XLINKS MOROCCO-UK POWER PROJECT

Preliminary Environmental Information Report

Volume 3, Appendix 3.1: Commercial fisheries baseline

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Glossary

Term	Definition
Beam trawl	A method of bottom trawling with a net that is held open by a beam, which is generally a heavy steel tube supported by steel trawl heads at each end. Tickler chains or chain mats, attached between the beam and the ground rope of the net, are used to disturb fish and crustaceans that rise up and fall back into the attached net.
Bycatch	Catch which is retained and sold but is not the target species for the fishery.
Demersal	Living on or near the seabed.
Fish stock	Any natural population of fish which an isolated and self-perpetuating group of the same species.
Fishery	A group of vessel voyages which target the same species or use the same gear.
Fishing ground	An area of water or seabed targeted by fishing activity.
Fishing mortality	Mortality due to fishing; death or removal of fish from a population due to fishing.
Fleet	A physical group of vessels sharing similar characteristics (e.g., nationality).
Flyseine (demersal seine)	Flyseining, also known as flyshooting or demersal seining, is a fishing method involving use of long weighted ropes to herd fish into the mouth of the trawl net to target demersal species which live or feed on or near the seabed.
Gadoid	A bony fish of an order (Gadiformes) that comprises the cods, hakes, and their relatives.
Gear type	The method / equipment used for fishing.
ICES statistical rectangles	ICES standardise the division of sea areas to enable statistical analysis of data. Each ICES statistical rectangle is '30 min latitude by 1 degree longitude' in size (approximately 30 x 30 nautical miles). A number of rectangles are amalgamated to create ICES statistical areas.
Landings	Quantitative description of amount of fish returned to port for sale, in terms of value or weight.
Maximum Sustainable Yield	Maximum sustainable yield (MSY) is the largest yield (catch, in tonnes) that can be taken from a specific fish stock over an indefinite period under constant environmental conditions. Fishing at MSY levels should ensure the capacity of the stock to continue to produce this level in the long term.
Metier	A homogenous subdivision, either of a fishery by vessel type or a fleet by voyage type.
Minimum Landing Size (MLS)	Is a technical measure that limits the size of fish or shellfish species that can be legally landed and sold. The MLS varies per species. With the implementation of the Landings Obligation, the existing MLS are changed into minimum conservation reference sizes (MCRS), but they will remain largely the same.

Term	Definition
Nets	Nets refers to a wall of netting that hangs in the water column, typically made of monofilament or multifilament nylon. Net mesh size and position in the water column vary depending upon the target species. Nets are deployed and left to soak before being hauled. In the context of this document, 'nets' includes both anchored (fixed to seabed) and suspended (drift, moves with tide or current) nets.
Otter trawl	A net with large rectangular boards (otter boards) which are used to keep the mouth of the trawl net open. Otter boards are made of timber or steel and are positioned in such a way that the hydrodynamic forces, acting on them when the net is towed along the seabed, pushes them outwards and prevents the mouth of the net from closing.
Pelagic	Of or relating to the open sea.
Pelagic trawl	A net used to target fish species in the mid water column.
Pots	Pots and traps are generally rigid structures into which fish or shellfish are guided or enticed through funnels that make entry easy but from which escape is difficult. There are many different styles and designs, each one has been designed to suit the behaviour of its target species.
Quota	A proportion of the Total Allowable Catch for a fish stock.
Recruitment	Recruitment can be defined as the number of fish surviving to enter the fishery or to some life history stage such as settlement or maturity.
Scallop dredge	A method to catch scallop using steel dredges with a leading bar fitted with a set of spring loaded, downward pointing teeth. Behind this toothed bar (sword), a mat of steel rings is fitted. A heavy net cover (back) is laced to the frame, sides and after end of the mat to form a bag.
Shellfish	Exoskeleton-bearing aquatic invertebrates including molluscs and crustaceans.
Spawning	The act of releasing or depositing eggs (fish).
Spawning stock biomass	The combined weight (in tonnes) of all the fish of one specific stock that are old enough to spawn. It provides an indication of the status of the stock and the reproductive capacity of the stock.
Stock assessment	An assessment of the biological stock of a species and its status in relation to defined references points for biomass and fishing mortality.
String	A series of static fishing gear (pots) joined together to form a single deployable linear line of pots.
The Project	UK marine elements of Q&E North.
Total Allowable Catch (TAC)	TACs are catch limits, expressed in tonnes or numbers, that are set for some commercial fish stocks.
Vessel Monitoring System (VMS)	A system used in commercial fishing to allow environmental and fisheries regulatory organizations to monitor, minimally, the position, time at a position, and course and speed of fishing vessels.

Acronyms

Acronym	Definition
AIS	Automatic Identification System
DCF	Data Collection Framework
EEZ	Exclusive Economic Zone
EIA	Environmental Impact Assessment
EMSA	European Maritime Safety Agency
EU	European Union
FLO	Fisheries Liaison Officer
GIS	Geographic Information System
ICES	International Council for the Exploration of the Sea
IFCA	Inshore Fisheries and Conservation Authority
MMO	Marine Management Organisation
PLN	Port Letter and Number
RBS	Registration of Buyers and Sellers
SAR	Swept Area Ratio
STECF	Scientific, Technical and Economic Committee for Fisheries
TAC	Total Allowable Catch
TCA	Trade and Cooperation Agreement
UK	United Kingdom
VMS	Vessel Monitoring System

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1 APPENDIX 3.1: COMMERCIAL FISHERIES BASELINE

1.1 Introduction

1.1.1 This document forms Appendix 3.1 of the Preliminary Environmental Information Report (PEIR) prepared for the UK elements of the Xlinks Morocco-UK Power Project (referred to hereafter as 'the Proposed Development'). The PEIR presents the preliminary findings of the Environmental Impact Assessment (EIA) process for the Proposed Development.

1.1.2 This document provides a baseline characterisation of the commercial fisheries active in and around the Proposed Development.

1.1.3 This report has been prepared by NiMa Consultants Ltd (NiMa) in conjunction with APEM Ltd to support the Environmental Impact Assessment (EIA) of the Proposed Development. The information on commercial fisheries activity presented in this report is intended to provide a detailed understanding of the commercial fisheries baseline, against which the potential impacts of the Proposed Development can be assessed. An overview of the information presented in this report is provided in Volume 3, Chapter 3: Commercial Fisheries of the PEIR.

1.1.4 Commercial fisheries activity described in this report, is defined as fishing activity legally undertaken where the catch is sold for taxable profit.

1.2 Methodology

Approach

1.2.1 This report has been developed following a detailed and rigorous desk-based assessment of data and literature. Both publicly available data sets, and data results from specific requests, have been analysed. Landings statistics have been analysed using Excel, and Vessel Monitoring System (VMS) data have been evaluated using ArcMap Geographic Information System (GIS) software.

Study Area

1.2.2 The Proposed Development is located within the International Council for the Exploration of the Sea (ICES) Division 7f (Bristol Channel) and Division 7e (western English Channel) statistical areas, within the UK Exclusive Economic Zone (EEZ).

1.2.3 This report, and the Commercial Fisheries PEIR chapter, considers commercial fisheries within the UK EEZ; equivalent activity in non-UK waters will be fully considered in separate in-country consent applications for the Xlinks MUPP Project.

1.2.4 For the purpose of recording fisheries landings, ICES Divisions 7f and 7e are divided into statistical rectangles which are consistent across all Member States operating in the Bristol Channel and English Channel.

1.2.5   The Proposed Development is located within ICES rectangles 26E3, 27E2, 27E3, 28E2, 28E3, 29E3, 30E3, 30E4, 31E4 and 31E5, as shown in **Figure 1**. The commercial fisheries study area has been defined as these ten ICES rectangles, noting however that rectangles 26E3 and 27E3 are partially located outside the UK EEZ.
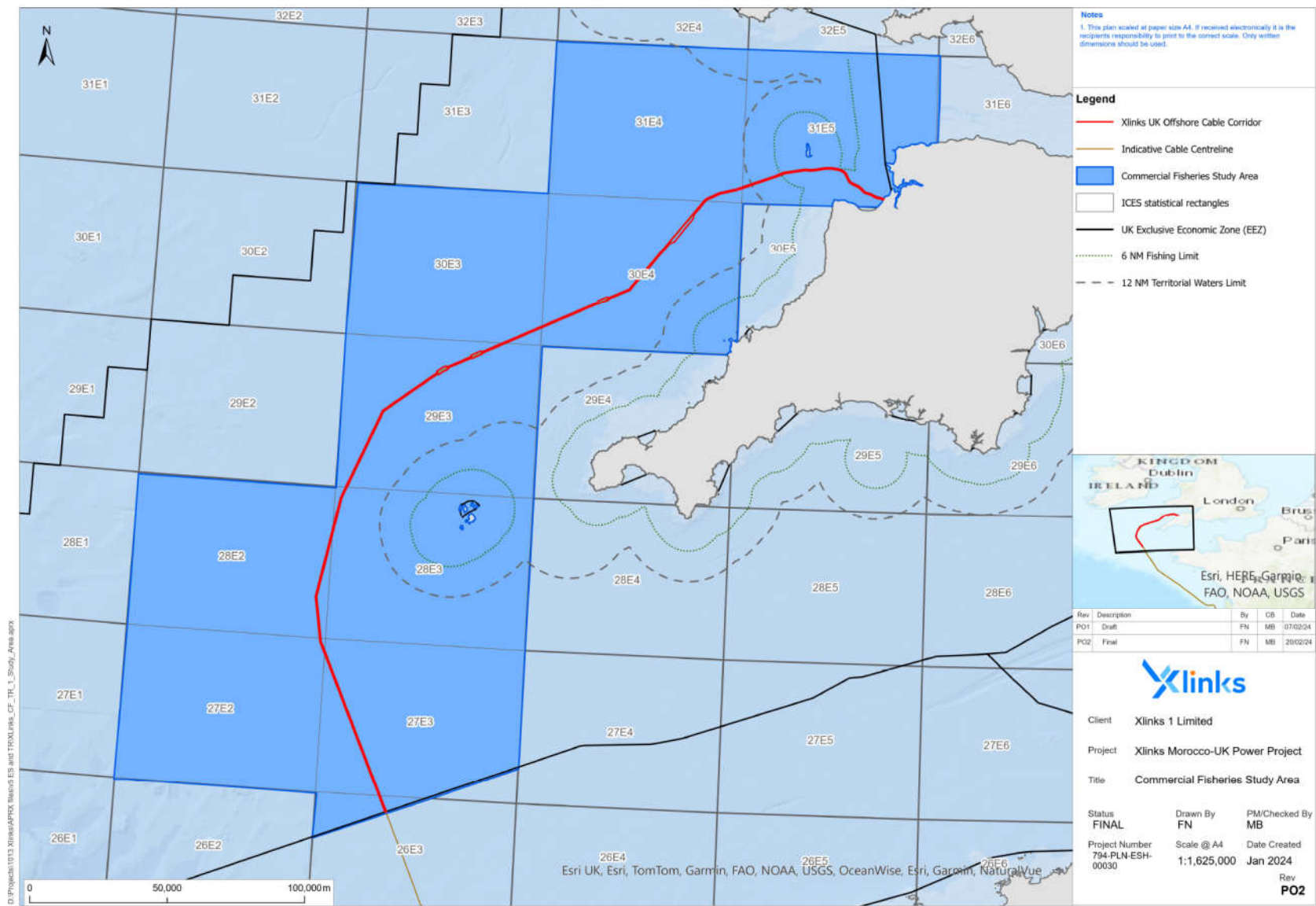
Figure 1: Commercial fisheries study area

Desktop Study

1.2.6   Information on commercial fisheries within the commercial fisheries study area was collected through a detailed desktop review of existing studies and datasets. These are summarised at **Table 1.1** below.

1.2.7   Data has been sourced from ICES, the EU Data Collection Framework (DCF), the UK Marine Management Organisation (MMO) and the European Maritime Safety Agency (EMSA).

1.2.8   Where data sources allow, a five-year trend analysis has been undertaken, using the most recent annual datasets available at the time of writing. The temporal extent of this five-year period is dependent on each data source analysed, (e.g. 2012 to 2016 or 2018 to 2022), as annotated in **Table 1.1**.

1.2.9   Relevant literature from a number of sources has also been reviewed in the preparation of this report. A full list of references is provided at the end of this report and are cited within the text where appropriate. Information on fishing activity across the Proposed Development has also been provided by the project Fisheries Liaison Officer (FLO).

Table 1.1: Key sources of commercial fisheries data

Title	Source	Year	Author
UK annual fisheries landings statistics	MMO	2018 to 2022	MMO
UK Vessel Monitoring System (VMS) data	MMO	2016 to 2020	MMO
European Union (EU) annual fisheries landings statistics	Scientific, Technical and Economic Committee for Fisheries (STECF)	2012 to 2016 (by ICES rectangle) 2018 to 2022 (by ICES division)	STECF
EU VMS data	ICES	2016 to 2020	ICES
Fishing vessel route density data	European Maritime Safety Agency (EMSA)	2022	EMSA
Fishing vessel surveillance sightings	MMO	2018 to 2023	MMO
Key species stock assessments and management plans	Various (as cited)	Various (as cited)	ICES, Cefas, Inshore Fisheries and Conservation Authorities (IFCAs)

Data Limitations and Uncertainties

1.2.10   A range of different data limitations and uncertainty exist for all of the commercial fisheries datasets assessed within this Report. The level of uncertainty and confidence of each data set is defined in **Table 1.2** based on professional judgement of the assessment team.

1.2.11   Limitations of landings data include the spatial size of ICES rectangles which can misrepresent actual activity across the Proposed Development and care is therefore required when interpreting these data.

1.2.12　It is noted that all commercial landings by UK registered vessels are subject to the Register of Buyers and Sellers legislation and therefore landings by UK vessels of all lengths are recorded within the MMO iFISH database. While it is recognised that there is no statutory requirement for owners of vessels 10 m and under to declare their catches, registered buyers are legally required to provide sales notes of all commercially sold fish and shellfish under the Registration of Fish Buyers and Sellers and Designation of Fish Auction Sites Regulations 2005 due to the 2005 Registration of Buyers and Sellers of First-Sale Fish Scheme (RBS legislation). The RBS legislation is applicable to licenced fishing vessels of all lengths and requires name and PLN (port letter and number) of the vessel which landed the fish to be recorded in relation to each purchase. For the 10 m and under sector, landing statistics are recorded on sales notes provided by the registered buyers (MMO, 2021). Information that may not be formally recorded on the sales note, such as gear and fishing area, is added by coastal staff based on local knowledge of the vessels they administer - for example, from observations of the vessel during inspections at ports or from air and sea surveillance activities as well as discussions with the owner and/or operator of the vessel (MMO, 2021). There are occasions when fish are not subject to the RBS legislation and therefore are not represented within the MMO landings statistics database, for instance when purchases of first sale fish direct from a fishing vessel are wholly for private consumption, and less than 25 kg is bought per day.

1.2.13　Lack of recent landings statistics for EU (non-UK) fleets is also recognised as a data limitation; based on the most recent European Commission data call, more recent landings data (2017-2019) is no longer available by ICES rectangle. Data at a scale of ICES division (e.g., the whole of the Irish Sea) is less useful to understand fishing activity specific to the area overlapping the Proposed Development.

1.2.14　All UK and EU fishing vessels (i.e., fishing vessels flying the flag of the UK or an EU Member State), and third-party fishing vessels operating in UK and EU waters that are ≥ 12 m in length are required to have a Vessel Monitoring System on board. This reports the vessels' position to fisheries management authorities, which in the case of EU fishing vessels, is every two hours. Since 1st January 2012, this obligation has applied to vessels that are ≥ 12 m in length. Limitations of publicly available VMS data are primarily focused on the coverage being limited to larger vessels 15 m and over for UK fishing vessels. It is important to be aware that where mapped VMS data may appear to show inshore areas as having lower (or no) fishing activity compared with offshore areas, this is not necessarily the case because VMS data do not include vessels typically operating in inshore area (i.e., which typically comprises of vessels <15 m in length).

1.2.15　To assist in mitigating the risk of under-representing smaller inshore vessels, engagement with fishermen active in the study area has been helpful in determining the extent and distribution of activity by the <12 m fleet. Additionally, MMO surveillance data has been analysed, which records vessels of all lengths, though it is acknowledged that surveillance data are only indicative of areas where fishing activities occur given there is no continuous monitoring of activities and it cannot be assumed that if no vessels have been sighted then no fishing takes place.

Table 1.2: Data limitations and uncertainty (the uncertainty and confidence levels are defined based on judgement and are intended to inform the appropriateness of data used to inform the EIA)

Title	Source	Limitations and Uncertainty
UK annual fisheries landings statistics	MMO	The data are recorded from sales notes and landing declarations for all vessel lengths. Due to the UK legislation of Registration of Buyers and Sellers data is considered accurate and verifiable. • Data assessed with: low uncertainty and high confidence.
UK Vessel Monitoring System (VMS) data	MMO	The data are only available for 15m and over vessels, so is not representative of <15m vessels. • Data assessed with: medium uncertainty and medium confidence.
European Union (EU) annual fisheries landings statistics	Scientific, Technical and Economic Committee for Fisheries (STECF)	The data are submitted by individual member states and therefore limitations vary per country. Vessels under 10m may be omitted or mis-represented by the data. Accuracy is likely to be greater for landings from larger vessels. • For UK vessels under 10m length data is assessed with: high uncertainty and low confidence. • For all other EU vessels data is assessed with: low uncertainty and high confidence.
EU VMS data	ICES	The data are only available for 12m and over vessels, so is not representative of <12m vessels. • Data assessed with: medium uncertainty and medium confidence.
Fishing vessel route density data	European Maritime Safety Agency (EMSA)	The data are only available for 15m and over vessels, so is not representative of <15m vessels. • Data assessed with: medium uncertainty and medium confidence.
Fishing vessel surveillance sightings	MMO	The data shows surveillance observations gathered to inform MMO fisheries compliance and enforcement activity. Data is subject to survey effort (typically weekly and during daylight hours). There are also temporal gaps in sightings. Fishing method and nationality is assigned by sight only. • Data assessed with: medium uncertainty and medium confidence.

1.3   Baseline Environment

Overview of Landings

UK Fishing Activity

1.3.1   Landings from the commercial fisheries study area by UK-registered vessels had an average value of £14.2 million across the period 2018 to 2022 (MMO, 2023). **Figure 2** shows landings values across this time period for each ICES rectangle within the study area, highlighting relatively high landings values in rectangles

30E4 (accounting for over 25% of landings from the study area by value), off the Cornish coast. Across the 2018 to 2022 time period, UK landings show a relative peak in 2019 and were at their lowest in 2021.

Figure 2: Annual landings value (pound sterling) by UK-registered vessels from the study area, by ICES rectangle, between 2018 and 2022 (MMO, 2023)

1.3.2 **Figure 3** shows the top ten species landed from the study area by landed weight. **Figure 4** shows equivalent landings data but based on value.

1.3.3 Approximately 75% of landings by value (and 58% by weight) are of demersal fish species. Key species are sole *Microstomus kitt,* hake *Merluccius merluccius*, monks and anglers *Lophius piscatorius* and megrim *Lepidorhombus whiffiagonis*. Landings of demersal species across the 2018 to 2022 period show a relative peak in 2019 and have been relatively constant across 2021 and 2022.

1.3.4 Key shellfish species are brown crabs *Cancer pagurus*, lobster *Homarus gammarus*, whelks *Buccinum undatum* and nephrops *Nephrops norvegicus*. Shellfish landings have remained relatively consistent across the five-year period.

1.3.5 Pelagic fisheries primarily target horse mackerel *Trachurus trachurus*. Landings of pelagic species have fluctuated across the time series, with more notable catches in 2019 and 2022.
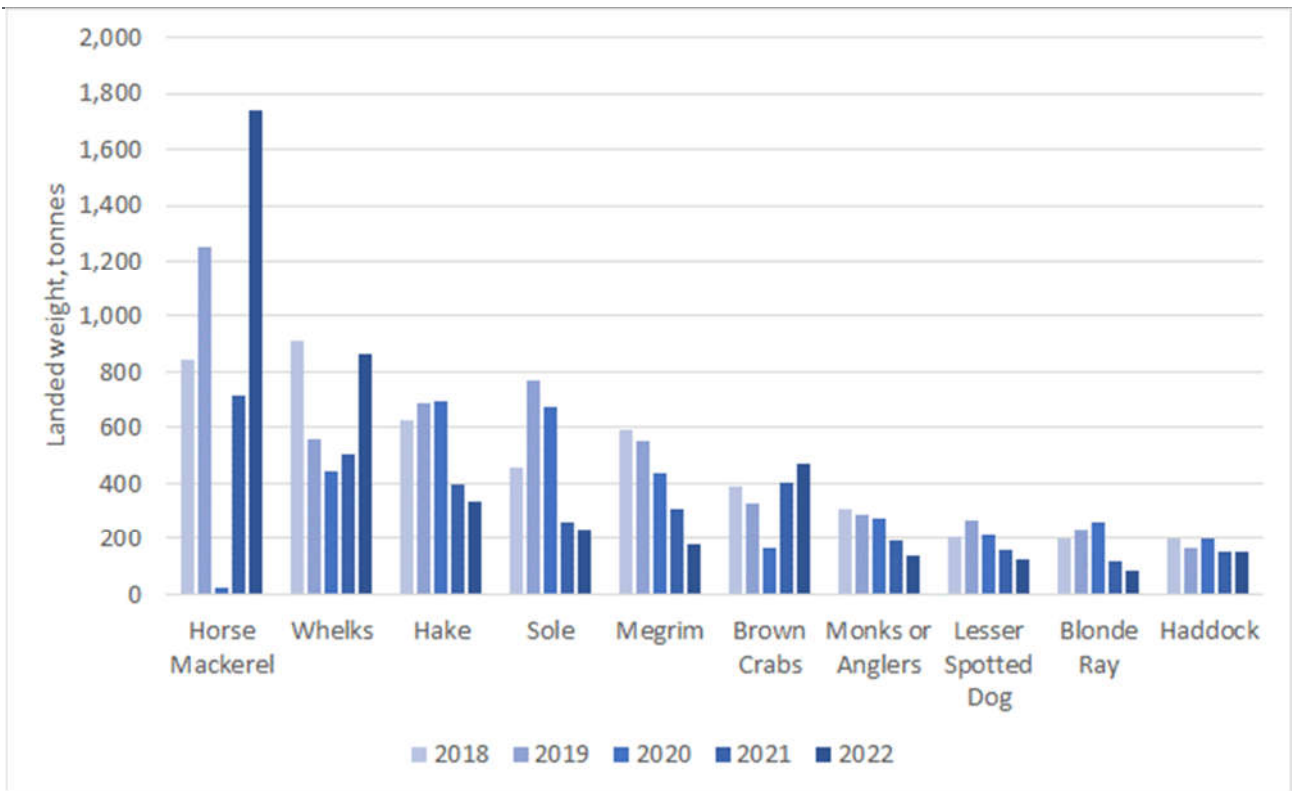
Figure 3: Annual landings weight (tonnes) by UK-registered vessels from the study area, by key species, between 2018 and 2022 (MMO, 2023).
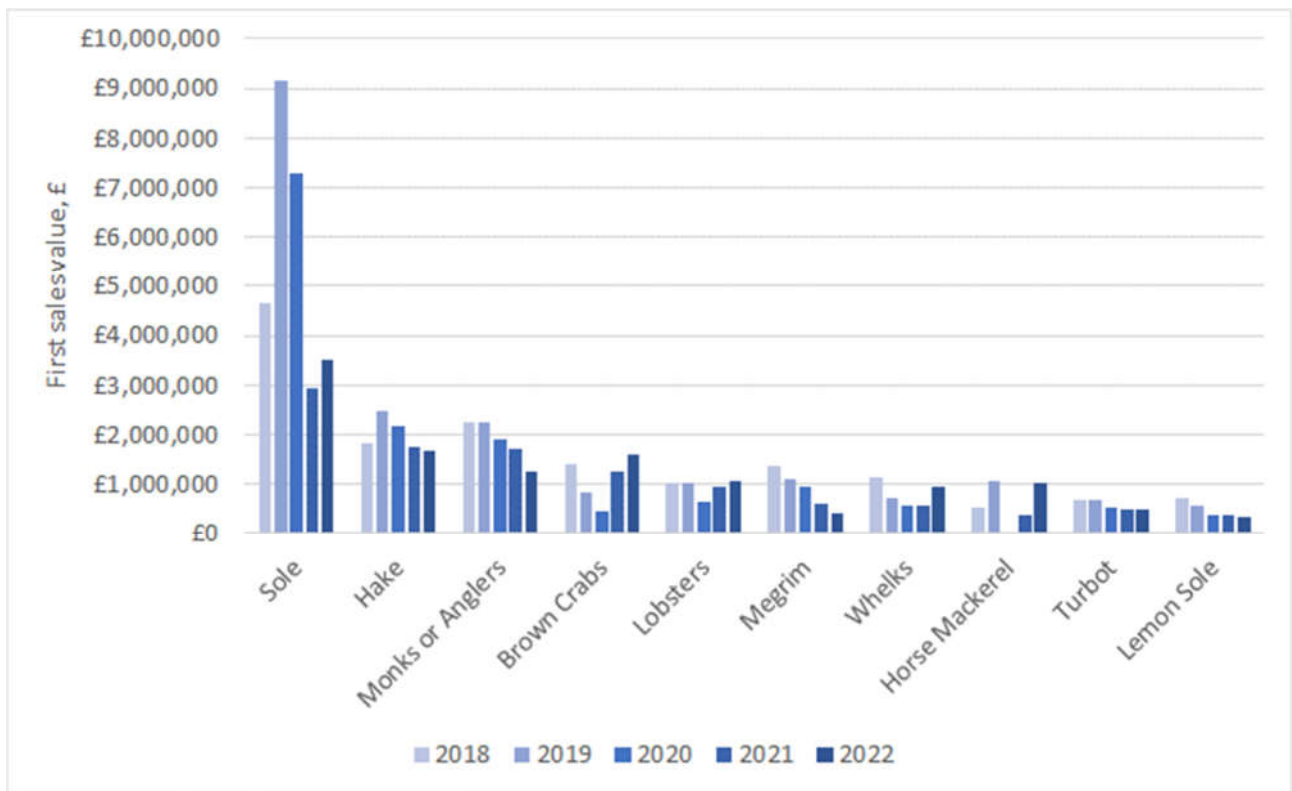
Figure 4: Annual landings value (pound sterling) by UK-registered vessels from the study area, by key species, between 2018 and 2022 (MMO, 2023).

