturbance has the potential to affect condition, productivity and survival of species.</p>	<p>Not key season for Common tern. Fishery is spatially restricted to 220ha in north of the North Wirral Foreshore (10.6% of MNNWF SPA).</p> <p>The beach is regularly used by dog walkers and birds will be habituated to a certain degree to disturbance.</p> <p>Access is restricted to one route, and parking and tonning up will not occur on the beach.</p>	<p>As detailed in 6.2.1, 6.2.2 and 7.2.2 above.</p> <p>Specific Management</p> <ul style="list-style-type: none"> -400 tonne TAC resulting in a quick fishery - fishery open three weekdays per week - weekly returns <p>Taking these factors into account it is unlikely that visual disturbance will have a significant effect on the extent, distribution, structure or function of the features in the SPA(s).</p>

<p>A177. <i>Hydrocoloeus minutus</i>; Little gull (non-breeding)</p> <p>A001 <i>Gavia stellata</i> Red-throated diver (non-breeding)</p> <p>A065 <i>Melanitta nigra</i> Common scoter (non-breeding)</p> <p>Waterbird assemblage including <i>Mergus serrator</i> (red-breasted merganser) and <i>Phalacrocorax carbo</i> (cormorant).</p>					
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7. Conclusion

The proposal is to authorise the removal of size cockles in a hand-gathered fishery at Leasowe cockle bed, North Wirral Coastline, from 30th September 2019 until the TAC is reached or the start of the 2020 closed season on 1st May 2020 unless closed by NWIFCA prior to this date for management reasons. The fishery will operate on three weekdays per week on both tides. The full authorisations can be found in Annex B. All other areas on the North Wirral Coastline will remain closed under NWSFC Byelaw 13a.

The management and mitigation measures incorporated into this fishery, and the use of an effective enforcement team of NWIFCA Officers with multi-agency support, allows the NWIFCA to conclude that the hand-gathered cockle fishery at Leasowe cockle bed will have no risk of adverse effect to the integrity of the European Site.

8. In-combination assessment

a) In combination effects of cockle hand-gathering in the Dee Estuary:

NRW carry out an HRA for the Dee Cockle Order fishery and have provided survey data and information to the NWIFCA on management of that fishery for 2019. Both fisheries have taken bird food requirements and bird disturbance issues into consideration, and set TACs to ensure adequate supply of food for the overwintering waders.

There is a question over how reliant the birds are on the cockles at Leasowe, considering how variable the stocks are. There are alternative areas that will be left undisturbed in the neighbouring Dee Estuary.

Oystercatchers are also known to predate on earthworms in terrestrial fields. The land lying inshore from the fishery holds four golf clubs and large arable tracts south of Hoylake providing an alternate resource. There are also large areas of saltmarsh in the upper reaches of the Dee Estuary containing a rich resource of invertebrates for waders.

The NWIFCA is confident that in-combination effects of both fisheries occurring concurrently will pose no risk of adverse effect on the integrity or conservation status of the features of the Mersey Narrows and North Wirral Foreshore SPA, the Dee Estuary SAC and SPA, the Liverpool Bay SPA and the North Wirral Foreshore SSSI.

9. Integrity test

The NWIFCA concludes No Risk of Adverse Effect on the Integrity of the European Site providing the management measures of the Leasowe cockle fishery are implemented and upheld.

Annex A: Tables Providing Information on Bird Numbers

Table 1: Tabulation of bird count data using WeBS and BTO data.

Site	Knot - 5 year average 2012/23 - 2017/18 (and peak month) ¹	Knot - 5 year mean densities 2007/08 - 2011/12 ²	Wintering populations in citation	Oystercatcher - 5 year average 2012/23 - 2017/18 (and peak month) ¹	Oystercatcher - 5 year mean densities 2007/08 - 2011/12 ²	Wintering populations in citation
Dee Estuary (England & Wales)	16956 (Feb)			24500 (Oct)		
Mersey Estuary	727 (Feb)			888 (Feb)		
Mersey Narrows SSSI	0			342		
Leasowe Bay		788			922	
Hoylelake		8844			2051	
North Wirral Foreshore SSSI			20,000			500+

¹ Contains Wetland Bird Survey (WeBS) data from Waterbirds in the UK 2017/18 © copyright and database right 2019. WeBS is a partnership jointly funded by the BTO, RSPB and JNCC, in association with WWT, with fieldwork conducted by volunteers.

