

BRITISH TELECOMMUNICATIONS PLC

Scotland - Northern Ireland (Scot-NI) 3 and 4 Replacement Cables

Technical Appendix F - Fishing Activity Study



DOCUMENT RELEASE FORM

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Scotland - Northern Ireland (Scot-NI) 3 and 4 Replacement Cables

Technical Appendix F - Fishing Activity Study

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GLOSSARY

AIS

Automatic Identification System

BAP

Biodiversity Action Plan

BMH

Beach Manhole

BT

British Telecommunications plc

cm

Centimetre

DAERA

Department of Agriculture, Environment and Rural Affairs

DTS

Desk Top Study

EU

European Union

FAS

Fishing Activity Study

FLMAP

Fisheries Liaison Mitigation Action Plan

FLO

Fisheries Liaison Officer

FPO

Fish Producers Organisation

ICES

the International Council for the Exploration of the Sea

IUCN

International Union for Conservation of Nature

m

Metre

MarLIN

The Marine Life Information Network

MEA

Marine Environmental Assessment

mm

Millimetre

MMO

Marine Management Organisation

MS

Marine Scotland

NMPi

National Marine Planning Interactive Tool

NI

Northern Ireland

NtM

Notice to Mariners

PMF

Priority Marine Feature (Scotland)

Scot-NI

Scotland – Northern Ireland

TAC

Total Allowable Catch

VMS

Vessel Monitoring Systems

1. INTRODUCTION

1.1 Project overview

British Telecommunications plc (BT) is planning to install two replacement telecommunication cables between Scotland and Northern Ireland. The existing BT telecommunication cables crossing the Irish Sea are nearing the end of their functional life and replacement of this critical infrastructure is required to maintain telecommunication services. Telecommunication cables provide essential services and connectivity which is of vital importance as the demand for data and communication increases.

The project consists of two replacement marine cables as follows:

- Scot-NI 3 – Portpatrick, Scotland to Templepatrick, Northern Ireland
- Scot-NI 4 – Girvan, Scotland to Larne, Northern Ireland

The proposed cable routes and project area are shown in Figure 1-1.

The existing Beach Manhole (BMH) and duct infrastructure will be utilised where practical to connect the replacement cables, with the exception of the BMH at Larne, where a new BMH will be constructed.

A full project description for installation of the Scot-NI cable routes is provided in Section 2 of the Marine Environmental Appraisal (MEA) Report, Document Reference (P2228_R5036).

1.2 Scope and Objectives

The purpose of this document is to review the fishing activity within the Scot-NI Project Area and identify the relative importance of the cable installation routes to the fishing industry. The Project Area is discussed further in Section 1-3.

The objective of this Fishing Activity Study (FAS) is to:

- Provide a description of the fishing methods and fisheries activity that takes place in the vicinity of the proposed replacement cables Scot-NI 3 and Scot-NI 4.

The study area covers both Scot-NI 3 and Scot-NI 4 cables within Scottish and Northern Irish waters (Figure 1-1).

The FAS has been informed by a review of the latest publicly available fisheries data and literature, and consultation undertaken as part of the Project's fisheries stakeholder consultation.

A Fisheries Liaison and Mitigation Action Plan (FLMAP) has been prepared separately which details the potential impacts of the proposed Scot-NI 3 and Scot-NI 4 cables on fisheries and provides a mitigation plan. The FLMAP also includes an overview of the fisheries liaison and consultation that has been undertaken. A full list of the consulted fish producer organisations (FPOs) is provided in the FLMAP - MEA Report Technical Appendix C.

The findings of the FAS and the FLMAP have been used to inform Section 12 - Commercial Fisheries of the MEA Report.

