Habitats Regulations Assessment document: NMSPA – tLSE 020

European Marine Site:	**Northumberland Marine SPA**
Generic sub-feature(s):	**Benthic feeding birds (part of the seabird assemblage), Water column**
Gear type(s):	**Hand working (access from land)** As 'digging with forks' and 'crab tiling' are assessed separately, this assessment considers shellfish collection by hand and rod and line angling.
NIFCA tLSE type:	**Detailed**
Gear/feature interaction reference(s):	**NMSPA – 079** **NMSPA - 080**

Revision history		
Date	***Revision***	***Editor***
05/06/2018	Document created	NW
02/10/2023	Document revised	KO
08/01/2024	Document QA	AA
09/01/2024	Document revised	KO
15/01/2024	Changes made and figures from NIFCA intertidal data updated to reflect 'patrols' rather than just observations.	KO
31/01/2024	Document QA	AA
21/02/2024	Ready for external QA with NE.	KO
08/08/2024	Added monitoring and control comments as per other assessments and NE comments.	SR
11/11/2024	Review with NE	SR
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Circulation		
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Test for Likely Significant Effect (LSE)

NMSPA – 079: Benthic feeding seabirds

1. Is the activity/activities directly connected with or necessary to the management of the site for nature conservation?	No
2. What pressures (such as abrasion, disturbance) are potentially exerted by the gear type(s)? *Sensitivities have been categorised as medium-high risk for this feature in draft conservation advice **There is no specific mention of 'benthic feeding birds' in the Advice on Operations. Therefore these sensitivities have been taken from the benthic feeding seabirds in Lindisfarne SPA to 'shore-based activities'.**	Removal of non-target species (Sensitive)* Visual disturbance (Sensitive) Above water noise Collision ABOVE water with static or moving objects not naturally found in the marine environment (e.g., boats, machinery, and structures) (Sensitive) Collision BELOW water with static or moving objects not naturally found in the marine environment (Sensitive) Hydrocarbon and PAH contamination (Not-assessed) Introduction of light (Sensitive) Litter (Sensitive) Synthetic compound contamination (incl. pesticides, antifoulants, pharmaceuticals) (Not-assessed) Transition elements & organo-metal (e.g. TBT) contamination (Not-assessed)
3. Is the feature potentially exposed to the pressure(s)?	Yes

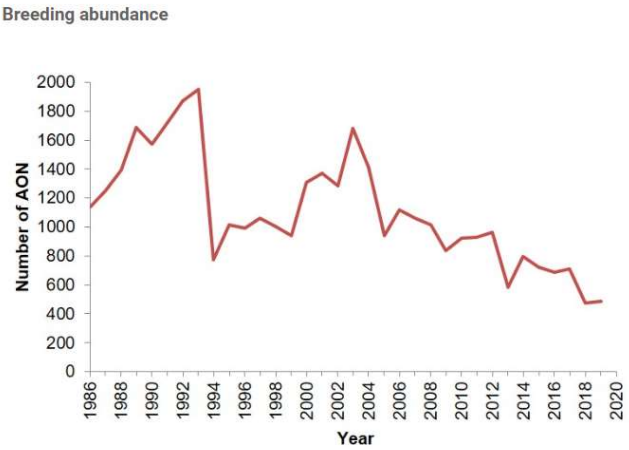
4. What are the conservation objectives for the feature? There are no specific Conservation Objectives for 'benthic feeding birds' in the Conservation Advice. Therefore these Conservation Objectives have been taken from the listed seabird features of the SPA.	**Conservation objectives for benthic feeding birds:** **Maintain:** - the size of the breeding population - safe passage of birds moving between nesting and feeding areas - concentrations and deposition of air pollutants to below the site-relevant Critical Load or Level values given for this feature of the site on the Air Pollution Information System (www.apis.ac.uk) - the structure, function and supporting processes associated with the feature and its supporting habitat through management or other measures (whether within and/or outside the site boundary as appropriate) and ensure these measures are not being undermined or compromised. - the extent, distribution and availability of suitable habitat - the availability of key prey species (e.g. sandeel, herring, sprat, crustacea, annelids and coarse fish) at preferred prey sizes - the dissolved oxygen (DO) concentration to levels equating to High Ecological Status - water quality at mean winter dissolved inorganic nitrogen levels where biological indicators of eutrophication (opportunistic macroalgal and phytoplankton blooms) do not affect the integrity of the site and features, avoiding deterioration from existing levels - natural levels of turbidity - **Restrict:** the frequency, duration and / or intensity of disturbance affecting roosting, nesting, foraging, feeding, moulting and/or loafing birds so that they are not significantly disturbed - **Reduce:** aqueous contaminants to levels equating to High Status