1.3.6   **Figure 5** shows the key fishing gear types utilised across the study area. The largest proportion of landings are attributed to beam trawl gear, with landings from

this gear type showing relative decline across 2021 and 2022. Drift and fixed nets, pots and traps and demersal trawls are also routinely deployed across the study area, with pelagic trawl activity being more sporadic reflecting the wide-ranging nomadic nature of pelagic trawl fisheries.

1.3.7   Landings data indicates that across the 2018 to 2022 period, and across the study area, English-registered fishing vessels accounted for approximately 70% of total landings, with relatively limited landings attributed to Scottish and Welsh-registered vessels. Key UK landings port utilised by UK vessels fishing in the study area include Newlyn and Milford Haven, Ilfracombe and Padstow. Vessels accounting for the majority of landings by value were within the following vessel length categories: 24 to 40 m, 18 to 24 m and under 12 m.
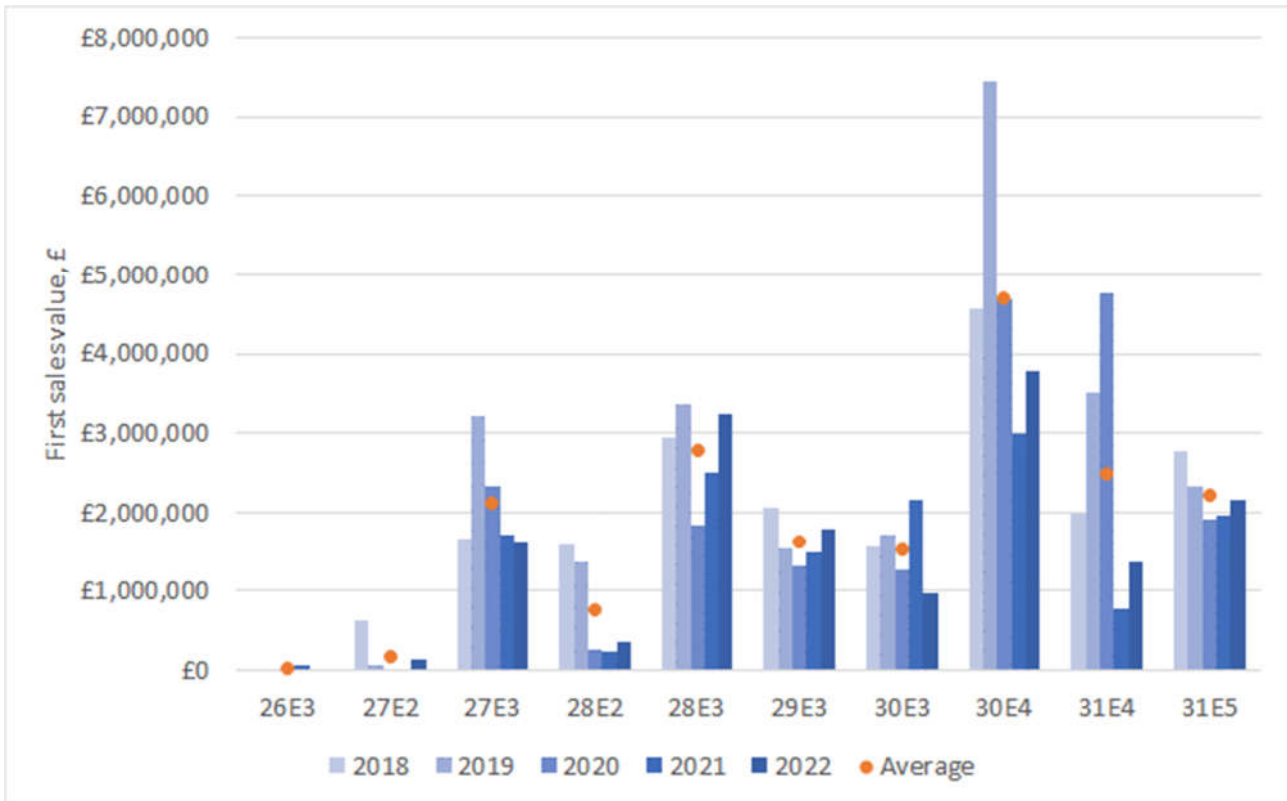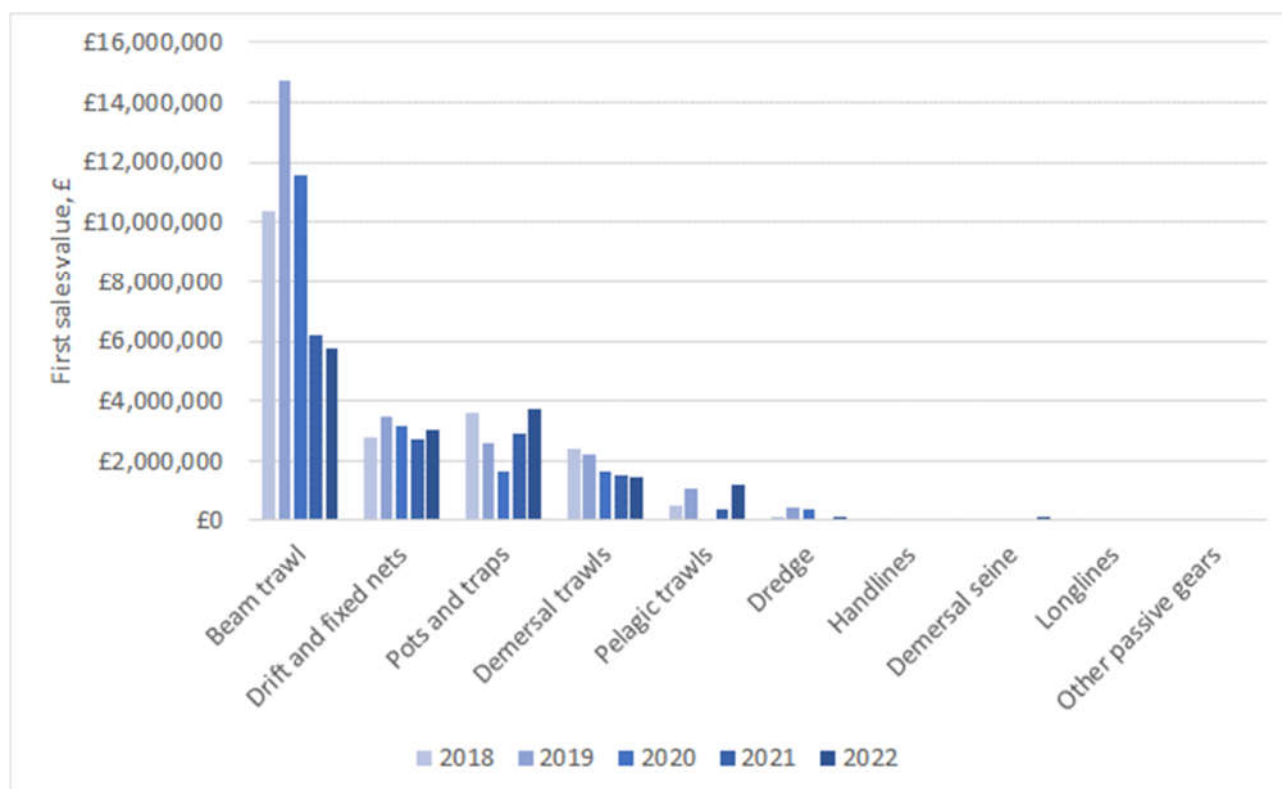

Figure 5: Annual landings value (pound sterling) by UK-registered vessels from the study area, by key fishing gear, between 2018 and 2022 (MMO, 2023).

Non-UK Fishing Activity

1.3.8   Landings from the commercial fisheries study area by EU-registered vessels have been analysed using data sourced from the EU DCF database covering two different time periods. The first source covers the period 2012 to 2016 and is usefully disaggregated at the level of individual ICES rectangle. The second source provides landings data up to 2021 but is available only at ICES division level (i.e., the Bristol Channel, and the western English Channel) and so whilst more recent, is less helpful in terms of understanding EU fishing activity across the study area.

1.3.9   **Figure 6** presents landings by both UK and non-UK fishing vessels from the study area (at ICES rectangle scale) between 2012 and 2016. The data indicates activity by French, Belgian and Irish vessels within the study area, with notable landings from French-registered vessels in particular. **Figure 7** presents landings

by EU fishing vessels from ICES divisions 7f and 7e, operating in the UK EEZ (i.e., an area of significantly greater extent than the study area) from 2018 to 2022. The data again indicates the presence of French vessels targeting mixed demersal species, with potential for activity associated with Belgian, Dutch and Irish fleets.
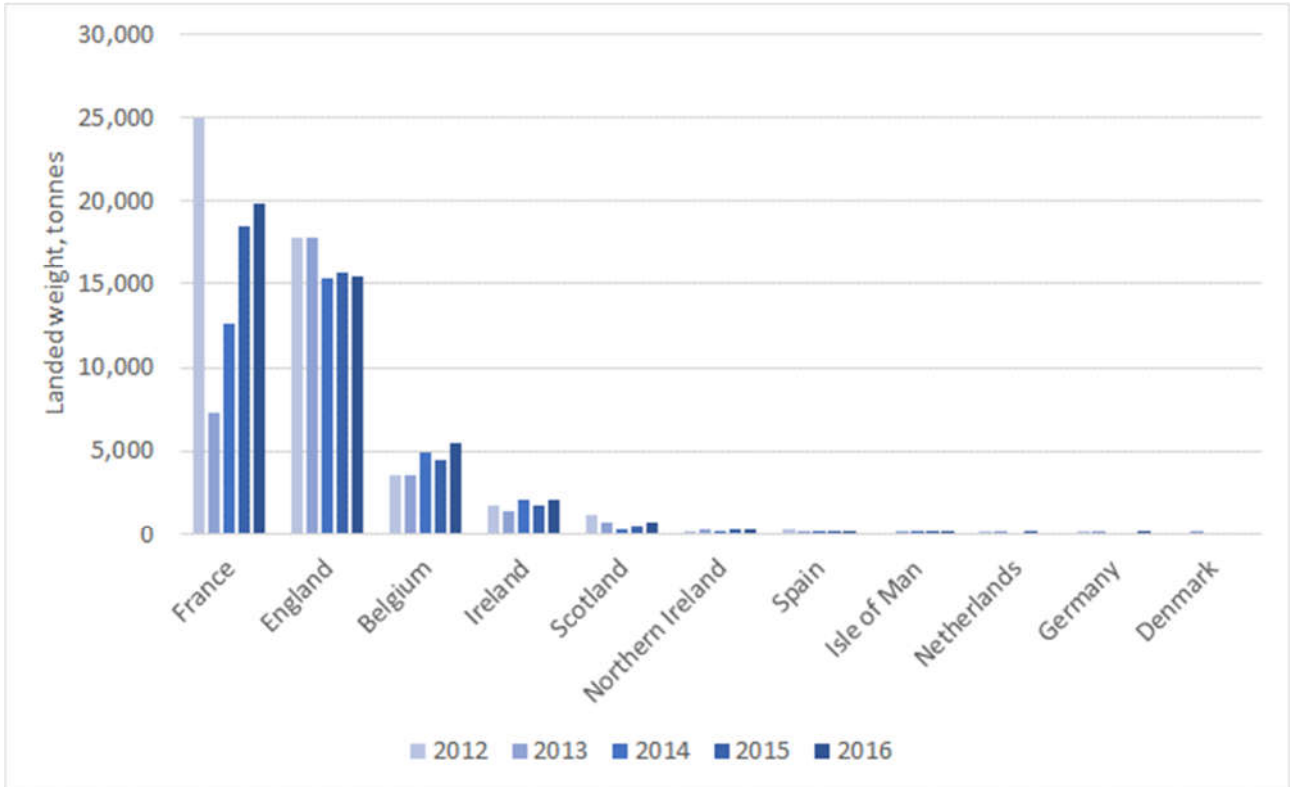
Figure 6: **Landed weight (tonnes) by UK and non-UK vessels from the study area, by ICES rectangle, between 2012 and 2016 (EU DCF, 2023).**
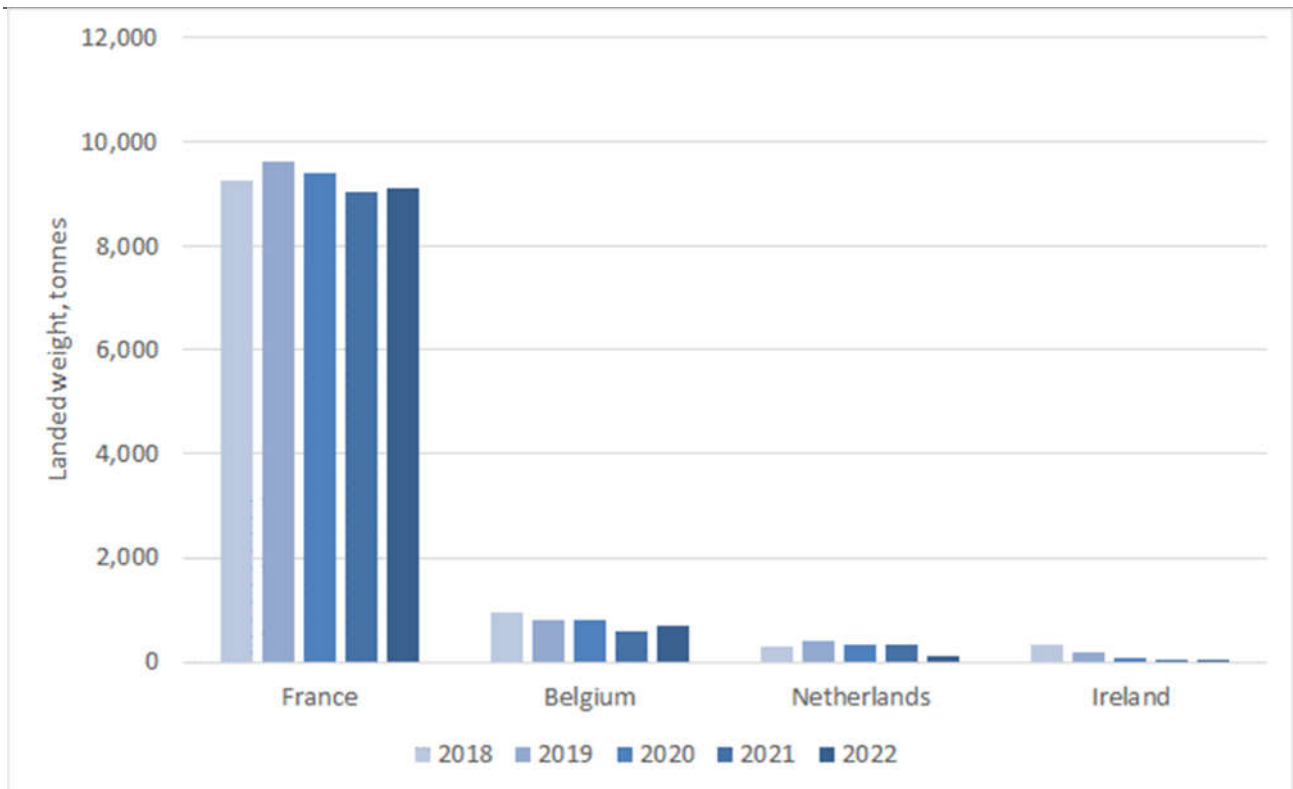
Figure 7: Landed weight (tonnes) by EU vessels in ICES Divisions 7e and 7f in the UK EEZ 2018 to 2022, by country (EU DCF, 2023).

Key Fishing Fleets

1.3.10 For the purposes of the EIA assessment, commercial fisheries receptors are divided into fleets to allow assessment of a group of vessels using the same gear, targeting the same species and registered to the same country (e.g. UK potting fleet targeting whelk, or UK dredge fleet targeting king scallop).

1.3.11 A range of fleets target different fisheries across the commercial fisheries study area, as indicated by landings statistics for registered vessel nationality and gear type (**Figure 8** and **Figure 9** below).

1.3.12 Further details on vessel and gear types within the key fleets and fisheries that operate across the study area are described within this section, including an overview of the species targeted by each fleet.
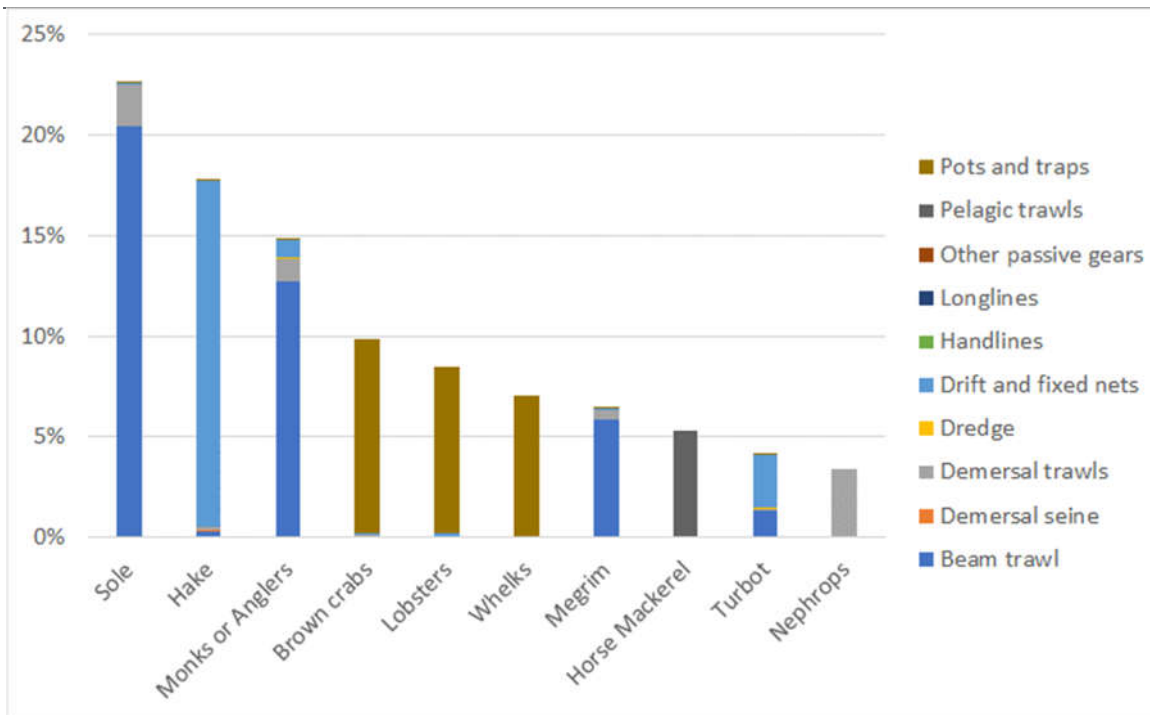
Figure 8: Percentage of annual average landings value 2018 to 2022 for UK fishing vessels by gear type and key species for the study area (Data source: MMO, 2023)
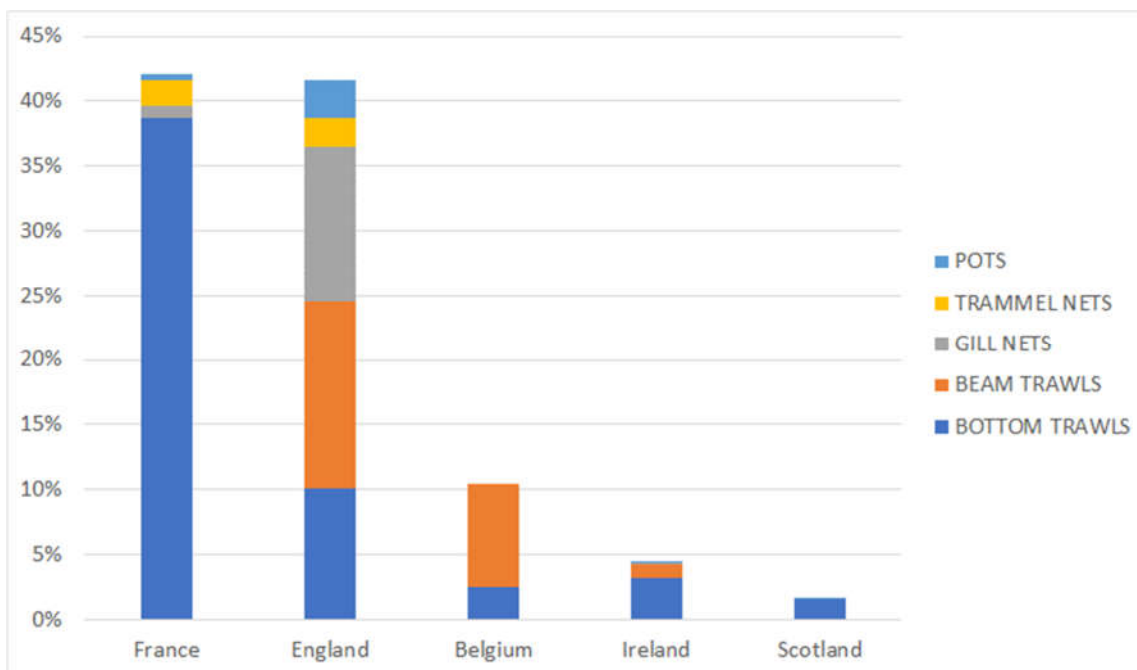
Figure 9: Percentage of annual average landings weight 2012 to 2016 by gear type and country of vessel registration for the study area (Data source: EU DCF)

Beam trawl

1.3.13 **Figure 10** and **Figure 11** show a typical beam trawler and associated gear and **Table 1.3** describes the profile of beam trawling vessels active across the study area.

