



## 12. Commercial Fisheries

### 12.1. Study Area Definition

This chapter of the Scoping Report describes the potential impacts arising from the construction, operation and maintenance, and decommissioning of the Eastern Green Link 3 (EGL 3) hereafter referred to as 'the Project' on commercial fisheries. Commercial fisheries receptors include pelagic (species that live within the water column), demersal (species live and feed on or near the bottom of seas or lakes), and shellfish (crustaceans and molluscs.)

The Scoping Boundary for the Project extends from MHWS in England to MHWS in Scotland. It is nominally 1 km wide, 500 m either side of the centreline, but however, it widens in areas where there is still optionality in the design e.g., to allow for micro-routeing around potential seabed features. It is anticipated that the Marine Licence application boundary will ultimately be 500 m following refinement and rationalisation as the MEA and design process evolves.

There are two proposed Landfalls in England being considered at this stage of the environmental assessment process; Anderby Creek and Theddlethorpe. These options will be subject to further technical feasibility work and stakeholder consultation and will be refined to one preferred option for inclusion in the subsequent Marine Licence application for the Project.

The Study Area for this receptor includes the Scoping Boundary plus an additional 15 km buffer either side. This is a precautionary maximum zone of influence that encompasses the potential impact pathways from underwater noise and increased suspended sediment concentrations. It will be reviewed and refined for the Marine Environmental Assessment (MEA) based on maximum tidal excursions and if appropriate sediment dispersion modelling. The zone of influence will be influenced by the conclusions of Chapter 6 – Marine Physical Processes, and this chapter should be read in conjunction with these findings.

Kilometre Points (KPs) are used throughout this Chapter to provide context as to where within the Study Area a feature lies. KP 0 is defined at the Anderby Creek Landfall. As there are still alternative Landfalls being considered, KPs have been created along the longest route from the proposed English Landfall at Anderby Creek, around the Holderness Offshore Marine Conservation Zone (MCZ) to the proposed Scottish Landfall at Sandford Bay. The KPs for this route are referenced as KP0 – KP575.3. Alternative options, which branch off this longest route, are routed from the proposed English Landfall at Theddlethorpe to the point where it converges with the longest route (referenced as T\_KP0 to T\_KP18); and through Holderness Offshore MCZ, which is referenced as KP0 to H\_KP40.

### 12.2. Data Sources

Data sourced for the baseline characterisation will be presented in accordance with relevant guidance for the topic. The datasets that will be used to inform the description of the baseline environment for the MEA are described in the following sub-sections.

#### 12.2.1. Site-specific Survey Data

Extensive information is available to characterise the commercial fisheries of the North Sea. Following a detailed review to inform the scope of the data and assessment, as presented, no site-specific surveys are planned for this topic.

#### 12.2.2. Publicly Available Data

Desk based review of publicly available data sources (literature and GIS mapping files) will be used to describe the baseline environment. Table 12-1 lists the key data sources which will be used in the assessment.

*Table 12-1: Key publicly available data sources for commercial fisheries*

Data Source	Description	Coverage		
		English Study Area	Scottish Area	Study Area
Inshore Fisheries and Conservation Authorities (IFCA)	Website with information about fishing and the species in the different regional IFCAs	✓		
Environment Agency	Transitional and Coastal Waters (TraC) Fish Monitoring Programme	✓	✓	
Department of Energy & Climate Change (DECC) (2022)	Offshore Energy Strategic Environmental Assessment 4	✓	✓	



Data Source	Description	Coverage		
		English Study Area	Scottish Area	Study Area
Marine Management Organisation (MMO 2023)	UK Sea Fisheries annual statistics report 2022 and accompanying datasets which includes species catch list for the relevant ICES rectangles. <a href="https://assets.publishing.service.gov.uk/media/6512f96df6746b0012a4ba77/UK_Sea_Fisheries_Statistics_2022_.pdf">https://assets.publishing.service.gov.uk/media/6512f96df6746b0012a4ba77/UK_Sea_Fisheries_Statistics_2022_.pdf</a> Landings statistics for the period 2018- 2022 Aerial surveillance data for the period 2018- 2022	✓	✓	
Vessel Monitoring System (VMS) data	VMS data for the period 2018 - 2022	✓	✓	
EMODnet	Interactive reference website which shows fish abundance and distribution. <a href="http://www.emodnet.eu/biology">http://www.emodnet.eu/biology</a>	✓	✓	
FishBase	Species reference website <a href="http://www.fishbase.org">www.fishbase.org</a>	✓	✓	
NatureScot	An executive non-departmental public body of the Scottish government responsible for the country's natural heritage. <a href="https://www.nature.scot/">https://www.nature.scot/</a>		✓	
Marine Directorate	Scottish Government's Marine Directorate is responsible for managing Scotland's seas and freshwater fisheries <a href="https://marine.gov.scot/">https://marine.gov.scot/</a>		✓	
Scottish Fishermen's Federation	Organisation representing Scottish fishermen <a href="https://www.sff.co.uk/">https://www.sff.co.uk/</a>		✓	
Regional Inshore Fisheries Groups (RIFGs)	Scottish commercial fishers forum to explore local fisheries management initiatives. <a href="https://rifg.scot/">https://rifg.scot/</a>		✓	
JNCC	Species specific data, of native species of conservation interest <a href="https://jncc.gov.uk/resources/uk-bap-list-of-uk-priority-species-jncc-resource-hub">UK BAP List of UK Priority Species   JNCC Resource Hub</a>	✓	✓	
Brown & May Marine Ltd (2023)	Eastern Green Link Three and Four Transmission Reinforcement Cable Projects: Fishing Activity Report	✓	✓	
IUCN	The International Convention for the Conservation of Nature (IUCN) Red List of Threatened Species ( <a href="https://www.iucnredlist.org/">https://www.iucnredlist.org/</a> )	✓	✓	
Eastern Green Link 2 Marine Scheme	Environmental Appraisal report for the EGL 2 project. ( <a href="#">Marine Licence Application - SEGL/Eastern Link 2 HVDC Cable and Cable Protection - Peterhead to Drax - 00009943   Marine Scotland Information</a> )	✓	✓	

### 12.2.3. Additional Studies

#### 12.2.3.1. Commercial Fishing Activity

A study to assess commercial fishing activity was undertaken by Brown and May Marine Ltd in March 2023 to understand the spatial and temporal distribution of fishing activity within the Study Area. Alongside this, and to inform the MEA, interviews with local and regional fisheries stakeholders have been conducted to obtain additional information on fishery statistics such as fishing vessels operating in the area, types and sizes of vessels, fishing gear(s) used, fishing effort, target species, seasonality in effort or species abundance, and location of key grounds. The interviews will be supplemented by a desk-based review of catch and effort statistics. Automatic Identification System (AIS) data from UK and European fishing vessels over 15 m in length and Vessel Monitoring System (VMS) data from UK registered commercial fishing vessels over 12 m in length will also be obtained and interrogated to assess the distribution of fishing effort. Aerial surveillance data gathered by the MMO will also be used to augment a qualitative assessment of the smaller fishing boats operating in the area. Information will also be sought from the relevant IFCA's including Eastern, North-Eastern and Northumberland.



### 12.2.3.2. Fisheries Liaison and Mitigation Action Plan (FLMAP)

A Fisheries Liaison and Mitigation Action Plan will be written which will outline how the Applicants will interact with all the legitimate sea users prior and during any works on the Project. This will be written by Brown & May Marine Ltd who are the Fisheries Liaison Officer (FLO) for the Project.

### 12.2.3.3. Other Relevant Studies

To inform the MEA an Electromagnetic Field (EMF) study and a Sandeel & Atlantic herring habitat assessment will be carried out to inform the fish and shellfish assessment. Although not directly applicable to commercial fisheries these studies inform the assessment of the significance of impacts on fish and shellfish and therefore the implications for commercial fisheries targeting those resources. They are described in full in Chapter 8.

## 12.3. Consultation

Consultation will be undertaken with fisheries stakeholders to supplement the desk-top review and studies. The following bodies will be consulted, as a minimum, to ensure that the most up-to-date information is collated:

*Table 12-2: List of stakeholders to be consulted*

England	Scotland
MMO	MD-LOT
Centre for Environment, Fisheries and Aquaculture Science (Cefas)	NatureScot
Environment Agency	Scottish Environment Protection Agency (SEPA)
National Federation of Fishermen's Organisation (NFFO)	Scottish Fishermen's Federation (SFF)
Inshore Fisheries and Conservation Authority (IFCA) Eastern, North-Eastern and Northumberland.	Scottish Pelagic Fishermen's Association
North Shields Fishermen's Association	Scottish White Fish Producers Association
Individual Fishers	Peterhead Creel Boats Association
	Individual Fishers

## 12.4. Baseline Characterisation

### 12.4.1. Introduction

This section has been split into the following sub-sections to provide an overview of the commercial fisheries baseline in the Study Area:

- General fisheries information
- English baseline characterisation
- Scottish baseline characterisation

It describes the key commercial fisheries along the route of the Project; the local fishing fleet; any fishing restrictions; and provides landings data to contextualise the value of the fishing industry in the region for the purposes of reviewing the proposed scope of the assessment and data collection approach that will be adopted in the MEA.

The section has been informed by the latest publicly available catch statistics available from the MMO (MMO 2023), AIS and VMS data and consultation undertaken by CEA and the FLO for the Project with local fishing organisations and vessels. It should be noted that AIS, VMS and landings data derived from MMO catch statistics only provide a general overview of fishing effort, and do not accurately reflect the effort in the region i.e., not all vessels will carry AIS, and smaller vessels do not directly report landings data to the MMO. However, the Applicants consider that the combination of data and consultation undertaken to inform the MEA would provide an appropriate characterisation of the receiving environment in which the Project will be constructed, which is adequate for the purposes of the MEA.

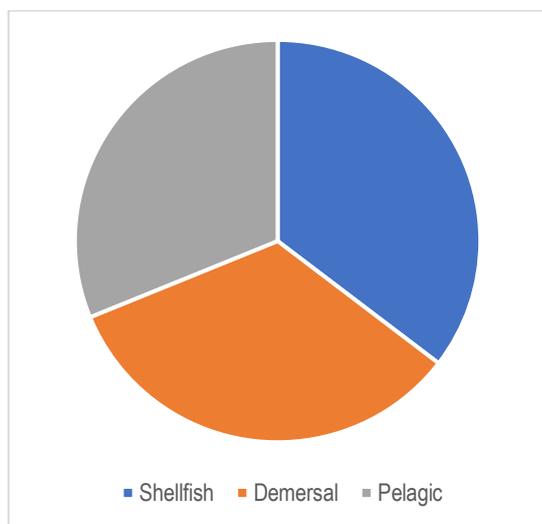


## 12.4.2. General Fisheries Information

The number of fishers working on UK registered vessels is approximately 10,000, a figure which has been decreasing over the last 10 years from approximately 12,000. The number of UK registered vessels has also decreased by 14% in the last 10 years with now only 5541 UK Register vessels. In 2022, UK vessels landed 640 thousand tonnes of sea fish with an overall value of £1.04 billion. This is a decrease of 2% on the quantity caught in 2021, but an increase of 13% in value due the high fish prices particularly shellfish and demersal species. Multiple factors have had an impact on fishing and landings which tend to fluctuate considerably over time. However, since 2020 the largest impact on sea fisheries has been the UK's departure from the EU. This has impacted the stocks the UK fleet had access to fish (MMO, 2023).