5. What are the potential effects/impacts of the pressure(s) on the feature, taking into account the exposure level? ***(reference to conservation objectives)***	Hand work from land is a wide category and covers all forms of intertidal fishing from land. In this assessment hand work includes; angling, periwinkle collection, bait collection (mussels and shore crabs) and 'cleeking'. Digging for bait and crab tiling in the site have been assessed separately. There are other shore-based activities which are not included in this assessment, as they are thought to occur at very low levels in the District i.e. seaweed harvesting, hand collection by divers and spear fishing. Out of these activities NIFCA has only one record of spear fishing in the SPA. NIFCA have received requests to carry out collection of seaweed and are aware of a commercial operator planning to carry out collection of seaweed species on a commercial basis - but more information is needed on the area and scale of this activity before assessments can be carried out. As this is a new activity it requires an initial assessment to be carried out, outside the scope of the original Article 6 assessment process. A separate assessment will be conducted when information on this activity is provided by the applicant. They have been told of the legal requirements and necessity of obtaining appropriate permissions. Northumberland Marine SPA (NMSPA) extends from the high water mark out to sea with two areas extending outside of the NIFCA District beyond 6nm, where intertidal fishing activity cannot occur. There is no national description of what is commercial and what is recreational regarding hand collection. Shore based activity has therefore been assessed here regardless of the end point of the catch, since it is the activity (linked to effort) that potentially impacts the features, rather than whether it is commercial or recreational. To improve understanding of activity levels NIFCA officers record any intertidal fishing activity observed during routine patrols whenever a site visit coincides with low water (± 2 hours), as well as 'no activity.' There are also a small number of 'patrols' in the SPA from partner organisations during the same tidal periods (n=13). Within Northumberland Marine SPA 657 patrols have been made between October 2016 and September 2023. 'No activity' was observed on 36.2% of patrols (238/657). Below is a description of each activity occurring in the site which falls under the description of 'handwork from land'. This gives information about the extent of activity throughout the site, and specific areas within the site where each activity occurs. The following hand-work activities (periwinkle collection, bait collection, cleeking and angling) occur along the rocky intertidal/infralittoral habitats on the Northumberland coast. The coastline throughout this site falls completely within other MPAs including the Berwickshire and North Northumberland Coast SAC and Coquet to St Mary's MCZ (Appendix 1). Hand gathering activities in these two sites will be assessed in other HRA and MCZ assessments carried out by NIFCA. This assessment therefore will

	just consider impacts to the birds features themselves and the water column. **Angling**. Angling from shore is a popular recreational activity and occurs for a variety of finfish across the District, particularly cod (winter) and mackerel (summer). Angling has been recorded on 183 out of 657 patrols. Sites where angling has been seen on 10% of patrols and there have been at least ten patrols are: Amble, Blyth, Lynemouth, Newbiggin, Creswell, Druridge Bay, Beadnell, Cambois and Hauxley. There are also records of Angling from Longhoughton, Seahouses, Hadston, Newton and Boulmer North. The number of individuals angling per observation ranges from 1-40, with an average of 5 (N.B. On some patrols more than one observation of angling may be recorded). Activity has been observed year-round. **Periwinkle collection.** This involves the collection of periwinkles by hand from intertidal rocky areas, which can involve turning rocks, cobbles or boulders. Periwinkle collection has been recorded on 86 patrols. Sites where periwinkle collection has been seen on 10% of patrols and there have been at least ten patrols are; Boulmer south, Cambois, Holy Island, Cresswell, Beadnell, Boulmer north, Hauxley, Hadston and Lynemouth. There are also records of periwinkle collection from; Cheswick, Warkworth beach, Scremerston, Foxton, Newbiggin, Druridge bay and Blyth. The number of individuals collecting periwinkles per observation ranges from 1-9, with an average of 2.1 individuals (N.B. On some patrols more than one observation of periwinkle collecting may be recorded). Activity has been observed year-round. **Bait collection.** Bait collecting refers primarily to the collection of mussels, or occasionally shore crab, from the intertidal at low tide. Bait collecting has been recorded on 44 patrols, with 41 of these patrols at Blyth. The remaining three patrols are from Cambois, the Wansbeck estuary and Warkworth beach (Alnmouth). The number of individuals collecting bait per observation ranges from 1-5, with an average of 1.6 individuals (N.B. On some patrols more than one observation of bait collection may be recorded). Activity has been observed year-round. **Cleeking for shellfish.** Cleeking is a traditional method of catching lobster using a long pole with a hook to tease lobsters from under rocks or in crevices. Lobster will use their claws to clamp onto the hook and are removed from the sea. The activity is highly seasonal and concentrated during the summer months. Cleeking has been observed on 23 patrols in the SPA. Sites where this activity has been recorded on 10% of patrols and there have been at least 10

	patrols include: Boulmer south, Creswell and Newbiggin. Cleeking has also been recorded at Hauxley, Boulmer north and Blyth. The number of cleekers per observation ranges from 1-4, with an average of 1.5 individuals (N.B. On some patrols more than one observation of cleeking may be recorded). Shore-based fishing activity has the potential to interact with the seabird features of the SPA in two main ways. The first is by targeting the prey species of the seabirds, the second is by causing visual/noise disturbance, which can cause displacement of birds. Shore-based activity could affect the **availability of key prey species for** seabirds, if carried out a very high level. Shags and cormorants both have a varied diet. Shags are considered to feed primarily on benthic, schooling and demersal fish (Natural England, 2012). Long term studies of breeding shags at Canna (west coast of Scotland) show sandeels and Gadoid fish such as cod to make up the majority of the bird's diet, with crab only found in one out of 134 samples (Swann, Harris, & Aiton, 2008). Studies on the Isle of May again found sandeels to dominate adult and chick diet, with a range of finfish and fragmented remains of crustaceans (prawns and hermit crabs) also present (Harris & Wanless, 2009). Cormorants primarily feed on benthic fish species, but do also take fish from the water column and some crustaceans (Natural England, 2012). The primary activity potentially targeting the same prey as shags and cormorants is shore-based angling. However, shore-based angling is recreational not commercial and does not occur at such a high level in the NIFCA District as to deplete local fish populations. In addition, anglers can only legally land species over the minimum landing sizes. These are 27cm or larger for most finfish and 24cm or larger for flatfish. Seabirds will therefore generally be targeting different species and smaller individual fish than anglers. The seabirds also have a large area to hunt for fish throughout the SPA, much of it inaccessible to recreational shore fishers. Other shore-based activities are targeting species which are unlikely to make up a significant part of the benthic feeding bird's diet; periwinkles, mussels and lobsters. NIFCA do not consider therefore that shore-based activities in Northumberland SPA will have a significant impact on the seabird features through the removal of their prey species. All shore-based fishing activity has the potential to displace birds from the intertidal zone in the SPA, through visual and noise disturbance. However, the SPA has a long coastline and intertidal fishing activity generally occurs in small groups of average size 1-2 individuals, with the exception of angling. There are large areas of the SPA coastline, particularly around the islands, that are inaccessible to shore-based activity. Intertidal collection also occurs at low tide, when the area of intertidal ground is the greatest.