1.3.14 Beam trawlers operate on sandy grounds in the Irish and Celtic seas and in the western English Channel. Beam trawl gear is used to target flatfish such as sole and plaice, which are often somewhat buried in the seabed. Beam trawls are towed either astern of the vessel on the smaller boats, or, more commonly, from derricks (one from the port side and one from the starboard side) forward of amidships on the larger boats.

1.3.15 Beam trawl nets are held open by a heavy steel beam which is towed along the seabed on a line approximately three times the depth of the water. Some beam trawls include tickler chains, which drag along the seabed in front of the net, disturbing fish in its path and encouraging them to rise into the net.

1.3.16 Beam trawling is an activity which is generally engaged by larger (>10 m vessel length) vessels due to the engine capacity required to tow this heavy fishing gear. The largest class of beam trawlers are around 25 m to 40 m long, generally having in the region of 1,000 hp, towing two beam trawls 12 m wide. This size of beam trawl can weigh up to nine tonnes each, enabling the trawler to tow at speeds up to seven knots. The medium class of beamers, from 12 m to 18 m, usually have between 300 hp to 500 hp to tow 4 m to 7 m beams.

Table 1.3: Profile of typical beam trawl vessel active across the study area

Parameter	Indicative details
Main target species	Sole, plaice, monkfish, rays
Nationality	English, Belgian
Vessel length	15 m to 45 m
Horsepower	500 hp to 2,000 hp
Typical towing speed	3.5 to 8 knots
Typical duration of tow / dredge	1 to 2 hours
Seasonality of activity	Peak activity in spring and summer months
Typical gear	Twin beam, occasionally single beams; beam length up to 12 m. Each beam weighing <10 tonnes. Chain matting or individual chains attached to underside.
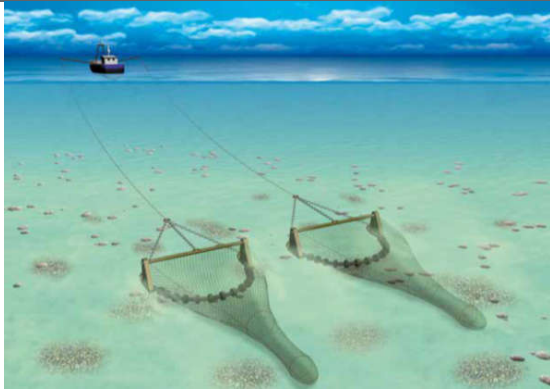
Figure 10: Typical beam trawler gear diagram (Source: Seafish, 2015; MarineTraffic)

Figure 11: Typical beam trawler (Source: Seafish, 2015; MarineTraffic)

Drift and fixed nets

1.3.17 Netting in the study area involves deploying gill nets (also known as tangle nets) and trammel nets. The main gill net fishery in the region targets hake along the continental slope, operating in water depths of 150–600 m. In the shallower Celtic Sea, target species include anglerfish, flatfish, and gadoids.

1.3.18 Gill nets consist of a single layer of fine netting that is weighted at the bottom and supported at the top by floats attached to a rope headline so that the net hangs vertically in the water column. Trammel nets are similar to a gill net but are made up of three layers of netting. Two outer layers of large mesh with a sheet of fine small mesh sandwiched between them.

1.3.19 The nets are usually fished in groups (or fleets) with the end of each fleet attached by bridles to a heavy weight, or anchor, on the seabed. Each weight, or anchor, is attached to a marker buoy or dhan flag, on the surface, by a length of rope equal to about twice the depth of water. Net lengths can vary significantly; individual nets can vary from 50 to 200 m. The soak times, the time that a fleet is left fishing for, can range from a six-hour tidal soak up to 72 hours. The nets are shot over the stern of the vessel whilst steaming with the tide and are fished along the direction of the tidal stream, rather than across it (there are some exceptions to this).

1.3.20 Smaller vessels under 10 m length are also engaged in netting and may work both pots and nets, alternating between gears seasonally. Net catches can provide bait for pots.

Table 1.4: Profile of typical netting vessels active across the study area

| Parameter	Indicative details
Main target species	Hake, turbot, pollack and haddock
Nationality	English
Vessel length	15 m to 24 m, some under 10 m vessels working inshore
Horsepower	250 hp to 450 hp
Typical speed when shooting and hauling gear	0 to 9 knots
Typical soak time	6 to 72 hours
Seasonality of activity	Year-round
Typical gear	Monofilament nylon net Set on seabed with each end anchored and left to fish
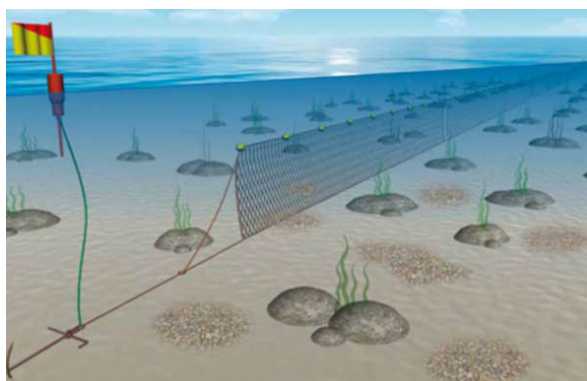
Figure 12: Typical netter gear diagram (Source: Seafish, 2015; MarineTraffic)

Figure 13: Typical netter (Source: Seafish, 2015; MarineTraffic)

Pots and traps

1.3.21   For the capture of whelks, modified, weighted 25 litre plastic drum, purpose designed pots are often used. Pots are typically rigged in 'fleets' or 'strings' of between 15 to 60 pots (up to 80 for whelk), depending upon vessel size and area fished. Hundreds of pots can be deployed across a fishing location. Lengths of

fleets may range from 100 m to over a mile, anchored at each end with anchors or chain clump weights. A variety of surface markers are used, including flagged dhans, buoys and cans. Soak times, the time between emptying and re-baiting the pots, can vary between six and 72 hours, but would typically be 24 hours. All pots are worked on a rotational basis; after hauling and emptying, pots are baited and re-set. Bait for the whelk fishery is often crab or dogfish.

1.3.22   Creels or pots are used for the capture of lobsters and crabs and are set in a similar configuration as described for whelk pots. Creel design is typically D-shaped in section and made from steel rods covered in netting and protected or "bumpered" with rope or rubber strips. The number of pots fished in a location can range from 20 through to hundreds and soak times are typically between 24 and 168 hours. Pots are usually deployed in fleets of 10 to 60 on rocky substrate, though may less frequently be found on other softer substrates.

1.3.23   Larger potters, working further offshore, make fishing trips lasting around two days. Smaller potters, under 10 m in length, operate as day boats, returning to port after hauling, emptying, baiting and re-setting fleets of pots. Potting vessels may target a single or multiple shellfish species and the inshore fleet can also be multi-purpose, switching between gear types (e.g. pots and nets) in response to various factors such as market demand and fishing restrictions. Table 1.5 describes the profile of typical potting vessels active across the study area.

Table 1.5: Profile of typical potting vessels active across the study area

| Parameter	Indicative details
Main target species	Brown crab, lobster, whelk
Nationality	English, Welsh
Vessel length	Majority under 15 m
Horsepower	60 hp to 350 hp
Typical speed when shooting and hauling gear	0 to 9 knots
Typical soak time	1 to 2 days
Seasonality of activity	Year-round but with summer peak
Typical gear	Fleets of baited pots placed on the seabed Pots typically hauled daily but may be left a number of days Generally, day boats that return to port daily
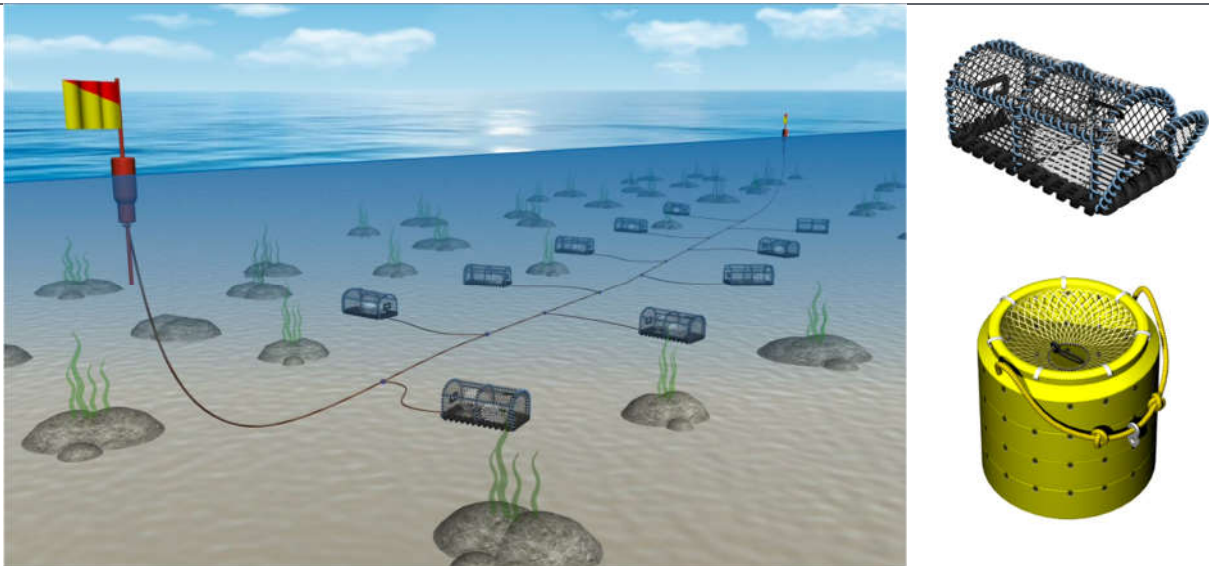
Figure 14: Typical potting gear configuration (Left), lobster creel (Top Right) And whelk pot (Bottom Right) (Source: Seafish, 2022)

Figure 15: Example of potting vessel (1) (Source: Marine Traffic)

Figure 16: Example of potting vessel (2) (Source: Marine Traffic)

Demersal otter trawl

1.3.24 Otter trawling uses a cone-shaped net which is held open by water pressure on two otter boards. The net is towed either across the seabed or within the water column. Fish are herded between the boards into the mouth of the trawl and then forced along a funnel into the end of the net.

1.3.25 The species composition of the catch depends on the area and depth fished and the gear design. For example, the rock hopper otter trawl is normally used in conjunction with steel otter boards and wire bridles to target whiting, sole and squid. This gear can be worked on grounds with harder substrates. Alternatively, a small footrope otter trawl uses wooden otter boards and the main species targeted with this method are plaice, sole and other demersal species. This trawl cuts through the top layer of the soft sea bottom and the tickler chain digs the fish out. Trawls can also be specifically designed to target nephrops, using lightweight gear over muddy ground.

1.3.26 The pair trawl is made from similar gear, but instead of the otter boards it is the two vessels that open the trawl. This method allows the net to be towed at a greater speed than if operated by a single boat and means that faster moving fish can be caught.

1.3.27 Landings data also indicates that French, and to a lesser extent Belgian and Irish vessels operating bottom trawls are active in the study area.

1.3.28 **Figure 17** show a typical demersal trawler and associated gear and **Table 1.6** describes the profile of demersal otter trawling vessels active across the study area.

Table 1.6: Profile of typical demersal otter trawl vessel active across the study area

Parameter	Indicative details
Main target species	Nephrops and mixed demersal fish species
Nationality	English, Scottish, Welsh, French, Belgian, Irish
Vessel length	Up to 50 m
Horsepower	500 hp to 1,200 hp
Typical towing speed	2.5 to 5 knots
Typical duration of tow / dredge	1 to 2 hours
Seasonality of activity	Year-round with spring peak
Typical gear	Pair or single trawls Net depth changed by altering either warp (rope) length or towing speed
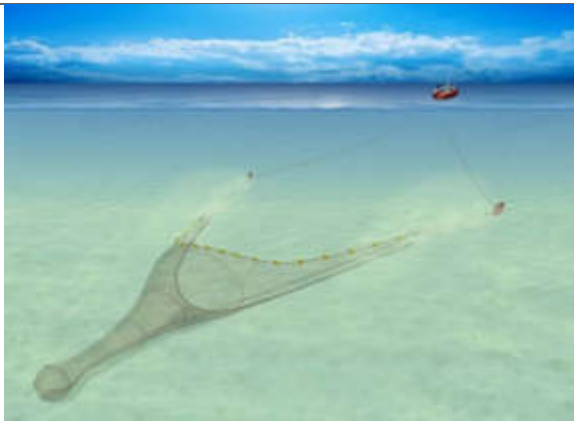
Figure 17: Typical demersal otter gear diagram (Source: Seafish, 2015, MarineTraffic, 2023)

Figure 18: Typical demersal otter trawler (Source: Seafish, 2015, MarineTraffic, 2023)

Pelagic trawl

1.3.29   **Figure 19** shows typical pelagic trawl gear and **Table 1.7** describes the profile of pelagic trawling vessels active across the study area.

1.3.30   Pelagic trawling is a method of towing a trawl in mid-water for instance, at any point in the water column between the surface and seabed. In general, this gear is used to target shoaling species such as mackerel and herring.

1.3.31   All classes of trawler can use pelagic trawls. From 10 m inshore vessels targeting shoals of pelagic fish in shallow water, up to the specialist pelagic vessels, over 40 m long.

Table 1.7: Profile of typical pelagic trawl vessel active across the study area

Parameter	Indicative details
Main target species	Horse mackerel, mackerel, herring
Nationality	English, French
Vessel length	Up to 50 m
Horsepower	500 hp to 1,200 hp

Typical towing speed	2.5 to 5 knots
Typical duration of tow / dredge	1 to 2 hours
Seasonality of activity	Typically distinct seasonal peaks
Typical gear	Pair or single trawls
	Net depth changed by altering either warp (rope) length or towing speed
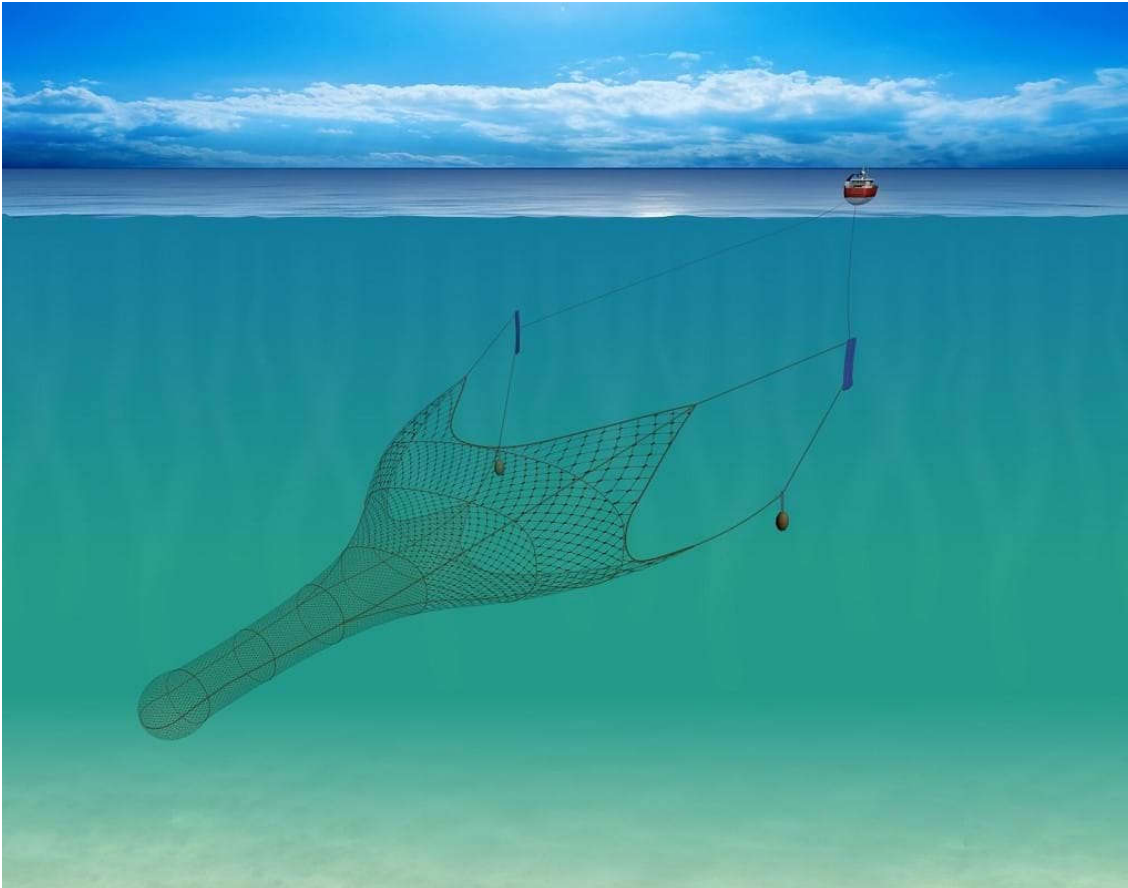
Figure 19: Typical pelagic trawl gear configuration (Source: Seafish, 2015)

Dredge

1.3.32   Dredges are rigid structures that are towed along the seabed to target various species of shellfish. The scallop fishery typically uses a specific dredge called the 'spring-loaded Newhaven dredge'. A typical scallop dredging vessel is shown in **Figure 20** and **Table 1.8** describes the profile of scallop dredging vessels active across the study area.

1.3.33   Scallop dredgers fish as the tooth bar of each dredge rakes through the sediment lifting out scallops and the spring-loaded tooth bar swings back, allowing the dredge to clear obstacles on the seabed. The dredges are held in a series on two beams, which are fished on each side of the vessel.

1.3.34   Scallop dredging is an activity which is generally engaged by larger (>10m vessel length) vessels due to the engine capacity required to tow this heavy fishing gear. Smaller vessels may tow up to 8 dredges a side whilst larger vessels, which are either purpose built of converted beam trawlers, can tow up to 20 dredges each

side of the vessel. Under the Scallop Fishing (England) Order 2012, vessels with more than 8 dredges per side can only operate beyond the 12 nautical mile limit.

Table 1.8: Profile of typical scallop dredge vessel active across the study area

Parameter	Indicative details
Main target species	King scallop
Nationality	Scottish, English (scope for some French)
Vessel length	Majority over 15 m
Horsepower	200 hp to 400 hp
Typical towing speed	2 to 6 knots
Typical duration of tow / dredge	1 to 2 hours
Seasonality of activity	King scallop targeted primarily in early spring and winter months
Typical gear	Varying number of dredges per vessel depending on fishing ground Each dredge consists of a triangular frame leading to an opening, a tooth bar with spring-loaded teeth, and a bag of steel rings and netting back

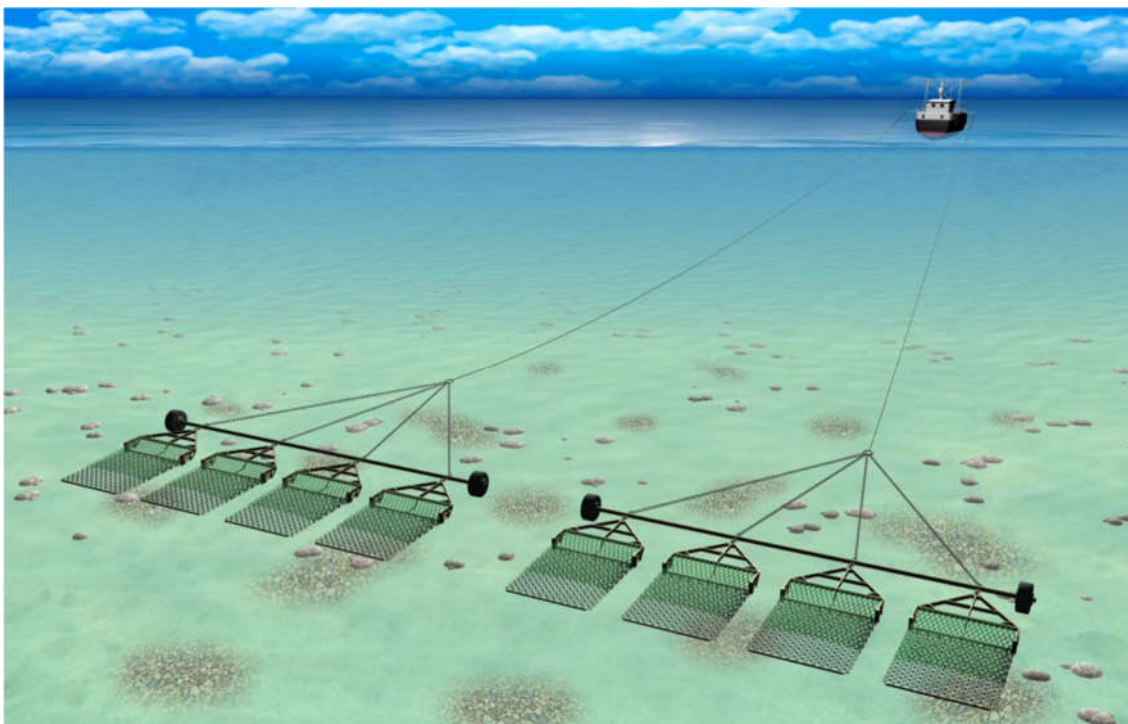**Figure 20: Typical scallop dredge gear configuration (Source: Seafish, 2015)**

Other Gear Types

1.3.35 Landings data indicates the potential for relatively low levels of fishing activity by other fleets within the study area. These include:

- The UK handline and longline fleet, targeting pollack, hake and bass. On average across 2018 to 2022, these fleets made 11 tonnes of landings with an average value of £50,000.

- The UK demersal seine fleet, which recorded landings only in 2022 of 60 tonnes with a value of £113,000 (no landings are recorded in the study area between 2018 and 2021). Landings were primarily of haddock and hake.

Fishing Restrictions

Total Allowable Catch and quota

1.3.36 TACs and quotas are in place for many commercial fish species based on their stock distribution across ICES Divisions. The TACs set for a species across ICES Division 7 (Celtic Seas) for example, allow countries that have been allocated a quota from this TAC to fish within ICES Divisions 7 a to k. TACs and quotas per country are presented in **Table 1.9** for key species landed from the commercial fisheries study area for which a TAC exists.

Table 1.9: Total allowable catch (TAC) and quotas in tonnes by country for the key species landed in the study area in 2023 (EU, 2023)

Species	ICES Division	TAC (tonnes)	UK	Netherlands	Belgium	France	Ireland
Anglerfishes	7	45,724	10,196	518	4,003	25,687	3,283
Haddock	7b-k, 8, 9 and 10	11,901	2,142	-	114	6,823	2,275
Whiting	7b, 7c, 7d, 7e, 7f, 7g, 7h, 7j and 7k	9,650	1,077	36	72	4,459	3,877
Nephrops	7	18,353	7,371	-	-	3,974	6,027
Plaice	7f and 7g	402	103	-	44	79	147
Pollack	7	6,410	1,506	-	185	4,255	453
Skates and rays	6a, 6b, 7a-c and 7e-k	9,797	2,937	4	835	3,749	1,207
Sole	7f and 7g	1,138	421	-	777	78	39

Byelaws, technical measures and spatial closures

1.3.37 In addition to limits on catch volumes, a number of restrictions are in place based primarily on fisheries byelaws, intended to protect fish stocks and their habitats. These restrictions include limits on minimum landings sizes, technical measures relating to fishing gear design and use, limits on fishing effort, and temporary and permanent fishery closures.

1.3.38 Within the study area several spatial restrictions are in place that are relevant to the Proposed Development. These include:

- MMO Land's End and Cape Bank European Marine Site (Specified Areas) Bottom Towed Gear Byelaw 2009, prohibiting the use of bottom towed fishing gear in the specified area;

- MMO closed area for the conservation of cod in ICES divisions 7f and 7g whereby from 1 February to 31 March each year, it shall be prohibited to conduct any fishing activity in the following ICES statistical rectangles: 30E4, 31E4, 32E3; and

- Devon and Severn, Cornish and Isles of Scilly IFCA byelaws which include a number of byelaws that seek to manage fishing activity within IFCA waters (i.e., inside of the 6 nm limit).