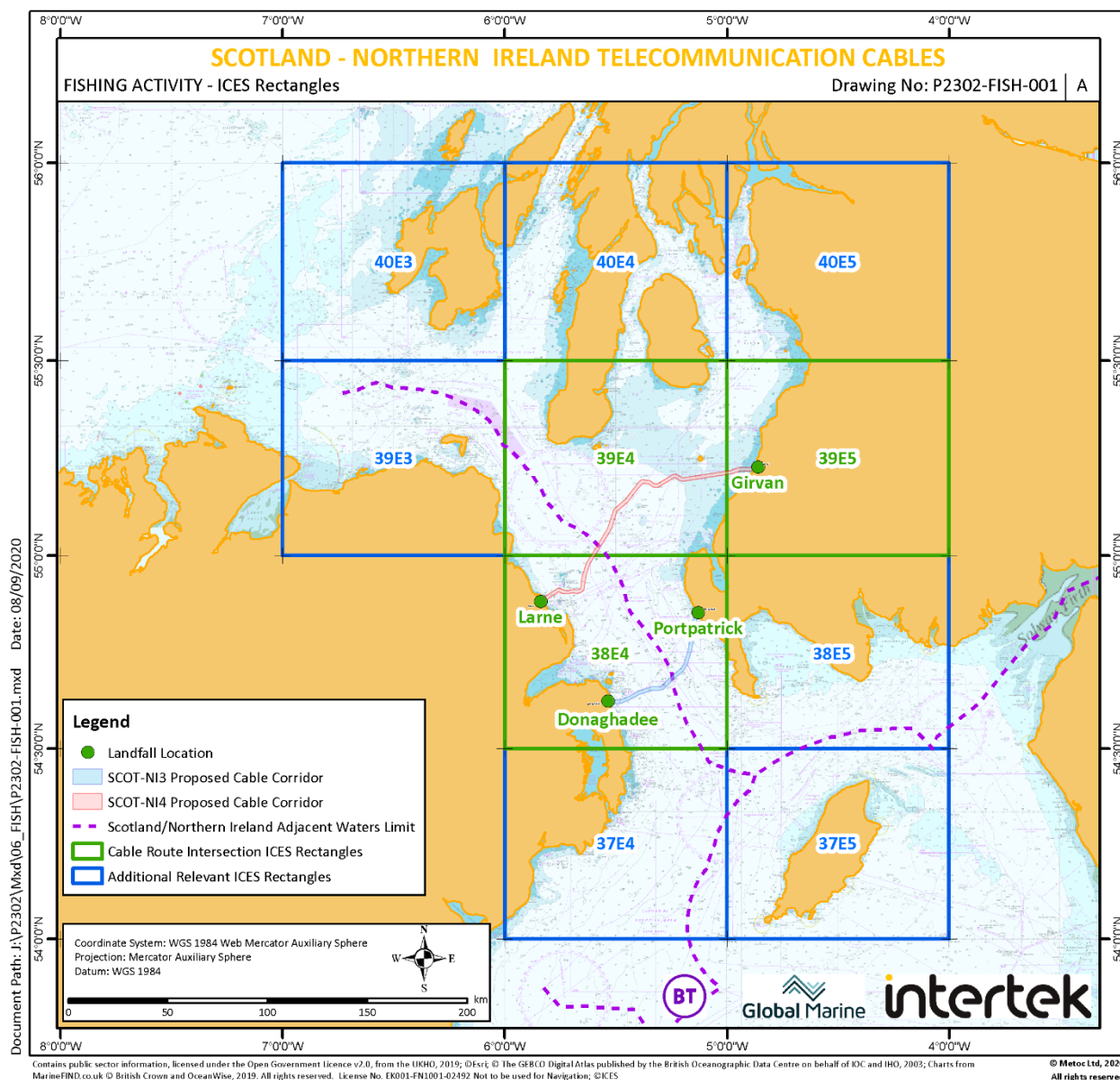
1.3 Fisheries management areas

The UK Government take International Council for the Exploration of the Sea (ICES) scientific advice on fisheries management. The current EU Common Fisheries Policy requires that the size and status of fish stocks are assessed annually. Each state is responsible for distributing its quotas among its fishing fleet. The UK Government apportions the fish quotas amongst the four UK Fisheries Administrations (i.e. Northern Ireland, Scotland, England and Wales). Quotas are issued by species for

fisheries units within UK waters. The Scot-NI 3 cable route falls within ICES Area 7a and Scot-NI 4 cable route falls within ICES Areas 6a and 7a.