	The resting places for the benthic feeding seabirds in this assessment (shags and cormorants) are primarily on piers and artificial structures, or the edges of rocky ground. These areas are not likely to be targeted by shellfish collectors, although there could be some overlap on rocky ground. Space for Shorebirds monitor bird disturbance events in Northumberland (Seaton Sluice to Berwick), recording species disturbed and activities causing disturbance. In 2020-21 they recorded 590 potential disturbance events (PDEs) of which almost half (47%) were caused by dog walkers while 39% were caused just walkers. 3% were caused by rockpooling or exploring the intertidal, while only a single disturbance event was caused by bait gathering on the rocks. These results highlight the relative importance of recreational activities in causing bird disturbance, compared to shore-based bait collection and fishing activities. The species impacted were also recorded. Of a total of 1331 turnstones disturbed, 42% were by dog walkers, 24% by walkers, 1% by rockpoolers and none by bait collectors. Of 353 purple sandpipers disturbed, 47% were by dog walkers, 32% by walkers and none by bait collectors. NIFCA therefore does not consider that visual and noise disturbance caused by hand work from land is likely to cause significant disturbance to the benthic feeding seabirds in Northumberland Marine SPA. Shore based activity will not cause contaminants to be released into the water column, nor will it introduce significant light pollution. Even if fishers/collectors use torches these will be small lights in a coastal environment, with light pollution from local towns already present. Nor should these activities create significant litter.

6. Condition and Conservation Objective Inferences	Benthic feeding birds are not specifically designated in the SPA, they make up part of the 'breeding seabird assemblage.' The following species are listed as 'main components' in the Conservation Advice: Arctic tern, common tern, roseate tern, Sandwich tern, little tern, Atlantic puffin, common guillemot, great cormorant, European shag, black-headed gull and black-legged kittiwake. Of these species European shags and great cormorants are considered benthic feeding birds. Population numbers are from 2015 (Natural England, 2015). ▪ European shag – 1,677 ▪ Great cormorant – 230 The Farne Islands and the Isles of Scilly are the two largest shag breeding colonies in England (Natural England, 2012). The Conservation Advice package does not give feature condition for these species, but data on the number of active/apparently occupied nests on the Farne Islands is available from the Seabird Monitoring Program (British Trust for Ornithology and Joint Nature Conservation Committee). European shag nest numbers on the Farne Islands since 1986 are shown in Figure 1. The sharp declines between 1993/94, 2004/05 and 2017/18 correlate with severe bad weather events causing mass mortality.  **Figure 1** Number of European shag AONs on the Farne Islands, 1986–2019 **(JNCC, Accessed 15/01/24)** . Great cormorant numbers for the Farne Islands are not available back to 1986, but number show fluctuations over the last 8 years (British Trust for Ornithology, 2023). The UK population as a whole has shown a relatively steady trend in nest numbers since 1986, again with fluctuations (JNCC, Accessed 15/01/2024).

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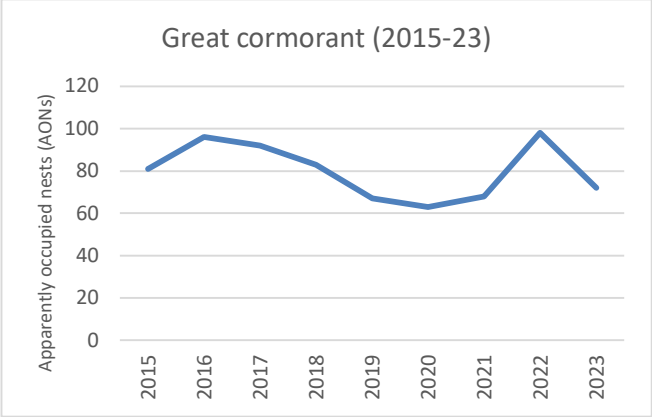
<tr><td></td><td colspan="2"> 

Figure 2 Number of 'apparently occupied nests' for great cormorants on the Farne Islands 2015-23 (British Trust for ornithology, 2023)

Seabird species have also been badly affected by Avian Influenza during the last two breeding seasons (2022 and 2023). The Farne Islands are home to approximately 200,000 seabirds. In the most recent breeding season (2023) the National Trust have collected 3,647 dead birds, but estimate this may only be 10% of the birds that have died. In 2022 National Trust rangers on the island collected over 6,000 dead birds. Cliff nesting birds were hit particularly badly on the Farne Islands in 2022 and kittiwakes and large gulls in 2023 (National Trust, 2023).

Bird flu will have had impacted both population number and breeding success of multiple species in the SPA, as there has been a relatively high mortality of adult birds.</td></tr>
<tr><td>7. Is the potential scale or magnitude of any effect likely to be significant?</td><td>Alone:

No. Benthic feeding birds in the SPA have a varied diet and there are large areas which are relatively inaccessible to land based fishers, NIFCA does not consider therefore that hand work from land is likely to have a significant effect on the benthic feeding seabirds.

