# Fisheries in EMS Habitats Regulations Assessment

NWIFCA-MNNWF-COCKLE HANDGATHERING FISHERY 2024 - Leasowe 29<sup>th</sup> August 2024

### Site: Mersey Narrows an North Wirral Foreshore

#### Qualifying Feature(s): Ramsar

A157. Limosa lapponica; Bar-tailed godwit (non-breeding)
A177. Hydrocoloeus minutus; Little gull (non-breeding)
A143. Calidris canutus islandica; Knot (non-breeding)
A193. Sterna hirundo; Common tern (non-breeding)
A193. Sterna hirundo; Common tern (breeding)
Waterbird assemblage

## Site sub-feature(s)/Notable Communites: <u>SPA and Ramsar</u>

**Supporting habitats:** Intertidal rock, intertidal biogenic reef – mussel beds, intertidal sand and muddy sand, intertidal mud, intertidal mixed sediment, coastal lagoons, saltmarsh (Atlantic salt meadows and Salicornia and other annuals), freshwater and coastal grazing marsh, water column.

Generic sub-feature(s): Estuarine birds, Benthic feeding seabirds, Intertidal mud and sand, Coastal lagoons

#### High Level Conservation Objectives:

With regard to the SPA and the individual species and/or assemblage of species for which the site has been classified and the Ramsar Site and the wetland habitats and/or species for which the site has been listed (the 'Qualifying Features' listed above), and subject to natural change;

Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the aims of the Wild Birds Directive and ensure that the site contributes to achieving the wise use of wetlands across the UK, by maintaining or restoring:

- $\hfill\square$  The extent and distribution of the habitats of the qualifying features
- □ The structure and function of the habitats of the qualifying features
- $\hfill\square$  The supporting processes on which the habitats of the qualifying features rely
- $\hfill\square$  The population of each of the qualifying features, and,
- $\hfill\square$  The distribution of the qualifying features within the site.

## Site: Dee Estuary

European Designated Sites:	UK0030131	Dee Estuary/Aber Dyfrdwy Special Area of Conservation (SAC)
	UK9013011	The Dee Estuary Special Protection Area (SPA)
	UK11082	The Dee Estuary Ramsar Site

European Marine Site: Dee Estuary

#### Only features within the English part of the EMS are assessed by NWIFCA

#### Qualifying Feature(s): SAC and Ramsar

H1130. Estuaries

H1140. Mudflats and sandflats not covered by seawater at low tide; Intertidal mudflats and sandflats
H1210. Annual vegetation of drift lines (NON MARINE)
H1230. Vegetated sea cliffs of the Atlantic and Baltic coasts; Vegetated sea cliffs (NON MARINE)
H1310. Salicornia and other annuals colonising mud and sand; Glasswort and other annuals colonising mud and sand
H1330. Atlantic salt meadows (Glauco-Puccinellietalia maritimae); Atlantic salt meadows
H2110. Embryonic shifting dunes; Shifting dunes (NON MARINE)
H2120. Shifting dunes along the shoreline with Ammophila arenaria ("white dunes"); Shifting dunes with marram (NON
MARINE)
H2130. Fixed dunes with herbaceous vegetation ("grey dunes"); Dune grassland (NON MARINE)
H2190. Humid dune slacks (NON MARINE)
S1095 Petromyzon marinus Sea lamprey
S1099 Lampetra fluviatilis River lamprey

S1395 Petalophyllum ralfsii Petalwort (NON MARINE)

Natterjack toad (NON MARINE)

#### SPA and Ramsar

A048 Tadorna tadorna; Common shelduck (Non-breeding)

A052 Anas crecca; Eurasian teal (Non-breeding)

A054 Anas acuta; Northern pintail (Non-breeding)

A130 Haematopus ostralegus; Eurasian oystercatcher (Non-breeding)

A141 Pluvialis squatarola; Grey plover (Non-breeding)

A143 Calidris canutus; Red knot (Non-breeding)

A149 Calidris alpina alpina; Dunlin (Non-breeding)

A156 Limosa limosa islandica; Black-tailed godwit (Non-breeding)

A157 Limosa lapponica; Bar-tailed godwit (Non-breeding)

A160 Numenius arquata; Eurasian curlew (Non-breeding)

A162 Tringa totanus; Common redshank (Non-breeding)

A191 Sterna sandvicensis; Sandwich tern (Non-breeding)

A193 Sterna hirundo; Common tern (Breeding)

A195 Sterna albifrons; Little tern (Breeding)

Waterbird assemblage

#### Site sub-feature(s)/Notable Communites: SAC and Ramsar

**Estuaries**: Sub-tidal sediment communities, Intertidal hard substrate communities, Intertidal mudflats and sandflats communities, Salicornia and other annuals, Sabellaria sp. reef, Atlantic salt meadow, Annual vegetation of drift lines.

**Intertidal mudflats and sandflats:** Intertidal gravel and clean sand communities, Intertidal muddy sand communities, Intertidal mud communities.

**Pioneer saltmarsh:** Pioneer low marsh communities, ephemeral saltmarsh vegetation **Atlantic salt meadows:** Low to mid marsh communities, mid to upper marsh communities, transitional communities

Annual vegetation of drift lines River lamprey Sea lamprey Supporting habitat: Natterjack toad – coastal sand dunes

#### SPA and Ramsar

Estuary channels (subtidal sediment communities and the water column), Intertidal mudflats and sandflats, Saltmarsh communities, Shingle banks/ridges, Rockyshore communities

#### Generic sub-feature(s):

Intertidal gravel and sand; Intertidal mud; Saltmarsh spp.; Intertidal mud and sand; annual vegetation of drift lines; river lamprey; sea lamprey; Sabellaria sp. reef, Estuarine fish community; Intertidal bedrock reef; Intertidal boulder and cobble reef; Estuarine birds; Surface feeding birds; Benthic feeding seabirds.

#### High Level Conservation Objectives: <u>Dee Estuary SAC</u>

With regard to the SAC and the natural habitats and/or species for which the site has been designated (the 'Qualifying Features' listed above), and subject to natural change;

Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring;

□ The extent and distribution of qualifying natural habitats and habitats of qualifying species

- □ The structure and function (including typical species) of qualifying natural habitats
- □ The structure and function of the habitats of qualifying species

□ The supporting processes on which qualifying natural habitats and the habitats of qualifying species rely

- □ The populations of qualifying species, and,
- □ The distribution of qualifying species within the site.

#### Dee Estuary SPA

With regard to the SPA and the individual species and/or assemblage of species for which the site has been classified and the Ramsar Site and the wetland habitats and/or species for which the site has been listed (the 'Qualifying Features' listed above), and subject to natural change;

Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the aims of the Wild Birds Directive and ensure that the site contributes to achieving the wise use of wetlands across the UK, by maintaining or restoring:

- □ The extent and distribution of the habitats of the qualifying features
- □ The structure and function of the habitats of the qualifying features
- □ The supporting processes on which the habitats of the qualifying features rely
- □ The population of each of the qualifying features, and,
- $\hfill\square$  The distribution of the qualifying features within the site.

## Site: Liverpool Bay

European Designated Sites: UK9020294 Liverpool Bay/Bae Lerpwl Special Protected Area (SPA)

NB. Consultation on site extension took place in November 2016, and this assessment includes the geographical and feature extents of the proposed extension and treats the site as if the designation has occurred.

## Qualifying Feature(s): <u>SPA</u>

A001 Gavia stellata Red-throated diver (non-breeding) A065 Melanitta nigra Common scoter (non-breeding) A177. Hydrocoloeus minutus; Little gull (non-breeding) A193 Sterna hirundo; Common tern (Breeding) A195 Sterna albifrons; Little tern (Breeding) Waterbird assemblage including Mergus serrator (red-breasted merganser) and Phalacrocorax carbo (cormorant).

## Site sub-feature(s)/Notable Communites: <u>SPA</u>

Supporting habitats: Sublitoral sand and mud, water column

Generic sub-feature(s): Pursuit and plunge diving birds, Benthic feeding seabirds, Sub-tidal muddy sand.

#### High Level Conservation Objectives:

With regard to the SPA and the individual species and/or assemblage of species for which the site has been classified (the 'Qualifying Features' listed above), and subject to natural change;

Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the aims of the Wild Birds Directive by maintaining or restoring:

- □ The extent and distribution of the habitats of the qualifying features
- □ The structure and function of the habitats of the qualifying features
- □ The supporting processes on which the habitats of the qualifying features rely
- $\hfill\square$  The population of each of the qualifying features, and,
- $\hfill\square$  The distribution of the qualifying features within the site.

## Site: North Wirral Foreshore SSSI

North Wirral Foreshore is located between the outer Dee and Mersey Estuaries. This site is an area of intertidal sand and mudflats and embryonic saltmarsh which is of considerable importance as a feeding and roosting site for passage and wintering flocks of waders, wildfowl, terns and gulls.

The embryonic mixed saltmarsh is formed principally from common saltmarsh-grass *Puccinellia maritima* and glasswort *Salicornia europaea*, together with some common cord-grass *Spartina anglica*.

Whilst North Wirral Foreshore is not comparable with either the Dee Estuary or the Mersey Estuary in terms of the numbers and diversity of passage and wintering birds, it is still of great value for the populations of knot, dunlin and bar-tailed godwit it supports.