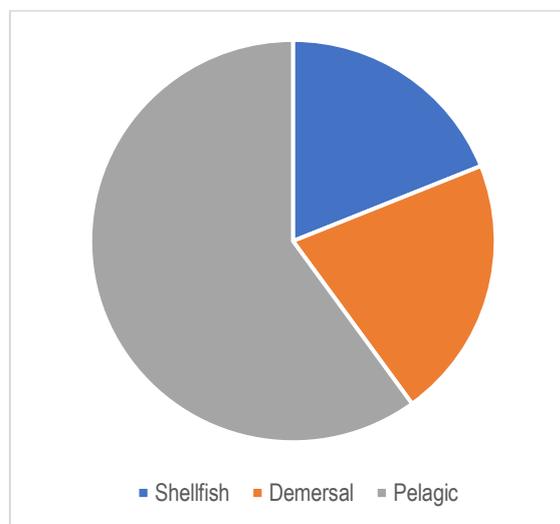
Figure 12-1 illustrates the overall 2022 landings value in £'s, which shows that they are approximately shared equally between the three types of species. Figure 12-2 illustrates the overall 2022 landing by weight in tonnes which shows that the pelagic species catch accounts for 60% but accounted for just under a third of the value. This is due to the lower price for pelagic species.

Figure 12-1: UK 2022 Landing by species type by value



Source: MMO 2023

Figure 12-2: UK 2022 Landing by species type in tonnes



Source: MMO 2023

In 2022, UK vessels landed 245 thousand tonnes of fish overseas, 50% of these were to Norway. This is 38% of the total quantity of fish landed by UK vessels and represents 24% of the value of all fish landed by UK vessels. Most landings abroad are of pelagic fish species accounting for 90% of landings, 52% of which was mackerel.

### 12.4.2.1. Overview of Fisheries along the Project

The Project crosses several different commercial fishing areas. To enable accurate monitoring of commercial fisheries the sea is divided into ICES Rectangles (ICES, 2022). The Project lies within 12 of these rectangles, namely 35F0, 36F0, 37F0, 38E9, 38F0, 39E9, 40E9, 41E9, 42E8, 42E9, 43E8 and 44E8. Of these 12 rectangles seven are within English waters, four are in Scottish waters and one is in both English and Scottish waters. Analysis of the fishing data for these 12 rectangles has been used as an indication of the commercial fish species caught in these regions.

The North Sea is home to important fishing grounds used not only by the local English and Scottish fleet but also by international vessels from Belgium, the Netherlands, Denmark, France, Ireland, Spain and Germany. However, the majority of this occurs in ICES rectangles next to the Projects Scoping Boundary further offshore.

### 12.4.2.2. Shellfish

The Shellfish industry within the North Sea is very important and contributes to over 86% of the catch values in both the English and Scottish Study Areas. The majority of shellfish caught is by using static gear such as pots/creels and traps which target species such as crabs (*Cancer pagurus* and *Necora puber*), lobsters (*Homarus gammarus*) and whelks (*Buccinum undatum*).

Other shellfish species such as nephrops also known as Norway Lobster (*Nephrops norvegicus*), squid (*Alloteuthis subulata*), and octopus (*Octopus vulgaris*) are caught using demersal trawl gear. It should be noted that fishers are required to have licenses to catch shellfish which is obtained from the MMO in England and the Marine Directorate in Scotland. Beam trawl gear is also used to target brown shrimp (*Crangon crangon*) and Aesop shrimp (*Pandalus montagui*); although primarily in ICES rectangle 35F0.



King Scallop (*Pecten maximus*) is another highly targeted species within the Study Area which are caught using dredge gear. It should be noted that scallop fishery is cyclical in nature with the production grounds rotating around the UK on a seven-to-eight-year cycle. Due to the cyclical nature other cable and offshore wind farm projects within the study area have been asked to gather and analyse data over an eight-year period to be able to monitor them more effectively. Scallops are one of the most targeted shellfish by the Scottish fishers and it is the top species caught by weight and value in ICES rectangle 42E8 within the Scottish Study Area. The main landing ports for scallops in the Scottish Study Area are Fraserburgh and Peterhead.

Cockle fishing (*Cerastoderma edule*) is an important and highly valuable part of the commercial fishing industry in the region with highly productive cockle grounds in The Wash. The main landing ports for cockles are at Boston and Kings Lynn. The Wash Cockle Fishery is regulated by the Eastern Inshore Fisheries and Conservation Authority (EIFCA) which has set times when cockle fishing is permitted and strict Total Allowable Catch (TAC) set for the year (EIFCA, 2019). Permits are required to fish cockles in this area. They can be caught using various methods including dredge, other mobile gears and pots and traps, this is primarily in ICES rectangle 35F0 which is within the English Study Area.

Table 12-3 illustrates shellfish catch seasonality within the Study Area.

Table 12-3: Shellfish catch seasonality

Feature	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Cockles	High	High	High	High	Low	Low	Low	Low	High	High	High	High
Crabs	High	High	High	Low	Low	Low	High	High	High	High	High	High
Lobster	Low	Low	Low	Low	Low	High	High	High	High	Low	Low	Low
Scallops	Low	Low	High	High	High	High	High	High	High	High	High	High
Whelks	High	High	High	High	High	High	High	High	Low	Low	Low	Low

Key	High Season	Low Season
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Source: Direct Seafoods (2023)

Analysis of landings data (MMO, 2023) shows that the port of Bridlington, is the most important port for shellfish in the English Study Area and Fraserburgh in the Scottish Study area. Landings peak during the period from July to October in Bridlington. Landings peak during the period from May to June and then again in December in Fraserburgh.

#### 12.4.2.3. Demersal Fish

A variety of demersal (bottom contact) trawl gear methods are used in the North Sea to target demersal whitefish species such as whiting (*Merlangius merlangus*), haddock (*Melanogrammus aeglefinus*), halibut (*H. hippoglossus*), sole (*Solea solea*), cod (*Gadus morhua*), and plaice (*Pleuronectes platessa*). They are fished not only by the UK fleet but also by international vessels from Belgium, the Netherlands, Denmark, France, Ireland, Spain and Germany.

Beam trawling is used in the North Sea by UK registered vessels for catching brown shrimp, however they are more commonly used by the Belgian vessels and occasionally by the Dutch vessels. Fly seine netting is a more recent alternative to the traditional heavy beam trawling due to the depleted fish stocks. Bottom drift nets are rarely used by the UK fleet nowadays with very limited catches using this gear type.

Analysis of landing data (MMO, 2023) shows that the port of North Shields is the most important port for landings of demersal whitefish caught within the English Study Area and similarly for Peterhead in the Scottish Study area. Landings peak during the period from September to December in North Shields. Landings peak during the period from May to July and then again in October and November in Peterhead.

#### 12.4.2.4. Pelagic Fish

The North Sea pelagic catch are shoaling fish species such as herring (*Clupea harengus*), mackerel (*Scomber scombrus*) and horse mackerel (*Trachurus trachurus*). They are caught using demersal seine and demersal trawl gears, but primarily handlines. Many of the large catches of herring are landed in Norway and the Netherlands rather than UK ports, however Peterhead is the most landed port within the UK. Landings at Peterhead peak during August and September and accounts for 92% of all pelagic catch over the year.



### 12.4.3. English Baseline Characterisation KP 0 – KP 431.4

The Scoping Boundary within English waters crosses seven ICEA rectangles (35F0, 36F0, 37F0, 38E9, 38F0, 39E9, 40E9) and one which covers both the English and Scottish Study Areas (41E9). For the purpose of this scoping report 41E9 has been included within the data for the English baseline.

#### 12.4.3.1. Key Fishery Types

Five key fishery types have been identified along the proposed submarine cable corridor. Table 12-4 shows the KP points where the types of gear are predominantly used along the proposed submarine cable corridor within the English Study Area.

Table 12-4: Key fisheries that spatially overlap with the English Scoping Boundary

Fishery	Gear Type	KP points - spatial overlap between the fishery and the Project
1	Static Gears	KP 0 – KP 6, KP 12 – KP 256, KP 262 – KP 279, KP 285 – KP 290, KP 292 – KP 294, KP 298 – KP 311, KP 315 – KP 321 T_KP 0 – T_KP 17 H_KP 0 – H_KP 40.5
2	Dredging	KP 58 – KP 72, KP93 – KP 96, KP 99 – KP 104, KP 138 – KP 142, KP 146 – KP 164, KP 170 – KP 175, KP 182, KP 188 – KP 193, KP 205 – KP 211, KP 303 – KP 309, KP 323 – KP 338 T_KP 0 – T_KP 4, T_KP 6.5 – T_KP 12 H_KP 2 – H_KP 3, H_KP 8 - H_KP 32
3	Pelagic Trawl	KP 24 – KP 31, KP 35 – KP 38, KP 84 – KP 94, KP 96 – KP 112, KP 113 – KP 270, KP 274 – KP 279, KP 293 – KP 298, KP 303 – KP 355, KP 416 – KP 422 T_KP 13 – T_KP 17 H_KP 38 – H_KP 40.5
4	Bottom Otter Trawl	KP 0 – KP 2, KP 38 – KP 45, KP 47 – KP 52, KP 61 – KP 68, KP 96 – KP 112, KP 113 - KP 285, KP 294 – KP 298, KP 303 – KP 332, KP 361 – KP 362, KP 383 - KP 416 T_KP 0 – T_KP 4 H_KP 38 – H_KP 40.5
5	Beam Trawling	KP 0 – KP 6, KP 7 0 - KP 14, KP 16 – KP 18, KP 120 – KP 127, KP 136 – KP 138, KP 142 – KP 145, KP 147 – KP 164, KP 170 – KP 175, KP 182, KP 220 – KP 225, KP 238 – KP 249, KP 254 – KP 256 T_KP 0 – T_KP 7 H_KP 10 – H_KP 14, H_KP 23 – H_KP 26

T\_KP refer to the submarine cable corridor option to the proposed landfall site at Theddlethorpe.  
 H\_KP refer to the submarine cable corridor option that crosses the Holderness Offshore MCZ.

#### 12.4.3.2. English Commercial Fisheries

The UK fishing industry is worth over £1 billion from a catch of over 640,000 tonnes, it is therefore an important part of the economy and as such is regulated by the government. The MMO registers all UK vessels on a monthly basis. The fleet is split into two categories; under 10 m in length and over 10 m in length. UK registered fleet of vessels under 10 m in length comprises 3827 vessels as of August 2023 (MMO, 2023a). Of this, 2574 vessels are licensed to catch shellfish equating to 67% of vessels. Of the under 10 m vessels 1933 vessels are registered as English with the remainder registers as Welsh, Scottish or Northern Irish.

The UK registered fleet of vessels over 10 m in length comprises 1028 vessels as of August 2023 (MMO, 2023b). Of this, only 323 vessels are licensed to catch shellfish which is 31% of the over 10 m vessels. The other 69% vessels target demersal or pelagic species. Of the vessels over 10 m, 437 are registered as English with the remainder registers as Welsh, Scottish or Northern Irish.

Table 12-5 shows the overall catch information for the UK in 2022 broken down by species type of percentage of overall catch, weight and catch value.