This will be monitored through the monitoring and control plan process which is currently under development for this activity and any significant increase in activity levels will trigger a reassessment in the SPA.</td><td>OR In-combination

No. See below for in-combination assessment.</td></tr>
<tr><td>8. Have NE been consulted on this LSE test? If yes, what was NE’s advice?</td><td colspan="2">Yes, collaborative discussions have occurred with NE and NIFCA since 2018.</td></tr>
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NMSPA – 080: Water column

1. Is the activity/activities directly connected with or necessary to the management of the site for nature conservation?	No
2. What pressures (such as abrasion, disturbance) are potentially exerted by the gear type(s)? *Sensitivities have been categorised as medium-high risk for this feature.	Habitat structure changes – removal of substratum (extraction) (Sensitive)* Removal of non-target species (Sensitive)* Removal of target species (Sensitive)* Visual disturbance (Sensitive)* Deoxygenation (Sensitive) Hydrocarbon and PAH contamination (Not-assessed) Introduction of light (Sensitive) Introduction or spread of invasive non-indigenous species (INIS) (Sensitive) Litter (Sensitive) Synthetic compound contamination (incl. pesticides, antifoulants, pharmaceuticals) (Sensitive) Transition elements & organo-metal (e.g. TBT) contamination (Sensitive) Underwater noise changes (Sensitive)
3. Is the feature potentially exposed to the pressure(s)?	Yes
4. What are the conservation objectives for the feature?	Water column is not mentioned in supplementary advice therefore we cannot determine the conservation objectives of this feature.

5. What are the potential effects/impacts of the pressure(s) on the feature, taking into account the exposure level?	Hand work from land is a wide category and covers all forms of intertidal fishing from land. In this assessment hand work includes; angling, periwinkle collection, bait collection (mussels and shore crabs) and 'cleeking'. Digging for bait and crab tiling in the site have been assessed separately. There are other shore-based activities which are not included in this assessment, as they are thought to occur at very low levels in the District i.e. seaweed harvesting, hand collection by divers and spear fishing. Out of these activities NIFCA has only one record of spear fishing in the SPA. NIFCA have received requests to carry out collection of seaweed and are aware of a commercial operator planning to carry out collection of seaweed species on a commercial basis - but more information is needed on the area and scale of this activity before assessments can be carried out. As this is a new activity it requires an initial assessment to be carried out, outside the scope of the original Article 6 assessment process. A separate assessment will be conducted when information on this activity is provided by the applicant. They have been told of the legal requirements and necessity of obtaining appropriate permissions. There is no national description of what is commercial and what is recreational regarding hand collection. Shore based activity has therefore been assessed here regardless of the end point of the catch, since it is the activity (linked to effort) that potentially impacts the features, rather than whether it is commercial or recreational. To improve understanding of activity levels NIFCA officers record any intertidal fishing activity observed during routine patrols whenever a site visit coincides with low water (± 2 hours), as well as 'no activity.' There are also a small number of patrols in the SPA from partner organisations during the same tidal periods (n=13). Within Northumberland Marine SPA 657 patrols have been made between October 2016 and September 2023. 'No activity' was observed on 36.2% of patrols (238/657). The following hand-work activities (periwinkle collection, bait collection, cleeking and angling) occur along the rocky intertidal/infralittoral habitats on the Northumberland coast. The coastline throughout this site falls completely within other MPAs including the Berwickshire and North Northumberland Coast SAC and Coquet to St Mary's MCZ. Hand gathering activities in these two sites will be assessed in other HRA and MCZ assessments carried out by NIFCA. This assessment therefore will just consider impacts to the birds features themselves and the water column. **Angling**. Angling from shore is a popular recreational activity and occurs for a variety of finfish across the District, particularly cod (winter) and mackerel (summer). Angling has been recorded on 183 patrols. Sites where angling has been seen on 10% of

	patrols and there have been at least ten patrols are: Amble, Blyth, Lynemouth, Newbiggin, Creswell, Druridge Bay, Beadnell, Cambois and Hauxley. There are also records of Angling from Longhoughton, Seahouses, Hadston, Newton and Boulmer North. The number of individuals angling per observation ranges from 1-40, with an average of 5 (N.B. On some patrols more than one observation of angling may be recorded). Activity has been observed year-round. **Periwinkle collection.** This involves the collection of periwinkles by hand from intertidal rocky areas, which can involve turning rocks, cobbles or boulders.. Periwinkle collection has been recorded on 86 patrols. Sites where periwinkle collection has been seen on 10% patrols and there have been at least ten patrols are; Boulmer south, Cambois, Holy Island, Cresswell, Beadnell, Boulmer north, Hauxley, Hadston and Lynemouth. There are also records of periwinkle collection from; Cheswick, Warkworth beach, Scremerston, Foxton, Newbiggin, Druridge bay and Blyth. The number of individuals collecting periwinkles per observation ranges from 1-9, with an average of 2.1 individuals (N.B. On some patrols more than one observation of periwinkle collecting may be recorded). Activity has been observed year-round. **Bait collection.** Bait collecting refers primarily to the collection of mussels, or occasionally shore crab, from the intertidal at low tide. Bait collecting has been recorded on 44 patrols, with 41 of these patrol at Blyth. The remaining three patrols are from Cambois, the Wansbeck estuary and Warkworth beach (Alnmouth). The number of individuals collecting bait per observation ranges from 1-5, with an average of 1.6 individuals (N.B. On some patrols more than one observation of bait collection may be recorded). Activity has been observed year-round. **Cleeking for shellfish.** Cleeking is a traditional method of catching lobster using a long pole with a hook to tease lobsters from under rocks or in crevices. Lobster will use their claws to clamp onto the hook and are removed from the sea. The activity is highly seasonal and concentrated during the summer months. Cleeking has been observed on 23 patrols in the SPA. Sites where this activity has been recorded on 10% of patrols and there have been at least 10 patrols include: Boulmer south, Creswell and Newbiggin. Cleeking has also been recorded at Hauxley, Boulmer north and Blyth,