The wintering populations of knot (20,000+), bar-tailed godwit (2,000+) and dunlin (10,000+) are the most significant because their numbers regularly exceed 1% of their total British and Iris wintering populations. Redshank (1,000+), turnstone (500+) which feed on the rocky shore at Perch Rock and on the rocky sea walls, oystercatcher (500+), curlew, grey plover and black-tailed godwit are other waders which regularly roost here in relatively high numbers. Small populations of wildfowl, including common scoter, scaup and goldeneye, red throated diver and great crested grebe also frequently winter on this site.

## Gear type(s):

Hand-gathered – Cockle (Cerastoderma edule)

## 1. Introduction

### 1.1 Need for an HRA assessment

Members of the Technical Science and Byelaw Committee of the NWIFCA Authority, voted to authorise a hand-gathered cockle fishery on the Leasowe cockle bed on the 13th of August 2024.

The proposed opened fisheries will be by permits issued under NWIFCA Byelaw 3, Permit to Fish Cockles and Mussels flexible conditions.

This proposal is classed as a plan or project and the area lies within a European designated site (also commonly referred to as Natura 2000 sites), and therefore has the potential to affect the designated features. European sites are protected in the UK under The Conservation of Habitats and Species (amendment) Regulations 2019. The proposal site is within the following:

- 1) the Mersey Narrows and North Wirral Foreshore SPA and Ramsar site,
- 2) the Dee Estuary SAC,
- 3) the Dee Estuary Ramsar site,
- 4) the North Wirral Foreshore SSSI

The following sites have been included in the assessment due to their proximity to the proposed activity, and the potential movement of protected species between these sites:

- 5) the Dee Estuary SPA,
- 6) the Liverpool Bay SPA, and

Under the regulations, all existing and potential commercial fishing activities must be managed in accordance with Article 6.

An assessment of the feature/activity interactions taking place within the site has been previously completed. Any activities considered to be 'red risk' and the most likely to cause damage to features, had the highest priority for implementing management. Management measures for these features was implemented by 2013. Activity/feature interactions identified within the matrix as amber risk require a site-level assessment to determine whether management of an activity is required to conserve site features. Activity/feature interactions identified within the matrix as green also require a site level assessment if there are "in combination effects" with other plans or projects. The feature interactions with the cockle fishery activity have been categorised as 'amber' or 'green' risk.

As a competent authority under the provisions of the The Conservation of Habitats and Species (amendment) Regulations, the NWIFCA should have regard for any potential impacts that a plan or project may have. Under the this regulation, NWIFCA has undertaken an Appropriate Assessment of the proposal.

Natural England is a statutory consultee on the Appropriate Assessment stage of the Habitats Regulations Assessment process, and their advice is incorporated into this document.

The purpose of this site-specific assessment document is to assess whether or not, in the view of NWIFCA the proposed fishing activity of hand-gathering cockle at the specified cockle bed on the North Wirral coast, is likely to have a significant effect on the designated features of the site.

This assessment will determine whether the proposed activities will have an adverse effect on the integrity of this European Site.

## 1.2 Proposal

The NWIFCA proposes to authorise a hand-gathered cockle fishery on the Leasowe cockle bed from the October 1<sup>st</sup> to the beginning of the closed season on the 1<sup>st</sup> of May 2023 under Byelaw 3 (2019).

This proposal is **subject to sufficient size biomass (defined as ≥1100 tonne) being present on bed at the time of the second survey** in mid-September.

Historical counts of birds in the protected sites, and calculation of bird food requirements in partnership with Natural England, has determined that a minimum of 800 tonnes of size cockle must be left on the beds in order to support approximately 3500 oystercatcher that rely on this as a food source.

Surveys undertaken in July determined that only 799 tonnes of size cockle was present on Leasowe cockle bed (for more information see section 4). However, there was 751 tonnes of undersize cockle in the 20-25mm size category, which is likely to grow to size during the summer months prior to October. Therefore, it was proposed that the fishery open October  $1^{st}$  subject to a second survey determining  $\geq$ 1100 tonne of size biomass. This amount would allow for 800 tonnes to be protected for birds, and  $\geq$ 300 tonnes to provide for a fishery. Three hundred tonnes has been determined as a appropriate for officers to be able to monitor.

Once the survey results are available, NWIFCA will inform Natural England as a matter of priority as to the outcome, and inform them of the decision. Should survey results determine that the biomass of size cockle on Leasowe is less than 1100 tonnes, this fishery will not be opened as of October 1<sup>st</sup>. If the stock assessment demonstrates size cockle biomass has exceeded the threshold amount, the results will be provided immediately to Natural England as an addendum to this HRA.

The proposed fishery will be opened to 150 stakeholders by permits issued under NWIFCA Byelaw 3, Permit to Fish Cockles and Mussels flexible conditions.

## 2. Information about the EMS

(See cover pages, where details of the designated features and sub-features are listed)

The proposed fishery is located on the Wirral (see figure 1) and falls within the Mersey Narrows and North Wirral Foreshore SPA and Ramsar site, and the Dee Estuary SAC.

Liverpool Bay SPA and Dee Estuary SPA border the Mersey Narrows and North Wirral Foreshore SPA where the activity will be taking place. The Dee Estuary SAC and SPA are cross boundary sites between England and Wales, this assessment only covers the English/NWIFCA area of the SAC, but all features and sub features of the SPA.

#### The Mersey Narrows and North Wirral Foreshore

The Mersey Narrows and North Wirral Foreshore is composed of extensive intertidal mud and sandflats, distinct areas of rocky shore and small areas of saltmarsh.

The site is predominantly intertidal sandflats with extensive sea defences including breakwaters, groynes and hard embankments. There are areas of natural rocky shore at Red Rocks, on the Egremont foreshore and Perch Rock. Small areas of saltmarsh are found at the southern edge of the site. Seaforth Nature Reserve comprises the following habitats; saltwater lagoon, saltmarsh, sand and mud flats and a large freshwater lagoon.

The large areas of intertidal sand and mudflats are submerged at high tide and exposed at low tide. The intertidal flats are internationally important feeding grounds for waders: the site regularly supports more than 20,000 waterbirds, including 2.4% of the Red knot (*Calidris canutus islandica*) population and 2.8% of the Bar-tailed godwit (*Limosa lapponica*) population. Seaforth Nature Reserve is primarily a high tide roost site, as well as a nesting site for terns and feeding site for little gull. Outside of the SPA boundary, birds may roost at the high tide mark near Hightown (within Ribble and Alt Estuaries SPA), as well as on nearby fields. Common tern have also been known to nest at Langton Dock and Birkenhead docks.

Since classification of the SPA, additional bird count sectors have been created or identified as holding birds which are also considered to use the SPA at certain tidal stages. When considering proposals affecting the site, it is advisable to include these count sectors in any impact assessment. The BTO (British Trust for Ornithology) bird count sectors contributing to the understanding of population for knot and the waterbird assemblage include: Red Rocks, Hoylake, Leasowe Bay and Islands, Meols and Leasowe Lighthouse Fields, Leasowe Fields, Seaforth, Perch Rock, Perch Rock Pool, Mersey Narrows SSSI, Seacombe Ferry, Bidston and Fender Fields, Birkenhead docks and Bidston Moss.

#### Dee Estuary/ Aber Dyfrdwy SAC

The Dee Estuary is one of the largest estuaries in the UK, with an area of over 14,000 ha, (38,765 acres). It is the largest macro-tidal coastal plain estuary along a long stretch of coast between the larger Severn estuary and the Solway Firth.

The intertidal area is currently dominated by mudflats and sandflats with the remainder being largely saltmarsh. At low water spring tides, over 90% of the estuary dries out. The extensive intertidal flats of the Dee Estuary form the fifth largest such area within an estuary in the UK. Where water movements are greatest towards the estuary mouth the sediments tend to be sandy, and populated with polychaete worms and amphipod crustaceans. Much of the mid-upper part of the estuary consists of fine muddy sand, dominated by ragworms Hediste diversicolor and Baltic tellins Macoma balthica. Areas of muddy sand are also found in the outer estuary, but here they are often dominated by cockles and polychaetes.

On the English side of the estuary the sandstone Hilbre Islands and Red Rocks form low uneven cliffs and flat intertidal rock platforms. The Dee Estuary forms part of the complex of estuaries, which provide habitats for migratory waterbirds along the shores of Liverpool Bay, which in turn form part of the chain of such sites along the western coast of the UK.

# 3. Interest feature(s) of the EMS categorised as 'Red' risk and overview of management measure(s) (if applicable)

The Dee Estuary SAC features of *Sabellaria alveolata* reef are protected from all bottom towed gears at Hilbre Island by a prohibition under <u>NWIFCA-Byelaw-6.pdf (nw-ifca.gov.uk)</u>, introduced in May 2014.