² Data from BTO report (Still et al. 2014)

Table 2: Peak Counts from Dee Cockle Order Info for the Dee (2019)

Year	Knot	Oystercatcher
2017	31733	25365
2016	8481	20857
2015	8000	11546
2014	14701	25775
2013	16095	28715
2012	50266	24432
2011	30552	23293
2010	20572	21993
2009	10465	25886
2008	14994	18860
5 year peak mean	15802	22451.6
10 year peak mean	20585.9	22672.2

Table 3a: Data from BTO report (Still et al. 2014) 5 year mean densities for Leasowe Bay

Species	1997/98 – 2001/02	2002/03 – 2006/07	2007/08 – 2011/12
Cormorant	10	11	7
Oystercatcher	608	895	922
Ringed Plover	28	56	20
Grey Plover	10	64	72
Lapwing	52	41	94
Turnstone	422	259	52
Knot	1096	2328	788
Sanderling	43	68	54
Dunlin	5238	4304	2230
Redshank	671	920	405
Bar-tailed Godwit	15	2	2
Curlew	0	0	1
Black-headed gulls	n/a	1887	1690

Table 3b: Data from BTO report (Still et al. 2014) 5 year mean densities for Hoylake

Species	1997/98 – 2001/02	2002/03 – 2006/07	2007/08 – 2011/12
Cormorant	11	35	113
Oystercatcher	501	2774	2051
Ringed Plover	76	36	31
Grey Plover	384	637	870
Lapwing	98	55	84
Turnstone	26	30	17
Knot	14000	15400	8844
Sanderling	134	268	359
Dunlin	8600	9100	4945
Redshank	311	340	213
Bar-tailed Godwit	380	290	118
Curlew	56	120	196
Black-headed gulls	218	231	94
Shelduck	20	58	185



Leasowe Cockle Fishery 2019

NWIFCA Byelaw 3 Permit Holders Authorisation to gather cockles by hand

30th September 2019

This notice constitutes written authorisation against the closure under NWSFC Byelaw 13A for current NWIFCA Byelaw 3 permit holders to gather cockles by hand on Leasowe Cockle bed, from Monday to Wednesday inclusive from 00:01 Monday 30th September 2019 until NWIFCA closes the bed due to the TAC being reached or until the beginning of the seasonal closure at 00:01 hrs on 1st May 2020, whichever is sooner.

Conditions

1. The authorisation is only valid for current NWIFCA Byelaw 3 permit holders. It does not allow any other person to take or remove cockles.
2. This authorisation to fish applies only to Monday to Wednesday inclusive.
3. This authorisation will be revoked once the Total Allowable Catch (TAC) of 400 tonnes has been reached.
4. All measures under NWIFCA Byelaw 3 apply except for paragraph 21 (requirement for monthly returns).
5. It is a condition of this authorisation that all permit holders are required to file with the NWIFCA, no later than 17.00 hrs on the Thursday following, catch and fishing effort for the previous 3 days fishing. Permit holders not filing returns may have their permits suspended by the NWIFCA until returns have been filed.
6. Fishing is only permitted in the area as defined in paragraph 2 and illustrated in Annex A. This area lies within the bivalve mollusc production area classified under EU Regulation 854/2004. Selling cockles taken from outside this area could lead to enforcement action under food hygiene legislation.
7. Vehicles used to access the fishery must be ATV quadbikes. There shall be no parking of any other vehicle associated with the fishery or tonning up on the beach.
8. Any fishing taking place under this authorisation shall be carried out in accordance with the Authority's Code of Conduct for Intertidal Shellfisheries.
9. A person must not obstruct an IFCO pursuant to MACAA s292(4) carrying out a relevant function pursuant to MACAA s287.
10. NWIFCA may close the fishery during periods of cold weather (predicted below zero

temperatures for more than 12 hours a day for 5 consecutive days) or on advice from Natural England.

11. The NWIFCA may close the fishery or take other appropriate management action if in the opinion of NWIFCA Officers or Scientists there is a failure to comply with these conditions. Such closure or management action may take place with immediate effect.
12. Damage to conservation features could lead to prosecution.
13. This authorisation does not exonerate the holder from other sea fisheries legislation, nor does it prejudice any other consents the holder may need to obtain nor does it override or provide permission to go over private land.

2. Definition of Authorised Area

The **authorised fishing area** is the area enclosed by a straight line connecting points A, B, C, D, E in order, and returning to point A along the line of the Highest Astronomic Tide.