Fishing Activity Assessment

Fishing intensity based on VMS data

1.3.39 VMS data sourced from ICES[1] displays the surface Swept Area Ratio (SAR) of catches by different gear types and covers EU (including UK and Isle of Man) registered vessels 12 m and over in length. Surface SAR indicates the number of times in an annual period that a demersal fishing gear makes contact with (or sweeps) the seabed surface. Surface SAR provides a proxy for fishing intensity and has been analysed to determine an average annual SAR based on data from 2016 to 2020 for the following gear types: dredge, beam trawl, demersal seine and demersal trawl. Note that SAR data for static gear is not available, including for potting, netting and gears with hooks.

1.3.40 VMS data sourced from the MMO displays the value of catches for UK registered vessels 15 m and over in length. VMS data sourced from the MMO displays the first sales value (£) of catches and covers UK registered vessels 15 m and over in length from 2016 to 2020 for the following gear types: potting, dredge, demersal otter trawl, pelagic trawl and beam trawl.

1.3.41 VMS data from both sources is presented below in **Figure 22** to **Figure 35**.

1.3.42 VMS data indicates intense beam trawl activity in the English Channel to the east of the Proposed Development and generally low levels of activity along the Offshore Cable Corridor with the exception of a relative hotspot of activity in ICES rectangles 29E4 and 30E4, northwest of the Cornish coast. This activity is expected to be attributable to UK beam trawlers.

1.3.43 Potting activity by over 15 m length vessels captured in the VMS data is limited along the cable corridor, with some activity overlapping the Proposed Development in ICES rectangles 31E4 and 31E5 off the Cornwall and Devon coast.

1.3.44 VMS data for demersal otter trawling indicates that the most heavily targeted fishing grounds do not overlap the Proposed Development. Two relative hotspots of demersal trawl activity are noted along the Offshore Cable Corridor, to the northwest of the Cornish coast – associated with landings of flatfish by UK vessels

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[1] Note that UK VMS data presents information on fishery value, whereas ICES VMS data presents 'swept-area ratio', which is the cumulative area contacted by a fishing gear within a grid cell over an annual period.

- and to the south west of the Isles of Scilly, where activity is expected to be attributable primarily to EU trawlers.

1.3.45 VMS data indicates no UK pelagic trawl activity in the vicinity of the Proposed Development, with activity focused to the east in the English Channel.

1.3.46 VMS data for dredge vessels indicates that the most heavily targeted fishing grounds do not overlap the Proposed Development and that limited dredge activity is expected along the Offshore Cable Corridor with the exception of across ICES rectangle 30E4 northwest of the Cornish coast where data indicates the presence of a targeted scallop bed immediately to the east of the Offshore Cable Corridor.

Fishing intensity based on AIS data

1.3.47 Fishing vessel route density (EMSA, 2022), based on vessel AIS positional data is shown in **Figure 36**. AIS is required to be fitted on fishing vessels ≥15 m length. The data is filtered to show only fishing vessels (with no other commercial or recreational vessels included) and indicates the route density per square km per year. This data does not distinguish between transiting vessels and active fishing but does provide a useful source to corroborate fishing grounds.

1.3.48 The data indicates sustained fishing vessel presence across the commercial fisheries study area, and the presence of important fishing grounds along discrete sections of the cable corridor, particularly in ICES rectangle 30E4, corresponding to beam and demersal trawl grounds. The data indicates the presence of important fishing grounds across the wider region and in particular in the English Channel.

Fishing activity based on ICES landings mapping

1.3.49 ICES publish fisheries overviews for a number of 'ecoregions'. One of these ecoregions in the Celtic Sea and within their latest publication (ICES, 2022), the spatial distribution of landings for the main pelagic, benthic, gadoid and shellfish species across the Celtic Sea is mapped, as shown in **Figure 21**.

1.3.50 Pelagic species are primarily targeted close to the shelf edge, with relatively limited landings taken within the study area. Hake and anglerfish catches are recorded in the study area but gill netting for these species is also focused along the shelf edge, outside of the study area. Whiting, cod and haddock are taken in the study area using demersal trawls. Nephrops fishing activity is focused on distinct nehprops grounds, with the closest to the study area being the 'Smalls', located immediately to the northwest of the study area. Scallops are taken from the study area, with scallop grounds (referred to as beds 7.f.1 and 7.e.1 by Cefas (Cefas, 2023) located both to the north and south of the Cornish peninsula. Brown crab catches are notable in coastal waters off Cornwall.
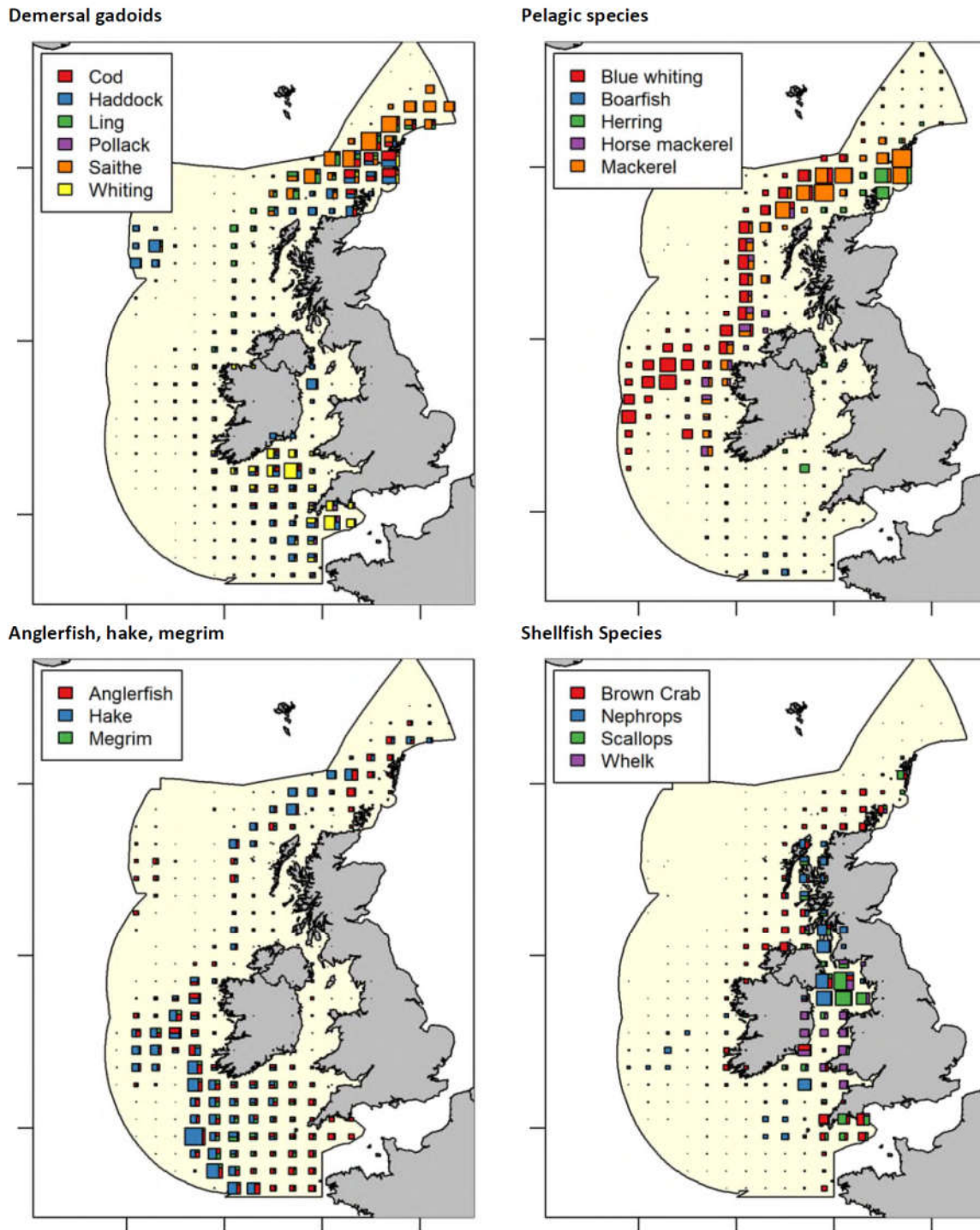
Figure 21: Spatial distribution of landings for main species in the Celtic Seas ecoregion. Landings (tonnes) are represented proportionally. Based on data for >10 m length vessels, 2015 to 2019. (Source: ICES, 2022).

Fishing activity based on MMO surveillance data

1.3.51   MMO surveillance data covering the period 2018 to 2022 has been mapped. The data shows observations of fishing vessels by vessel nationality (**Figure 38**) and by fishing gear type (**Figure 37**). Overall, within the study area, the greatest number of vessel observations were made in ICES rectangle 30E4, with a number

of observations overlapping the cable corridor. Observations overlapping and proximate to the cable corridor were primarily of Belgian, UK and French fishing vessels. The majority of observations were of beam trawlers and then of demersal trawlers, though other gear types are recorded in proximity to the cable corridor including gill nets and pots. The surveillance data broadly aligns with the spatial distribution of fishing activity depicted in other data sources presented in this document.
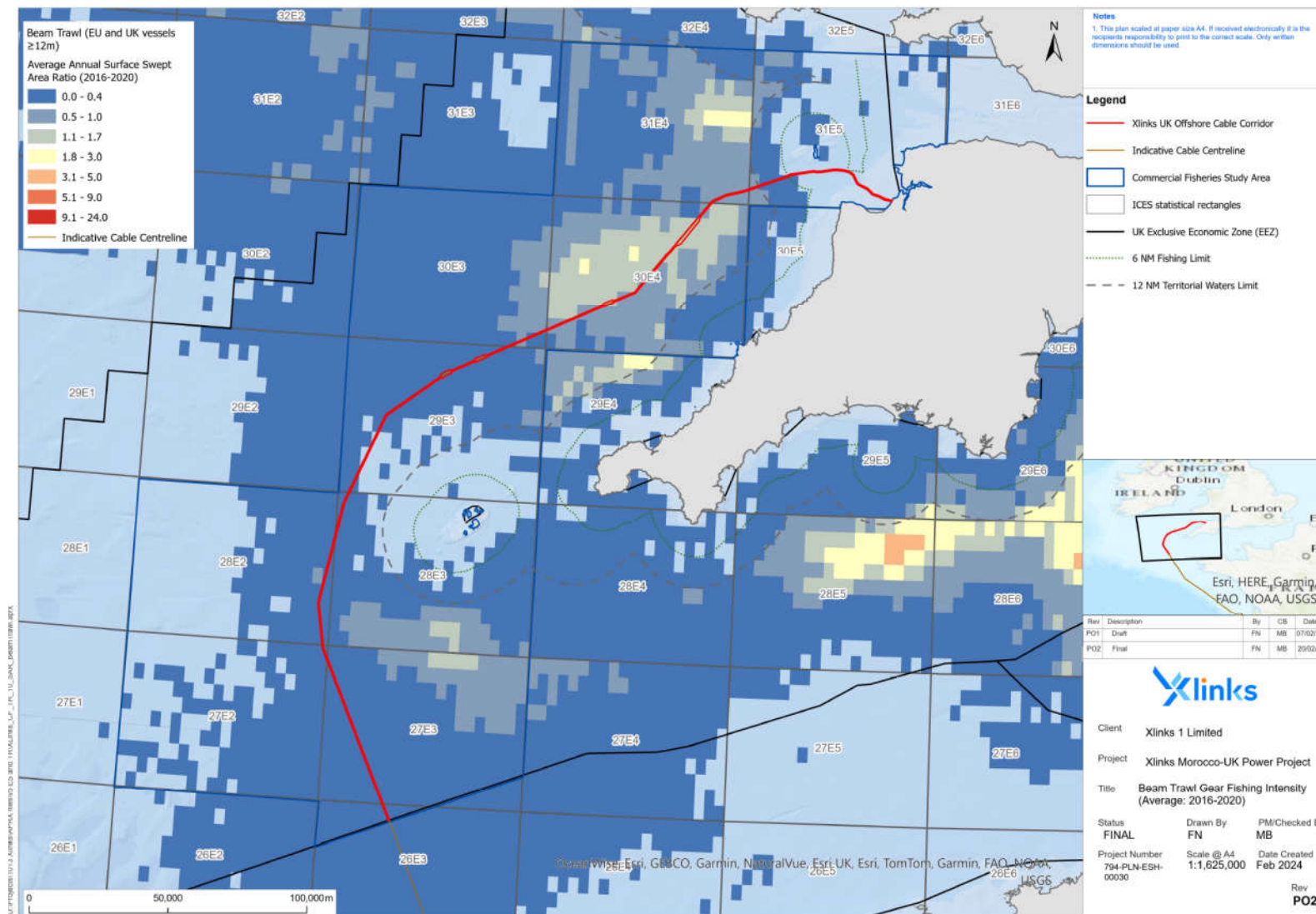
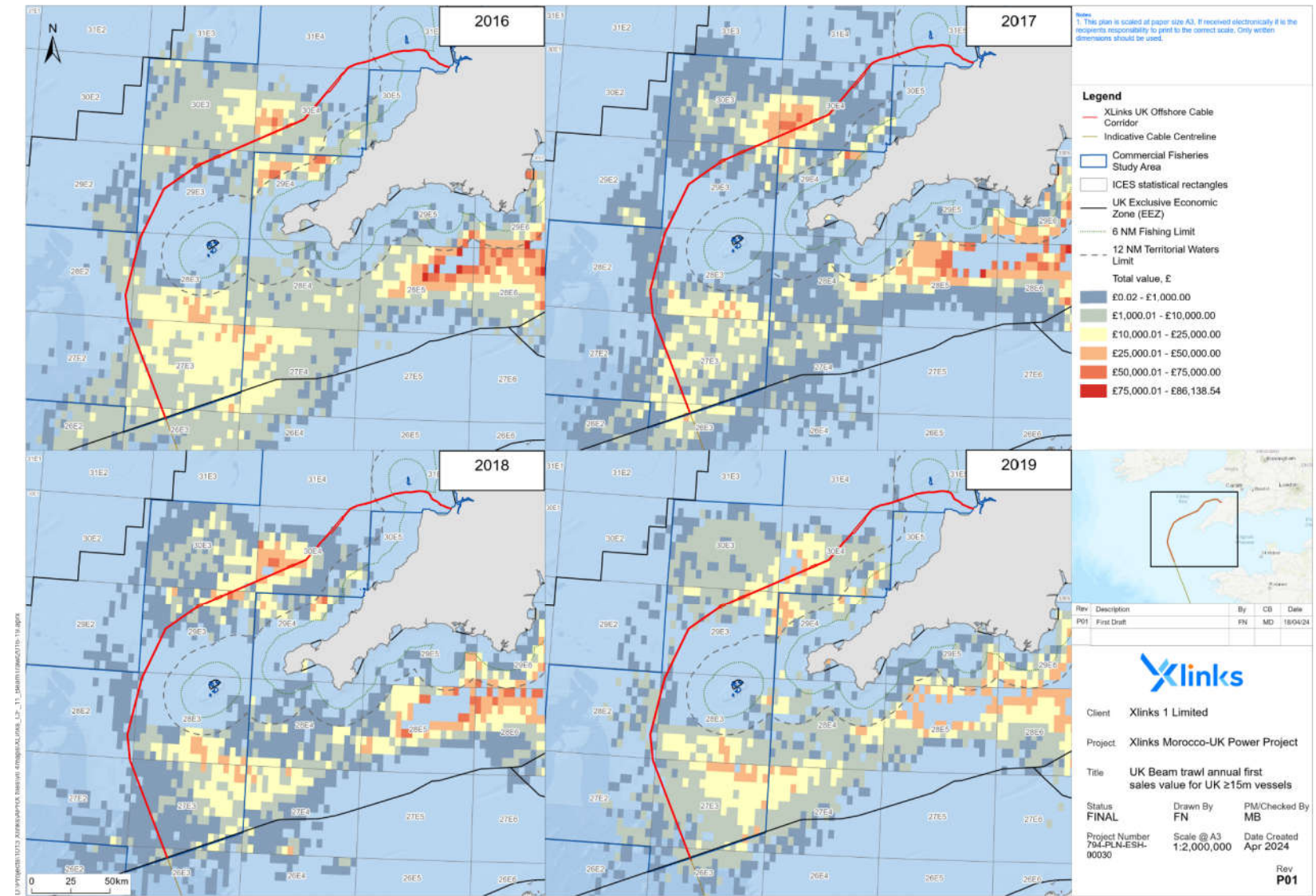**Figure 22: Surface Swept Area Ratio 2016 to 2020 for EU (including UK) vessels ≥ 12 m length using beam trawl gear (Data Source: ICES, 2021)**

Figure 23: UK vessels ≥ 15 m length actively fishing using beam trawl gear 2016 to 2019 (Data Source: MMO, 2022)
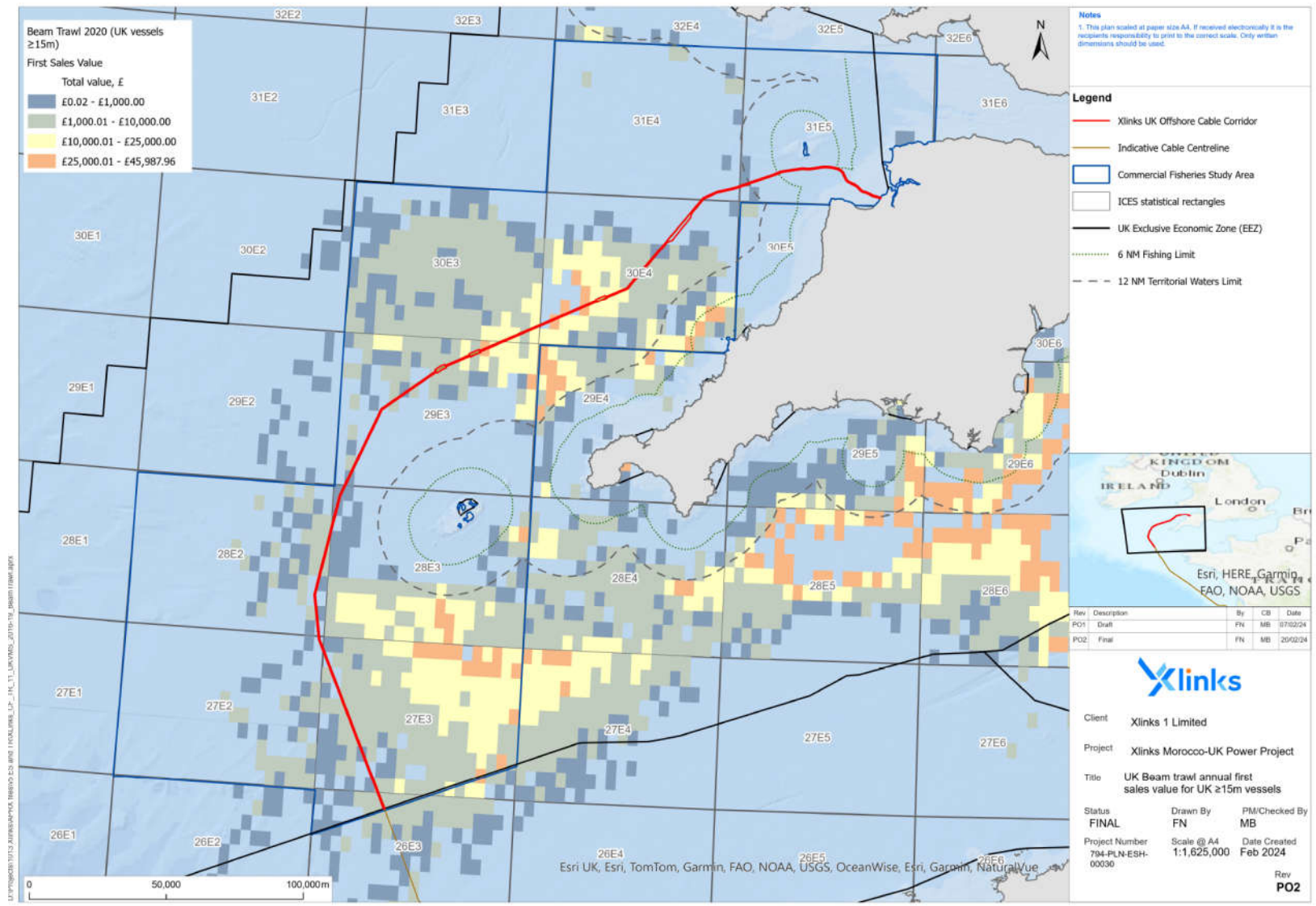
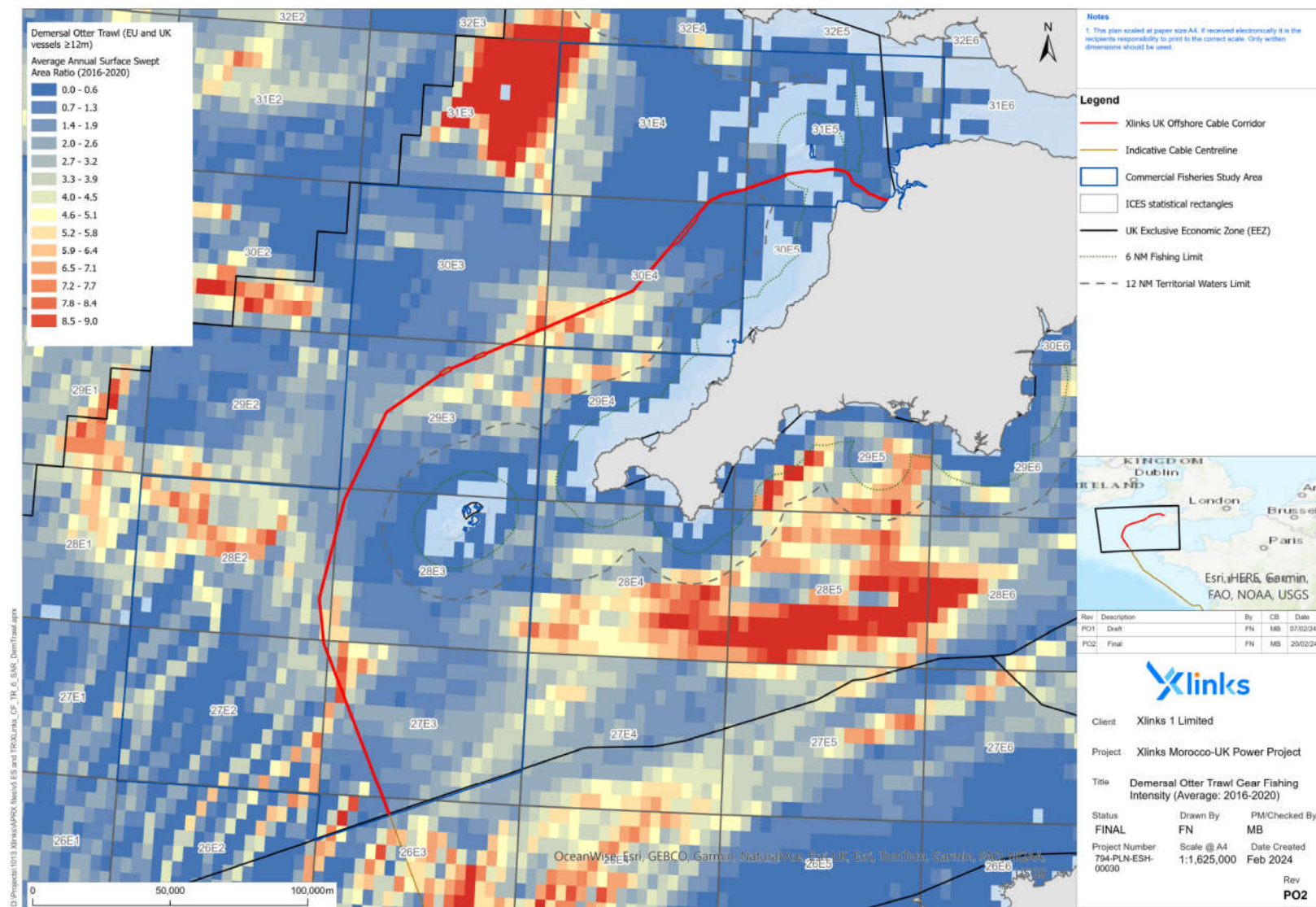**Figure 24: UK vessels ≥ 15 m length actively fishing using beam trawl gear 2020 (Data Source: MMO, 2022)**