## 4. Information about the fishing activities within the site

4.1 Background

Hand-gathering of cockles has been a long-standing traditional fishery within the NWIFCA District. Methods have changed very little over the years, with fishers using a jumbo to fluidise the soft sediments in which the buried cockles are found. Once the sediment is fluid, the cockles rise to the sediment surface where they are then raked into buckets or net bags, put through a hand-held riddle whereby the undersize cockle is returned to the bed, and the size cockle then placed into 20-25kg cockle sacks. Cockles are able to rebury themselves quickly, so any not removed will soon become invisible under the sand once again. There is little to no by-catch associated with this fishery as it is highly selective.

Fishermen access the beds by ATVs due to the high risk of getting stuck in soft sediment. Depending on the area to be fished, the time when the bed is uncovered and safe to get on to and return from may be severely restricted by the tides.

Leasowe cockle bed is located off the Wirral coast close to the Mersey Estuary. The bed is surveyed annually, and consistently has cockle present, though only twice in the past seven years has it been sufficient to support commercial fishing. Table 1 details the annual stock levels from 2017 to 2024 and the corresponding years the fishery was opened. The cockle fishery at Leasowe is highly variable in its production and consequently, its prosecution. From 2020 to 2023 the levels were seen as too low to be considered a viable fishery and was kept closed. Records show variability in stock levels and associated fishing activity as a long-standing feature of the fishery (see table 1).

The fishery is located close to the foreshore and can be accessed on foot. The area is known for having sporadic cockle fisheries with large periods of low cockle levels in between. When a cockle settlement appears great enough for a fishery, the cockles are typically located between the two main groynes close to shore, are densely packed, and grow fast in comparison to other beds, often reaching size within a year and a half. Historically, approximately 800 tonnes of size has been retained for bird food requirements during a fishery, and therefore fishers are limited to a TAC, the value of which is anything surplus to the 800 tonne minimum bird food requirement.



Figure 1 The location and extent of the Leasowe cockle on the Wirral. The area of the bed is given in hectares and is an approximation based on the maximum size the bed has been in the past 10 years.

**Table** 1. The biomass of size, undersize and total biomass of cockles on Leasowe cockle bed from 2017 to 2024. \*figures represent the max cockle biomass

Year	Area (ha)	Size cockle (tonne)	Undersize cockle (tonne)	Total cockle (tonne)	Bed opened
2017	212.4	3523.5	292.8	3815.8	Open
2018	238	700	10	710	Closed
2019	220	1200	500	1700	Open
2020	199.5	607	20	627	Closed
2021	206	367	16.5	383.5	Closed
2022	225	120	100	220	Closed
2023	235	171	604	775	Closed
2024	213	799	751	1550	ТВС

#### 4.2 Regulation of Hand-gathering

NWIFCA regulates cockle hand-gathering fisheries in its District under the NWIFCA Byelaw 3 Cockle and mussel hand-fishing permit (2019) (in force as of Sep 1<sup>st</sup> 2022).

NWIFCA Byelaw 3 (2019) builds on the original Byelaw 3 introduced in 2012 in that it introduces Flexible Permit Conditions, allowing the Authority to implement adaptive managent of the fishery. The Byelaw retains much of the same powers as was detailed in the original Permit to Fish for Cockles and Mussels introduced in 2012. This Byelaw vastly improved management of the fisheries and encouraged a more professional and responsible group of fishers. Under the current regulations, there is a maximum of 150 permits, which could be issued for the 2023 – 2024 season under the new NWIFCA Byelaw 3. Without a permit within the NWIFCA district, it is still permissible for recreational fishers to fish 'non-commercial' cockle beds for 5kg per person per day outside of the closed season under Byelaw 3.

Every commercial cockle bed is surveyed annually and the results presented at the quarterly Technical, Science and Byelaw meetings. These meetings consist of Authority members made up of MMO representatives, recreational and commercial fishers, representatives from Natural England, Environment Agency and IFCA officers. Based on officer knowledge of the sites and historical survey data, IFCA officers will recommend whether a bed has viable commercial stock levels, and therefore, should be considered for opening to permit holders. Members discuss and subsequently vote on the opening of the fishery subject to HRA approval. As the activity is not considered necessary for the management of the site, and has the potential to affect the protected features, a HRA is conducted, and management implemented if/where required.

#### 4.3 Multi Agency Liaison Group

Due to the location of the fishery, effective control of fishing effort is organised with the assistance of other organisations. Consequently, in administering the fishery, the Authority works closely with other organisations such as the police, local councils, the Maritime and Coastguard Agency (MCA), the Health & Safety Executive (HSE), the Department for Work and Pensions (DWP), Natural England (NE), the Gangmaster and Labour Abuse Authority (GLAA) and the Environment Agency (EA). This joint working is facilitated at a strategic level through a multi-agency liaison group. The completion of a Multi-Agency Operational Plan will have a benefit to the management of the fishery.

The proximity of the Leasowe cockle bed to the foreshore and local tourist areas means any fishing activity on the site is subject to additional partner agency input, for example from the local councils and Mersey Port Health. Restrictions on timings, or permits required to access the foreshore are implemented by the relevant councils to limit/manage disturbance to the public during these times.

#### 4.4 Biosecurity

In the NWIFCA district, Chinese mitten crab was reported in 2009 in the River Mersey at Warrington in freshwater, approximately 2.8 km upstream of the tidal limit. It is reported to be established in the Dee Estuary and was investigated by NWIFCA during management of the mussel fisheries in 2011, and 2017-18. Mitigation measures were implemented, including taking into account the timing of the fishery, and recommending good practice to gatherers to inspect and report any findings.

In order to implement effective measures to prevent the introduction and / or spread of diseases or nonnatives the Authority has developed and published a Biosecurity Plan (<u>https://www.nwifca.gov.uk/app/uploads/NWIFCA-Biosecurity-Plan-2022-2025-Final.pdf</u>), detailing controls and conditions that will be applied to all commercial shellfish activities. The Biosecurity Plan seeks to ensure that consignments and/or areas from which they come, are regularly and thoroughly checked for invasive non-native invasive species (INNS).

### 4.5 Current Status of Stock

Leasowe cockle surveys were conducted for on July 24<sup>th</sup> 2024. The location and extent of the survey is provided in figure 1. Over 90 sample points were surveyed on a 250x250m grid across approximately 350 hectares.

A further survey will be conducted September 10<sup>th</sup>, and the results provided as an addendum to this HRA to support the proposal.

#### a. Total biomass estimates

Estimates of undersize, size and total cockle biomass are provided in table 1 from 2017 to July 2024 for comparative purposes.

Figure 2 shows the data from table 1 in graphical form to demonstrate the trends in cockle biomass on Leasowe since 2017 (a and b), and the composition of this year's size and undersize cockle (c).

The total biomass of cockle has increased from approximately 775 tonnes in July 2023, to 1550. The total biomass of size cockle has increased from 171 tonnes in July 2023, to 799 tonnes in July 2024 (Table 1). Though this is still below the minimum threshold a fishery has previously been opened on Leasowe.

Figure 2a indicates the trend in the biomass of size (blue) and undersize (orange) cockle for Leasowe since 2017. This year, both size and undersize cockle biomass have been seen to increase.



**Figure 2**. Summary of Leasowe cockle survey results from July 2024. a) shows the yearly biomass of size, undersize and total on Leasowe from 2017 to 2024, b) the relational trend in size and undersize cockle from 2017 to 2024, and c) the composition of size and undersize cockle on Leasowe in 2024

The proportion of size to undersize is almost 50:50 (Figure 2c), which is also seen in the composition of size and undersize stock on the bed.

#### b. The density of size and undersize cockle on Leasowe July 2024

Average density of size cockle across Leasowe is 45 cockle per m<sup>2</sup>. This is an increase from 6 per m<sup>2</sup> in July 2023.

Average density of undersize cockle on Leasowe is 66 cockle per m<sup>2</sup>. This is a decrease from 863 per m<sup>2</sup> in July 2023. Likely the result of undersize growing on, and natural mortality.

#### c. Biomass and composition of cockle size classes

Figure 3 shows the biomass of cockles in each size class (0-5 mm, 15-20mm, 20-25mm 25-35mm and 35+mm) Leasowe in July 2024. It demonstrates the predominant biomass is held within the 20-35 size class range. When comparing this to the size frequency diagrams in Figure 4, we can see that they are predominantly located together. Officer observations detail that the 20-25mm size class is borderline with size. Size and undersize cockle were highly mixed because of this (Figure 5).

The composition of size classes across a bed is important to consider as it has implications for fisheries management, and fishing highly mixed stock may have an impact on juvenile cockles survivability.



Figure 3 The biomass of different size classes of cockle on Leasow July 2024



![](_page_14_Figure_1.jpeg)

Figure 5. Composition of size and undersize cockle on Leasowe July 2024

#### d. Historical TAC requirements on Leasowe

Previous HRA agreements (2017 and 2019) for the total size biomass available for birds (dependent on bird numbers) is between 700 and 900 tonnes. This is based on food requirements for oyster catcher that target size cockle (for further information see section 6). This year the approximate size biomass on Leasowe is 799 tonnes – below the required amount.

However, Leasowe cockle is known to grow quickly in the summer months, and it is likely the biomass of size cockle will increase to exceed the 800 tonne limit by October.