Table 12-5: Overall catch information for the UK in 2022

Species Type	Percentage	Catch weight in tonnes	Catch value in £
Demersal	21 %	135,000	350 million
Pelagic	60%	384,000	332 million
Shellfish	19%	121,000	377 million

The English fleet operates from ports all around England, with the three key ports being Newlyn with a catch value of over £38 million, Brixham £45 million, and Shoreham £18 million. Newlyn being the most important in terms of quantity; and Brixham most important in terms of value.

Figures 12-3 and 12-4 show the top 5 ports within the English Study Area with catch values for vessels under 10 m and over 10 m in length respectively.

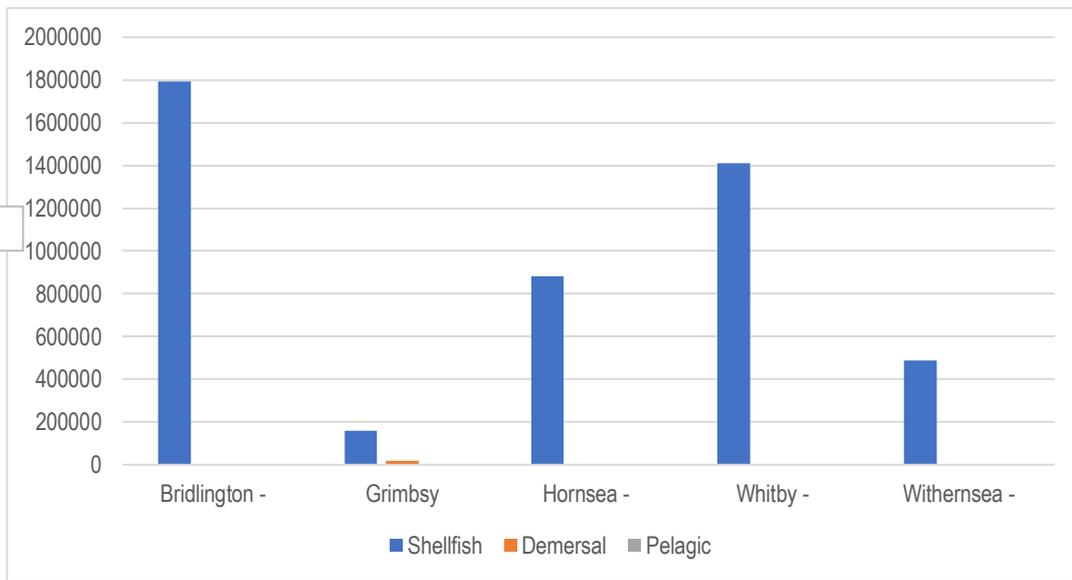


Figure 12-3: Top 5 ports in the English Study Area for under 10 m vessel catches: Source: MMO (2023)

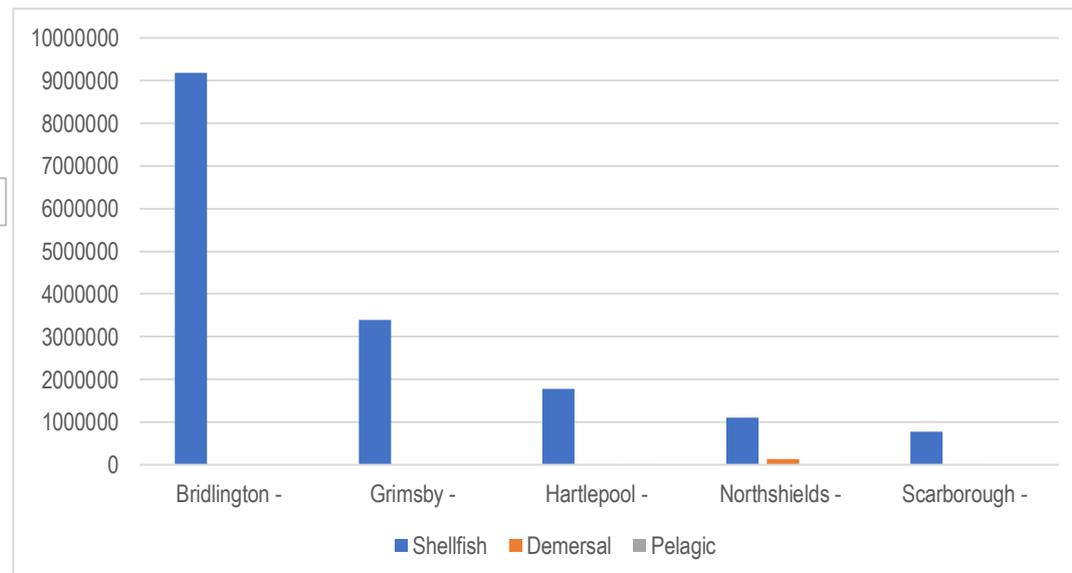


Figure 12-4: Top 5 Ports in the English Study Area for over 10 m Vessel catches. Source: MMO (2023)



### 12.4.3.3. Local Fishing Fleet England

UK vessels of less than 17 m in length and with less than 300 hp (221 kW) are permitted to fish inside the 6-mile fishery limit, with some fishing restrictions. Based on the MMO's UK Fishing Vessel Registry list from August 2023, it is estimated that there are total of 343 registered and licensed fishing vessels operating in the vicinity of the English Study Area. Of these vessels 252 were under 10 m in length and are not currently required to have VMS onboard.

224 of the under 10 m vessels hold licenses to fish shellfish which accounts for 88% of the fleet. 91 vessels are over 10 m in length 46 of these have shellfish licences, which is 50% of the fleet. Additionally, four vessels have licenses to dredge for Scallops. This correlates with the catch figures that Shellfish is the most caught species within the Study Area, see Figure 12-1 and Figure 12-2.

Consultation with the local fisheries has identified that there are approximately 20-25 vessels actively fishing along the English section of the proposed submarine cable corridor.

### 12.4.3.4. Overview of English Landings Data within the Study Area

A high-level review of landings data from 2018 to 2022 across the eight ICES rectangles relevant to the English Study Area, provided information on the economic importance of different commercial fish species.

Over the 5-year period (2018 to 2022) over 60,000 tonnes of fish were landed with a value of over £125 million (Table 12-6). Of this value, £28 million was landed by under 10 m vessels with the remaining £96 million landed by the over 10m fleet. Approximately 96% of the total value of landings from all eight rectangles were represented by shellfish. This table shows that there is a lot of annual variability on the catch in terms weight and value, this is reflected in the average value per tonne whereby up until 2022 the price had been steadily decreasing. However, the UK Sea Fisheries Statistics 2022, written by the MMO, note that there has been an overall increase of 13% in the average value per tonne in 2022 due to higher fish prices.

Table 12-6: Annual catch value from 2018 to 2022 for ICES Rectangles within English Study Area

Year	Live Weight (Tonnes) 10m or under	Live Weight (Tonnes) over 10m	Value (£) Under 10m	Value (£) Over 10m	Average Value per tonne (£/tonne)
2018	2439	6255	£5,647,023.00	£17,078,711.00	2613
2019	2402	7603	£5,885,236.00	£19,215,270.00	2508
2020	2241	7651	£4,439,530.00	£13,734,577.00	1837
2021	1908	22338	£6,609,234.00	£27,079,979.00	1389
2022	1257	6669	£5,731,498.00	£19,637,014.00	3200
<b>Total for 5yr period</b>	<b>10247</b>	<b>50516</b>	<b>£28,312,521.00</b>	<b>£96,745,551.00</b>	<b>2058</b>
<b>Average</b>	<b>2049 t</b>	<b>10103 t</b>	<b>£5,662,504.00</b>	<b>£19,349,110.00</b>	

Source: MMO 2023

As mentioned in Section 12.4.2 the fishing industry uses various types of fishing gear. Table 12-7 presents the annual catch value by gear type within the English Study Area. This table shows that the over the last five years pots and traps have the greatest value, which as shown in other sections of the report demonstrates how important the shellfish industry is to the North Sea.

Table 12-7: Annual catch value from 2018 to 2022 by Gear Type for ICES Rectangles within the English Study Area

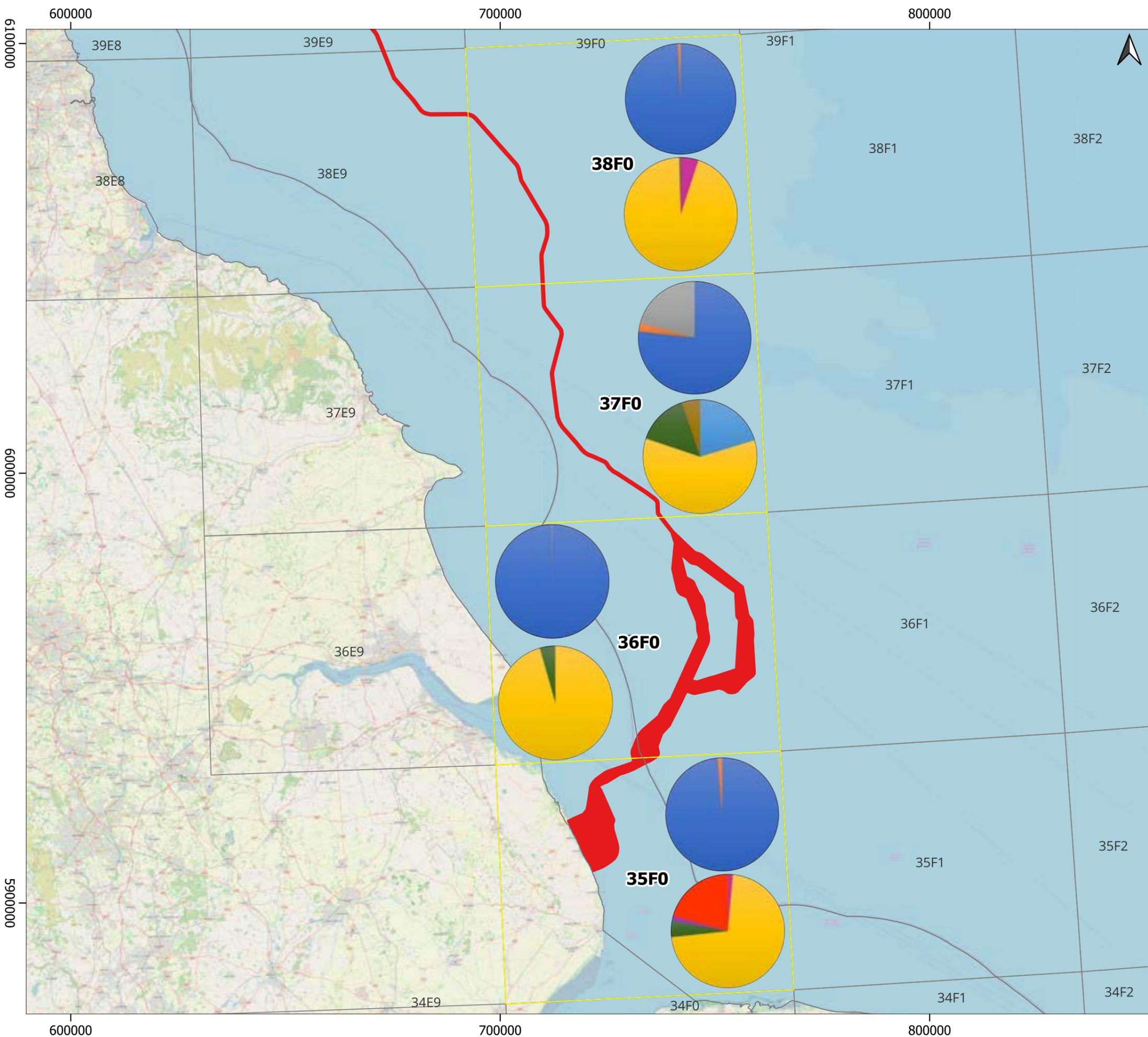
Year	Otter Trawl **	Demersal Trawl	Pelagic Trawl	Pots and Traps	Dredge	Drift and Fixed Nets	Demersal seine	Pelagic Seine	Gears using hooks	Beam Trawl	Other mobile gears
2018	1211783			17038096	3210883	2583	1546		9310	662826	588018
2019	4337963			17779750	2566101	10	69792		6503	121337	219049
2020	2868385			12646717	1057106	4145	709500		5673	220984	661594
2021		1448397	10351186	20374389	2890682	1991	336862	47347		145476	912866
2022		2519222	790384	19845867	1590057	14730	186185	14705		128202	279155
<b>Total</b>	<b>£8,418,131.00</b>	<b>£3,967,619.00</b>	<b>£11,141,570.00</b>	<b>£87,684,819.00</b>	<b>£11,314,829.00</b>	<b>£23,459.00</b>	<b>£1,303,885.00</b>	<b>£62,052.00</b>	<b>£21,486.00</b>	<b>£1,278,825.00</b>	<b>£2,660,682.00</b>

Source: MMO 2023

\*\* the MMO statistics for 2018 – 2020 combine Demersal and Pelagic trawl gears and call it Otter Trawl.