	The number of cleekers per observation ranges from 1-4, with an average of 1.5 individuals (N.B. On some patrols more than one observation of cleeking may be recorded). Shore-based fishing activity has the potential to interact with the seabird features of the SPA in two main ways. The first is by targeting the prey species of the seabirds, the second is by causing visual/noise disturbance, which could cause displacement of birds. Shore-based activity could affect the **availability of key prey species for** seabirds, if carried out a very high level. The protected seabirds in the SPA have varied diets including; sandeels, sprat, herring, clupidea fish, crustacea, coarse fish. The primary shore-based activity potentially targeting the prey of the protected seabirds is angling for finfish. However, shore-based angling is recreational not commercial and does not occur at such a high level in the NIFCA District as to deplete local fish populations. In addition, anglers can only legally land species over the minimum landing sizes. These are 27cm or larger for most finfish and 24cm or larger for flatfish. Seabirds will therefore generally be targeting different species and smaller individual fish than anglers. The seabirds also have a large area to hunt for fish throughout the SPA, much of it inaccessible to recreational shore fishers. Other shore-based activities are targeting species which are unlikely to make up a significant part of the seabird's diet; periwinkles, mussels and lobsters. Most of the seabirds in the SPA target small schooling fish, with the gull species having the most varied diet, as opportunistic feeders. Black-headed gulls, herring gulls, lesser and greater black-backed gulls are all components of the breeding seabird assemblage and their diets will include; fish, molluscs, crustaceans, insects, earthworms, small mammals, other seabird species and carrion. The varied nature of their diet means these species should not be affected by the relatively low-level removal of a range of finfish, molluscs and gastropod species from hand work from land. NIFCA do not consider therefore that hand work from land in Northumberland SPA will have a significant impact on the seabird features through the removal of their prey species. All shore-based fishing activity has the potential to displace birds from the intertidal zone in the SPA, through visual and noise disturbance. However, the SPA has a long coastline and intertidal fishing activity generally occurs in small groups of average size 1-2 individuals, with the exception of angling. There are large areas of the SPA coastline, particularly around the islands, that are inaccessible to shore-based activity. Intertidal collection also

	occurs at low tide, when the area of intertidal ground is the greatest. Space for Shorebirds monitor bird disturbance events in Northumberland (Seaton Sluice to Berwick), recording species disturbed and activities causing disturbance. In 2020-21 they recorded 590 potential disturbance events (PDEs) of which almost half (47%) were caused by dog walkers while 39% were just walkers. 3% were caused by rockpooling or exploring the intertidal, while only a single disturbance event was caused by bait gathering on the rocks. These results highlight the relative importance of recreational activities in causing bird disturbance, compared to shore-based bait collection and fishing activities. The species impacted were also recorded. Of a total of 1331 turnstones disturbed, 42% were by dog walkers, 24% by walkers, 1% by rockpoolers and none by bait collectors. Of 353 purple sandpipers disturbed, 47% were by dog walkers, 32% by walkers and none by bait collectors. NIFCA therefore does not consider that visual and noise disturbance caused by hand work from land is likely to cause significant disturbance to the benthic feeding seabirds in Northumberland Marine SPA. Shore based activity will not cause contaminants to be released into the water column, nor will it introduce significant light pollution. Even if fishers/collectors use torches these will be small lights in a coastal environment, with light pollution from local towns already present. Nor should these activities create significant litter.
6. Condition and Conservation Objective Inferences	No evidence is available for the current condition of the water column feature within the Northumberland Marine SPA. In lieu of adequate evidence or conservation objectives, a CO of 'Maintain' has been inferred with a 'low' level of confidence.

7. Is the potential scale or magnitude of any effect likely to be significant?	**Alone:** **No.** Seabirds in the SPA have a varied diet and there are large areas which are relatively inaccessible to land based fishers, therefore NIFCA does not consider that hand work from land is likely to have a significant effect on the protected seabirds. This will be monitored through the monitoring and control plan process which is currently under development for this activity and any significant increase in activity levels will trigger a reassessment in the SPA.	**OR In-combination** **No.** See below for in-combination assessment.
8. Have NE been consulted on this LSE test? If yes, what was NE's advice?	Yes, collaborative discussions have occurred with NE and NIFCA since 2018.	

In-Combination Assessment

Potential risks of in-combination effects have been considered in Table 1 listing other fisheries, current and possible plans/projects and other activities within the site.

In summary, hand work from land within Northumberland Marine SPA is not deemed to have a likely significant effect on the protected bird features in combination with other activities.

Table 1 *In-combination assessment of hand work from land with other activities within Northumberland Marine SPA.*

Fishing Activity			
Activity	**Description**	**Potential Pressure**	**Assessment**
Fixed nets on subtidal ground	Fixed nets (gill nets and trammel nets) are anchored to the seabed, with a floating headline and used to target white fish (cod) and flatfish in the NIFCA District. These nets will be set on firm sediment ground, likely near wrecks for cod, but on sandy ground for flatfish. Only one vessel is thought to set tangle nets for crustaceans. Fixed nets will not generally be set on rocky ground as there is a high risk of damage to the nets. Fixed netting is managed by the Fixed Engines Byelaw which NIFCA is currently updating. Fixed netting in the District for migratory fish (salmon, sea trout) is managed and assessed by the Environment Agency.	This activity occurs at a very low level for sea fish across the NIFCA District, largely due to the lack of white fish and grey seal predation from nets. NIFCA are aware of one vessel from Amble which may set fixed nets in the SPA area. From NIFCA shellfish permit returns data only 4-5 vessels have reported setting nets in the District each year (2020-22). Fixed netting has the potential to impact the bird features through bycatch, or by removing their preferred prey species.	There will be no spatial overlap between hand-work from land and fixed netting, with very limited fixed netting activity in the NIFCA district. NIFCA can therefore conclude with high confidence that fixed netting and hand-work from land will not 'in-combination' increase pressures on the bird features of the SPA
Bottom trawling on subtidal sediment	Trawling within the NIFCA District is subject to conditions in the byelaw 'Trawling,' which was updated in 2021. Only single trawls are permitted, vessel size is restricted to 12m (0-3nm) or 18.3m (3-6nm) in the District and permit holders must also submit monthly catch returns to NIFCA. Boats are mainly targeting prawns (*Nephrop*s), cod and whiting. Trawling will primarily be targeted on subtidal muddy ground for *Nephrop*s in the District. As only 'light' otter gear is	NIFCA have issued 45 permits to trawl in the District in 2023. However, many of these vessels fish further offshore, beyond the District boundary and the SPA. Trawling is banned in the BNNC SAC (except in three small areas) and requires an exemption in CSM MCZ. Trawling has the potential to impact the bird features through bycatch, or by removing their preferred prey species. There are two areas of the SPA that extend outside of the NIFCA District and the Marine Management Organisation (MMO)	There will be no spatial overlap with hand-work from land and bottom trawling. NIFCA can therefore conclude with high confidence that fixed netting and hand work from land will not 'in-combination' increase pressures on the bird features of the SPA.