#### Leasowe cockle fishery results summary

- Minimum biomass of size cockle for bird food requirements is not met Historically, 800 tonnes of size cockle has been required under HRA conditions to support oyster catcher on the Leasowe cockle bed (see 2017 <u>https://www.nw-ifca.gov.uk/app/uploads/NWIFCA-MNNWF-DE-LB-COCKLE-Leasowe-FINAL-small.pdf</u> and 2019 HRA's <u>https://www.nw-ifca.gov.uk/app/uploads/NWIFCA-EMS-North-Wirral-Leasowe-Cockle-Fishery-HRA-Sept-2019.pdf</u>). Size biomass of cockle on Leasowe is currently 799 tonnes.
- 2. There is a highly mixed composition of size and undersize distribution of size and undersize is highly mixed. This has enforcement and riddling implications. Mixed cockle requires thorough riddling, and also has the potential to disturb stock on the ground should it struggle to re-settle. On Leasowe there is a limited ability to split the stock by area.
- 3. Undersize cockle could grow on over the summer months the composition of undersize cockle is close to size and has the potential to grow on by the autumn. Leasowe is historically known to grow quickly.

### 4.6 Summary of proposed fishery

Based on the information provided in the survey reports, the following is proposed for this year:

To open the Leasowe cockle bed as of October 1<sup>st</sup>, <u>subject to a second survey</u> in September, where the <u>biomass of size cockle must be equal to, or exceed, 1100 tonnes</u>. This will allow for a minimum Total Allowable Catch (TAC) of 300 tonnes, and ensure 800 tonnes is left for bird requirements.

A TAC equal to or greater than 300 tonnes allows NWIFCA to effectively monitor the removal of cockle from the bed under its current management conditions. Fishers are required to provide monthly returns, and officers will monitor bag numbers. A TAC less than 300 would increase the likelihood of the TAC being exceeded before NWIFCA could identify this through the monthly returns system.

The possible impact of this fishery on the designated features of the Ribble and Alt Estuaries EMS will be assessed further in this document.

### Further detail to the proposal is as follows:

- The fishery will be opened weekdays only (Mon-Fri) one tide a day under Byelaw 3 flexible permit conditions. The limitation on tides serves to minimise disturbance, as one tide is left undisturbed for the birds each day, with two days each week left to rest without fishing activity. It also reduces the ability for large amount of cockles to be removed early on, spreading the effort out over the first few months.
- The cockle fishery will close as of May 1<sup>st</sup> OR until the TAC of 300 tonnes of size cockle is reached. This will be specified in the Flexible Permit conditions.

- **Officers will monitor the TAC** through the returns provided by Byelaw 3 permit holders under the conditions of Byelaw 3 and through daily inspections.
- Access will be limited to one route Access to and from the fishery will be via ATV / quad bikes from the slipway number 7 at the North Wirral Coastal Park carpark. Access by boat is not authorised. All other access routes from wirral coast will be closed to cockle fishers. Permit holders are expected to access the slipway approximately 3 hours before low water and will progress on to the fishery 2 hours before. All permit holders using ATVs are required to have permits issued from Wirral council
- Ancillary works are prohibited on the sand and foreshore tonning up operations, loading and parking will take place at slipway number 7 at the North Wirral Coastal Park carpark and not on the beach. This will be specified in the Flexible Permit Conditions
- **Permit holders will only be allowed to fish for cockles by hand or rake** in the manner detailed in section 4.1.

There are currently 150 permit holders, who could prosecute the bed, however it is not expected that all 150 permit holders will access the fishery. The number of fishers prosecuting the fishery is dependent on the weather, price of cockle and the duration of alternative fisheries, for example a number of Byelaw 3 permit holders also hold permits for the Dee fishery which will be open concurrently. In addition, Pilling and Flookburgh/Leven cockle beds are also open this year in Morecambe Bay, which have significantly more size cockle (approximately 4202 tonnes and 1742 tonnes respectively), where much of the fishing effort will be concentrated.

Typically, it is one quadike/ATV to a permit holder as it is their main means of accessing the fishery. The numbers are typically higher during the first week as permit holders prospect the beds and determine economic viability. Once the fishery has opened and the initial volume of cockle has been removed, the number of gatherers will likely reduce. The majority of the bed is within a commercial area where the ability to remove 5kg of cockle has been removed for personal consumption. No other person is allowed to take or remove cockle.

Permit holders will only be allowed to fish for cockles by hand or rake in the manner detailed in section 4.1. In addition, officers will conduct regular ATV patrols to ensure compliance. Bagged cockles will then be transported off the bed on ATV trailers and loaded onto transport at slipway number 7 at the North Wirral Coastal Park carpark. No tonning up operations will be allowed to take place on the beach area – all tonning up and ancillary works will be out with the SPA area. A checkpoint system will be operated by IFCOs from the slipway at the car park.

Similar conditions have been applied to previous and current fisheries in the District.

## 5. Test for Likely Significant Effect (LSE)

The Habitats Regulations Assessment (HRA) is a step-wise process and is first subject to a coarse test of whether a plan or project will cause a likely significant effect on an EMS<sup>1</sup>.

Is the activity/activities directly connected with or necessary to the management of the site for nature conservation? NO

#### 5.1 Table 1: Assessment of LSE

**Features:** All qualifying features and sub-features that do not interact with the fishing activity have been **screened out.** Features and sub-features identified to interact with the fishing activity have been included table 2 below. Those features and sub-features that are protected across multiple sites, e.g. bird species in Dee estuary SPA and Liverpool SPA and Mersey Narrows and North Wirral Foreshore site, have been assessed together in Table 2.

Pressures: All pressures from the Advice on Operations table provided in the Mersey Narrows and North Wirral Foreshore SPA and Ramsar Sites Advice package (https://designatedsites.naturalengland.org.uk/Marine/FAPMatrix.aspx?SiteCode=UK9020287&Site Name=north%20wirral%20&SiteNameDisplay=Mersey+Narrows+and+North+Wirral+Foreshore+SP A&countyCode=&responsiblePerson=&SeaArea=&IFCAArea=&NumMarineSeasonality=5) Dee Estuary SAC (https://publications.naturalengland.org.uk/publication/2986296?category=3212324) and Liverpool Bay SPA (https://designatedsites.naturalengland.org.uk/Marine/FAPMatrix.aspx?SiteCode=UK9020294&Site Name=liverpool&SiteNameDisplay=Liverpool+Bay+%2f+Bae+Lerpwl+SPA&countyCode=&responsi blePerson=&SeaArea=&IFCAArea=&NumMarineSeasonality=5) have been screened out, other than the pressures in the following table, due to the nature of the fishing activity.

<sup>&</sup>lt;sup>1</sup> Managing Natura 2000 sites: <u>http://ec.europa.eu/environment/nature/natura2000/management/guidance\_en.htm</u>

**Table 2.** Designated features, their sensitivity to fishing activity and the potential for likely significant effect.

Qualifying	Sub-feature	Potential pressure(s)	Sensitivity	Potential	Justification and evidence
Feature				for Likely Significant Effect?	
SAC Features including Ramsar					
H1130. Estuaries H1140. Mudflats and sandflats not covered by seawater at low tide; Intertidal mudflats and sandflats	Intertidal sand and muddy sand	Abrasion/disturbance of the substrate on the surface of the seabed	Sensitive	No	Access to fishery will be over feature, and hand gathering with a rake will interact with the feature, but both are unlikely to have any impact in such a highly dynamic site, due to low levels of effort and number of tides available for fishing.
Intertidal mud, Intertidal mudflats and sandflats communities		Penetration and/or disturbance of the substrate below the surface of the seabed, including abrasion.	Sensitive	No	Access to fishery will be over feature, and hand gathering with a rake will interact with the feature, but both are unlikely to have any impact in such a highly dynamic site, due to low levels of effort and number of tides available for fishing.
		Genetic modification & translocation of indigenous species	Insufficient Evidence to assess	No	Hand-gathering with jumbo and rake unlikely to have any impact in such a highly dynamic site.
					Cockles will be removed straight into bags and away to market. Low level of diversity on sands and highly selective fishery will preclude translocation of other species.
		Litter	Sensitive	Yes	Take to AA
		Physical change (to another seabed type)	Sensitive	No	Access to fishery will be over feature, and hand gathering with a rake will interact with the feature, but both are unlikely to have any impact in such a highly dynamic site, due to low levels of effort and number of tides available for fishing.
		Removal of non-target species	Sensitive	YES	Highly selective fishery - no by-catch of non-target species. However, there is possibility of damaging juvenile cockles (considered a non-target)
		Removal of target species	Sensitive	Yes	Take to AA