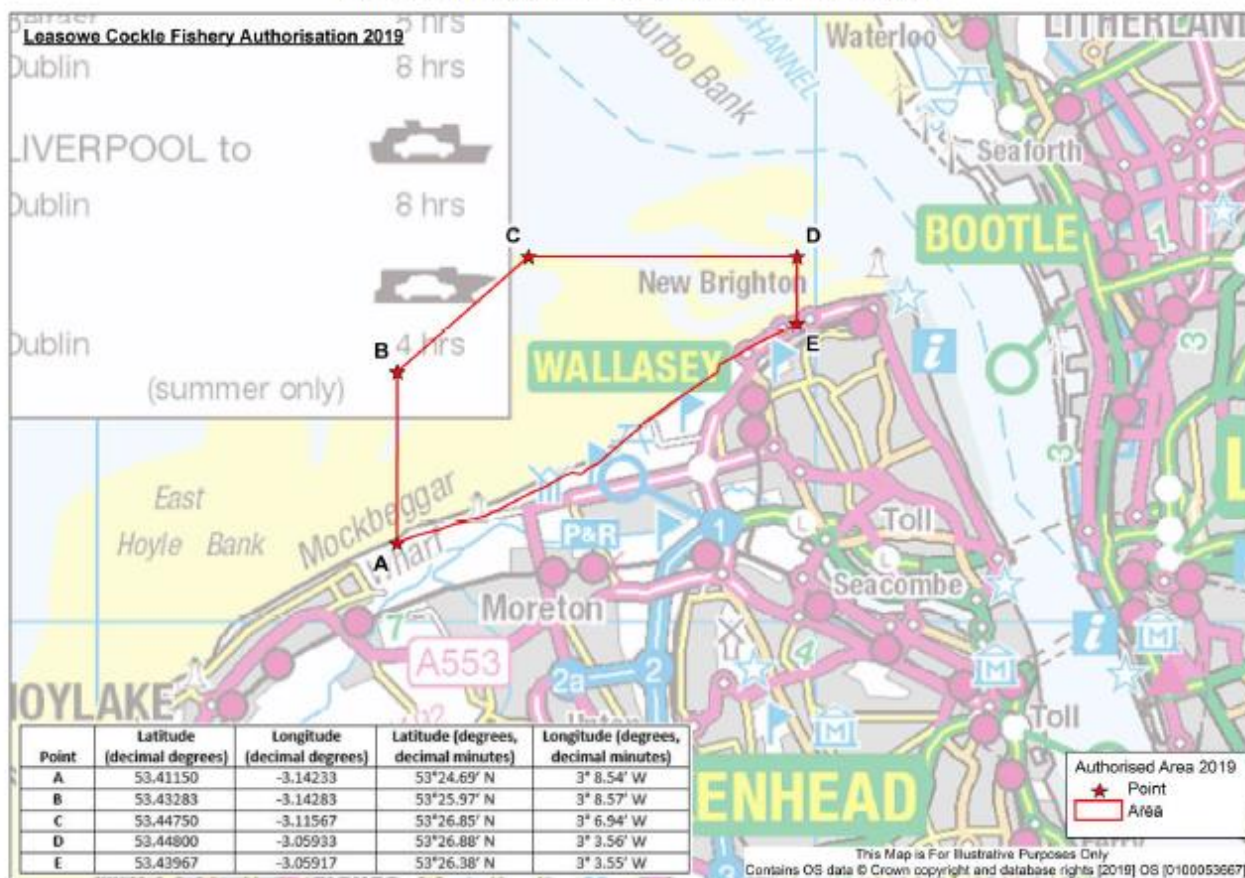
Point	Latitude (decimal degrees)	Longitude (decimal degrees)	Latitude (degrees, decimal minutes)	Longitude (degrees, decimal minutes)
A	53.41150	-3.14233	53°24.69' N	3° 8.54' W
B	53.43283	-3.14283	53°25.97' N	3° 8.57' W
C	53.44750	-3.11567	53°26.85' N	3° 6.94' W
D	53.44800	-3.05933	53°26.88' N	3° 3.56' W
E	53.43967	-3.05917	53°26.38' N	3° 3.55' W

This authorisation may be revoked by the NWIFCA at any time and any breach of the terms or conditions of this authorisation shall make it null and void.

By Order of the Authority

STEPHEN ATKINS
Chief Executive

Annex A – Leasowe Cockle Fishery 2019 Authorised Area



Annex C: Natural England's Consultation Advice

Date: 27 August 2019
Our ref: 296154



Mandy Knott
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Crewe Business Park
Crewe
Cheshire
CW1 6GJ

BY EMAIL ONLY

Dear Mandy,

*Leasowe Cackle Fisheries Habitats Regulations Assessment –Mersey Narrows & North Wirral
Foreshore SPA and North Wirral Foreshore SSSI*

Thank you for your email dated 10 September 2019 on the above Habitats Regulations Assessment (HRA) for the opening of the Leasowe cockle beds. The following constitutes Natural England's formal statutory response.

Internationally and nationally designated sites

The application site is within a European designated site (also commonly referred to as Natura 2000 sites), and therefore has the potential to affect its interest features. European sites are afforded protection under the Conservation of Habitats and Species Regulations 2010, as amended (the 'Habitats Regulations'). The application site is within Mersey Narrows and North Wirral Foreshore SPA, which is a European sites. The site is also notified at a national level as the North Wirral Foreshore Site of Special Scientific Interest (SSSI).

No objection

Natural England notes that your authority, as competent authority under the provisions of the Habitats Regulations, has undertaken an Appropriate Assessment of the proposal in accordance with Regulation 61 of the Regulations. Natural England is a statutory consultee on the Appropriate Assessment stage of the Habitats Regulations Assessment process.

Your appropriate assessment concludes that your authority is able to ascertain that the proposal will not result in adverse effects on the integrity (AEOI) of any of the sites in question. Natural England advises that the Appropriate Assessment considers the relevant in-combination plans and projects, in this case other intertidal shellfisheries in the Dee estuary. Having considered the assessment, and the measures proposed to mitigate for all identified adverse effects that could potentially occur as a result of the proposal, **Natural England advises that we concur with the assessment conclusions, providing that all mitigation measures are appropriately secured in any permission given. See Annex A for further details.**

For any queries relating to the content of this letter please contact me using the details provided below.

Yours sincerely,

Mark Johnston
Senior Marine Adviser – Cumbria Area Team

Email: mark.johnston@naturalengland.org.uk
Tel: 07733307051