	permitted in the MCZ, subtidal trawling does not occur on rock.	has provided activity data related to demersal trawling in these areas. Estimated landings data from the UK under 12m fleet from these areas was 3.21 tonnes in 2021 and 2.24 tonnes in 2020. Average annual landing from these areas from UK under 12m vessels (2012-21) is 3.62 tonnes (MMO data, pers comms). These catches suggest activity in the two areas is very low.	
Potting on subtidal rocky ground, with low levels on subtidal sediment ground and intertidal rocky ground	Potting for European lobster (*Homarus gammarus)* and brown crab (*Cancer pagurus)* is the principal fishery within the NIFCA district. Most fishers in the district use parlour pots of various sizes and pots are typically worked in fleets of 10-40, dependant on the size of the vessel. Potting occurs predominantly in and around rocky habitat for lobster and brown crab, with some potting on subtidal mud for *Nephrops* and brown crab.	In 2023 (so far) NIFCA have issued 85 Commercial Shellfish Permits to fishers, compared to 93 in 2022, 108 in 2021 and 98 in 2020. The total number of pot hauls in the District was 2,464,412 in 2022, compared to 2,766, 681 in 2021 and 2,750,768 in 2020. Pots are limited to 800 per shellfish permit and the fishery is governed by multiple IFCA byelaws. In the NIFCA district recreational potting also occurs and numbers are monitored through a permit system. A permit allows fishers to use 5 pots, which must be fitted with escape gaps. In 2023 (so far) 268 recreational permits have been issued. There are two areas of the SPA that stretch outside of the NIFCA District and the Marine Management Organisation (MMO) has provided activity data related to potting in these areas. In 2021, 5.56 tonnes were landed from pots by UK under 12m vessels, in 2020 5.9 tonnes were landed. Species are not listed so this likely includes lobster, crabs and N*ephrops*. Average annual landings from UK vessels in these areas (2012-21) is 6.78 tonnes (MMO landings data, pers comm).	There will be very limited overlap with hand work from land and potting. The only spatial and species overlap will be from shore based 'cleeking' and recerational potting in the intertidal, both targeting lobsters. However, lobsters are not a prey species of any of the protected seabirds. NIFCA can therefore conclude with high confidence that potting and hand work from land will not 'in-combination' increase pressures on the bird features of the SPA.
Digging with forks in the intertidal	Digging with forks entails collecting worms from the intertidal at low tide,	Within Northumberland Marine SPA 657 patrols have been made between October	Whilst digging with forks and hand work from land could co-occur, these

	primarily lugworms and ragworms. This activity occurs in estuaries across the NIFCA district. NIFCA officers record any intertidal fishing activity observed during routine patrols whenever a site visit coincides with low water (± 2 hours), as well as 'no activity.' There are also a small number of patrols in the SPA from partner organisations during the same tidal periods (n=13).	2016 and September 2023. Bait digging has been observed on 19.6% of these patrols (129/657). Some areas of the District are visited more frequently by Officers, therefore sightings per unit effort (SPUE) has been calculated for each location (no. of times activity observed/site visits). Sites where bait digging has been observed on over 10% of patrols and at least 10 patrols occurred include; Boulmer North, Hadston, Hauxley, Blyth, Newton and Boulmer South. Bait digging activity has a seasonal aspect and SPUE is highest from September-January, outside of the seabird breeding season. Digging with forks has the potential to impact the bird features through visual/noise disturbance and the removal of prey species.	activities are not targeting the same species. There is a possibility that any disturbance to the bird features could be increased if both activities are occurring at the same time in the same location, however, this is still likely to be at a low level during the bird breeding season. NIFCA can therefore conclude with high confidence that bait digging and hand work from land will not 'in-combination' significantly increase pressures on the bird features of the SPA.
Crab tiling	Crab tiling involves placing objects (tyres, tiles, piping) into the intertidal, which crabs will use for shelter. Collectors then check these objects at low tide and remove green shore crabs. NIFCA officers record any intertidal fishing activity observed during routine patrols whenever a site visit coincides with low water (± 2 hours), as well as 'no activity.' There are also a small number of patrols in the SPA from partner organisations during the same tidal periods (n=13).	Within Northumberland Marine SPA 657 patrols have been made between October 2016 and September 2023. Crab tiling has been observed on 5% of these patrols (33/657). Crab tiling has only been recorded at three sites; Blyth, Alnmouth and the Wansbeck estuary. Of these sites the activity has been recorded 30 times at Blyth, twice in the Wansbeck and once in the Aln. However, NIFCA has also conducted surveys for crab tiling equipment in the Aln, Blyth, Wansbeck and at Amble. All sites had at least 50 tyres present in 2020.	Whilst crab tiling and hand work from land could co-occur, these activities are not targeting the same species. There is a possibility that any disturbance to the bird features could be increased if both activities are occurring at the same time in the same location, however, this is still likely to be at a low level during the bird breeding season. NIFCA can therefore conclude with high confidence that crab tiling and hand work will not 'in-combination' significantly increase pressures on the bird features of the SPA.