Figure 25: Surface Swept Area Ratio 2016 to 2020 for EU (including UK) vessels ≥ 12 m length using demersal otter trawl gear (Data Source: ICES, 2021)
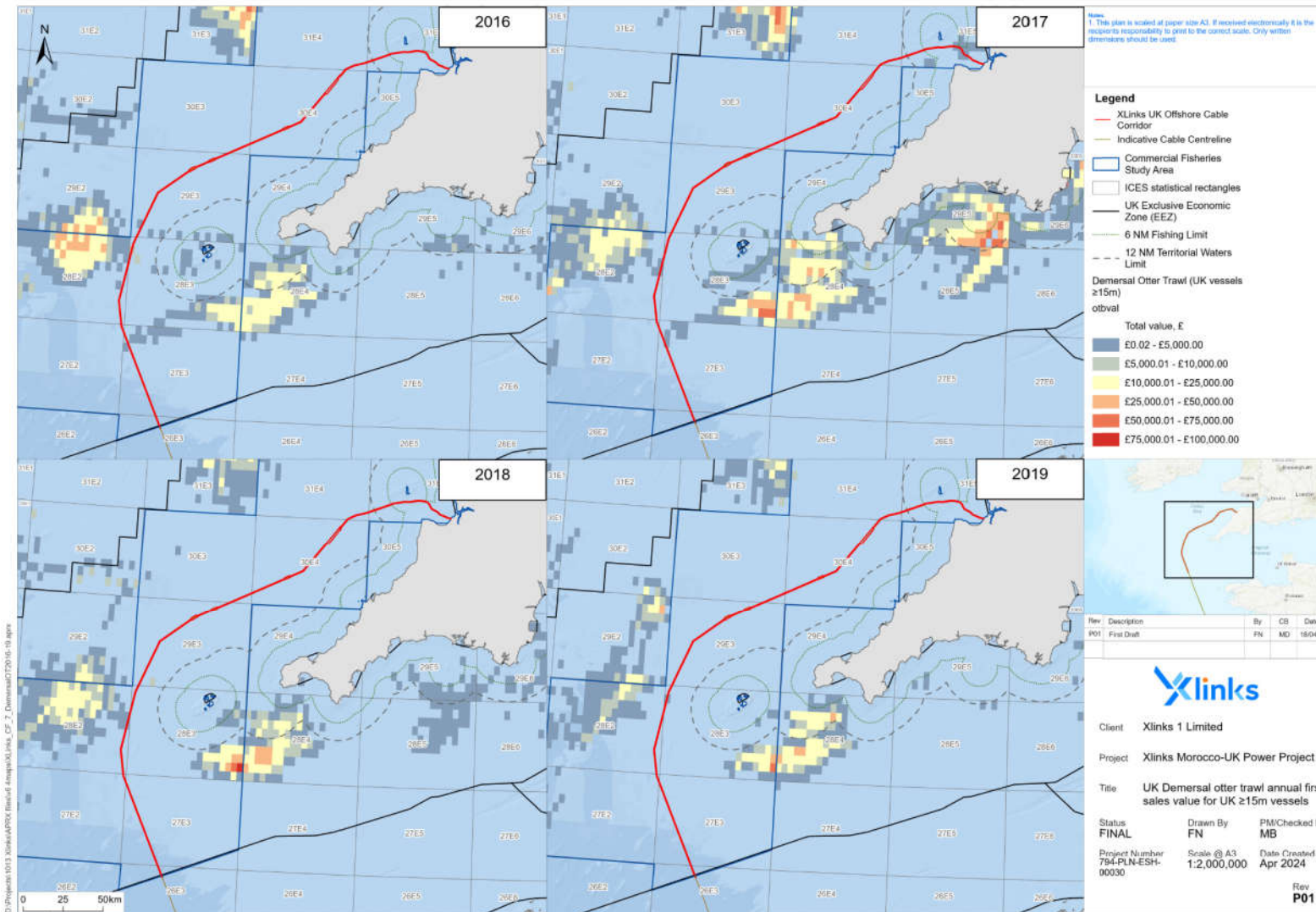
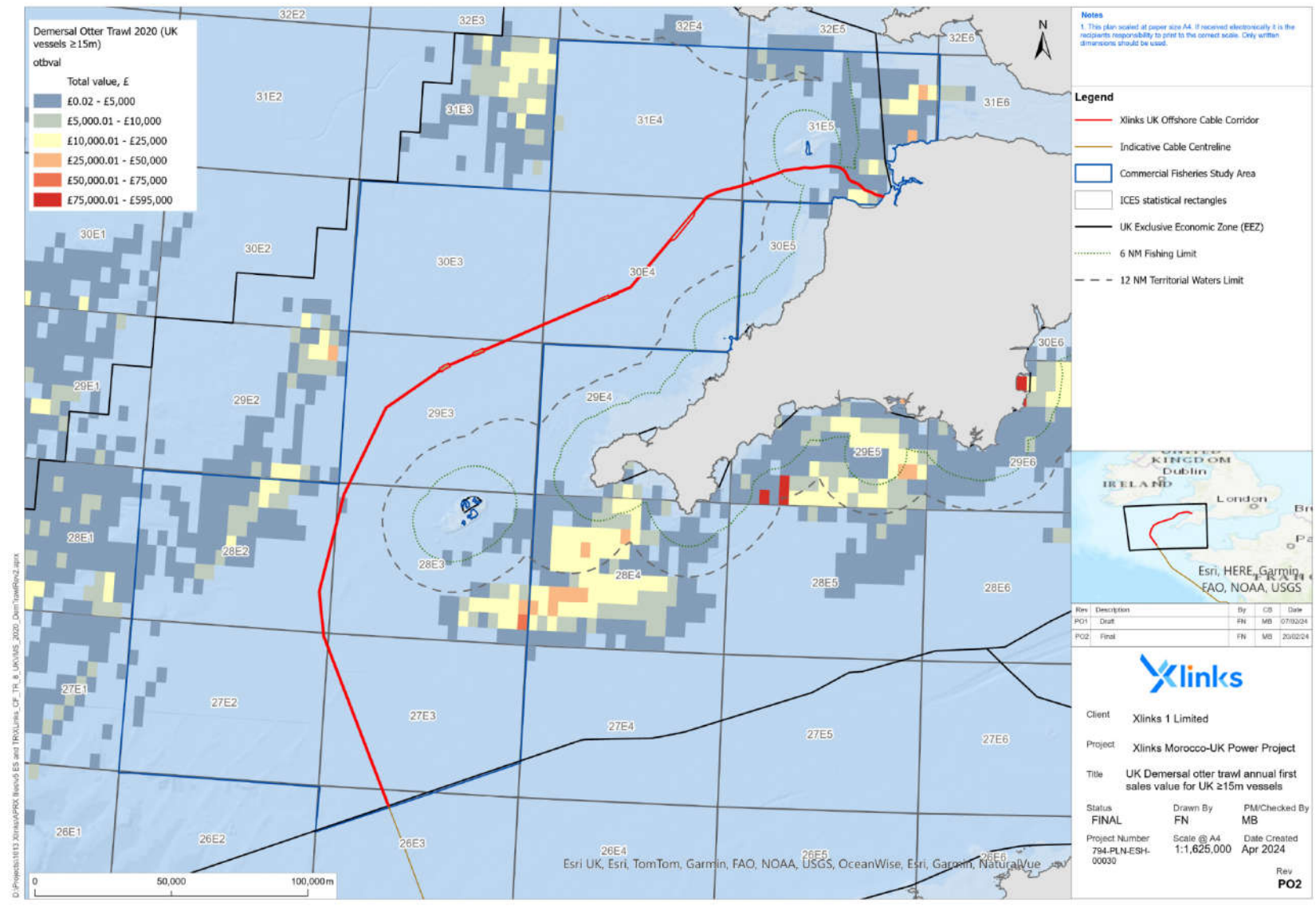**Figure 26: UK vessels ≥ 15 m length actively fishing using demersal otter trawl gear 2016 to 2019 (Data Source: MMO, 2022)**

Figure 27: UK vessels ≥ 15 m length actively fishing using demersal otter trawl gear 2020 (Data Source: MMO, 2022)