SPA Features (birds)		Removal of target species (cockles)	Some	YES	For all shore feeding SPA features that feed on infaunal molluscs, with focus
			sensitive,		on those which bivalves are the main food source:
A048 Tadorna tadorna; Common shelduck (Non-breeding)	Supporting Habitats assessed above		screened out		Common eider     Eurasian oystercatcher     Red knot     Common scoter
A052 Anas crecca; Eurasian teal (Non- breeding)	above				- Grey plover - Dunlin - Little gull
A054 Anas acuta; Northern pintail (Non- breeding)		Removal of non-target species	Sensitive	YES	Highly selective fishery - no by-catch of non-target species. However, there is possibility of damaging juvenile cockles (considered a pon-target)
A130 Haematopus ostralegus; Eurasian oystercatcher (Non- breeding)		Visual disturbance	Sensitive	YES	All species taken through to AA
A141 Pluvialis squatarola; Grey plover (Non-breeding)					
A143 Calidris canutus; Red knot (Non- breeding)					
A149 Calidris alpina alpina; Dunlin (Non- breeding)					
A156 Limosa limosa islandica; Black-tailed godwit (Non-breeding)					
A157 Limosa lapponica; Bar-tailed godwit (Non- breeding)					
A160 Numenius arquata; Eurasian curlew (Non-breeding)					
A162 Tringa totanus; Common redshank (Non-breeding)					
A191 Sterna sandvicensis; Sandwich tern (Non-breeding)					
A193 Sterna hirundo; Common tern (Breeding)					
A195 Sterna albifrons; Little tern (Breeding)					
Waterbird assemblage					

Is the potential scale or magnitude of any effect	Alone	OR In-combination <sup>3</sup>
likely to be significant? <sup>2</sup>	Yes	Yes
	Comments :	Comments :
		<ul> <li>These activities also occur at the site:</li> <li>Beam trawl (whitefish)</li> <li>Beam Trawl (Shrimp)</li> <li>Pots and Creels</li> <li>Light otter trawl</li> <li>Fixed nets (gill, trammel, entangling)</li> <li>Longlines</li> <li>Shrimp push-net</li> <li>Fyke and stakenet</li> <li>Hand working (cockles – Dee Estuary)</li> </ul>
		fishing in the Dee will be assessed when all initial TLSEs for a site are completed.
Have NE been consulted on this LSE test? If yes, what was NE's advice?	No - NWIFCA c	consider AA required

 <sup>&</sup>lt;sup>2</sup> Yes or uncertain: completion of AA required. If no: LSE required only.
 <sup>3</sup> If conclusion of LSE alone an in-combination assessment is not required.

## 6. Appropriate Assessment

#### Potential risks to features

# 6.1 Potential risks to SAC and SPA supporting habitat features from a hand-gathered cockle fishery

#### Features at risk of interacting with fishing activity:

• Intertidal sand and muddy sand

#### 6.1.1 Pressures and Potential Impacts

The pressures that each qualifying feature, sub-feature, and supporting habitats in Mersey Narrows and North Wirral Foreshore SPA and Ramsar and Dee Estuary SAC, are susceptible to are detailed in Natural England's 'Advice on Operations'. The key impacts that the relevant supporting features are vulnerable to are detailed below.

#### i. Litter – Intertidal sand and muddy sand

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

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.

#### iii. Removal of non-target species - Intertidal sand and muddy sand

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. <u>Litter</u>

Between 2016 – 2024 there have been a number of cockle fisheries in the NWIFCA District, including a cockle fishery at Leasowe in 2017 and 2019, as well as ongoing size mussel fisheries around NWIFCA district. In this time there were reports of litter being an issue at some of these fisheries. These have subsequently been highlighted to Byelaw 3 hand-gathers and buyers. There is a Code of Conduct (Annex 2) which sets out good practices for Intertidal shellfish fisheries, which includes not leaving litter. When NWIFCA officers are inspecting the fisheries, they will be able to monitor levels of littering.

Should the local councils require it, they can request a bond to provide skips, bins and sanitation facilities. Both NWIFCA officers and local partner agencies will monitor levels of littering when on

duty, however, NWIFCA do not have enforcement powers when it comes to managing litter activities as this falls under council regulation. However, the main area where littering has been observed during fisheries is typically in the area where ancillary works such as parking take place. As this has been removed to outside the designated area, the impact of this activity on the designated features in this case should be minimised.

The NWIFCA is confident that littering will be 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. <u>Removal of target species - Intertidal sand and muddy sand, mixed and coarse sediments</u>

Surveys have been carried out on Leasowe cockle bed, and a summary of results have been provided in section 4.5 of this assessment. Only two size fisheries have taken place since 2017, once in 2017 and again in2019. Given this inconsistency, it is likely that the area relies on spawning stock from other areas, and that birds rely on alternative food sources during these times.

<u>Cockle stocks</u>: Cockle stocks on the Leasowe bed are naturally highly variable (see table 1 for 8 year trend), are dense settlements are not a regular feature of this shoreline and it is not uncommon for there to be minimal cockle stock for a number of years (see figure 2).

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. NRW assign a standard 5600 tonnes for bird food requirements based on their previous assessments. Each year, they set a TAC for the fishery based on April surveys, to ensure 5600 tonnes of cockle is left on the bed for bird food requirements and stock replenishment. North Wirral Foreshore is not used in their considerations of their TAC.

At the proposed Leasowe fishery the minimum landings size and other byelaw measures such as the TAC 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. To ensures that cockles are left across the beds for future spawning stock and the TAC is not exceeded, daily landings will be monitored by officers, alongside monthly returns.

Effort limitation: 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 150 permits which could be issued for 2024 / 2025 for the whole NWIFCA District. Within the NWIFCA District, there are two other significant cockle beds open at the same time as Leasowe, these being Pilling and Flookburgh/Leven (see approved HRA here: https://www.nwifca.gov.uk/app/uploads/NWIFCA-MB-EMS-COCKLE-FISHERIES-2024-FINAL-003.pdf). Both beds have a greater biomass of size stock than Leasowe, are in close proximity to each other, therefore, Leasowe is not likely to receive the full effort of 150 permit holders, as many will choose to target the other areas.

The proposal is to open Leasowe on October 1<sup>st</sup> subject to a further survey in September, and the biomass of size cockle exceeding 1100 tonnes.

The reason for this proposal is to provide further time for cockle to grow on over the summer, and for there to be sufficient size biomass in order to leave 800 tonnes of size cockle on the bed, and provide for a minimum TAC of 300+tonnes size cockle for the fishery.

# Therefore the NWIFCA is confident 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.

#### iii. Removal of non-target species - Intertidal sand and muddy sand only

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

The fishery is highly selective with minimal bycatch, however, there is the potential for damage to occur to juvenile species or other bivalves. NWIFCA tested a number of fishing methodologies to investigate the potential impact of jumbo-ing and raking on juvenile cockle. Unfortunately, due to the difficulty of designing a methodology that removes the numerous variables that affect the breakage rates of cockles, changing environmental factors and the natural variation of cockle densities, the investigations did not produce results from which the difference in sample size (number of individuals) could be assigned to damage or loss during the fishing activity. However, a number of observations can be drawn from the data collected. There were no significant numbers of damaged cockle observed in any of the samples and although the sample sizes (number of individual cockles) varied between treatments (control, jumbo-ing, jumbo-ing and raking) there was no significant mortality of juvenile stock from fishing.

The size cockle in densities which are likely to be targeted by byelaw 3 permit holders are only in discrete locations and fishing will only occur in areas where the size cockle is at the greatest densities. The area likely to be targeted by permit holders on Leasow is approximately 213 hectares out of the 2,078 hectares of foreshore. This equates to approximately 10% of the main intertidal area of the protected site.

When considering the impacts of fishing to other bivalves and molluscs, NWIFCA carry out a number of surveys on the cockle beds and the following observations are concluded: *Hydrobia* spp. are a common species on the shore line, and the bivalve *Limecola balthica* can often be mixed in with cockles however, these have not been commonly observed during surveys on the Leasowe cockle bed. Therefore, they are unlikely to be impacted by fishing activity. No other species have been observed in significant numbers.

NWIFCA Byelaw 3 close season is for the protection of adult cockles whilst spawning and for the protection of juvenile cockle when it has newly settled.

Therefore the NWIFCA is confident that removal of non-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 previous HRA's relating to cockle fishing on Leasowe, 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.

These additional considerations have been incorporated into the assessment alongside the conservation advice.

#### 6.2.1 Potential Impacts

The pressures that each Mersey Narrows and North Wirral Foreshore SPA feature and sub-feature are susceptible to are detailed in Natural England's 'Advice on Operations'. The key impacts that the relevant sub-features are vulnerable to are detailed below.

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

Cockles form part of an important prey resource for common scoter, oystercatchers and knot as well as forming part of a wide variety of prey items for many of the designated species including grey plover and dunlin. If bird populations are to be maintained in or restored to 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 are 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 in the spring prior to migrations 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) <u>Removal of non-target</u> species - for all shore feeding SPA features that feed on infaunal molluscs.

Infaunal molluscs form part of an important prey resource and form part of a wide variety of prey items for many of the designated species. The impact of removing an essential prey resource by fishing activity varies at different times of the year. For example, prey resource requirements are 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 additional resources to put on weight and get into best condition in the spring prior to migrations for the summer, or they will not survive long flight distances and suffer high mortalities.

iii) <u>Visual disturbance</u> - All SPA species within vicinity of fishery and access routes over the sand banks

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 & Huppop (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

In this section, the level of potential pressure caused by the proposed hand gathered fishery on each feature is considered, and a recommendation as to whether the activity is likely or not to affect the integrity of the designated feature.

i) <u>Removal of target species (cockles)</u> 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 over 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).

In 2017, 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 hearing gull. Although not agreed on or progressed further it is a useful tool to be used when examining 'ball park' figures.