Non-fishing Activity			
Activity	**Description**		**Assessment**
Mine water discharge	Abandoned mines are one of the biggest sources of water pollution by metals. There is a mine water treatment scheme at Lynemouth and groundwater upwellings have occurred at Hauxley/Hadston as well as water pumped from a mine, discharged through an existing outfall at Hauxley.	Sediments and invertebrate communities could be negatively impacted by mine water discharges. This could occur where mine water is not treated before release into the marine environment. In the majority of cases significant mine water outflow is identified and treated by the Coal Authority.	Appropriate licence conditions/monitoring has been incorporated to mitigate any impacts.
Coastal management scheme - Northumberland and North Tyneside Shoreline Management Plan 2 (05/2009) covers the coastline from the Scottish border to the River Tyne.	Flood and erosion risk management	Any coastal management works along the coast under the aegis of a Coastal Management Scheme.	As stated in Section (2) of the document projects and plans within the SMP are subjected to its own Appropriate Assessment for proposed work, which assesses any impacts to NMSPA.
Coastal Infrastructure and Cable Laying.	Any project in the marine area requiring a marine licence.	Any development in the marine environment with an intertidal element, that may impact features of the site as part of the marine licencing process. Assessments for any development must be carried out in consultation with statutory nature conservations bodies.	All marine licence applications are assessed to ensure appropriate licence conditions/monitoring are in place. These assessments must consider impacts to Marine Protected Areas, with an aim to preferably avoid, then minimise and mitigate impacts to the protected features. NIFCA are consulted on all relevant marine applications, as are other bodies such as Natural England.

Conclusion
Is the proposal likely to have a significant effect 'alone or in combination' on the Northumberland Marine SPA?

No. NIFCA do not consider that hand work from land currently poses a significant risk to the bird features of the SPA. Work to improve understanding of hand-work from land is ongoing and if levels significantly change in the future then this activity will be re-assessed.

Have the MMO been formally consulted on this tLSE (and do they agree)?	Not applicable as refers to intertidal assessment**.**
Has Natural England been formally consulted on this tLSE (and do they agree)?	Yes, collaborative discussions have occurred with NE and NIFCA since 2018**.**

Date of document completion/'sign-off':	11/11/2024 (Pete Welby)