To illustrate this information further Figure 12-5 (Drawing C1494a-EGL3-FISH-006), which shows rectangles 35F0, 36F0, 37F0 and 38F0, and Figure 12-6, (Drawing C1494a-EGL3-FISH-007), which shows rectangles 38F0, 38E9, 39E9, 40E9 and 41E9, presents the fishing activity by species type and by gear type in 2022.



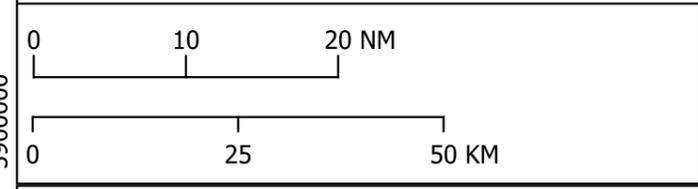
**Annual Catch by Gear and Species Type in English Study Area - Map 1**

**C01494a-EGL3-FISH-006-C**



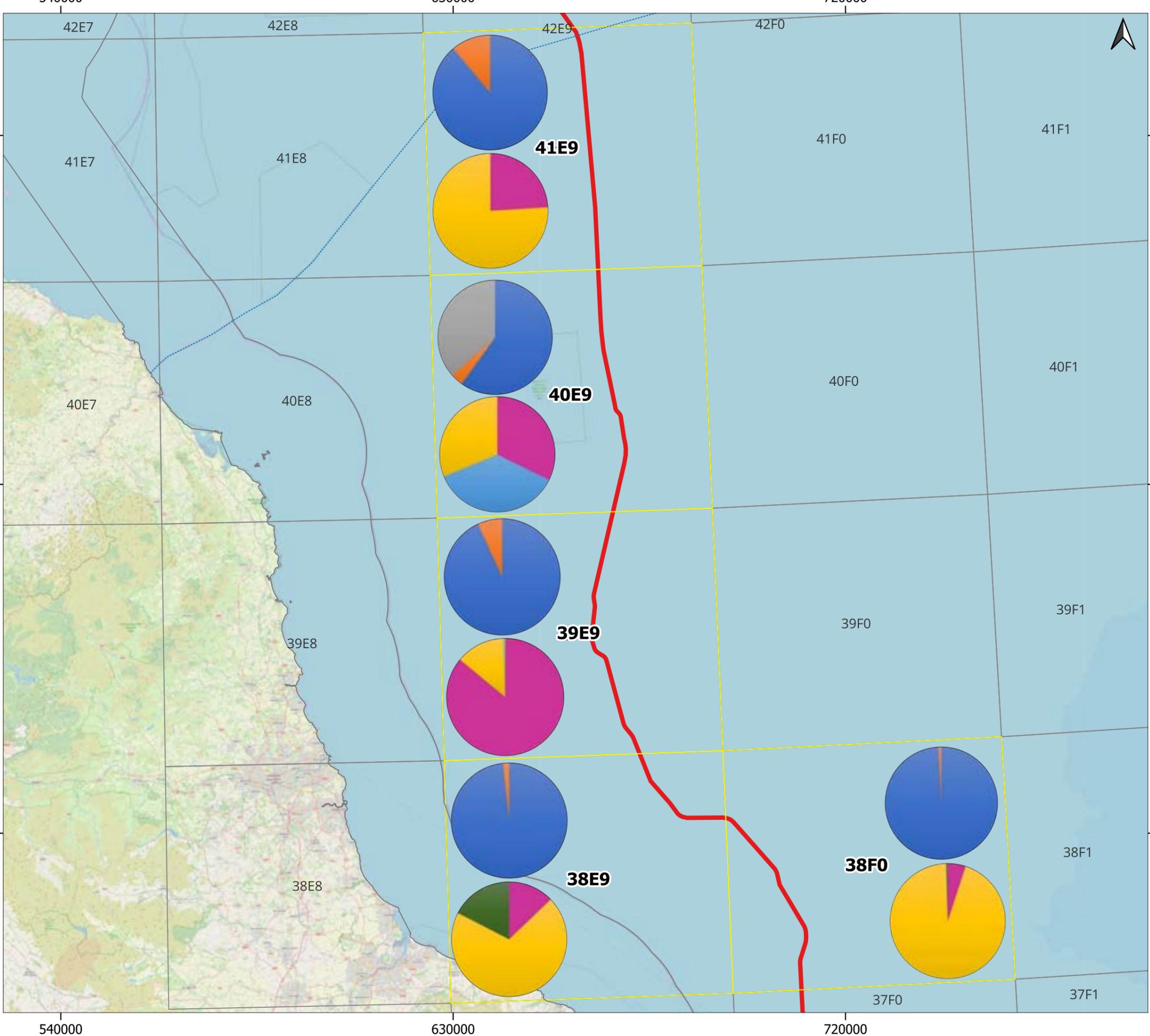
- 12NM Limit
- EGL 3 Scoping Boundary
- ICES Statistical Rectangles
- ICES Statistical Rectangles Intersected by the Scoping Boundary

- | Gear Type            | Type of Fishing |
|----------------------|-----------------|
| Demersal seine       | Demersal        |
| Pelagic seine        | Pelagic         |
| Demersal trawl       | Shellfish       |
| Pelagic trawl        |                 |
| Pots and traps       |                 |
| Beam trawl           |                 |
| Drift and fixed nets |                 |
| Dredge               |                 |
| Gears using hooks    |                 |
| Other mobile gears   |                 |



<b>Date</b>	19/10/2023
<b>Coordinate System</b>	ETRS89 / UTM Zone 30N
<b>Projection</b>	Universal Transverse Mercator (UTM)
<b>Unit</b>	Meters
<b>Scale at A3</b>	1:860,000
<b>Created</b>	EP
<b>Reviewed</b>	DS
<b>Authorised</b>	AF

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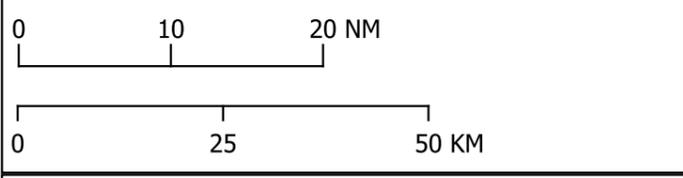
**Annual Catch by Gear and Species Type in English Study Area - Map 2**

**C01494a-EGL3-FISH-007-C**



- ⋯ Scottish Adjacent Waters
- 12NM Limit
- EGL 3 Scoping Boundary
- ICES Statistical Rectangles
- ICES Statistical Rectangles Intersected by the Scoping Boundary

- | Gear Type  | Type of Fishing   |
|--|---|
| <span style="display: inline-block; width: 10px; height: 10px; background-color: #808000; margin-right: 5px;"></span> Demersal seine       | <span style="display: inline-block; width: 10px; height: 10px; background-color: #FF8C00; margin-right: 5px;"></span> Demersal  |
| <span style="display: inline-block; width: 10px; height: 10px; background-color: #90EE90; margin-right: 5px;"></span> Pelagic seine        | <span style="display: inline-block; width: 10px; height: 10px; background-color: #4169E1; margin-right: 5px;"></span> Shellfish |
| <span style="display: inline-block; width: 10px; height: 10px; background-color: #E91E63; margin-right: 5px;"></span> Demersal trawl       | <span style="display: inline-block; width: 10px; height: 10px; background-color: #A9A9A9; margin-right: 5px;"></span> Pelagic   |
| <span style="display: inline-block; width: 10px; height: 10px; background-color: #6495ED; margin-right: 5px;"></span> Pelagic trawl        |   |
| <span style="display: inline-block; width: 10px; height: 10px; background-color: #FFD700; margin-right: 5px;"></span> Pots and traps       |   |
| <span style="display: inline-block; width: 10px; height: 10px; background-color: #8A2BE2; margin-right: 5px;"></span> Beam trawl           |   |
| <span style="display: inline-block; width: 10px; height: 10px; background-color: #191970; margin-right: 5px;"></span> Drift and fixed nets |   |
| <span style="display: inline-block; width: 10px; height: 10px; background-color: #228B22; margin-right: 5px;"></span> Dredge               |   |
| <span style="display: inline-block; width: 10px; height: 10px; background-color: #FFA07A; margin-right: 5px;"></span> Gears using hooks    |   |
| <span style="display: inline-block; width: 10px; height: 10px; background-color: #FF4500; margin-right: 5px;"></span> Other mobile gears   |   |



<b>Date</b>	19/10/2023
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<b>Unit</b>	Meters
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<b>Created</b>	EP
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#### 12.4.3.5. Landings by Weight and Value English Study Area

In terms of annual landed weight in 2022 within the English Study Area, shellfish is the largest target species representing almost 80% of the overall catch. Demersal fishing only accounted for approximately 2.5% and pelagic fishing approximately 17.5%. However, in terms of catch value, shellfish account for over 96% with demersal and pelagic coming in at 0.9 and 2.3% respectively. These figures again show how important shellfish fishing in the North Sea is.

Table 12-8 shows the top five species caught within the English Study Area. Of the eight rectangles analysed, only one rectangle which had a non-shellfish species as the top species (herring in 40E9). For all the remaining rectangles, the top valued catch species were either crabs (C.P.Mixed Sexes) in 35F0, 37F0, 38F0 and 41E9, lobsters in 36F0 and 38E9 or nephrops in 39E9.

In terms of high value species, lobster and halibut are the top species followed by nephrops and squid within the North Sea and specifically the English Study Area.