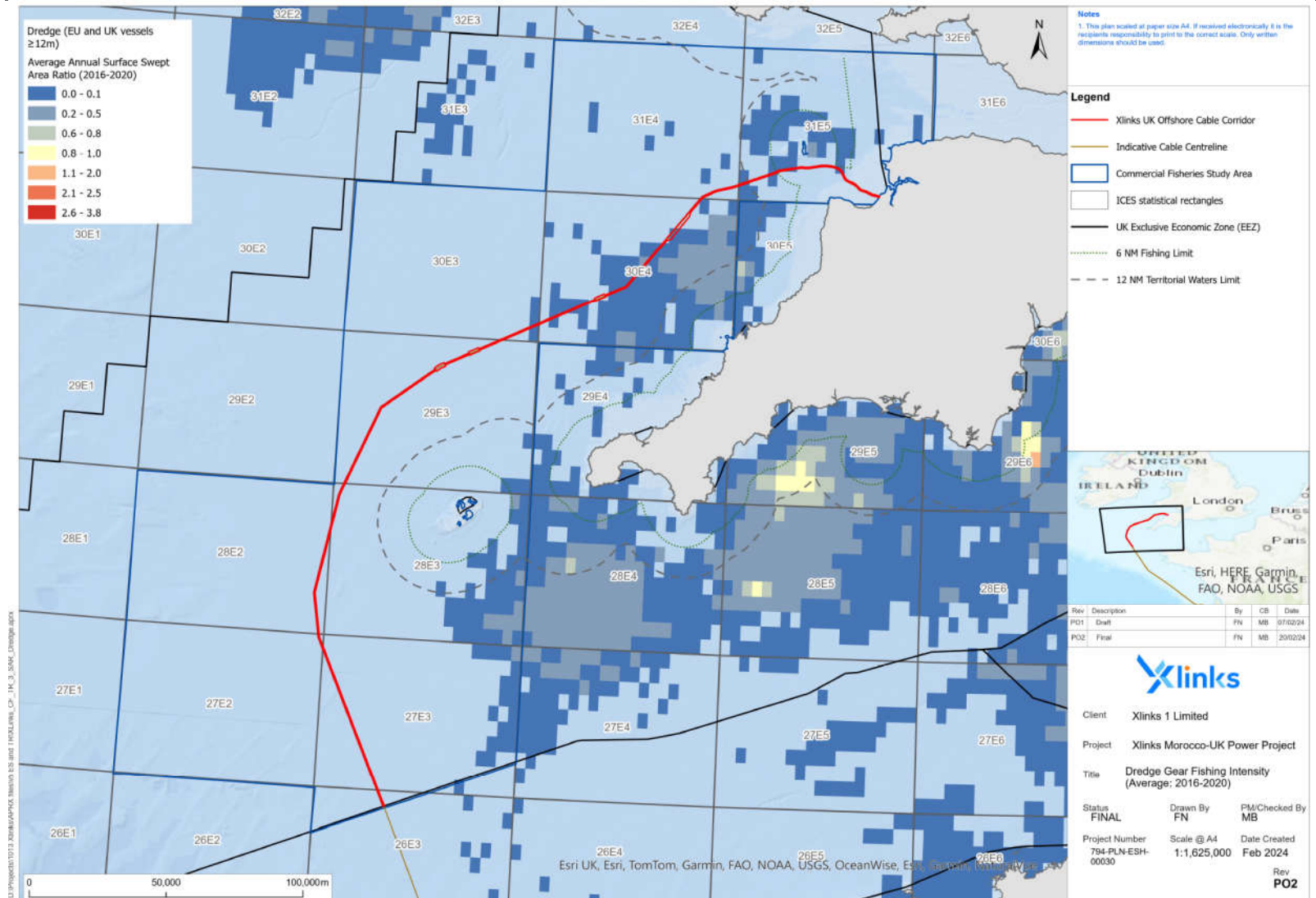**Figure 28: Surface Swept Area Ratio 2016 to 2020 for EU (including UK) vessels ≥ 12 m length using dredge gear (Data Source: ICES, 2021)**
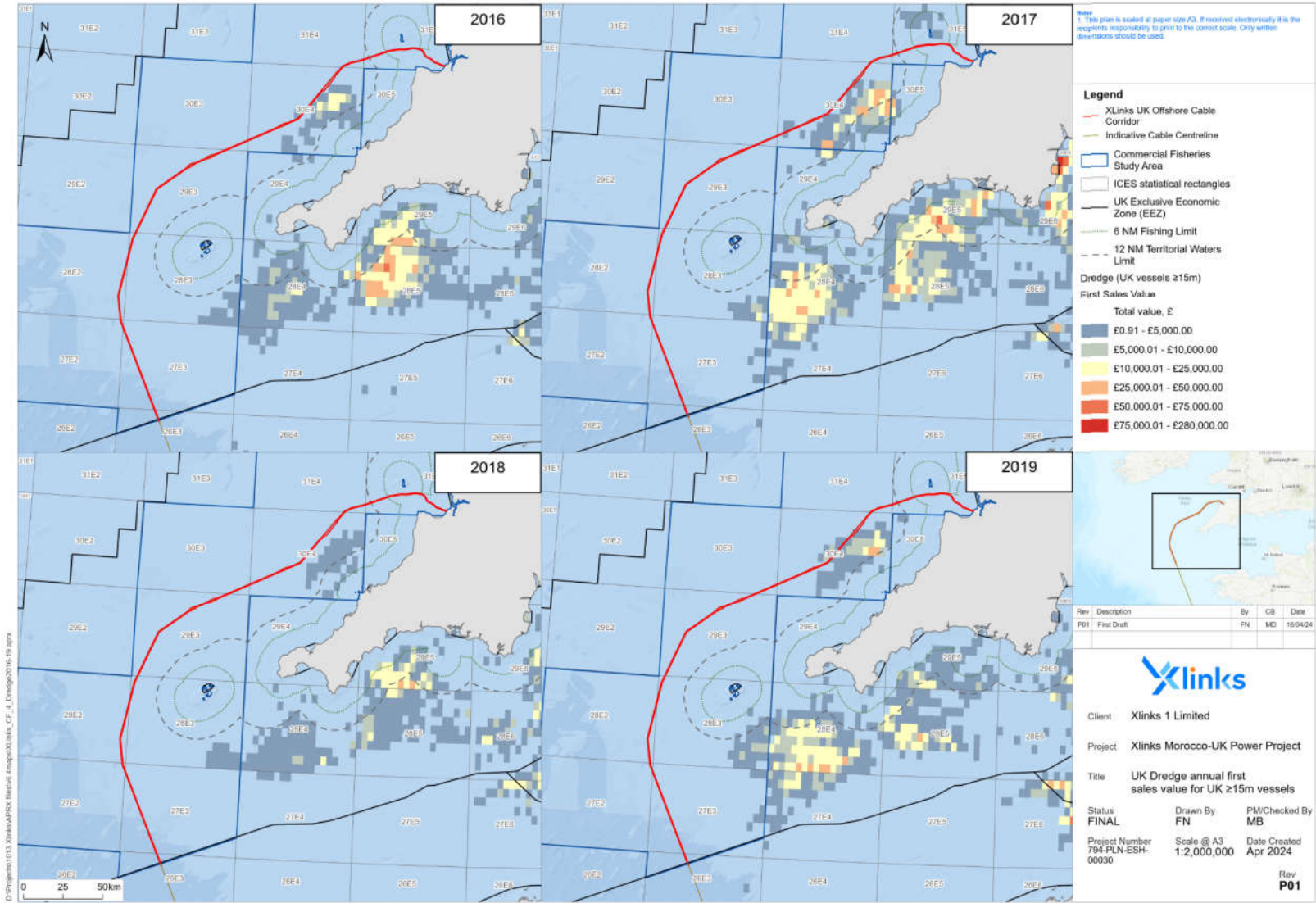
Figure 29: UK vessels ≥ 15 m length actively fishing using dredge gear 2016 to 2019 (Data Source: MMO, 2022)
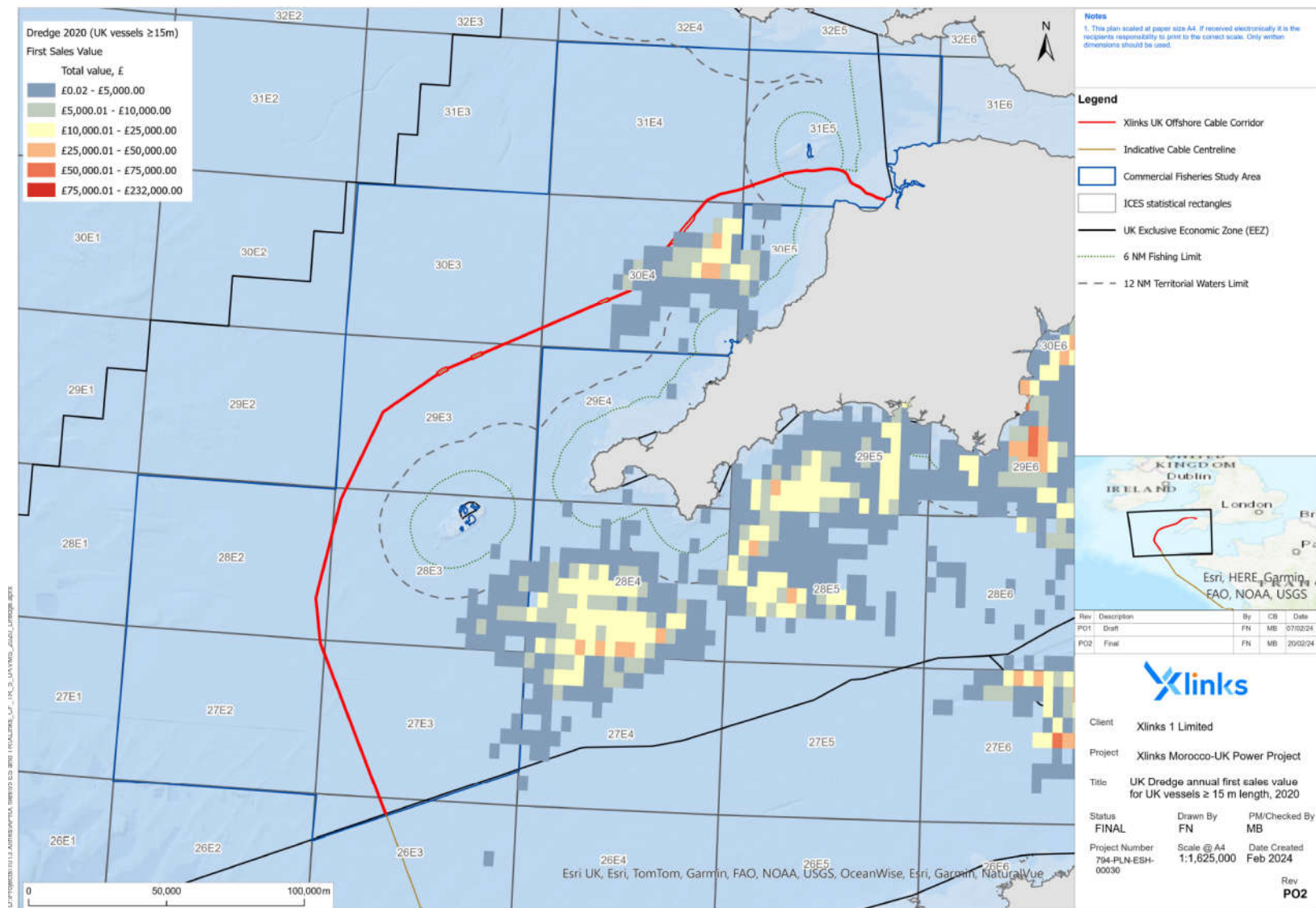
Figure 30: UK vessels ≥ 15 m length actively fishing using dredge gear 2020 (Data Source: MMO, 2022)
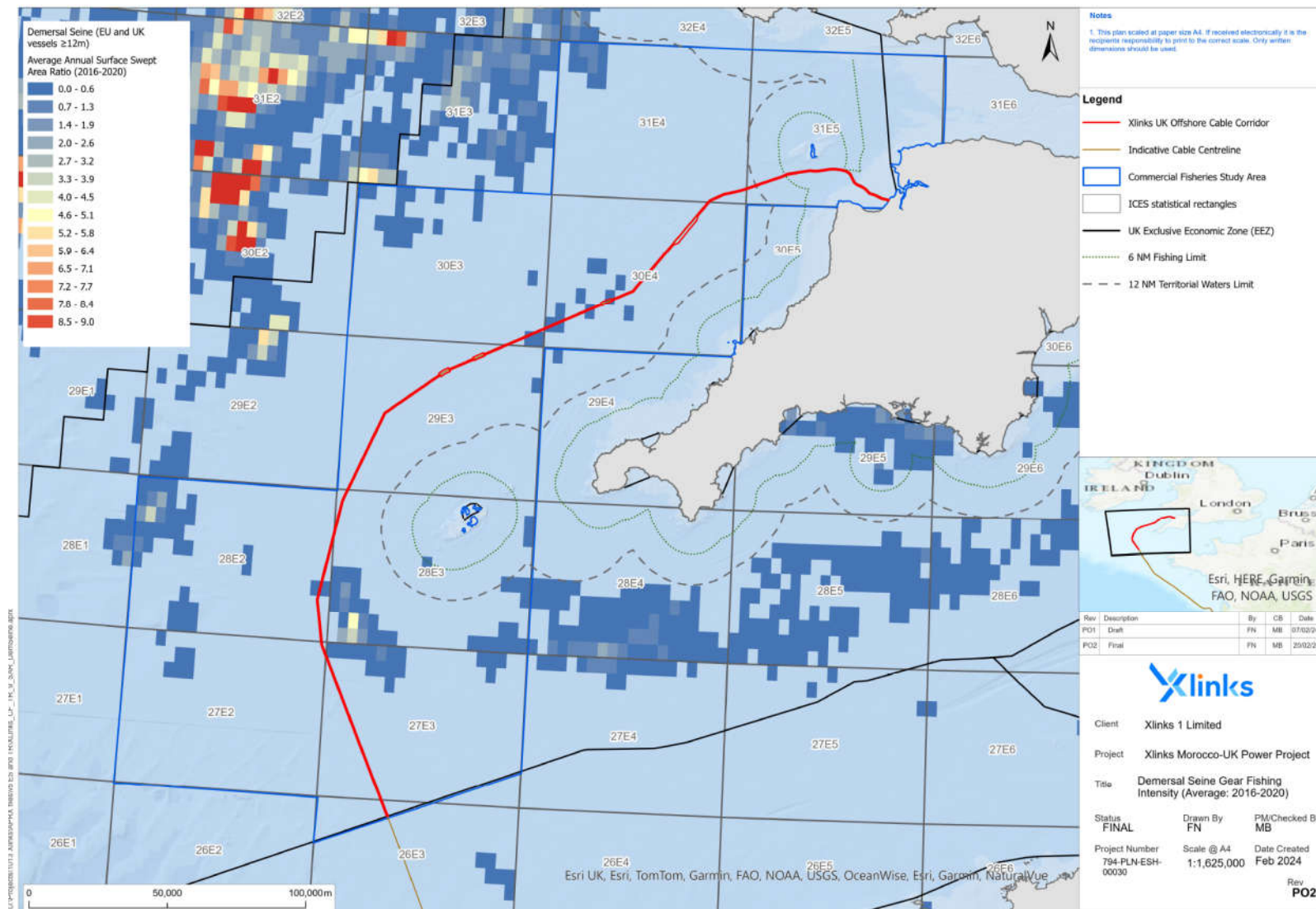
Figure 31: Surface Swept Area Ratio 2016 to 2020 for EU (including UK) vessels ≥ 12 m length using demersal seine gear (Data Source: ICES, 2021)
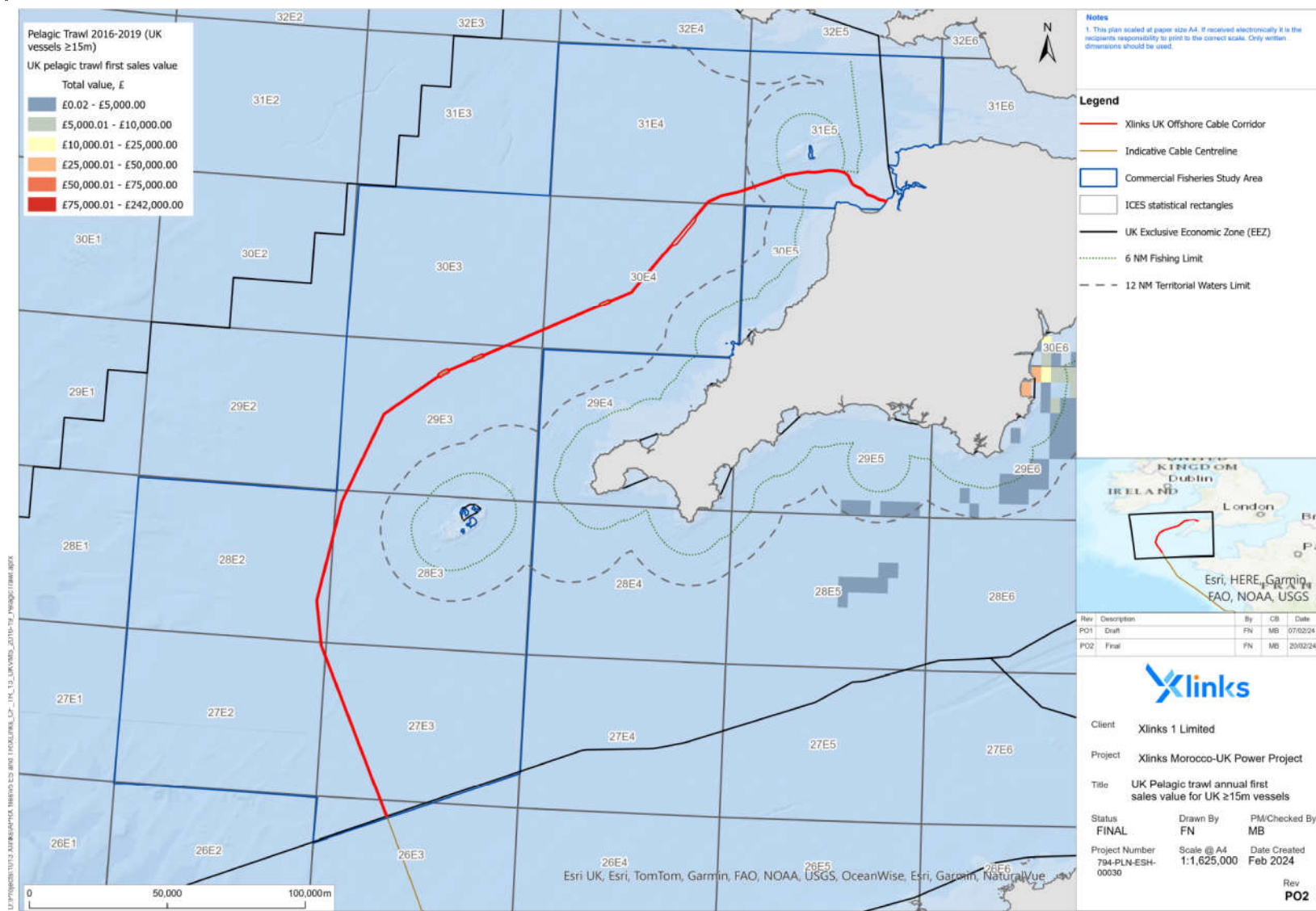
Figure 32: UK vessels ≥ 15 m length actively fishing using pelagic trawl gear 2016 to 2019 (Data Source: MMO, 2022)
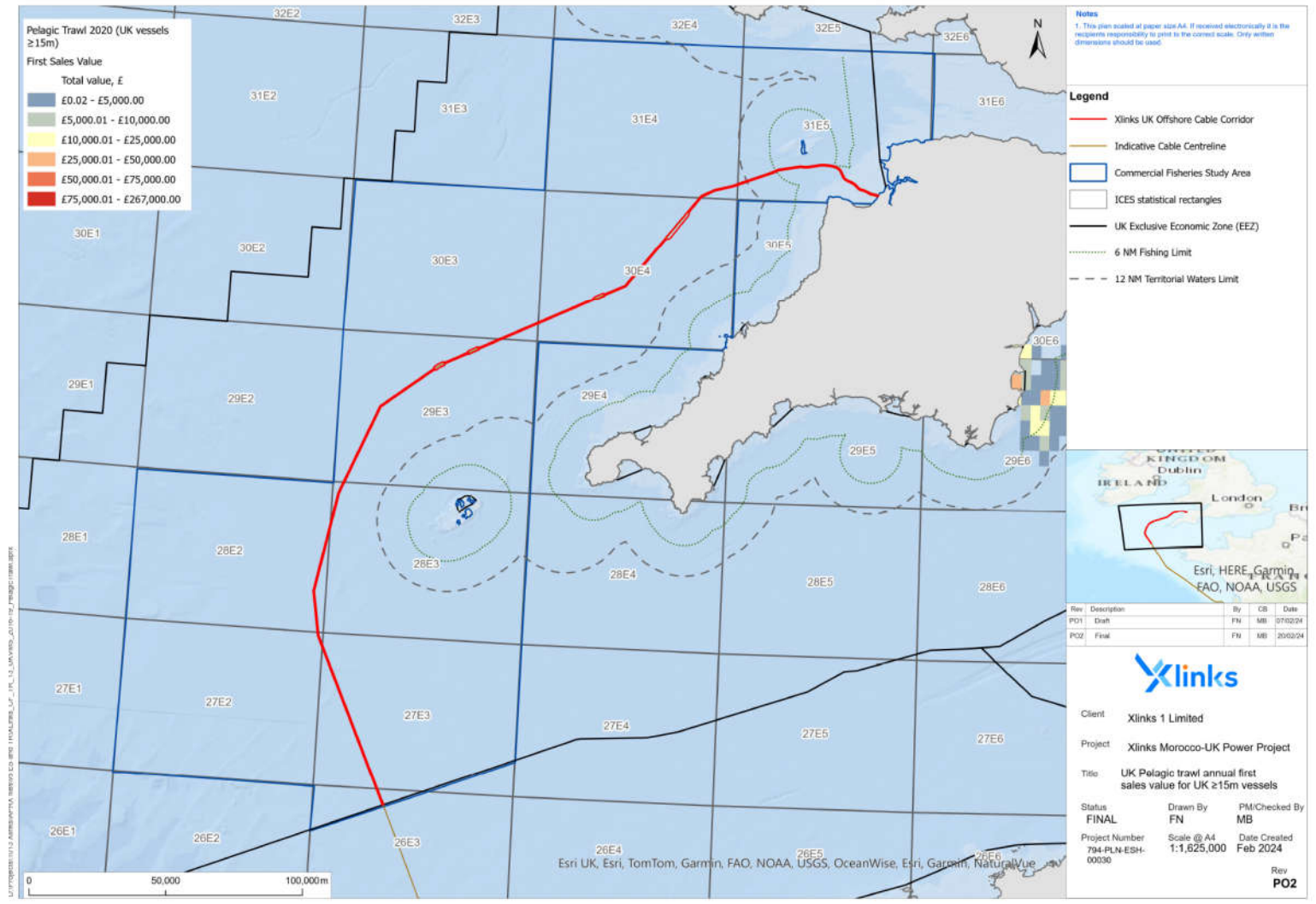
Figure 33: UK vessels ≥ 15 m length actively fishing using pelagic trawl gear 2020 (Data Source: MMO, 2022)
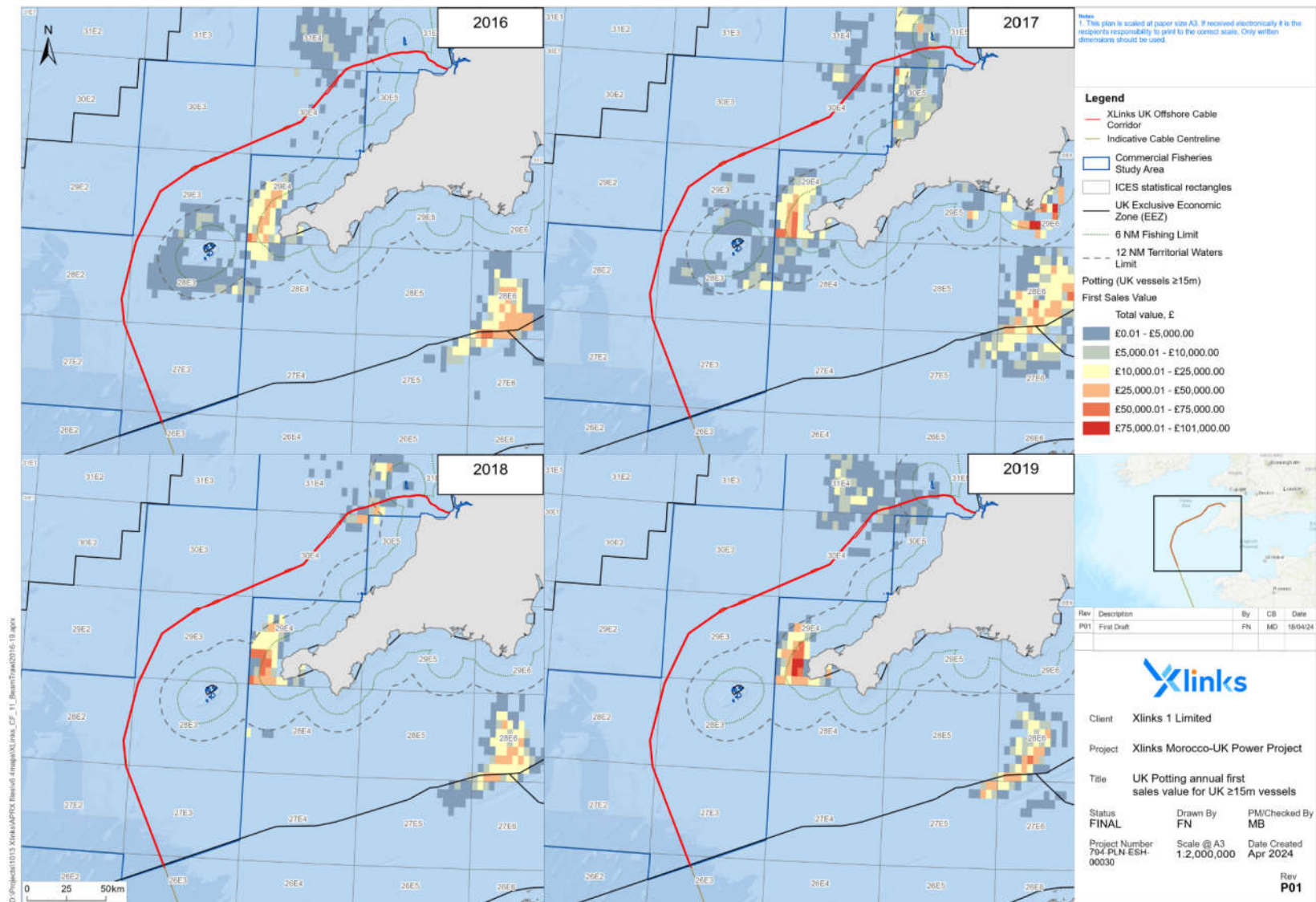
Figure 34: UK vessels ≥ 15 m length actively fishing using potting gear 2016 to 2019 (Data Source: MMO, 2022)
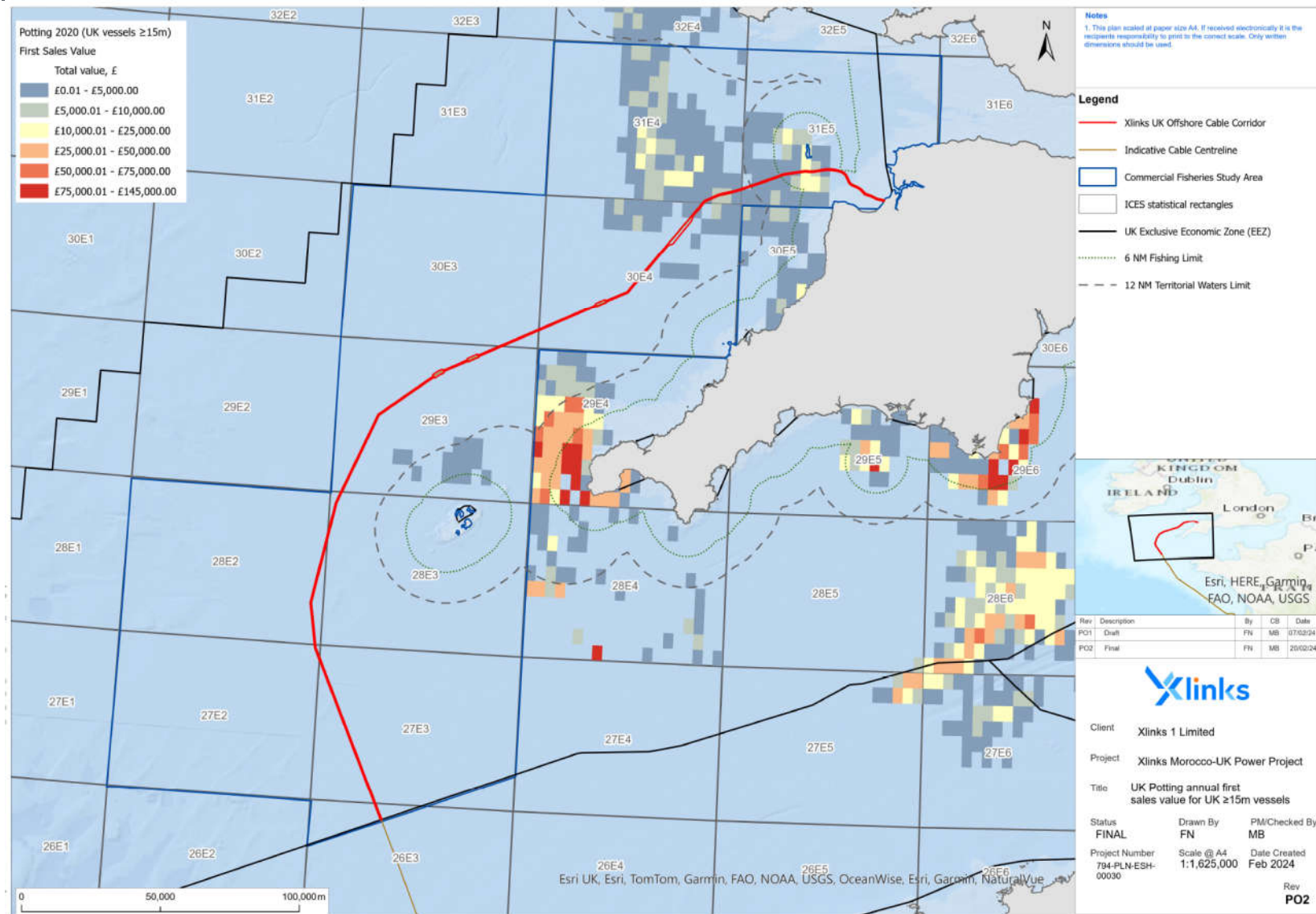
Figure 35: UK vessels ≥ 15 m length actively fishing using potting gear 2020 (Data Source: MMO, 2022)
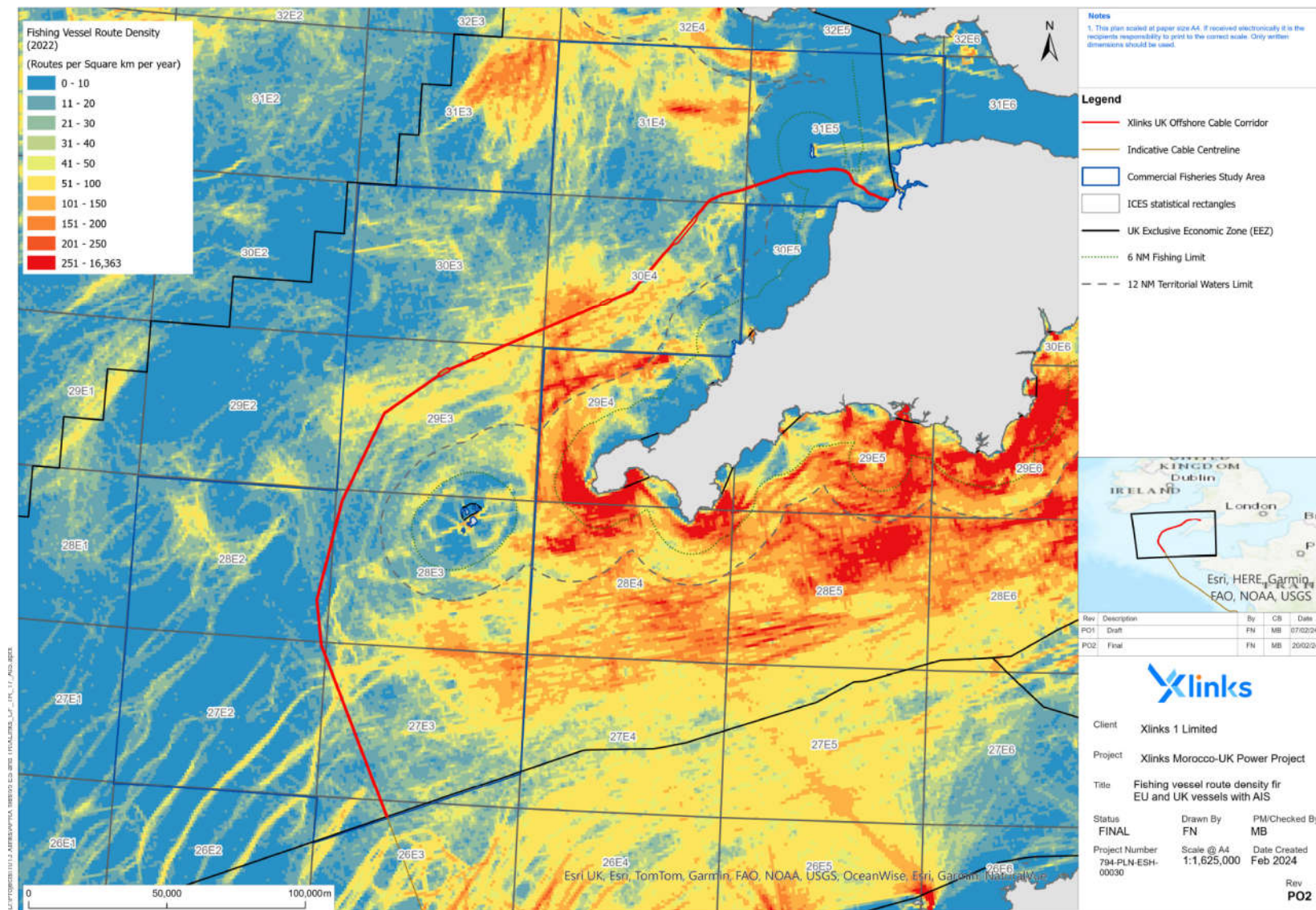
Figure 36: Fishing vessel AIS route density data for 2022 (Data Source: EMSA, 2022)
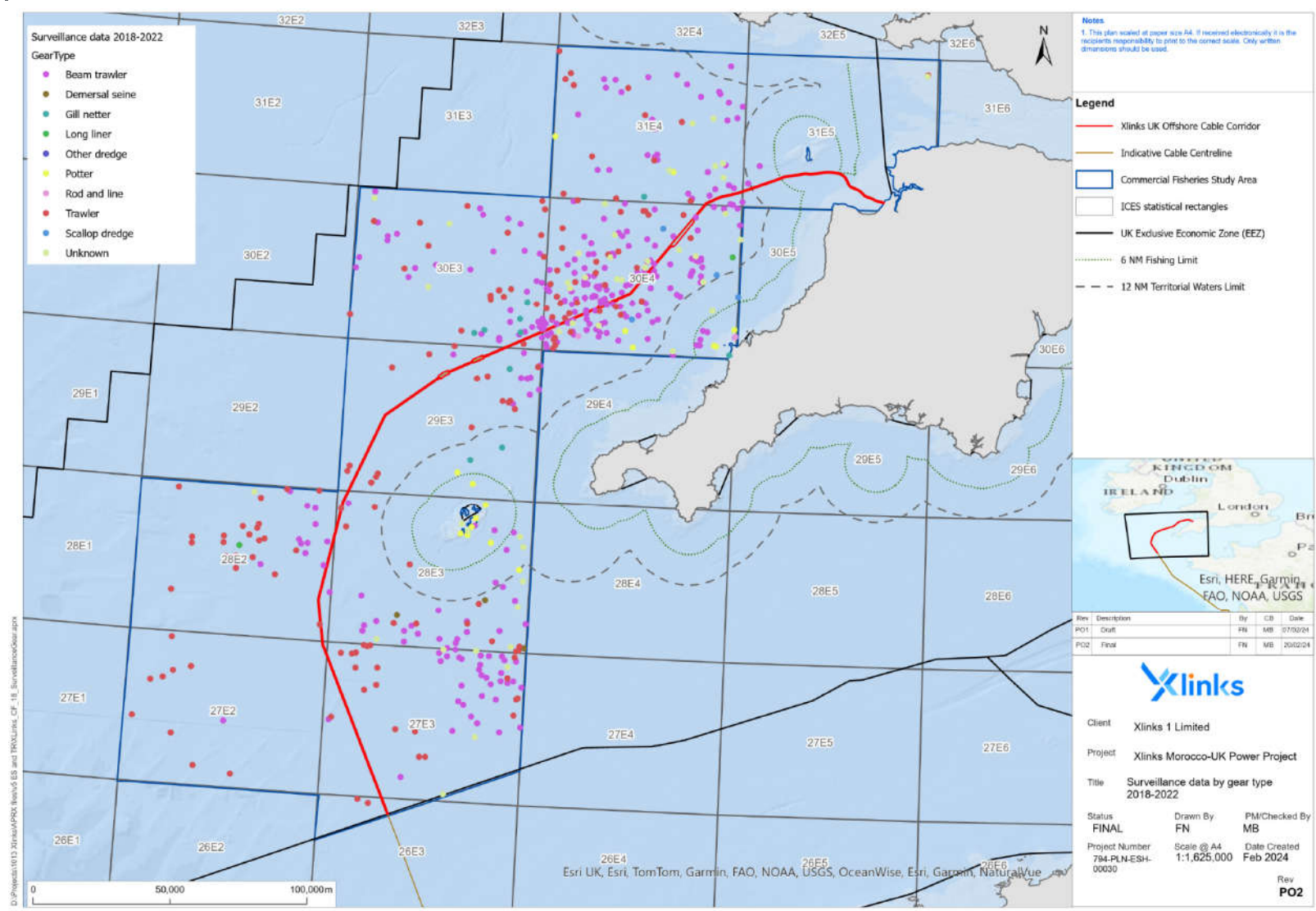
Figure 37: Fishing surveillance data for 2018 to 2022, showing vessel observations by fishing gear type (Data Source: MMO, 2023)
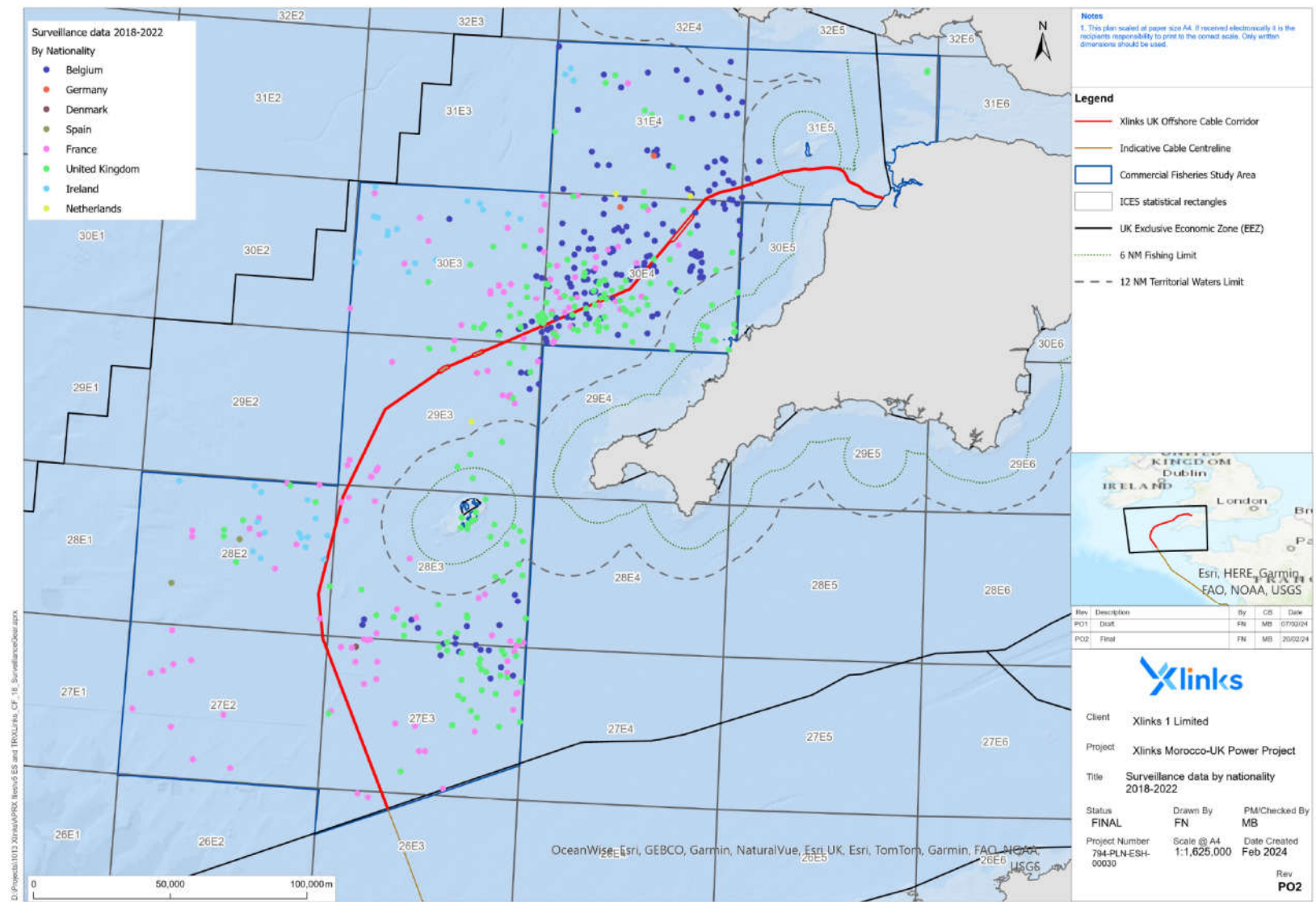
Figure 38: Fishing surveillance data for 2018 to 2022, showing vessel observations by fishing vessel nationality (Data Source: MMO, 2023)