NWIFCA began maintaining a standardised and up-to-date record of the condition of all cockle and mussel beds present within designated sites, under its regulatory powers since 2016. These stock assessments, alongside expert officer knowledge, and advice from partner agencies, 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 2024:

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 and Thurstaston also have mussel them at present which is available as a potential food source (summer July 2024), however these areas are relatively small at approximately 22 hectares total. 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.

#### 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 2024, 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 available WeBs mussels, was tabulated from counts, BTO reports (https://www.bto.org/sites/default/files/shared\_documents/publications/researchreports/2014/rr648.pdf) for the Dee Cockle Order, for the Dee Estuary, Mersey Estuary, Mersey Narrows SSSI, Leasowe Bay, Hoylake and the North Wirral Foreshore SSSI (https://publications.naturalengland.org.uk/publication/4707512471257088) 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. As of 2022/23 the 5 year average numbers of knot in the Dee Estuary are 17,408. There numbers nationally have stayed relatively stable over the past 25 years (BTO 2022/23 report <u>https://www.bto.org/sites/default/files/publications/waterbirds in the uk webs gsmp 202223.pdf</u>) However the North Wirral Foreshore and Hoylake have been important areas for overwintering knot.

For the NWIFCA to open the Leasowe cockle fishery the majority of the cockle will be above the size preference for knot - ie. > ~ 25mm shell length and therefore to remove it does not reduce their food availability. Officers enforce both a minimum landing size for cockle and the need to riddle under IFCOs under NWIFCA Byelaw 3 minimum landing size. Smaller cockle will have to be riddled out and left behind.

Knot typically target sub 15 mm cockle, however, 2024 stock assessments show there to be a very low level of cockle in the 15 to 20mm size category available to them (see figure 3). Therefore, this year knot are likely going to target other prey sources, or areas where stocks of smaller cockle are higher.

#### 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.

Most recent figures of oystercatcher bird counts in the Dee Estuary show 26,722 birds on average have been sighted in the area in the past 5 years. These birds are not static, and will move between estuaries, foreshores and overlapping or adjacent protected sites. Therefore, it is important to consider the bird counts of the nearby areas to the Leasowe cockle bed in addition to itself. The most recent figures available on bird counts (2014) for; Hoylake, North Wirral Foreshore, the Mersey Estuary and Mersey Narrows SSSI, shows 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 1. 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 and 4000 oystercatchers as reliant on Leasowe Bay cockles throughout their UK presence.

#### Setting a TAC on the cockle fishery:

Assuming an average of 3500 birds utilise the site from September to end of April and using the proxy spreadsheet developed by Natural England, and RSPB, adult oystercatchers require a total of 800 tonnes wet mass. This TAC has been applied to previous fisheries in 2019 and approved HRA's.

Given there is only 799 tonnes of size cockle at the most recent survey in July, it was recommended by NWIFCA officers that the fishery remain closed to allow cockle to grow on. Cockle on the Leasowe bed, typically grows fast, and a large proportion of the stock (that within the 20-25 mm category – see section 4.5) will grow to size in this time frame. Officers will re-survey the site in September, and propose that the fishery opens October 1<sup>st</sup> **subject to there being a minimum requirement of 1100 tonnes of size cockle present.** This figure allows for a minimum TAC of 300 tonnes to be placed on the fishery, which will allow for officers to monitor the fishery and initiate closure once it is completed. Fishers are required to provide monthly catch returns from which the TAC can be monitored, and officers will monitor daily bag removals. Any value lower than 300 tonnes may risk the TAC being exceeded quicker than officers can monitor the fishery.

Under a worse case scenario, assuming all 150 permit holders fish 800kg per tide, for 1 tide a day, the fishery would last 2 days on a minimum 300 tonne TAC.

Estimates made have been highly precautionary, and there is a much greater chance that less than 150 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 Byelaw 3 Flexible Permit Conditions, and will be open for five weekdays per week (Mon-Fri) with officers counting daily landings. 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 Byelaw 3 once the TAC has been reached and anyone caught gathering post closure will be subject to byelaw sanctions.

Given that the biomass of cockle in the 20-25mm bracket is currently at 715 tonnes, it is likely that more will grow to size during the season. Officers provisionally intend to resurvey the site later in the season (approximately November time) to see how the stock develops.

NWIFCA is confident that the removal of target species from the intertidal sand and muddy sand supporting habitat will have no risk of adverse effect on the SPA features, which utilise cockle as a prey source and therefore have no risk of adverse effect on integrity or conservation status of the site.

ii) <u>Removal of non-target species - for all shore feeding SPA features that feed on infaunal molluscs</u>

The impact of the removal of non-target species has been assessed above in section 6.1.2 (iii) with no further management required due to the minimum impact of fishing activity on undersize cockle and other infaunal molluscs, which will be available as a prey source.

NWIFCA is confident that the removal of non-target species from the intertidal sand and muddy sand supporting habitats will be minimal (if any) and therefore will have no risk of adverse effect on the SPA features, which utilise cockle as a prey source. There is therefore no risk of adverse effect on integrity or conservation status of the site.

iii) <u>Visual disturbance</u> - All SPA species within vicinity of fishery, and over sand bank access routes

The fishery will open on the 1<sup>st</sup> of October, subject to a second survey identifying **a minimum of 1100 tonnes of size cockle on the bed**. The fishery will run until the 30<sup>th</sup> of April (start of closed season), unless the TAC has been reached or fishing ceases due to economic viability before then.

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.

**Designated waterbird assemblages and SSSI features** - 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, bartailed godwit, curlew and black-headed gull and all have been considered for disturbance impacts from the fishery. Conservation advice provided by Natural England has highlighted the need to 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, particularly with regard to Bar-tailed godwit, knot, common turn, little gull and waterbird assemblage features.

**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.

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.

**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.

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.

From the 5 year mean densities identified in 2014, it can be seen that Hoylake (neighbouring Leasowe) has higher mean densities of grey plover, knot, sanderling, dunlin, curlew and shelduck and is presumably more important to these species than Leasowe; whereas Leasowe is frequented more by oystercatcher, turnstone, redshank and black-headed gulls. This is interesting considering there was a mass recruitment of cockles to the Leasowe bed in 2009-10, with cockles of a size preference to knot.

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

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

5 year mean densities for Hoylake (as of 2014)

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

#### Spatial extent of fishing activity on the cockle bed

The fishery is spatially restricted to an overall area of 213 ha in the north of the Mersey Narrows and North Wirral Foreshore SPA which constitutes approximately 10% of the area of the SPA, and 0.015% of the Dee Estuary SAC. Though the full area that will be open is 1322 - , though the area likely to be fished this year will be much smaller, at approximately 213 hectares as the bulk of the cockles are located close to the foreshore (see figures 4 and 5). The majority of the cockle is situated in the dense area around the breakwaters (off of Gunsight car park) which is in a upper level on the beach, with maximum distance from the promenade of 0.75km. Effort is expected to be highest on the first few days of the fishery, and low beyond this.

Observations on the first two days of previous fisheries in September 2017 and 2019 showed that fishing effort (50 – 60 fishers) was confined to the dense area between the breakwater and specifically to the left of channel as it ebbed. NWIFCA scientists used handheld GPS for tracking around the group of fishermen which then provided the map below showing the extent of the activity, which amounted to 2.78 ha. Close observations were made of the bird behaviour as the tide ebbed off and as fishing activity occurred. The main species present were oystercatchers and gulls. Both species lingered in the shallow waters as the tide ebbed but did not appear to be feeding. As the fishermen started working around the edge of the channel the oystercatchers generally followed the low water line down the beach as it ebbed then returned to feed on more inshore areas. The gulls stayed close to the cockle gathering and took advantage of feeding on the cockles left on the surface after the fishers had jumboed and brought the cockles to the surface. The oystercatchers continued to feed around the fishermen but at a distance of around 30m, again clearly probing in the sand and mud, presumably for cockles. Photographic evidence of the restricted disturbance impact is provided below.

#### Disturbance from access routes

Gatherers access the beach from around 2 hours before low water until around 2 hours after (3m tides). When larger spring tides occur they will likely work for longer periods as the bed will ebb off sooner and flood back later. In previous years there were no deviations from the most direct route to the fishing area and back to the loading area, and therefore disturbance was limited to a small area, which was also being used by dog walkers, horse-riders and families over that weekend. It is expected the fishery will be similar in nature this year.

# For 2024, Officers have also introduced Flexible Permit Conditions that specify access routes and permitted vehicles that must be complied with, in addition to the restrictions on TAC and open tide times.

Fishers are restricted to use of slipway number 7 at the North Wirral Coastal Park carpark, and will access the fishery directly from there on the slipway. A single access route serves to limit disturbance

![](_page_32_Figure_1.jpeg)

Leasowe Cockle Fishery Activity 2nd September 2017. Fifty-five cockle gatherers working in the dense area of cockles covering an area of approx. 2.78 ha.

to the site.

![](_page_32_Picture_4.jpeg)

Birds in the channel as it ebbed off  $-1^{st}$  September 2017

![](_page_33_Picture_0.jpeg)

Gulls close to the cockle fishing activity - Leasowe  $1^{\mbox{\scriptsize st}}$  September 2017

![](_page_34_Picture_0.jpeg)

Gulls close to the cockle fishing activity - Leasowe  $1^{\mbox{\scriptsize st}}$  September 2017

![](_page_34_Picture_2.jpeg)

The full extent of the cockle fishing activity Leasowe  $2^{nd}$  September 2017 – total 2.78 ha.