Table 12-8: Top five landed species by value (£) in 2022 in ICES Rectangles within English Study Area

		ICES Rectangles				
		35F0	36F0	37F0	38E9	38F0
Landed Species	1	Crabs (C.P.Mixed Sexes)	Lobster	Crabs (C.P.Mixed Sexes)	Lobster	Crabs (C.P.Mixed Sexes)
	2	Cockles	Crabs (C.P.Mixed Sexes)	Lobster	Crabs (C.P.Mixed Sexes)	Lobsters
	3	Whelks	Scallops	Herring	Scallops	Nephrops
	4	Lobster	Whelks	Scallops	Nephrops	Halibut
	5	Brown shrimp	Velvet crab	Squid	Monks and Anglers	Scallops
		<b>39E9</b>	<b>40E9</b>	<b>41E9*</b>		
	1	Nephrops	Herring	Crabs (C.P.Mixed Sexes)		
	2	Lobsters	Nephrops	Lobsters		
	3	Crabs (C.P.Mixed Sexes)	Crabs (C.P.Mixed Sexes)	Nephrops		
	4	Monks and Anglers	Lobster	Haddock		
5	Halibut	Halibut	Monks and Anglers			

Source: MMO 2023

\* ICES Rectangle 41E9 is in both English and Scottish territorial waters

It should be noted that species and quantities of fish caught vary considerably not only by location but also annually. Figure 12-7 describes the number of different species caught within each of the ICES rectangles within the English Study Area during a five-year period from 2018 to 2022. Within rectangles 35F0, 38E9, 39E9 and 40E9 there has been an increase in the different number of species caught. In rectangles 36F0, 37F0 and 41E9 there has been a fairly gradual increase in different species however a drop in 2022 of at least 7 species. 38F0 has had a fairly constant number of species with the exception of 2019 where there was a drop.

This graph does not show any specific trend in the number of species being caught but does illustrate how much it can vary.

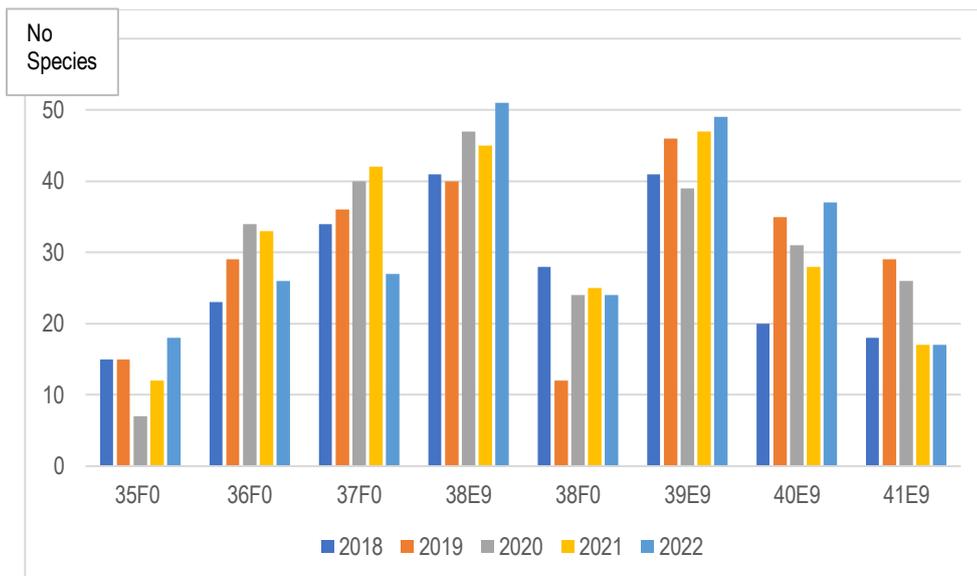


Figure 12-7: Chart showing the number of different species caught within the English Study Area between 2018 and 2022. Source: MMO (2023)

#### 12.4.3.6. Temporal Trends

Despite a reduction in vessel numbers over the last decade and reductions in fish quotas for all EU member state fishing fleets, it is considered unlikely that there will be any significant change to fishing effort and activity in the North Sea fishing grounds and in the vicinity of the Project in the near future.

The majority of the local fishing fleet rely on pots and traps for shellfish and trawling for demersal and pelagic species. As a result, coastal waters have seen an increase in the deployment of static gear to fulfil the market for shellfish.

#### 12.4.3.7. Restricted Fishing Areas England

The submarine cable corridors near the English landfalls go through or within proximity of areas which have fishing restrictions. These are either put in place by the regional IFCA or by the MMO. Figure 12-8 (Drawing C01494a-EGL3—FISH\_009) illustrates the areas where fishing is restricted.

#### EIFCA Byelaw areas

Byelaw 3 – Molluscan Shellfish methods of Fishing which requires Fishers to request authorisation for a license to fish shellfish in these areas (EIFCA, 2023).

Byelaw XXIV: Humber Estuary Cockles Fishery - provisions of this Byelaw state no person shall take, remove or disturb any cockle unless that person holds a current permit issued by the Committee (EIFCA, 2023a).

Whelk Permit Byelaw 2016 - The byelaw requires whelk fishers to have a permit to fish for whelks and to fish in accordance with flexible permit conditions. Whelk permits are issued annually and expire on the 31st of March each year, regardless of when fishers applied or received a permit. (EIFCA, 2023b)

#### NEIFCA Byelaw areas

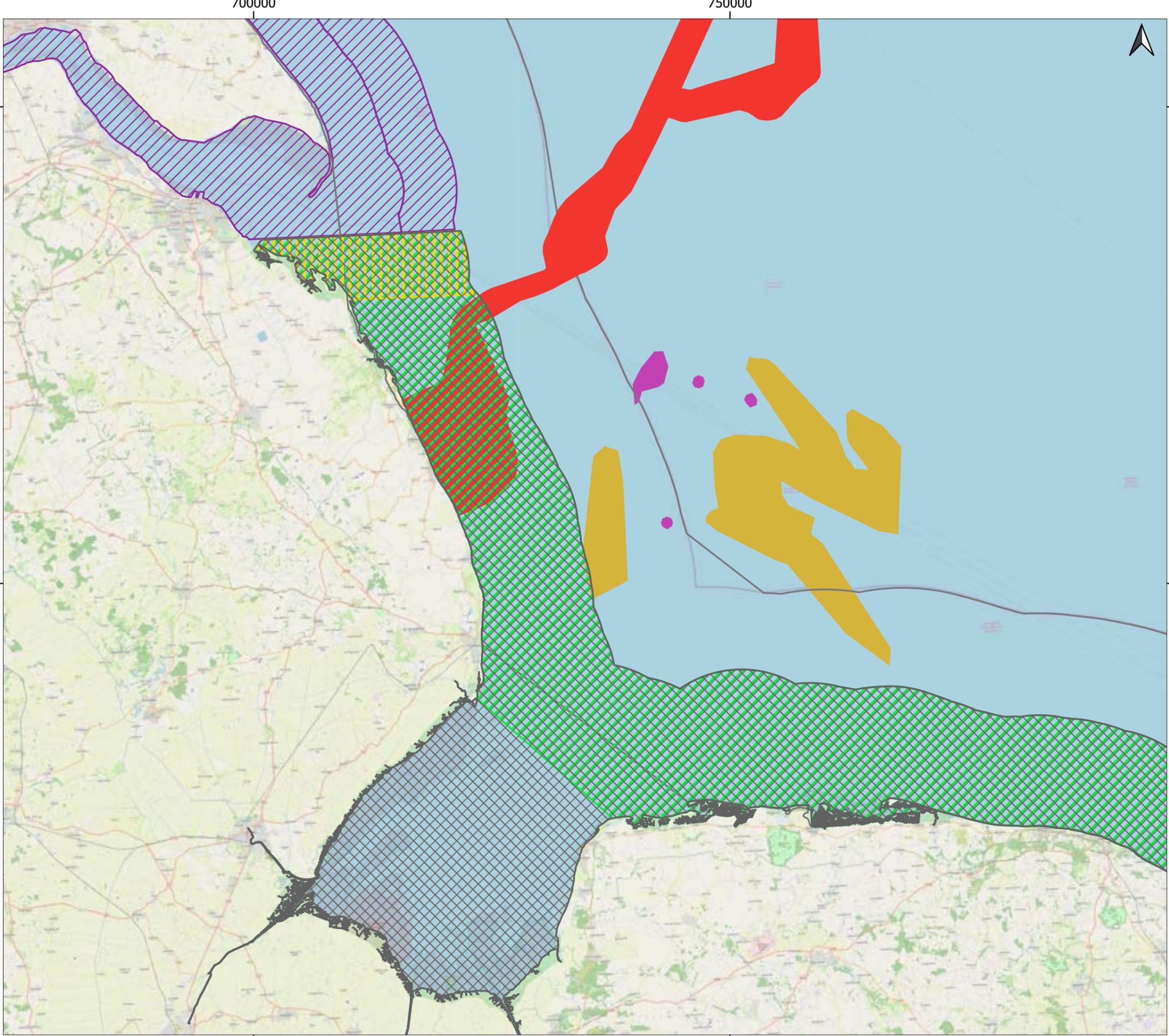
Seine Net, Draw Net or 'Snurrevaad': Prohibition of. Byelaw IV - No person shall use in fishing for sea fish any seine net or any draw net of the kind known as the Danish seine or 'Snurrevaad'. (NEIFCA, 2023)

Permit to Fish for Lobster, Crab, Velvet Crab and Whelk Byelaw XXII - No person shall fish for or take any of the following specified kinds of sea fish: Lobster (*Homarus gammarus*), Crab (*Cancer pagurus*), Velvet Crab (*Necora puber*), or Whelk (*Buccinum undatum*), within the area of the North Eastern Sea Fisheries Committee District except under a specified permit issued by the Committee (NEIFCA, 2023a)

#### MMO

Inner Dowsing Race Bank and North Ridge SAC 2022 – Towing. Which says that the use bottom towed fishing gear is prohibited within a specified reef or sandbank area (gov.uk, 2022).

Farne Deepes Fishing Restrictions – Which says Vessels deploying demersal trawls and seines (with the exception of beam trawls) are prohibited from fishing in the Farne Deepes. Mesh restrictions apply (Gov.uk, 2023).

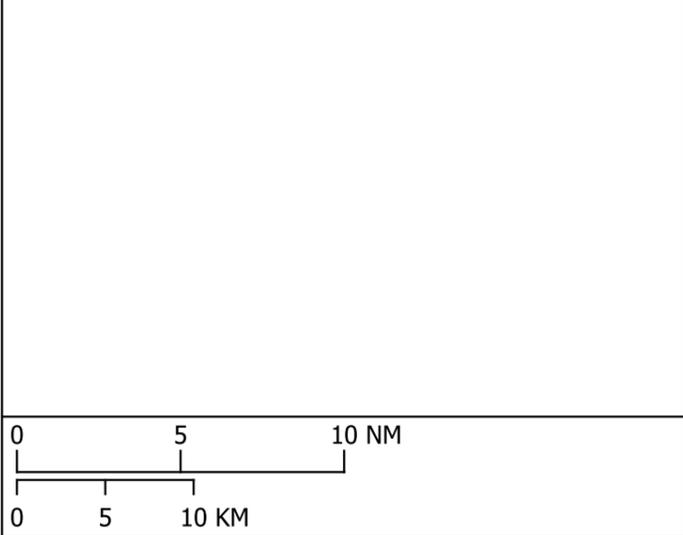


**Restricted Fishing Areas within Proximity of the English Landfall**

**C01494a-EGL3-FISH-009-C**



- 12NM Limit
- EGL 3 Scoping Boundary
- Byelaw 3: Molluscan Shellfish Methods of Fishing
- Byelaw 24: Humber Estuary Cockles Fishery
- Whelk Permit Byelaw 2016
- Byelaw 28 Crustacea Conservation
- MMO Marine Conservation Byelaws**
- Bottom Towed Fishing/ Subtidal Sandbank Communities
- Bottom Towed Fishing-Static Gear/ Biogenic Reef



<b>Date</b>	13/11/2023
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<b>Created</b>	J Cunningham
<b>Reviewed</b>	D Summers/ S Pearce
<b>Authorised</b>	A Farley
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#### 12.4.4. Scottish Baseline Characterisation KP 431.4 – KP 575.3

The Scoping Boundary crosses four ICEA rectangles which are solely within the Scottish Study Area, namely 42E8, 42E9, 43E8 and 44E8.