English[2] fisheries activity assessment

Landings trends, fishing grounds and key target species

1.3.52   The trends in landed value by English-registered vessels from the study area are presented in **Figure 39** for gear type and **Figure 40** for species.

1.3.53   English landings are dominated by vessels targeting flatfish with beam trawls, whitefish with nets and shellfish with pots and traps.

1.3.54   The average annual first sales value of English landings from the study area between 2018 and 2022 was approximately £13 million, with the highest landings values being associated with ICES rectangles 28E3 and 30E4.

1.3.55   Key target species include sole, with an annual average landings value for English vessels of £2.5 million, hake at £2 million, monkfish at £1.6million, brown crab at £1.1 million and lobster at £830,000. Landings of these species have shown some variation over the five-year time period, with landings of sole increasing substantially, landings of hake and monkfish showing a slight decline, and landings of brown crabs and lobsters remaining relatively consistent with the exception of a drop in landings in 2020 expected to reflect the effects of the COVID pandemic.

1.3.56   Based on the landings data presented here and spatial data presented above, English-registered vessels active in the study area are primarily targeting sole and other flatfish with beam trawls, hake and other whitefish with gill and trammel nets, and shellfish with pots and traps.

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[2] Inclusive of Isles of Scilly

Figure 39: Landed value of all landings by English registered vessels from the study area indicating gear type (Data Source: MMO, 2023)

Figure 40: Landed value of all landings by English registered vessels from the study area indicating key species (Data Source: MMO, 2023)
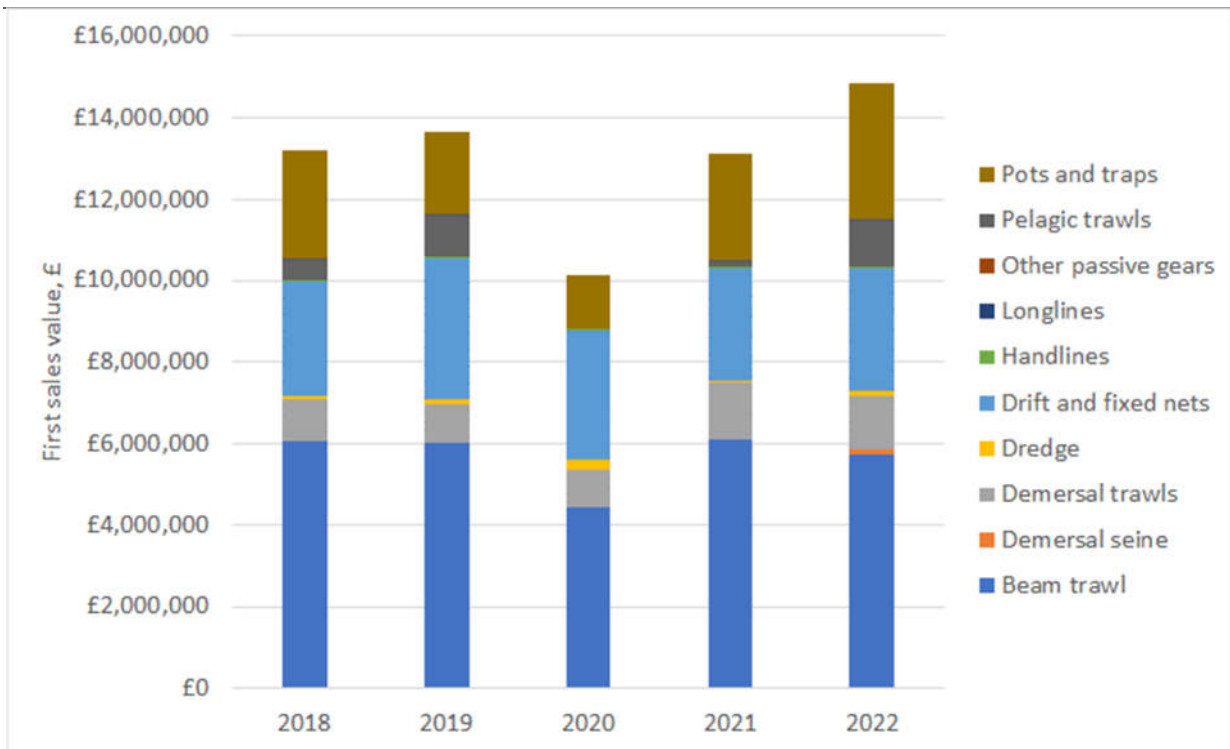
Ports and vessel fleets

1.3.57 Vessels of a variety of sizes operate across the study area. Larger vessels of over 15 m length include beam and otter trawlers, scallop dredgers, and demersal seine and pelagic trawl vessels. Smaller vessels of under 15 m length and working in inshore waters, typically within the 6 nautical mile limit, operate a wide variety of fishing gears, including pots, nets and lighter trawls.

1.3.58 The MMO provides 2022 landings statistics by port of landing attributed to specific ICES rectangles, allowing linkage of the location of fishing to the specific port the catch is landed into, as shown in **Figure 41**. Key English fleets targeting fisheries within the study area include beam trawlers and netting vessels landing into Newlyn and potting vessels landing to a wide variety of English ports.

Figure 41: Landed value of all landings by English registered vessels from the study area indicating port of landing in 2022 (Data Source: MMO, 2023)

Scottish fisheries activity assessment

Landings trends, fishing grounds and key target species

1.3.59 The trends in landed value by Scottish-registered vessels from the study area are presented in **Figure 42** for gear type and **Figure 43** for species.

1.3.60 English landings are dominated by vessels targeting nephrops with demersal trawls and king scallop with dredges. Landings by Scottish vessels from the study area has an annual average value of £1.2 million across 2018 and 2019, but this substantially declined from 2020 onwards and across 2020 to 2022 averaged £96,000. This decline is largely accounted for by a decline in landings of nephrops.

1.3.61   Landings of scallops by Scottish vessels have fluctuated across the period 2018 to 2022, peaking in 2019 with a landed value of £320,000 (the average annual value across the five-year period is £100,000). This variation in landings may be a reflection of the cyclical pattern in scallop stocks and associated fishing activity, with good grounds considered to rotate during a cycle across several years.

1.3.62   Based on the landings data presented here and spatial data presented above, Scottish-registered vessels active in the study area are primarily targeting scallops with dredges. Demersal trawl activity may also be present in the study area but has declined notably across the five-year study period.

Figure 42: Landed value of all landings by Scottish registered vessels from the study area indicating gear type (Data Source: MMO, 2023)
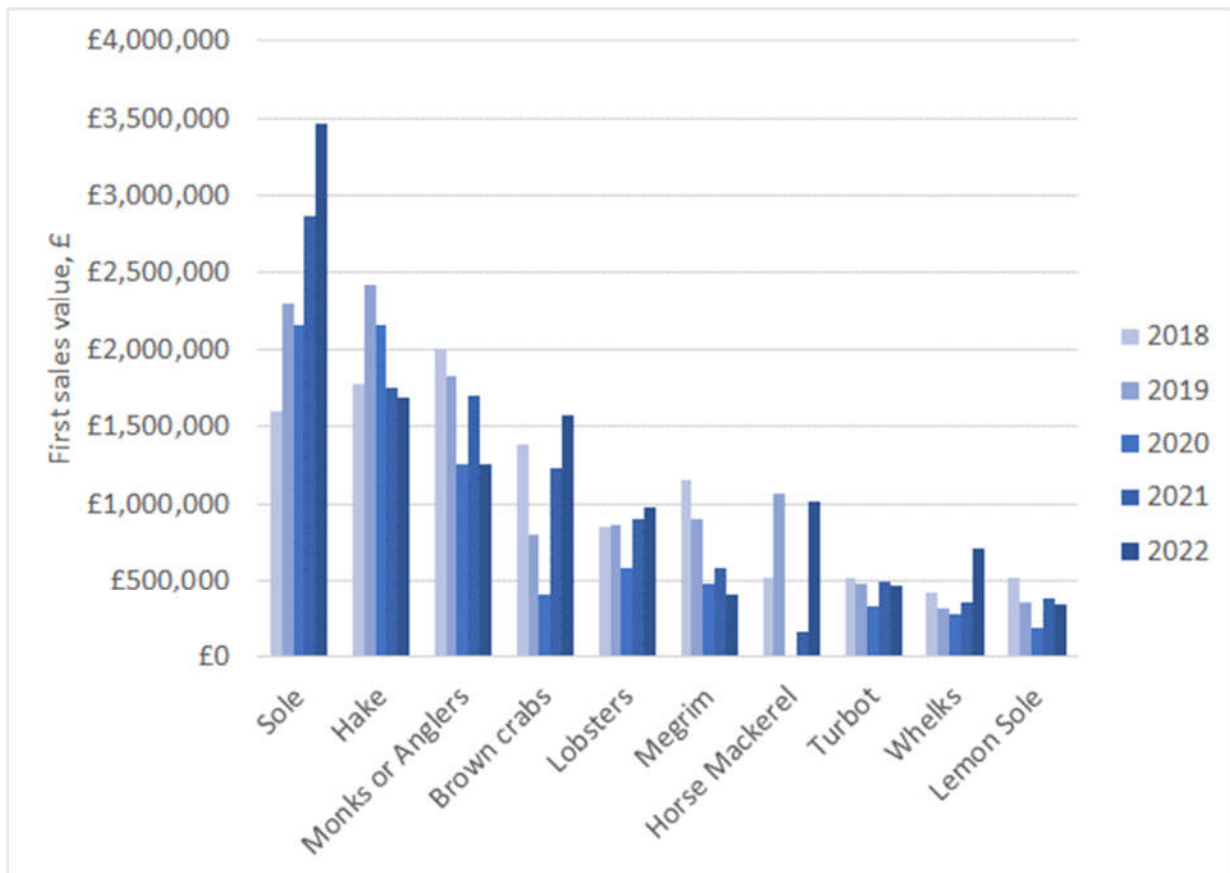
Figure 43: Landed value of all landings by Scottish registered vessels from the study area indicating key species (Data Source: MMO, 2023)

Ports and vessel fleets

1.3.63   Scottish vessels active in the study area are over 24 m length and include demersal otter trawlers and dredge vessels.

1.3.64   The MMO provides 2022 landings statistics by port of landing attributed to specific ICES rectangles, allowing linkage of the location of fishing to the specific port the catch is landed into, as shown in **Figure 44**. Key Scottish fleets targeting fisheries within the study area include demersal trawlers landing into Newlyn and Peterhead, and scallop dredgers that will form part of the UK nomadic scallop fleet, landing into Newlyn and Brixham.
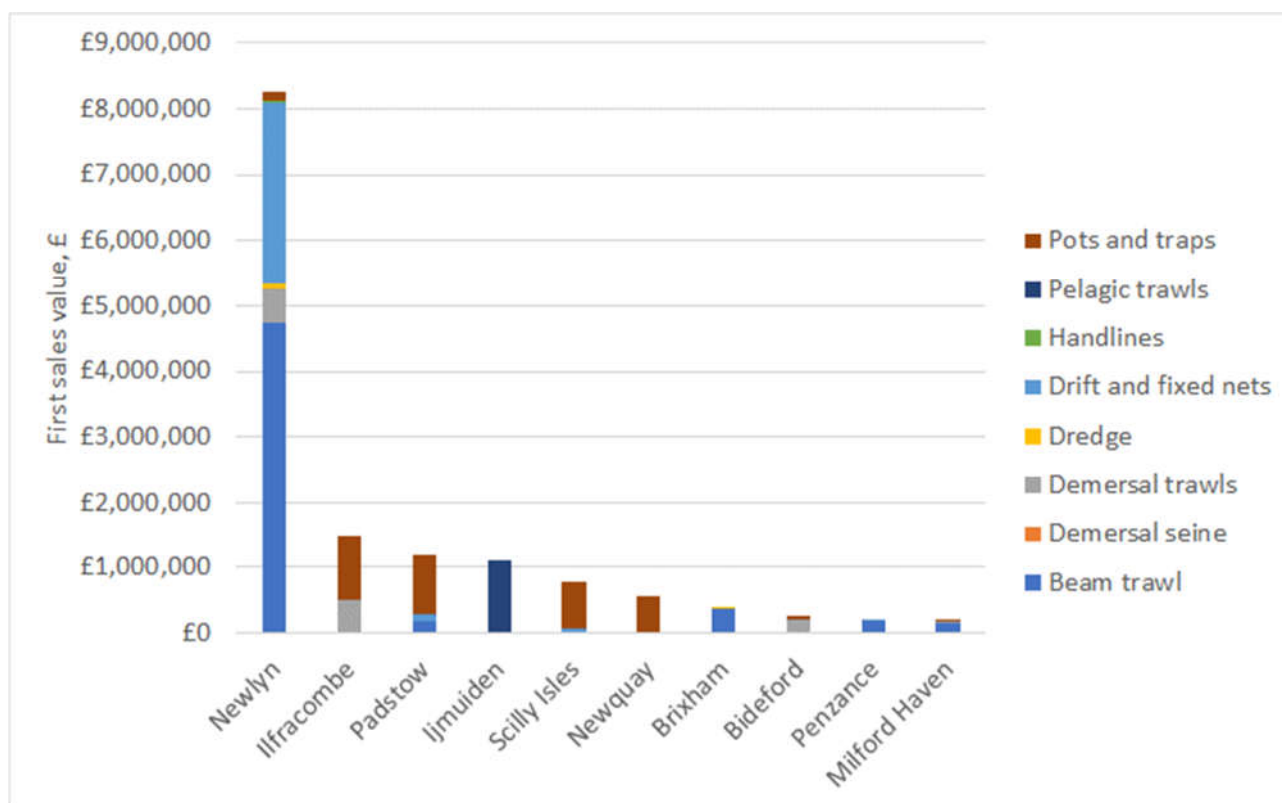
Figure 44: Landed value of all landings by Scottish registered vessels from the study area indicating port of landing in 2022 (Data Source: MMO, 2023)

Welsh fisheries activity assessment

Landings trends, fishing grounds and key target species

1.3.65   The trends in landed value by Welsh-registered vessels from the study area are presented in **Figure 45** for gear type and **Figure 46** for species.

1.3.66   Welsh landings are dominated by vessels targeting shellfish, and particularly whelk and brown crab, with pots and traps.

1.3.67   The average annual first sales value of Welsh landings from the study area between 2018 and 2022 was approximately £570,000, with the highest landings values being associated with ICES rectangles 31E5 and 31E4, with limited landings from other parts of the study area.