![](_page_35_Picture_0.jpeg)

Gulls feeding close to cockle fishing activity Leasowe 1st September 2017

![](_page_35_Picture_2.jpeg)

Oystercatchers feeding on the sands adjacent to the cockle fishing activity in front of Gunsight car park Leasowe 1<sup>st</sup> September 2017

The beach is regularly used by dog walkers and birds will be habituated to a certain degree to disturbance.

Access has been restricted by Wirral Borough Council to one route, with parking and tonning up occurring in that car park / extended field and not on the beach.

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).

#### Fishery duration: Open five weekdays per week with a minimum 300 tonne TAC

With the fishery only being open five days per week (mon-fri) will mean that there will be 2 days each week without any commercial cockle fishing disturbance reducing any potential impact on the SPA features. In addition, the fishery will only be open for one tide a day, leaving another tide each day free of disturbance from the fishery. With a minimum TAC of 300 tonne, it is likely the fishery will be open for only a few days. However there is the potential for this to be longer given that less than 150 permit holders will likely access the fishery, and there is the potential for greater than 300 tonnes of TAC to be determined, subject to final survey. The limited duration of the fishery helps to further reduce the 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 213 hectares. This is typical 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.

Visual disturbance to protected bird features from the fishery has the potential to cause significant affects, however, visual disturbance will be minimal and any displacement temporary and short lived due to the following management measures introduced:

- 1) The fishery will only be open one tide a day five days a week (weekdays)
- 2) The majority of fishing will occur in daylight
- 3) The fishing will only occur two hours either side of low water when the bed is uncovered
- 4) All access is from **one access point** and by quad only, with no parking or ancillary works allowed within the SPA
- 5) Activity will be high initially but **will drop off once** the larger proportion of dense size cockle has been removed and other open cockle beds in the district will help to reduce effort.
- 6) There are large areas of the site that will remain unfished.

#### Consideration of extreme weather conditions

Given the management conditions placed on the fishery, there is no reason to suggest that disturbance to the birds would be damaging unless weather was exceptionally severe. In the event of severe weather, NWIFCA will follow the procedures set out in the NWIFCA Intertidal Fisheries Cold Weather Protocol (Annex 3) agreed with Natural England in April 2023 and will be reviewed

upon requirement. Agreed weather stations for taking measurements are detailed in the shared internal cold weather protocol and will be reviewed at the time of use. 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.

NWIFCA is confident that visual disturbance to the SPA features will have no risk of adverse effect on the integrity or conservation status of the site.

### 7. Summary of Enforcement and Monitoring of the Cockle Fisheries 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 sites a precautionary approach is being taken, and the following management measures implemented:

a) Rigorous enforcement of the conditions set out in the authorisation and permit conditions (detailed in section 4.6) including sensitive areas outside of the fishery;

b) Implementation of a <u>minimum</u> 300 tonne TAC which will be monitored via landings returns and officer daily records (point c)

c) Monitored landings through:

i. Regular IFCO reporting of numbers fishing and estimates of quantities removed;

ii. Landings returns from Byelaw 3 permit holders (required under the byelaws); monitored landings and inspection reports will be used to determine when the TAC has been reached and the fishery is required to close.

d) Monitoring and inspection to inspect catch and ensure that there are no litter issues;

e) North Wirral Coastal Park carpark and its associated slipway number 7 will be used for transiting onto the site, and all ancillary works are prohibited on the sands

f) Fishery will be opened for only one tide a day, five days a week – typically during daylight hours

g) NWIFCA enforcement officers will use intelligence and contacts with fellow enforcement agencies to pursue any suspicions of non-permitted or illegal gathering activity;

h) A NWIFCA officer will be present on the beds and at the check point and can enforce a closure at any point.

NWIFCA in 2018 made the decision to close the Morecambe Bay 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 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	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	None - current management measures sufficient with monitoring of the fishery None - current management measures sufficient with monitoring of the fishery
habitats)		Removal of non-target species	Removal of target species could change the invertebrate community composition of the sandbanks.	byelaw measures imposed to protect and return juvenile stock to bed. Observation from NWIFCA study on breakage rates, only a small area that is likely to be fished, size cockle areas being geographically different from the area of the highest density of undersize cockle and other common species in different areas to cockle or morphologically similar to undersize cockle.	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.

Eurasian oystercatcher, Red knot, Common scoter A130 Haematopus ostralegus; Eurasian oystercatcher (Non- breeding) A143 Calidris canutus; Red knot (Non-breeding) A065 Melanitta nigra Common scoter (non- breeding) 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 a stock of 5600 tonnes will remain in the Dee Estuary end of December 2024. Further a TAC of no less than 300 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 - no less than 300 tonne TAC -Fishery open five weekdays per week – one tide per day - 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).

A048 Tadorna	Maintain or restore the	Visual disturbance	Potential for tractors quads and	Not key season for Common tern	As detailed in 621 622 and 722
tadorna: Common	population of each of the		fishermen to disturb bird species that	Fishery is spatially restricted to 213ha in	above
sholduck (Non	gualifying features, and		spond a proportion of their time feeding in	north of the North Wirral Ecroshore	
brooding)	the distribution of the		the intertidal areas of the North Wirral	(approximately 10% of MNN//E SDA)	Specific Management
AOE2 Apon proposi	auditiving footures within		Ecrophere	(approximately 10% of winning SFA).	no loss than 300 toppo TAC
AUSZ ANAS CIECCA,	dualitying realures within		roleshole.	The beach is regularly used by dea	Fisher open five weekdowe per week
Eurasian tear (NON-	the site		The disturbance has the notantial to favor	The beach is regularly used by dog	-Fishery open live weekdays per week –
breeding)			The disturbance has the potential to force	walkers and birds will be nabituated to a	one tide per day
A054 Anas acuta;			the species of birds to exert extra energy,	certain degree to disturbance.	- weekly returns
Northern pintail (Non-			and or displace them from the preferred		
breeding)			feeding ground, breeding or roost site.	Access is restricted to one route, and	
A130 Haematopus				parking and tonning up will not occur on	
ostralegus; Eurasian			Visual disturbance has the potential to	the beach.	
oystercatcher (Non-			affect condition, productivity and survival		
breeding)			of species.		Taking these factors into account it is
A141 Pluvialis					unlikely that visual disturbance will
squatarola: Grev					have a significant effect on the extent.
plover (Non-breeding)					distribution, structure or function of
A143 Calidris					the features in the SPA(s).
canutus: Red knot					
(Non-breeding)					
A149 Calidris alpina					
alpina: Dunlin (Non-					
breeding)					
A156 Limosa limosa					
islandica: Black-tailed					
andwit (Non-breeding)					
A 157 Limosa					
lapponica: Bar-tailed					
adwit (Non brooding)					
A 160 Numonius					
A 100 Numenius					
alquala, Eulasian					
A 162 Tringo totopuo:					
Common rodobor!					
(Non broading)					
(NON-Dreeding)					
A191 Stema					
sandvicensis;					
Sanawich tern (Non-					
preeding)					
A 193 Sterna hirundo;					
Common tern					
(Breeding)					
A 195 Sterna albifrons;					
Little tern (Breeding)					

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

## 7. Conclusion

The authorisation, management and mitigation measures applied to this fishery, and the use of an effective enforcement team of NWIFCA Officers with multi-agency support, allows the NWIFCA to conclude that the cockle hand-gathered fishery on Leasowe cockle bed will not have an adverse effect on the integrity of the European Sites within which it sits.

## 8. In-combination assessment

8.1 Other ongoing and Authorised Fisheries to be Included in the In-combination assessment:

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

NRW carry out an HRA for the Dee Cockle Order fishery. Both NWIFCA and Dee cockle 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, including the two mussel areas and beds with low cockle stocks which are left unopened by NRW.

There are small areas of mussel in the neighbouring Mersey Estuary which cannot be legally fished (prohibited under Shellfish Hygiene Classification).

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.

#### Additional activities considered

Key information for the in-combination assessment has been collated below for the assessment; a full copy of the HRAs reference below can be located on NWIFCA website, link below. <u>https://www.nw-ifca.gov.uk/marine-protected-areas/hra/</u>

<u>NWIFCA-MN-SPA-003 – Mersey Narrows and North Wirral Foreshore Static fixed netting</u> - Limited activity, assessment did not progress beyond TSLE

<u>NWIFCA-MN-SPA-004 - Mersey Narrows and North Wirral Foreshore – Longlines (Demersal)</u> - Undertaken recreationally

# <u>NWIFCA-MN-SPA-005 - Mersey Narrows and North Wirral Foreshore – Beach Seines and Ring Nets</u>

- Undertaken recreationally

## NWIFCA-MN-SPA-006 - Mersey Narrows and North Wirral Foreshore – Shrimp Push Nets

- Undertaken recreationally

#### NWIFCA-DE-EMS-004 - Dee Estuary - Longlines (Demersal)

- Undertaken recreationally

NWIFCA-DE-EMS-005 - Dee Estuary – Static Fixed and Drift Netting

- Limited scale fishery with less than 25 commerical fishers at time of assessment

NWIFCA-DE-EMS-006 - Dee Estuary - Beach Seines and Ring Nets

- Undertaken recreationally

NWIFCA-DE-EMS-007 - Dee Estuary - Handlines (Jigging and Trolling)

- Undertaken recreationally

NWIFCA-DE-EMS-008 - Dee Estuary – Shrimp Push Nets

- Undertaken recreationally

## 9. Summary of consultation with Natural England

Natural England were involved in discussions around the management of the fishery when discussed at TSB meeting on the 13<sup>th</sup> August 2024.