##### 12.4.4.1. Key fishery types

Table 12-9 shows the KP points where the types of gear are predominantly used along the proposed submarine cable corridor within the Scottish Study Area.

Table 12-9: Key fisheries that spatially overlap with the Scottish Scoping Boundary

Fishery	Gear Type	KP points - spatial overlap between the fishery and the Project
1	Static Gears	KP 453 – KP 457, KP512 – KP 514, KP 520 – KP 524, KP 532 – KP 535, KP 548 – KP 575
2	Dredging	KP 495 – KP 572
3	Pelagic Trawl	KP 472 – KP 477, KP 482 – KP 489, KP 495 – KP 498, KP 501 – KP 508, KP 512 – KP 520, KP 528, KP 544 – KP 550, KP 555 – KP 558, KP 562 – KP 572
4	Bottom Otter Trawl	KP 434, KP 440, KP 446 – KP 487, KP 501 – KP 506, KP 514 – KP 518, KP 528 – KP 532, KP 535 – KP 548, KP 550 – KP 554, KP 562, KP 566 – KP 572
5	Beam Trawling	-

##### 12.4.4.2. Scottish Commercial Fisheries

Of the 3827 under 10 m long vessels registered in the UK, 1421 vessels are registered as Scottish. 465 of the 1028 UK vessels over 10 m in length are Scottish registered.

The Scottish fleet operate from ports all around mainland Scotland and the Scottish islands. The primary port for both catch weight and catch value is Peterhead which has takings that are three times higher than any other port in Scotland of over £192 million. Other high value Scottish ports are Lerwick at £61 million, Scrabster at £39 million and Fraserburgh at £31 million catch values.

Figures 12-9 and 12-10 show the top five ports within the Scottish Study Area with catch values for vessels under 10 m and over 10 m in length respectively.

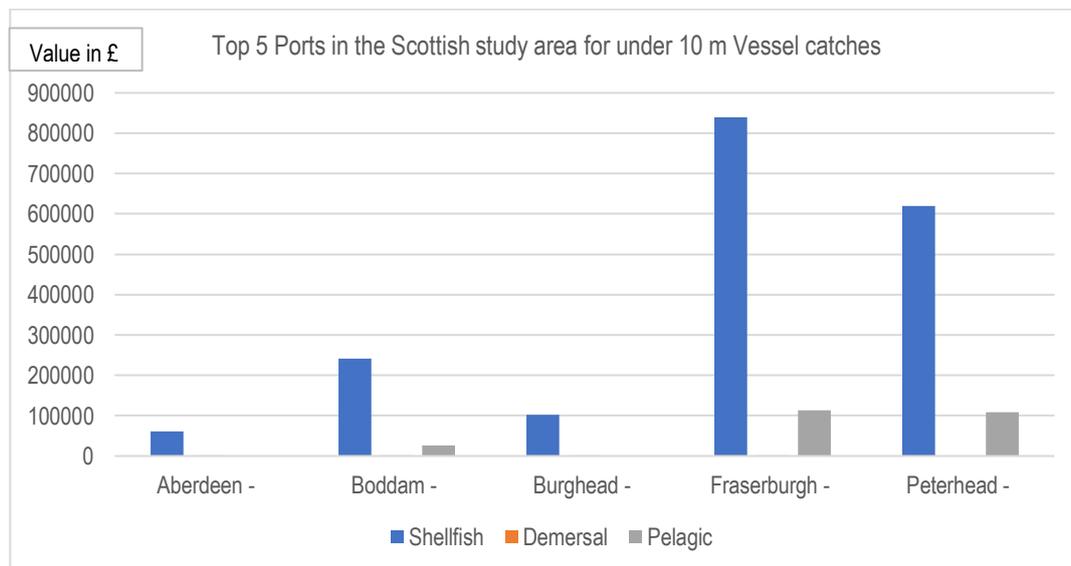


Figure 12-9: Top 5 ports in the Scottish Study Area for under 10 m vessel catches. Source: MMO (2023)

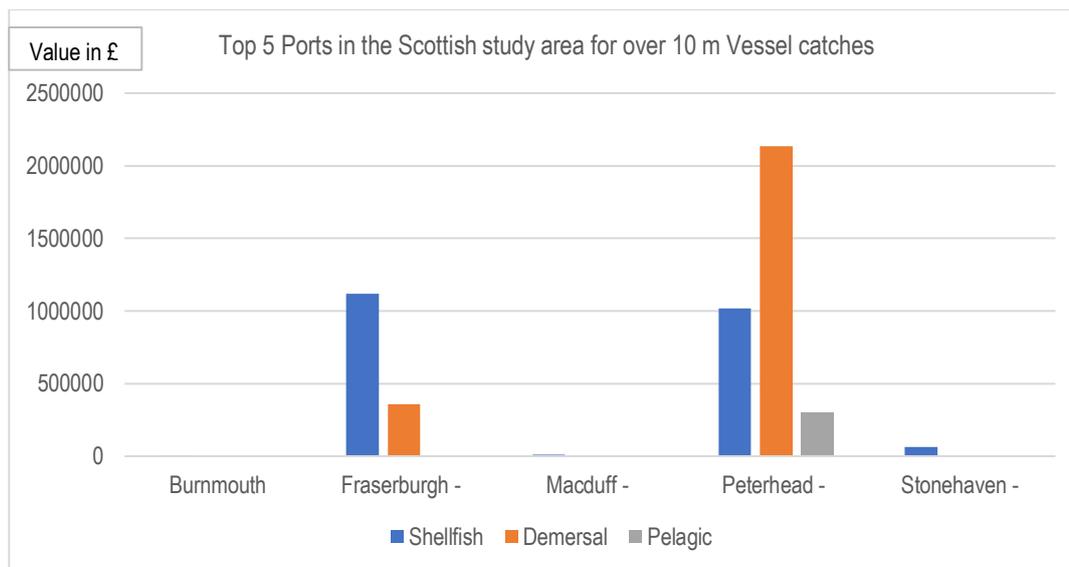


Figure 12-10: Top 5 ports in the Scottish Study Area for over 10 m vessel catches. Source: MMO (2023)

#### 12.4.4.3. Local Fishing Fleet Scotland

Based on the MMO’s UK Fishing Vessel Registry list from August 2023, it is estimated that there are a total of 419 registered and licensed fishing vessels operating in the vicinity of the Scottish Study Area. Of these vessels 280 were under 10 m in length and 139 are over 10 m. As with the English fleet the majority (243), of the under 10 m vessels hold a Shellfish license which equates to 86% of the vessels. Lobster and crabs are typically caught in pots which are referred to as creels in Scotland and northeast England. This vessel information correlates with the catch information shown in Figure 12-11.

Of the vessels over 10 m, only 12 hold shellfish licenses equating to only 8% of the fleet and 10 hold a scallop license which equates to 7% of the fleet. This data correlates with the catch data which shows that there are more demersal and pelagic catches within the Scottish study area for vessels over 10 m.

Consultation with the local fisheries and individual fishers has confidentially identified the number of vessels actively fishing along the Scottish section of the proposed submarine cable corridor.

#### 12.4.4.4. Overview of Scottish Landings Data within the Study Area

The Scottish Study Area is located within four ICES rectangles, namely 42E8, 42E9, 43E8 and 44E8. A high-level review of landings data from 2018 to 2022 provided information on the economic importance of different commercial fish species.

Within the Scottish Study Area over the 5-year period (2018 to 2022), 18,764 tonnes of fish were landed with a value of over £36 million (Table 12- 10). Of this value, £11 million was landed by under 10 m vessels with the remaining £25 million landed by the over 10 m vessel fleet. 50% of the total value of landings from all four rectangles were represented by the demersal catch. As with the English Study Area there is a lot of annual variability in terms of catch weight and value. The average catch value is lower than within the English Study Area due to the majority of the catch being demersal species, which are not as highly valued as shellfish.

Table 12-10: Annual catch value from 2018 to 2022 for ICES Rectangles in Scottish Study Area

Year	Live Weight (Tonnes) under 10m vessels	Live Weight (Tonnes) over 10m vessels	Value (£) Under 10m	Value (£) Over 10m	Value per tonne (£/tonne)
2018	746	3114	£2,224,411.00	£4,500,011.00	1742
2019	815	2220	£2,458,464.00	£5,118,145.00	2496
2020	769	2623	£1,926,904.00	£4,729,921.00	1962
2021	706	3273	£2,221,237.00	£5,519,378.00	1945
2022	803	3695	£2,235,814.00	£5,197,428.00	1652
<b>Total for 5-year period</b>	<b>3839</b>	<b>14925</b>	<b>£11,066,830.00</b>	<b>£25,064,883.00</b>	-
<b>Average</b>	<b>767t</b>	<b>2985t</b>	<b>£2,213,366.00</b>	<b>£5,012,976.00</b>	<b>1959</b>

Source: MMO (2023)



Table 12-11 presents the annual catch value by gear type within the Scottish Study Area that intersect the four ICES rectangles. This table shows that over the last five years the trawl gear (otter trawl, demersal and pelagic trawl) has the greatest catch value followed by creels and traps and dredging. This illustrates the different type of targeted catch within the Scottish Study Area compared with the English Study Area.