1.3.68   Whelk had an annual average landings value for Welsh vessels of £370,000, lobsters of £110,000 and sole of £30,000. Landings of these species have shown some variation over the five-year time period, generally being at their peak in 2018, lowest in 2020 (expected to reflect the effects of the COVID pandemic) and slowly increasing through 2021 and 2022, though not to 2018 or 2019 levels.
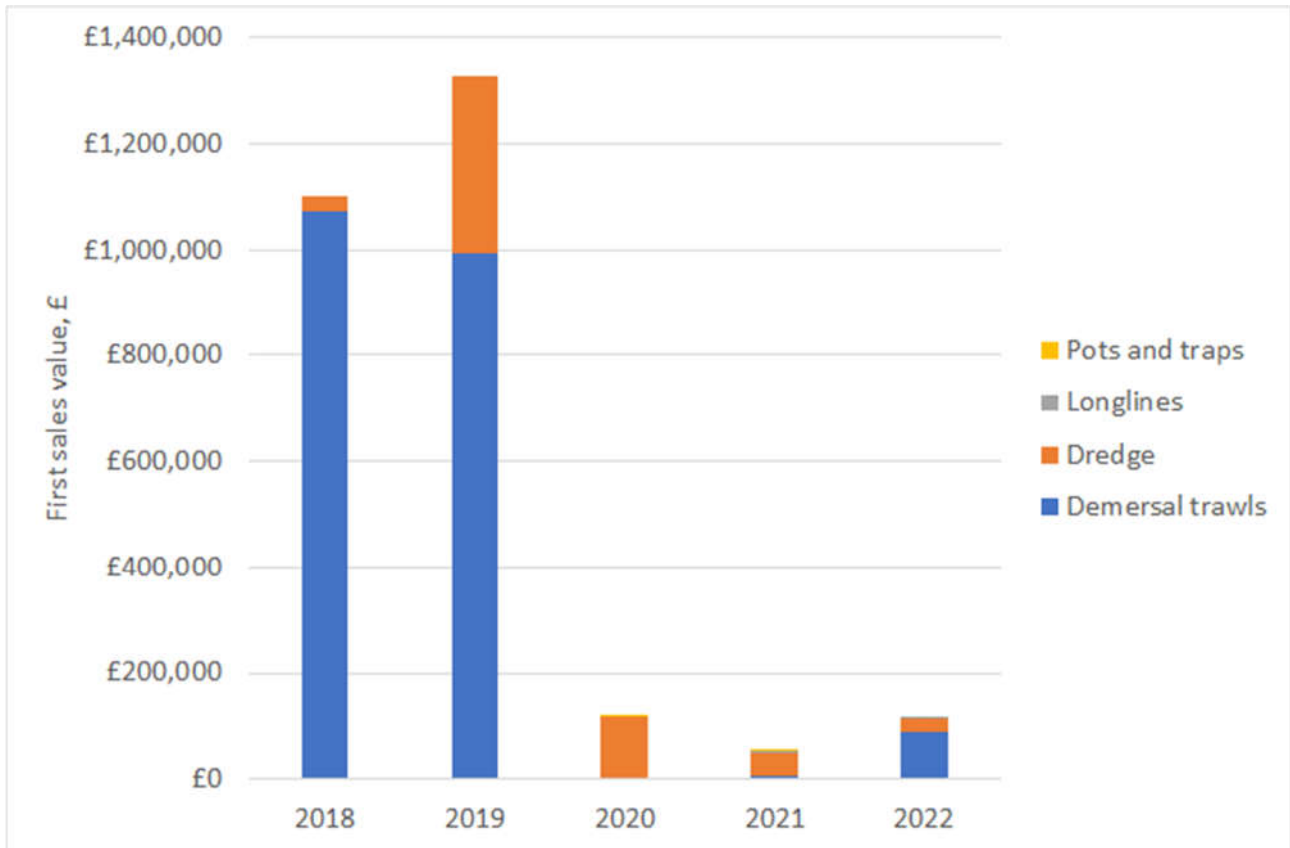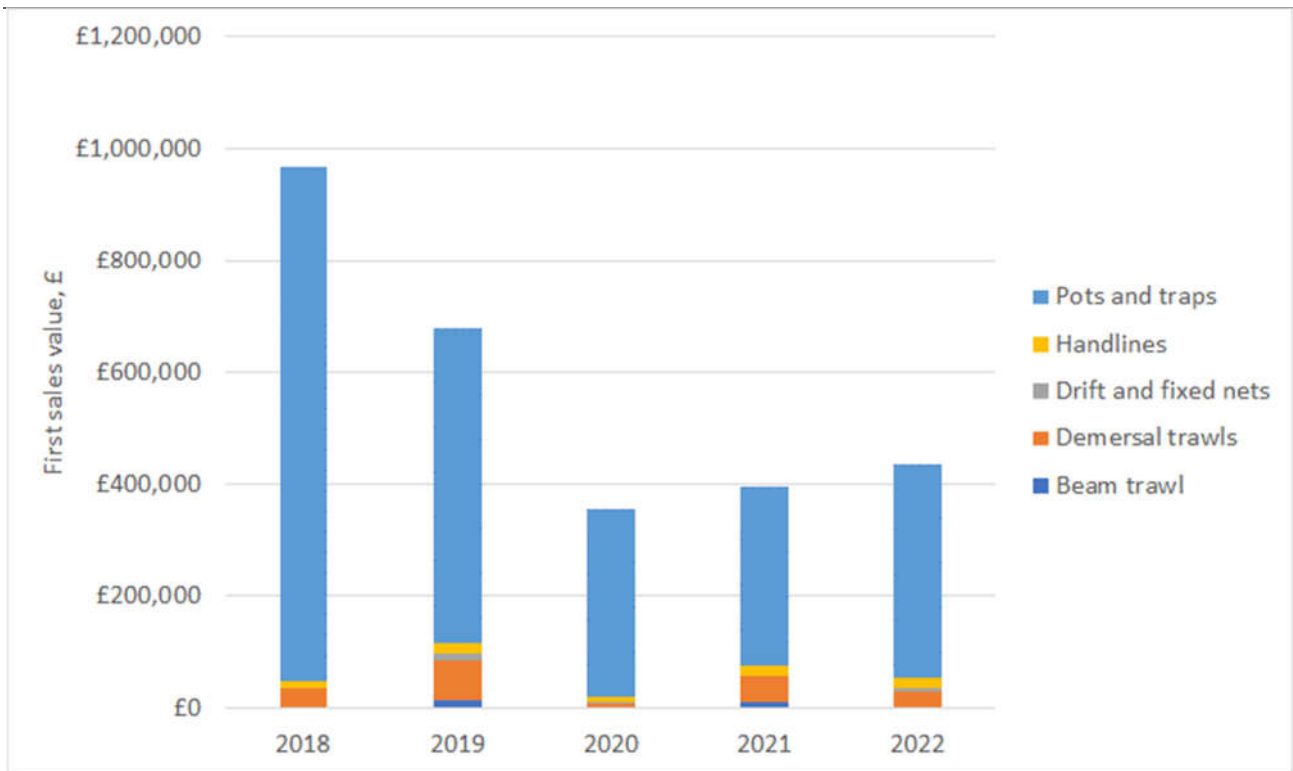
Figure 45: Landed value of all landings by Welsh registered vessels from the study area indicating gear type (Data Source: MMO, 2023)
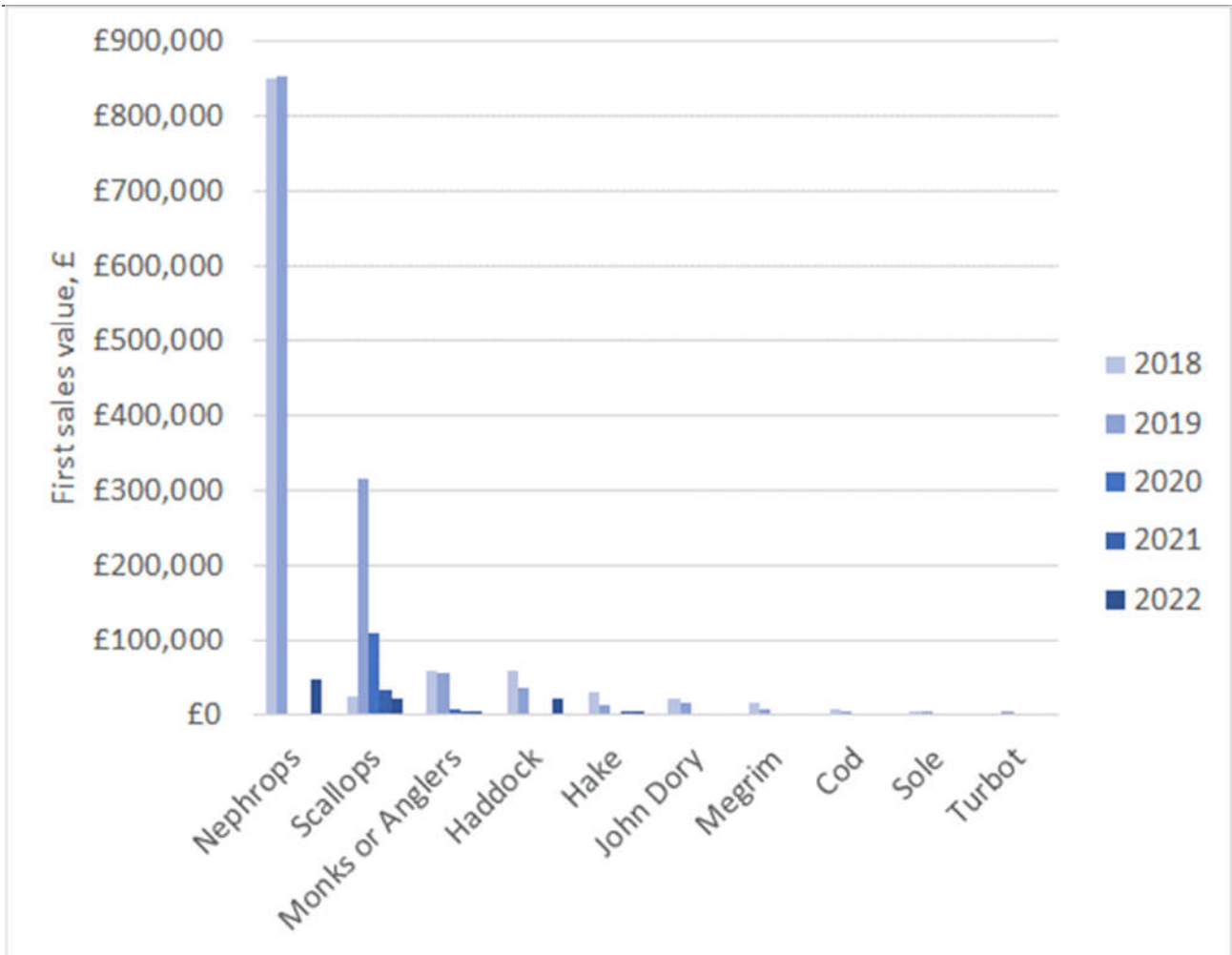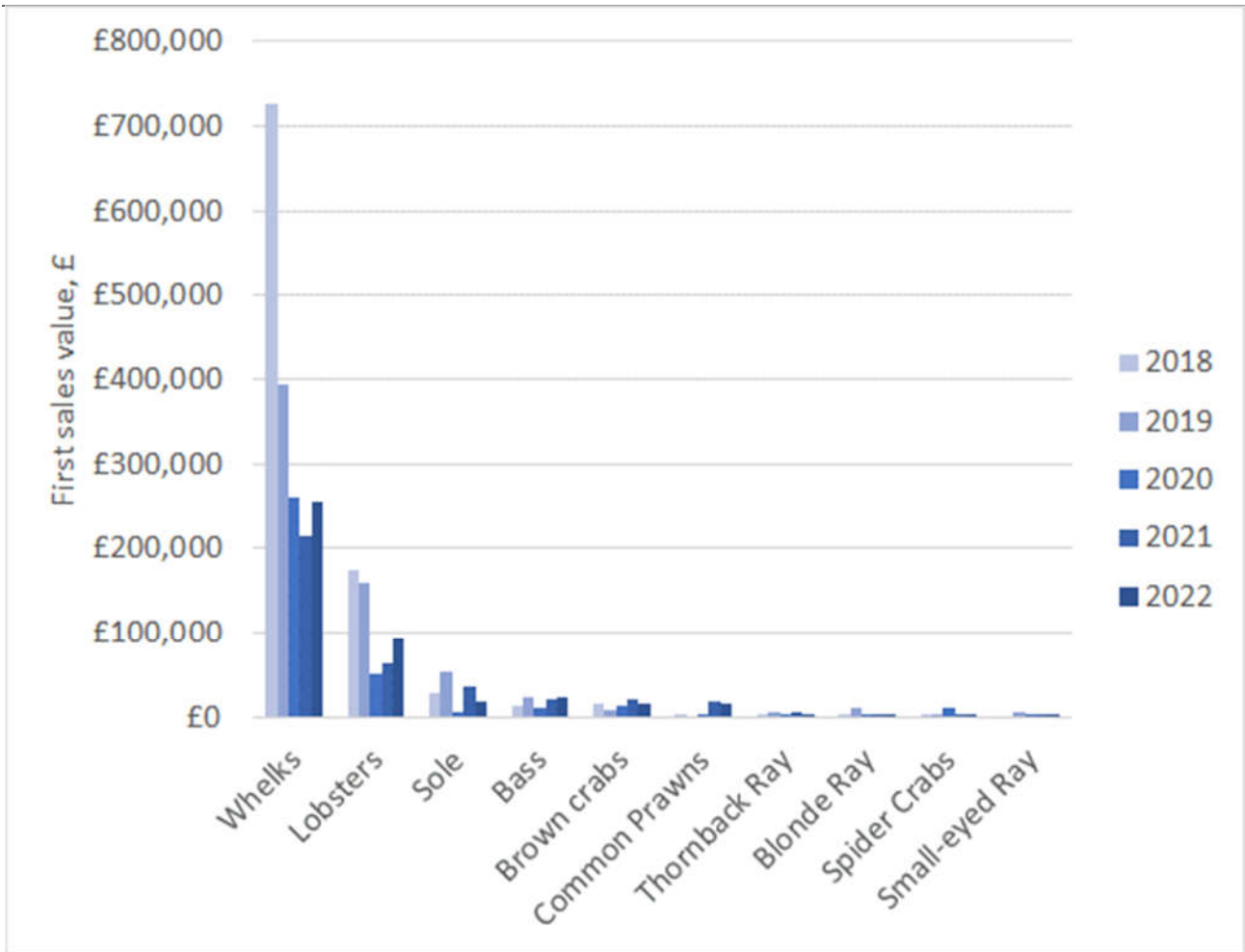
Figure 46: Landed value of all landings by Welsh registered vessels from the study area indicating key species (Data Source: MMO, 2023)

Ports and vessel fleets

1.3.69 Welsh vessel active in the study area are under 12 m length, operating primarily in inshore waters.

1.3.70 The MMO provides 2022 landings statistics by port of landing attributed to specific ICES rectangles, allowing linkage of the location of fishing to the specific port the catch is landed into, as shown in **Figure 47**. Welsh fleets active in the study area land shellfish to Saundersfoot and Milford Haven. Data indicates some demersal trawl activity, with those vessels landing sole to Swansea, and line-caught bass being landed to Swansea and Burry Port.
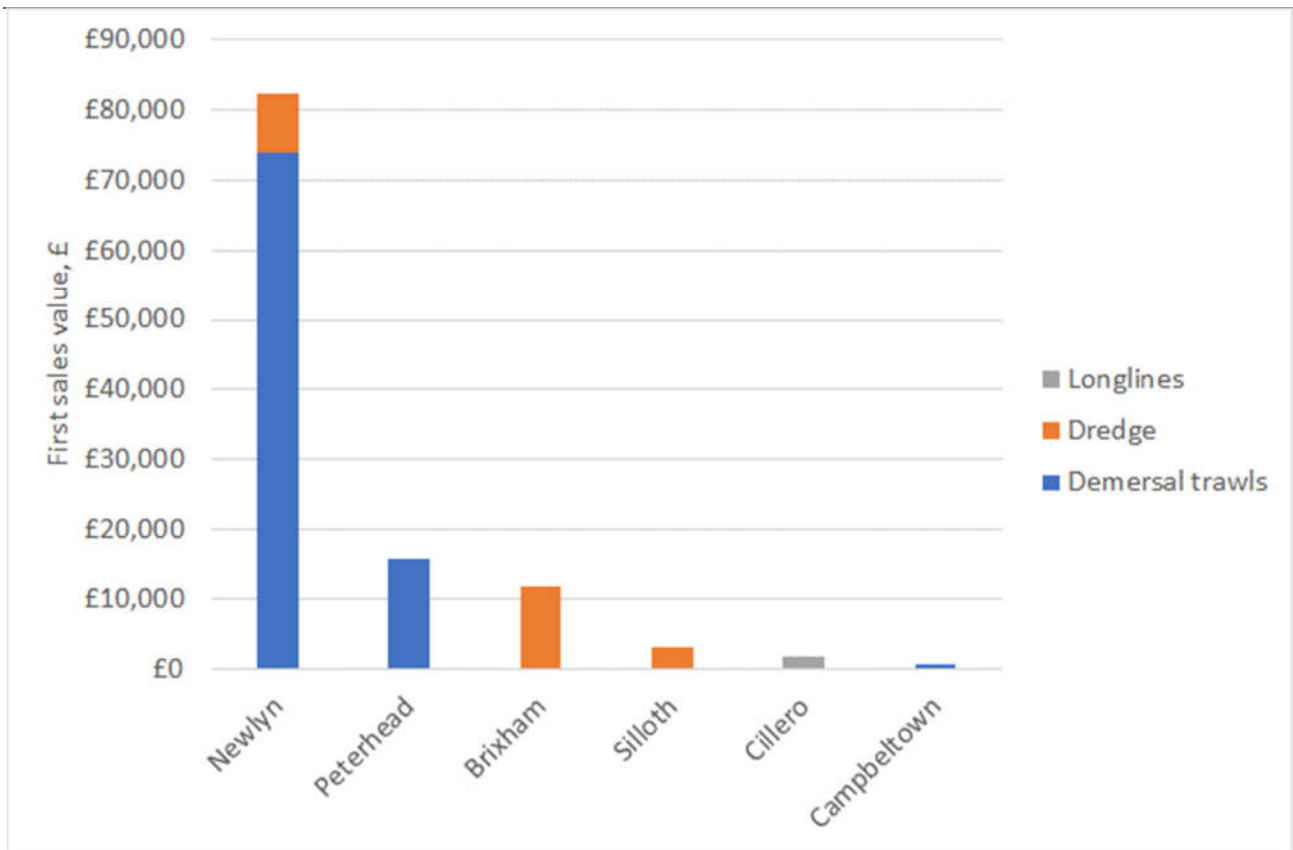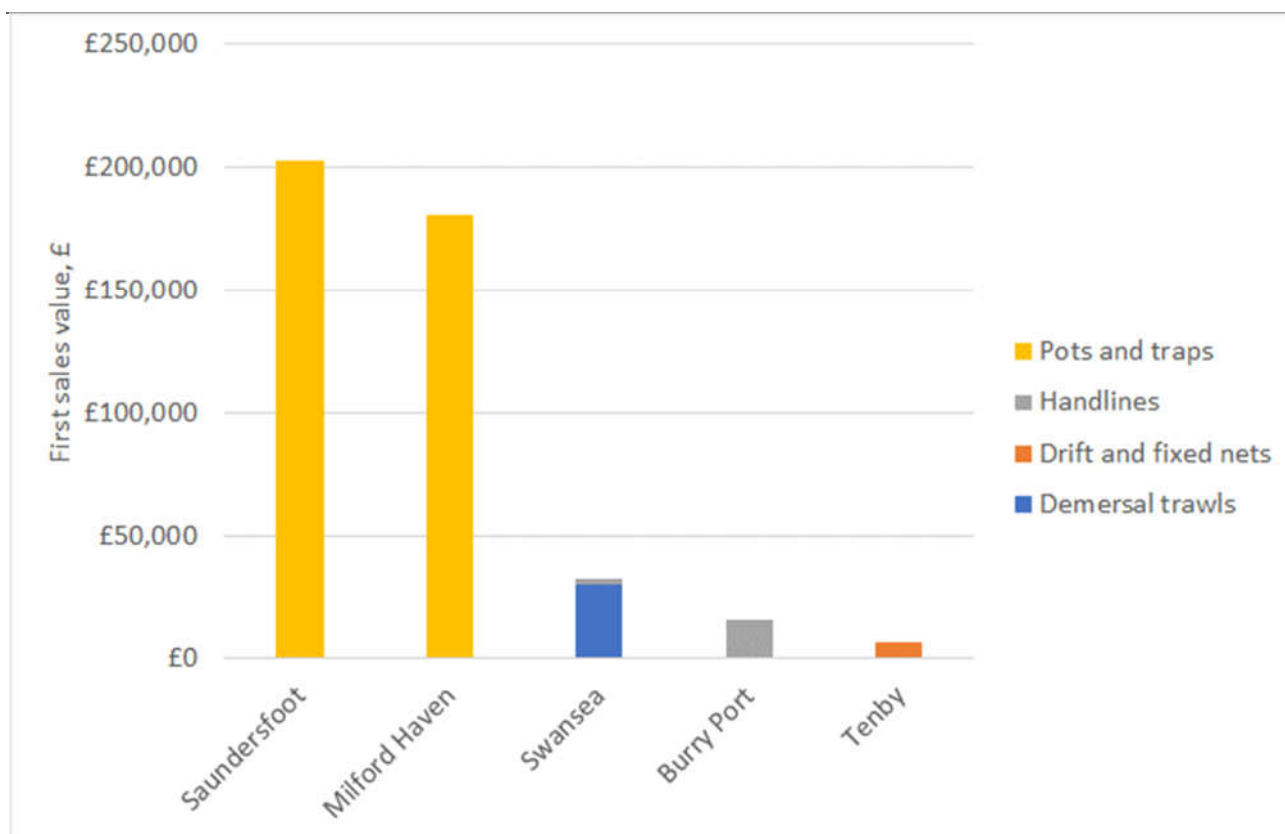
Figure 47: Landed value of all landings by Welsh registered vessels from the study area indicating port of landing in 2022 (Data Source: MMO, 2023)

Non-UK fisheries activity assessment

1.3.71 Landings from the commercial fisheries study area by EU-registered vessels have been analysed using data sourced from the EU DCF and is described in **section 1.3** above, thus not repeated here.

1.3.72 Landings data, in addition to MMO surveillance data and spatial VMS data, indicates the likely presence of:

- Belgian beam trawlers targeting sole, plaice and other mixed demersal fish species;

- French demersal otter trawlers targeting a wide variety of species including cuttlefish, squid, mullets, sole and gurnards; and

- Irish demersal otter trawlers and beam trawlers targeting a variety of species including anglerfish, john dory and rays.

The Belgian fleet active across the Celtic Sea is understood to consist of about 30 active vessels (ICES, 2022). The majority of the vessels are > 24 m, while the remainder of the vessels are between 18 and 24 m. The Belgian fleet are beam trawlers.

The French offshore fishery in the Celtic Sea is mostly composed of bottom trawlers (18–35 m, around 350 vessels) targeting gadoids, Norway lobster or anglerfish, megrim, and rays. Two large pelagic trawlers target herring and mackerel, and one is also involved in the blue whiting fishery (ICES, 2022).

The Irish fishing fleet is very diverse with around 1500 < 10 m and 500 ≥ 10 m active vessels. The vessels ≥ 10 m target a wide variety of species using several types of gear. Vessels in the 12 to 25 m length range target Norway lobster using trawls on several grounds. Both inshore and offshore mixed demersal fisheries use trawls and seine nets to target gadoids and benthic species. Ten beam trawlers target benthic species such as megrim, anglerfish, flatfish, and rays (ICES, 2022). Relative to levels of Belgian and French fishing vessel activity, Irish vessel activity in the study area is relatively lower.

Future Baseline Assessment

1.3.73   From the point of assessment, over the course of the development and operational lifetime of the Project, long-term trends mean that the condition of the baseline environment is expected to evolve. Commercial fisheries patterns change and fluctuate based on a range of natural and management-controlled factors. This includes the following:

- Market demand: commercial fishing fleets respond to market demand, which is impacted by a range of factors, an example being the COVID pandemic;

- Market prices: commercial fishing fleets respond to market prices by focusing effort on higher value target species when prices are high and markets in demand;

- Stock abundance: fluctuation in the biomass of individual species stocks in response to status of the stock, recruitment, natural disturbances (e.g., due to storms, sea temperature etc.), changes in fishing pressure etc.;

- Fisheries management: including new management for specific species where overexploitation has been identified, or changes in Total Allowable Catches leading to the relocation of effort, and/or an overall increase/decrease of effort and catches from specific areas;

- Environmental management: including the potential restriction of certain fisheries within protected areas;

- Improved efficiency and gear technology: with fishing fleets constantly evolving to reduce operational costs e.g., by moving from beam trawl to demersal seine; and

- Sustainability: with seafood buyers more frequently requesting certification of the sustainably of fish and shellfish products, such as the Marine Stewardship Council certification, industry is adapting to improve fisheries management and wider environmental impacts.

1.3.74   The variations and trends in commercial fisheries activity are an important aspect of the baseline assessment and forms the principal reason for considering up to five years of key baseline data. Given the time periods assessed, the future baseline scenario would typically be reflected within the current baseline assessment undertaken. However, in this case, existing baseline data do not capture all potential changes in commercial fisheries activity, as described below.

1.3.75   Following the withdrawal of the UK from the EU, the UK and the EU have agreed to a Trade and Cooperation Agreement (TCA), applicable on a provisional basis from 1 January 2021. The TCA sets out fisheries rights and confirms that from 1 January 2021 and during a transition period until 30 June 2026, UK and EU vessels will continue to access respective Exclusive Economic Zones (EEZs, 12-

200 nm) to fish. In this period, EU vessels will also be able to fish in specified parts of UK waters between 6-12 nm.

1.3.76   25% of the EU's fisheries quota in UK waters will be transferred to the UK over the five-year transition period; most of this quota has already been transferred and distributed across the four nations of the UK. After the five-year transition there will be annual discussions on fisheries opportunities. Across the study area, UK fisheries target both quota and non-quota shellfish species. Where fleets target non-quota species (e.g. the potting fleet targeting shellfish), it is expected that fleets are unlikely to be impacted by quota transfers. It is possible that UK vessels will seek to exploit additional quota-species opportunities, but vessels would need to access quota holdings. Based on changes in quota allocation, it could be expected that between 2021 and 2026, UK vessels could be catching relatively more quota species, with EU fleets catching relatively less. In summary, levels of fishing activity within the study area are likely to remain consistent with the current baseline but be undertaken in a slightly greater proportion by UK vessels.

1.3.77   In relation to EU access to UK territorial waters, provision has been made for EU vessels with a track record of fishing between 6 nm and 12 nm to be issued with licences to continue fishing. This licencing process is ongoing, and it is unknown how many EU vessels this is applicable to. Therefore, fishing activity within the study area is likely to remain consistent with the current baseline in terms of the fleets and Member States in operation.

1.3.78   Market changes have the potential to impact fishing activity in the study area; some of the catch landed by UK vessels is exported to EU markets (e.g., brown crab) and potential tariff/non-tariff barriers could affect which species are targeted and to what extent. One of the key species landed by potters in the area, is whelk, which is primarily exported to non-EU countries, including Korea, Taiwan and Singapore. The trade in UK landed whelk has therefore not been as affected by the Brexit process and associated implications on shellfish exports in comparison to other species. In terms of future baseline scenarios, it is therefore possible, for example, that the UK fleet will more heavily target whelk given that prices have increased in recent years, and they are exported to non-EU countries.

1.3.79   In relation to the effects of the COVID pandemic, MMO annual reporting notes that the effects of the pandemic on the UK fishing industry were felt from March 2020. The MMO UK Sea Fisheries Statistics 2021 report observes that an increase in overall UK landings quantity and value in 2021 (relative to 2020) largely reflected recovery from the COVID period and additional quota available to the UK fleet after leaving the EU (MMO, 2022).

1.3.80   Commercial fisheries receptors (i.e., relevant fishing fleets) could theoretically be impacted by climate change over the lifetime of the Proposed Development. Climate change is expected to increase storminess and water temperatures. Unsettled weather and increased storminess (for example, increased wave heights and strong winds) reduce the number of days on which vessels can safely operate at sea, particularly during winter months when storms are more prevalent. Water temperature increases may alter the distribution and movement of fish species, meaning some species that an industry relies on may reduce in numbers, while different species may become more prevalent. The operational challenges presented by unsettled weather as a result of climate change often present a greater risk for smaller vessels, which are less able to fish in stormy seas. Smaller vessels are more restricted in the distance they can travel, meaning they are less able to adapt to changes in fish distributions than larger vessels with a greater range.

1.4 Summary

1.4.1   The key commercial fishing fleets identified as operating across the study area, and which are to be considered within the EIA process, are shown in **Table 1.10**.

Table 1.10: Key commercial fishing fleets active in the study area

Receptor	Description
UK beam trawl fleet	UK-registered vessels primarily targeting sole, monkfish and other flatfish
UK netting fleet	UK-registered vessels primarily targeting hake and other whitefish
UK potting fleet	UK-registered vessels primarily targeting brown crab, lobster and whelk
UK demersal trawl fleet	UK-registered vessels primarily targeting Nephrops, sole and other flatfish
UK pelagic trawl fleet	UK-registered vessels primarily targeting horse mackerel
UK dredge fleet	UK-registered vessels primarily targeting king scallop
EU beam trawl fleet	Primarily Belgian-registered vessels, and some Irish-registered vessels, targeting mixed fish species including anglerfish, brill and pouting
EU demersal trawl fleet	Primarily French-registered vessels targeting mixed demersal fish species, and also some Belgian-registered vessels and Irish-registered vessels (the latter also targeting Nephrops)
EU pelagic trawl fleet	French-registered vessels targeting mixed fish species

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