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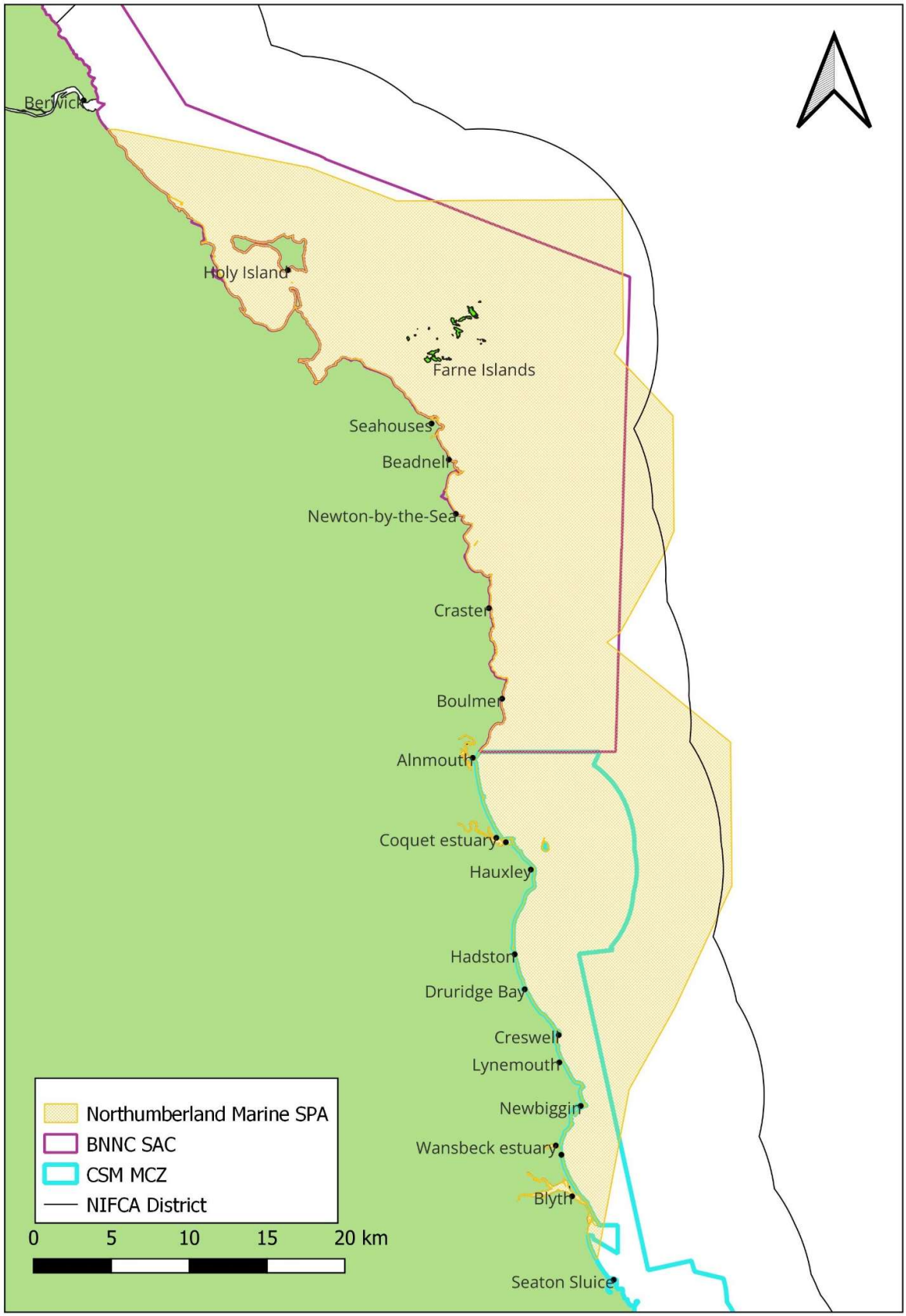
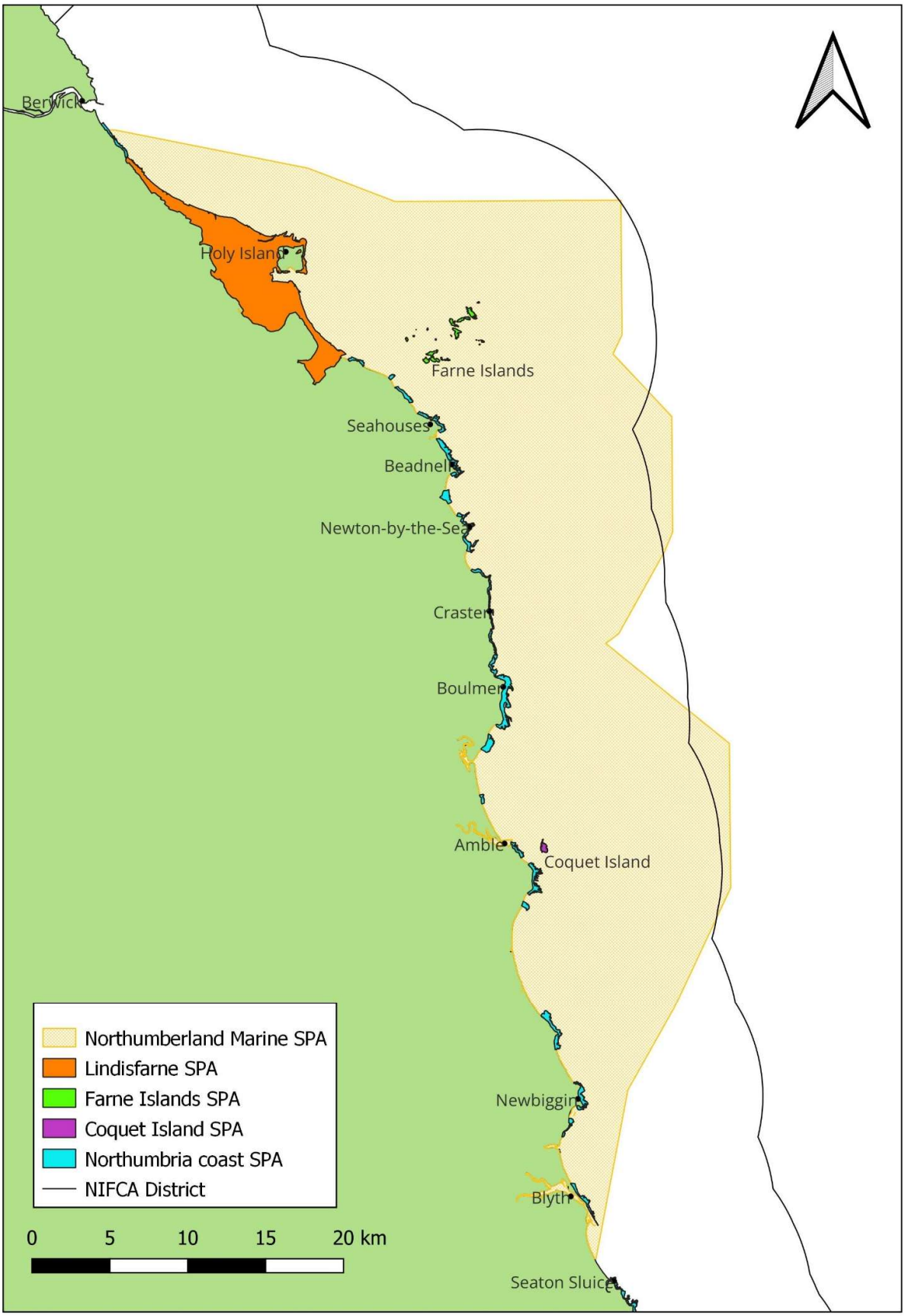
Appendix 1 Northumberland Marine SPA with intertidal fishing sites, Coquet to St Marys (CSM) MCZ and Berwick and North Numberland Coast (BNNC) SAC shown



Appendix 2 Northumberland Marine SPA and co-located SPAs



Appendix 3 – Blyth estuary voluntary code of conduct

Northumberland IFCA
Inshore Fisheries and Conservation Authority
PORT OF BLYTH

BLYTH ESTUARY BAIT COLLECTION CODE OF CONDUCT

GUIDELINES

MUSSEL COLLECTION:

- Mussels should be collected for **personal use only**.
- Take a recommended maximum of **one small-medium sized bucket** per day and avoid collecting on every suitable tide.
- Only take mussels above a minimum size of 45mm shell length.
- Disposal of mussel shells on the shore is prohibited without a licence. Take them with you and dispose responsibly, along with other litter.

To size

BAIT DIGGING:

- Backfill holes.
- Avoid walking or digging on live mussel.

CRAB COLLECTION:

- Ensure you have landowner permission before depositing tiles/tyres (or any other item).
- Materials such as stones and tiles are better for the environment than artificial objects such as tyres which may degrade and leach chemicals over time.

PURPOSE

The Blyth Estuary is part of Northumberland Shore Site of Special Scientific Interest (SSSI) and is an important habitat for mussels, birds and mammals such as otters. These guidelines are in place to protect the mussel beds and the wildlife dependent on them, and to enable limited bait collection for personal use as it is damaging and unsustainable to the mussel beds to collect on a commercial scale.

Please note that these guidelines will be kept under review by NIFCA.

For more information please scan the QR code or get in touch at:

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