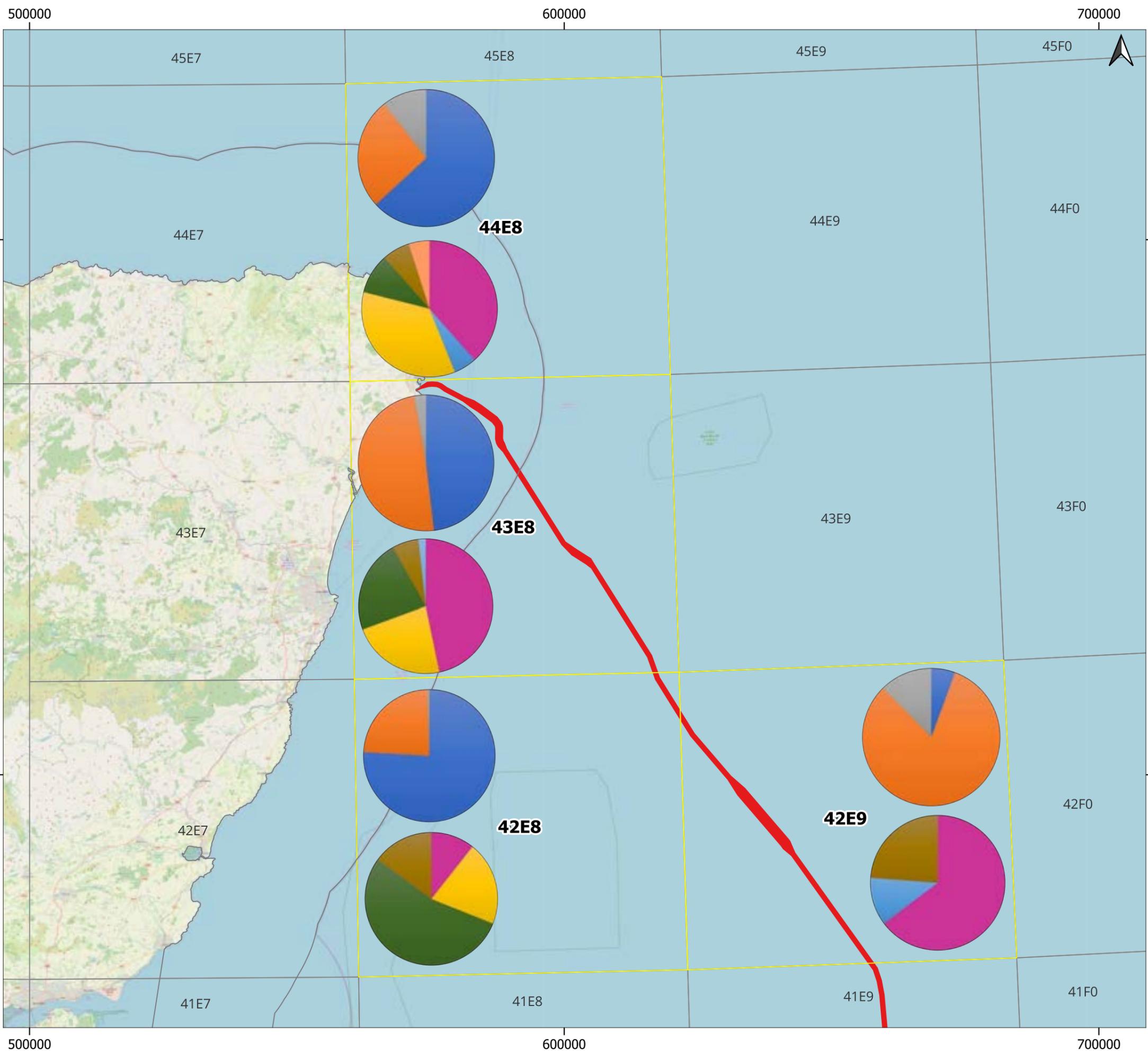
To illustrate this information further Figure 12-11, shows fishing activity by species type and by gear type for 2022 within rectangles 42E8, 42E9, 43E9 and 44E9.

Table 12-11: Annual catch value from 2018 to 2022 by gear type for ICES rectangles within the Scottish Study Area

Year	Otter Trawl**	Demersal Trawl	Pelagic Trawl	Creels and Traps	Dredge	Demersal seine	Gears using hooks	Beam Trawl
2018	£2,534,551	-	-	£2,276,608	£1,429,583	£221,956	£261,723	-
2019	£2,890,922	-	-	£2,466,240	£1,610,859	£367,453	£241,134	-
2020	£2,295,916	-	-	£1,874,716	£1,907,038	£378,527	£199,979	£648
2021	-	£2,239,564	£406,058	£2,153,078	£2,450,379	£238,248	£252,983	£303
2022	-	£2,997,332	£283,882	£2,215,652	£1,115,674	£547,545	£273,154	-
<b>Total</b>	<b>£7,721,389.00</b>	<b>£5,236,896.00</b>	<b>£689,940.00</b>	<b>£10,986,294.00</b>	<b>£8,513,533.00</b>	<b>£1,753,729.00</b>	<b>£1,228,973.00</b>	<b>£951.00</b>

Source: MMO (2023)

\*\* the MMO statistics for 2018 – 2020 combine Demersal and Pelagic trawl gears and call it Otter Trawl.



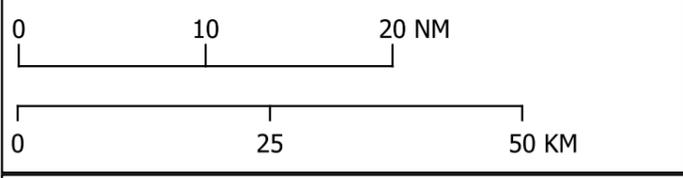
**Annual Catch by Gear and Species Type in Scottish Study Area**

**C01494a-EGL3-FISH-008-C**



- 12NM Limit
- EGL 3 Scoping Boundary
- ICES Statistical Rectangles
- ICES Statistical Rectangles Intersected by the Scoping Boundary

- | Gear Type            | Type of Fishing |
|----------------------|-----------------|
| Demersal seine       | Demersal        |
| Pelagic seine        | Pelagic         |
| Demersal trawl       | Shellfish       |
| Pelagic trawl        |                 |
| Pots and traps       |                 |
| Beam trawl           |                 |
| Drift and fixed nets |                 |
| Dredge               |                 |
| Gears using hooks    |                 |
| Other mobile gears   |                 |



<b>Date</b>	19/10/2023
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#### 12.4.4.5. Landings by Weight and Value Scottish Study Area

In terms of annual landed weight in 2022 within the Scottish Study Area, demersal species are the largest target species accounting for approximately 50% of the overall catch, Shellfish accounted for approximately 30% with pelagic fishing accounting for approximately 19%. However, in terms of catch value shellfish account for over 57% with demersal and pelagic species representing 34.3% and 7.9% respectively. This shows how the types of species targeted around the North Sea varies particularly between the English and Scottish Study Areas.

Table 12-12 shows the top five species caught within the Scottish Study area that intersect the ICES rectangles. Of the four rectangles analysed two rectangles 42E9 and 43E8 had haddock as the top landed species, it was also the second highest landed species in 42E8. In rectangle 42E8 Scallops were the most land and Crab (C.P.Mixed Sexes) were the most landed species in 44E8. 44E8 was the only rectangle that had four out of five of its top species being shellfish.

In terms of high value species halibut, turbot and lobster are the top species followed by nephrops, squid and cod within the North Sea and within the Scottish Study Area. However, in terms of quantity landed by weight and commercial value in 2022 herring was the top species.

Table 12-12: Top five landed species by value (£) in 2022 in ICES Rectangles within Scottish Study Area

		ICES Rectangles			
		42E8	42E9	43E8	44E8
Landed Species	1	Scallops	Haddock	Haddock	Crabs (C.P.Mixed Sexes)
	2	Haddock	Herring	Scallops	Nephrops
	3	Crabs (C.P.Mixed Sexes)	Whiting	Crabs (C.P.Mixed Sexes)	Scallops
	4	Lobster	Nephrops	Lobster	Monks & anglers
	5	Whiting	Plaice	Mackerel	Lobster

Source: MMO 2023

As noted above the species and quantities of fish caught vary considerably not only by location but also annually. Figure 12-12 describes the number of different species caught within each ICES rectangle within the Scottish Study Area during a five-year period from 2018 to 2022. Unlike the English Study Area, the number of species are more stable with little difference during the five-year period for 42E9 and 44E8. 42E8 has had quite a variation with number of species varying by more than 10 species in a two-year period. For rectangle 43E8 there has been a steady increase in species numbers. The overall number of different species is lower than within the English Study Area with the exception of 44E8.

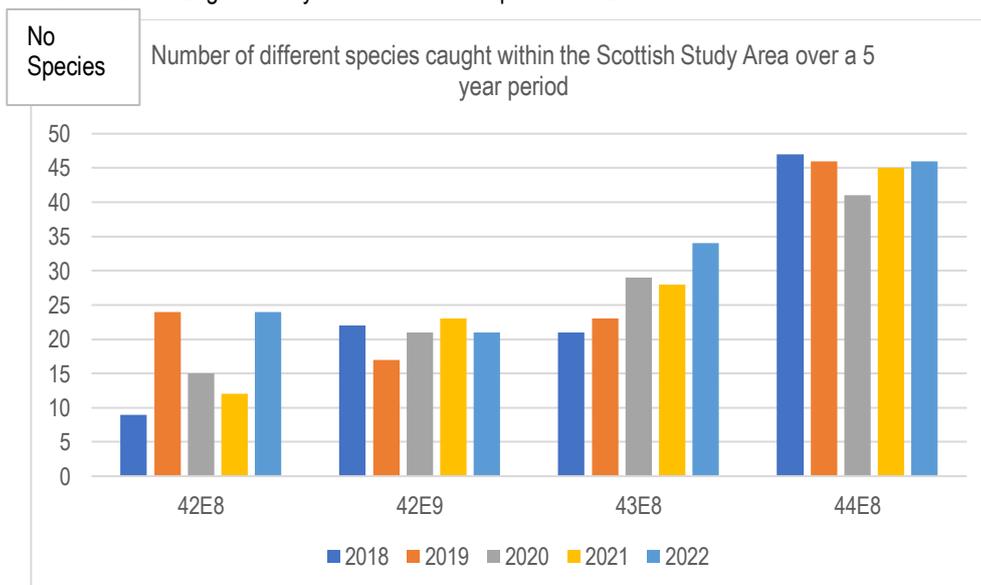


Figure 12-12: Chart showing the number of different species caught within the Scottish Study Area between 2018 and 2022. Source MMO (2023)