## **10. Integrity test**

The NWIFCA concludes no adverse effect on the integrity of the European Site providing the management and mitigation measures provided in table 6 are implemented and upheld.

### Annex 1

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

Site	Knot - 5 year average 2012/23 - 2017/18 (and peak month) <sup>1</sup>	Knot - 5 year mean densities 2007/08 - 2011/12 <sup>2</sup>	Wintering populations in citation	Oystercatche r - 5 year average 2012/23 - 2017/18 (and peak month) <sup>1</sup>	Oystercatche r - 5 year mean densities 2007/08 - 2011/12 <sup>2</sup>	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	
Hoylake		8844			2051	
North Wirral Foreshore SSSI			20,000			500+

<sup>1</sup> 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.

<sup>2</sup> 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

![](_page_47_Picture_1.jpeg)

#### North Western Inshore Fisheries and Conservation Authority

#### Code of Conduct for Intertidal Shellfisheries

Fishing for cockles and mussels on the shore is a long-established activity. In recent years the level of activity has increased, and there has been increasing public concern about it.

By observing this simple code of conduct you can help to reduce complaints and protect your own long-term interests.

#### 1. Treat the foreshore with respect

Much of the foreshore is privately owned. Many landowners tolerate access to and from shellfisheries. This does not include the storage of fishing equipment or catches on private land. To protect your own interests:

- Don't damage gates, fences or signposts;
- Don't block access routes; and
- Get the landowner's agreement before storing any fishing equipment, vehicles or catches on private land.

#### 2. Use vehicles on the shore carefully

Many landowners and coastal residents are concerned about the use of tractors, ATVs / Quad Bikes, and other vehicles on the shore. Try to minimise complaints by:

- Ensuring all vehicles are in good repair and have exhaust silencers;
- Keep noise to a minimum especially early in the morning and at weekends;
- Avoid churning up mud at the top of the shore;
- Don't abandon vehicles on the shore.

#### 3. Leave the shore as you find it

Frequent complaints are made about litter being left by fishermen. This includes food wrappers, cups, sacks used to transport shellfish, and shellfish dropped or discarded on the shore.

- Clear up any litter left at the end of the day;
- Don't leave unwanted shellfish or sacks lying around; and
- If storing gear or shellfish on the shore, make sure it doesn't impede access.

#### 4. Have regard for wildlife

Much of the seashore is protected by wildlife designations. It is a criminal offence to harm protected wildlife. To avoid possible prosecution:

- Don't disturb bird nests or eggs;
- Avoid nature reserves;
- Don't take vehicles across areas of saltmarsh or seagrass; and
- Contact the NWIFCA office for advice if in any doubt.

#### 5. Fish sustainably

IFCA byelaws protect the long-term future of shellfish stocks, and must be complied with at all times. Complying with byelaws protects your own future livelihood. You can help further by:

- Scattering riddled shellfish evenly back on the bed they were removed from - don't leave them in a heap;
- Avoid harming or gathering juvenile shellfish - they are the future of the fishery; and
- Ensure that vehicles used on the shore don't harm the shellfish beds.

#### 6. Observe other guidance & advice

Other authorities may provide guidance relating to your activities. You should ensure that you are aware of:

- Guidance issued by local authorities and landowners concerning access and other issues;
- Guidance issued by the Health & Safety Executive and the Coastguard.

For further information, contact the NWIFCA at our Carnforth offices or visit www.nw-ifca.gov.uk

#### Annex 3 – NWIFCA Intertidal Fisheries Cold Weather Protocol

#### NORTH WESTERN IFCA INTERTIDAL FISHERIES COLD WEATHER PROTOCOL

#### April 2023

#### 1. Purpose of this protocol

During periods of severe cold weather (as defined in section 2), the NWIFCA must assess whether fishing activities taking place within a Special Protection Area (SPA) pose a risk to the designated bird species. This requirement arises from the legal obligation upon the NWIFCA to carry out a Habitats Regulation Assessment (HRA) for activities it regulates and to implement any mitigation measures identified as necessary. The purpose of this protocol is to set out the criteria that must be met, the risks that must be considered, and the steps that NWIFCA will follow when such an event occurs. This protocol has been reviewed and agreed with Natural England.

#### 1.1 Background

Intertidal fisheries in the NWIFCA District that operate within a European Marine Site (EMS) must undergo a HRA in accordance with Article 6 of the Habitats Directive. The purpose of this assessment is to ensure the proposed fishing activities do not hinder the conservation objectives of the protected features. The sensitivity of designated features to fishing activity is detailed in Natural England's Conservation Advice Packages: https://designatedsites.naturalengland.org.uk/.

Certain bird species are vulnerable to pressures from disturbance and removal of food resources from fishing activities. A HRA of a fishery may determine that during periods of severe cold, when birds require additional energy to maintain condition, there is the risk that fishery related pressures could result in an adverse effect on bird populations. The NWIFCA must therefore have a protocol to ensure these impacts are mitigated for and that there is no adverse effect on the integrity of the site.

#### 1.2 Legal framework

The following legislation underpins NWIFCA's duty to protect designated features within the Northwest District under both UK (relevant to Marine Conservation Zones) and retained EU (relevant to European Marine Sites) law.

#### The Conservation of Habitats and Species Regulations (2017)

#### 24 Control of potentially damaging operations – Assessment of implications for European sites

(1) Where it appears to the appropriate nature conservation body that a notice of a proposal under section 28E(1)(a) of the WCA 1981 relates to an operation which is or forms part of a plan or project which—

(a) is likely to have a significant effect on a European site (either alone or in combination with other plans or projects), and

(b) is not directly connected with or necessary to the management of that site,

it must make an appropriate assessment of the implications for that site in view of that site's conservation objectives.

(2) In the light of the conclusions of the assessment, it may give consent for the operation only after having ascertained that the plan or project will not adversely affect the integrity of the site.

Further information regarding the UK Government's guidance to carrying out a HRA can be found here: <u>https://www.gov.uk/guidance/habitats-regulations-assessments-protecting-a-european-site</u>

#### 2. Protocol

A suspension of fishing within an SPA should be triggered during severe cold conditions, defined as:

#### A period during which temperatures are **at or below 0 degrees Celsius for 60 hours total out of 120 consecutive** hours (5 days).

Temperatures will be monitored from agreed weather stations for each shellfishery within a SPA. Temperatures will be monitored in real-time.

Once the 60 hour trigger is reached, fishing will be suspended for five consecutive days (inclusive of weekends). Temperatures will continue to be monitored while fishing is suspended. The suspension will be lifted once a period of sustained warming (over 60 hours total within a 120 hour period, from the start of the suspension) is reached.

Predictive or forecasted temperatures will not be used to initiate a closure, however, they can be used to notify industry of the potential for a closure (see section 3.2 and 3.3).

#### 2.1 Temperature stations

The weather stations from which to monitor temperature readings for the respective fisheries have been agreed with Natural England as of April 2023. Stations will be reviewed yearly. Stations will be reviewed for any fishery at the time when this protocol is applied, agreed with Natural England and detailed in the HRA.

#### 2.2 Additional considerations

In addition to the temperature, NWIFCA will review other factors which may influence the level of impact on birds during severe cold. These will include (but will not be limited to):

- The intensity of fishing (frequency, number of operators, timings etc.)
- The potential for displacement of fishers into other fisheries

#### 3. Communication procedure

#### 3.1 Communication with Natural England

NWIFCA will notify Natural England when there is a risk of severe temperatures and provide regular updates during cold weather.

NWIFCA will consult with Natural England regarding the relative conditions of the relevant SPA and the potential for a suspension.

#### 3.2 Communication with Industry members

If a forecast has indicated severe cold weather, NWIFCA will notify industry members via the website and by text message of the potential for a cold weather suspension as soon as possible.

NWIFCA will notify industry members via text and website updates as soon as temperature monitoring has begun.

If it looks likely that the minimum requirements of 60 hours will be reached, NWIFCA will notify fishers via text and website updates of this possibility.

Once 60 hours of severe cold is reached NWIFCA will notify fishers that the fishery will be closed within 24 hours.

#### 3.3 Communication with Authority members

If a forecast has indicated severe cold weather, NWIFCA will notify members of the Technical Science and Byelaw Subcommittee (TSB) via email of the potential for a cold weather suspension as soon as possible.

NWIFCA will notify TSB members via email as soon as temperature monitoring has begun and notify members of suspension of the fishing, should the cold weather conditions (specified in 2. Protocol) be met.

Date of next review	Completed by	NE Sign off
October 2023		