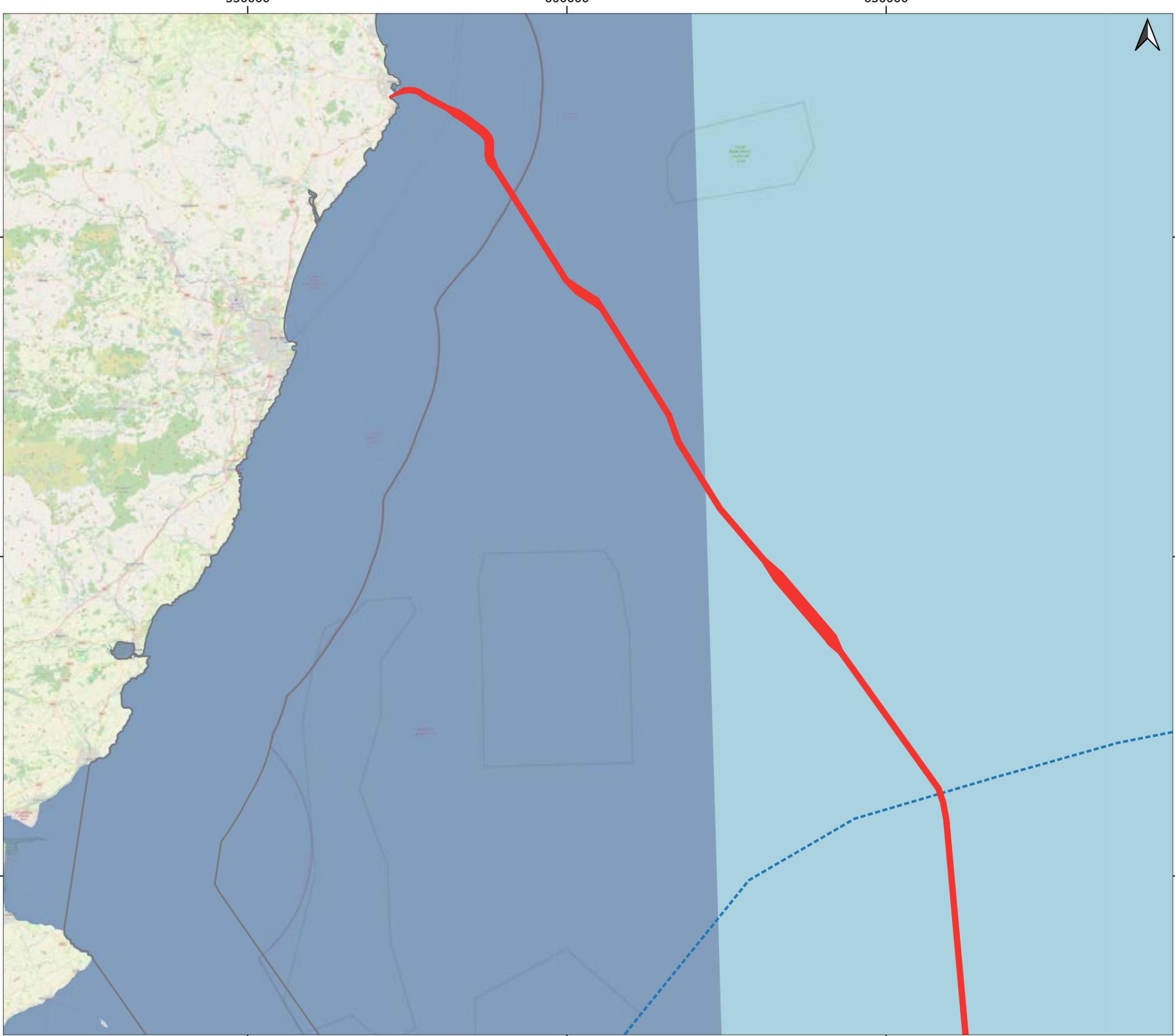


#### 12.4.4.6. Temporal Trends

As with the English Study Area the number of Scottish registered vessels has decreased over the last decade. The Scottish fishing industry has also been affected by the reduction of fishing quotas for all EU member states. It is considered unlikely that there will be any significant change to fishing effort and activity in the North Sea fishing grounds and in the vicinity of the Project in the near future.

#### 12.4.4.7. Restricted Fishing Areas Scotland

A large area off Eastern Scotland has restrictions on catching sandeels. This is not a permanent ban or byelaw but has been something that the Scottish Government has put in place for the last three years to benefit the wider marine ecosystem including marine mammals and seabirds who feed on sandeels. (gov.uk, 2023a)

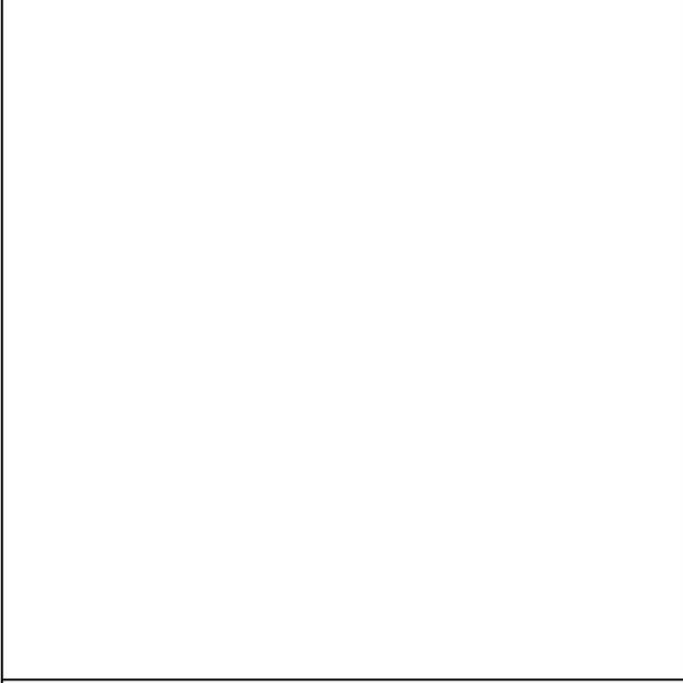


**Restricted Fishing Areas within the Scottish Study Area**

**C01494a-EGL3-FISH-013-A**



- 12NM Limit
- EGL 3 Scoping Boundary
- Scottish Adjacent Waters
- Permanent/ Conservation of Sandeel



<b>Date</b>	03/11/2023
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<b>Projection</b>	Universal Transverse Mercator (UTM)
<b>Unit</b>	Meters
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<b>Reviewed</b>	D Summers/ S Pearce
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## 12.5. Proposed Assessment Methodology

The commercial fisheries MEA will follow the assessment approach set out in Chapter 4 of this Scoping Report, using the project-wide assessment matrix. The assessment of potential effects will be established using the standard Source-Pathway-Receptor approach.

The commercial fisheries chapter of the MEA will be prepared in accordance with the following guidance:

- Best Practice Guidance for Offshore Renewables Developments: Recommendations for Fisheries Liaison (FLOWW, 2014)
- Best Practice Guidance for Offshore Renewables Developments: Recommendations for Fisheries Disruption Settlements and Community Funds (FLOWW, 2015)
- Changes to fishing practices around the UK as a result of the development of offshore windfarms (Gray et al. 2016)

Interviews with local and regional fisheries stakeholders will be conducted to establish the baseline and obtain information on fisheries such as fishing vessels operating in the area, types and sizes of vessels, fishing gear(s) used, fishing effort, target species, seasonality in effort or species abundance, and location of key grounds. The interviews will be supplemented by a desk-based review of catch and effort statistics. Automatic Identification System (AIS) data from UK and European fishing vessels over 15 m in length and VMS data from registered commercial fishing vessels over 12 m in length will also be obtained and interrogated to assess the distribution of fishing effort. Information will also be sought from the MMO.

In addition, the impact assessment on inter-related topics such as marine physical processes, fish and shellfish, water and sediment quality and shipping and navigation will be used to inform the conclusions in the commercial fisheries chapter. The potential for displacement as a result of cumulative impacts will be considered carefully and an appropriate assessment approach agreed with key stakeholders once the number of other projects to be assessed is defined.

Where significant impacts are identified, consultation will be undertaken with local and regional fisheries stakeholders to agree proportionate and effective mitigation, and any residual effects will be presented.

## 12.6. Scope of Assessment

A range of potential impacts on commercial fisheries have been identified which may occur during the construction, operation and maintenance, and decommissioning phases of the Project. Table 12-13 describes the potential impacts identified and provides justification as to whether they will be scoped in or out of the MEA. A precautionary approach has been taken and where there is no strong evidence base, or the significance is uncertain at this stage the impact has been scoped 'in' to the MEA. Where there is a clear evidence base that the effect from the impact will not be significant, either alone or in combination with other plans and projects, the impact has been scoped 'out' of the MEA.

The following potential impacts although applicable to commercial fisheries have been considered In Chapter 11 Shipping and Navigation:

- A vessel engaged in fishing activity snags its gear on the cable
- Reduction in under-keel clearance
- Interference with Marine Navigational Equipment



Table 12-13: Scoping assessment of impacts on commercial fisheries

Potential Impacts	Project Activities	Sensitive Receptors	Scoping Justification		
			Construction	Operation (including repair and maintenance)	Decommissioning
Temporary restricted access to fishing ground (including required static gear clearance)	Presence of project vessels and equipment	Commercial fisheries	<b>IN</b> - The implementation of advisory clearance distances around construction vessels and safety zones during construction works may result in temporary loss or restricted access to fishing grounds within the Project. The fishing industry will be consulted on the proposed construction programme and efforts made to ensure co-existence is feasible. Notices to Mariners will be issued in advance of the works.	<b>IN</b> - If the cable is installed correctly the likelihood of it requiring maintenance and repair is significantly reduced. However, there remains the potential that localised repair works or remedial external cable protection may be required. In this case there would be advisory clearance zones put in place. The fishing industry would be advised in advance and efforts made to ensure co-existence. Notices to Mariners will be issued in advance of the works.	<b>IN</b> – At the point of decommissioning project vessels and equipment would be required in which case the advisory clearance distances would be implemented. The fishing industry would be advised in advance and efforts made to ensure co-existence. Notices to Mariners will be issued in advance of the works.
Temporary displacement of fishing activity into other areas	Presence of project vessels and equipment	Commercial fisheries	<b>IN</b> - Fishing activity may be temporarily displaced to other areas due to loss of or restricted access to fishing grounds as a result of the presence of project vessels and safety zones. Established steaming routes may also be disrupted increasing transit times to fishing areas. Although displacement will be temporary, due to the high level of construction activity in the North Sea there is the potential for cumulative impacts with other projects.	<b>IN</b> - If the cable is installed correctly the likelihood of it requiring maintenance and repair is significantly reduced. However, there remains the potential that localised repair works may be required. In these circumstances the significance of the effect will be of lower magnitude than during installation.	<b>IN</b> – The significance of the effect during decommissioning is similar or of lower magnitude than installation.
Loss of grounds	Deposit of external cable protection	Bottom drift netting	N/A	<b>IN</b> – The deposit of external cable protection will cause a localised change in seabed topography. Bottom drift nets are reliant on a flat featureless seabed to operate effectively. The placement of external cable protection would therefore exclude the gear type from being used in that area. As of yet the final route design has not been developed but measures to mitigate potential impacts of avoiding areas of high drift net use through consultation with the local fishers. It is possible that a significant impact may occur and this will be covered by the MEA.	N/A
Changes in distribution of target species	Pre-sweeping of sandwaves Cable burial / trenching Installation of cable protection	Commercial fisheries	<b>IN</b> - Distributions of fish and shellfish populations have the potential to be affected by the activities during installation. If the fish and shellfish MEA concludes that the impacts on fish and shellfish are significant there is the potential that this could directly affect commercial fisheries. This assessment will include consideration of other impacts such as changes in underwater noise, seabed disturbance during sensitive periods for species with demersal life cycles and permanent changes in seabed habitat.		
Temporary increase and deposition of	Pre-sweeping of sand waves	Cockles	<b>IN</b> - Seabed levelling i.e., during cable routeing, and certain construction activities such as cable trenching, has the potential to lead to localised and temporary increases in suspended	<b>OUT</b> - If the cable is installed correctly the likelihood of it requiring maintenance and repair is significantly reduced. However, there remains the	<b>OUT</b> - The significance of the effect during decommissioning is similar or of lower magnitude than



Potential Impacts	Project Activities	Sensitive Receptors	Scoping Justification		
			Construction	Operation (including repair and maintenance)	Decommissioning
suspended sediments <i>(Changes in suspended solids (water clarity) Smothering and siltation rate changes Hydrocarbon &amp; PAH contamination)</i>	Cable burial and trenching Deposit of external cable protection		sediments. The level and area of impact depend on a number of factors including localised hydrodynamics, source activity and seabed substrate. It has been estimated that the extent of potential effects arising from an increase in suspended sediment will be a maximum of 15 km due to tidal excursion. Increases in suspended sediment will be temporary but have the potential to lead to smothering of sensitive receptors e.g., commercial shellfish beds. Given the proximity of the Project to sensitive shellfish waters the potential for significant impacts cannot be ruled out at this stage. Any potential for re-suspension of contaminated sediment to reach sensitive habitats will be investigated and will be informed by studies undertaken to inform the marine physical processes chapter of the MEA.	potential that localised repair works may be required. In these circumstances the significance of the effect will be of lower magnitude than during installation and has therefore been scoped out of the assessment.	installation and has therefore been scoped out of the assessment.



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