The ICES areas can be further subdivided into ICES statistical rectangles. Each ICES statistical rectangle is '30 min latitude by 1 degree longitude' in size which is approximately 30 nautical miles by 30 nautical miles. Scot-NI 3 is entirely located in ICES rectangle 38E4, whilst Scot-NI 4 crosses 39E4 and 39E5 in Scottish waters and 38E4 in Northern Irish waters (Figure1-1). The combined area of these three ICES rectangles will be referred to as 'the study area' throughout this document.

Figure 1-1 Location Overview map with ICES Rectangles



2. DATA SOURCES

This study presents the latest fisheries information gathered as part of a desktop-based study to provide relevant details of the fishing methods and fisheries activity that takes place in the vicinity of the Scot-NI project. The primary sources of information used to inform the description of the fisheries activities are as follows:

- **Statistics on the Scottish and Northern Ireland fleets**
 - Administration of Department of Agriculture, Environmental and Rural Affairs (DAERA) Fishing Fleet (DAERA 2020b).
 - Provisional Scottish Sea Fisheries Statistics 2019 (The Scottish Government 2020).
 - 2018 UK Sea Fisheries Statistics (MMO 2019).
- **Landings data**
 - 2018 Fishing Effort and Quantity and Value of Landings by ICES Rectangle (The Scottish Government 2019a).
- **Mapping tools for Scotland and Northern Ireland**
 - National Marine Planning Interactive (NMPI) tool (The Scottish Government 2019b).
 - Northern Ireland Marine Map Viewer (DAERA 2020a).
- **GIS data set**
 - 2019 Fishing Vessel Density (EMODnet 2020).
 - 2017 Fishing – tonnage, effort, and value maps (MMO 2020).
 - 2009 - 2013 amalgamated VMS intensity layers (Marine Scotland 2016).

To inform the FAS an initial review was undertaken of the information provided in Section 5 – Offshore Activities and Hazards of the Cable Route Desktop Study (DTS) (Global Marine 2020). The DTS was a key part of the initial planning phase of the Project and provides a technical reference for the entire Project. Section 5.2 - Fishing of the DTS summarises the fishing methods in the vicinity of the Project and the potential impacts of fishing on the marine environment and cable security.

Consultation with fisheries stakeholders as part of the FLMAP (Seagard 2020a) has been incorporated into the FAS and is referenced where applicable.

The FAS has also been informed by the Fishing Activity Report undertaken for Moyle Interconnector Replacement Metallic Return Conductors (AFBINI 2014) which examined the fisheries along the Moyle interconnector route which transects ICES rectangles 38E4 and 39E4 through which Scot-NI 3 and Scot-NI 4 also transect.

The most important target species presented in Section 4 were identified through analysis of the statistics and landings data (DAERA 2020a, The Scottish Government 2019c and MMO 2019). The species information and habitat description are informed by the species list of the Marine Life Information Network (MarLIN 2020) and supplemented with information from (AFBINI 2014).

The main fishing methods and gear types presented in Section 5 were also identified through analysis of the statistics and landings data (DAERA 2020a, The Scottish Government 2019c and MMO 2019). Descriptions of the fishing gear and methods were based on (AFBINI 2014), (British Seafishing 2020), (Seafish 2019) and (Galbraith & Rice 2004).

Where possible this data set has been supplemented by information from consultation with the appropriate fish producer organisations (FPOs), see also Section 8 - Fisheries Liaison. Additional data resources are referenced throughout this document.

3. SCOTTISH AND NORTHERN IRISH FISHING FLEETS

3.1 Fleet size and composition

3.1.1 Scotland

The total number of active fishing vessels registered in Scotland was 2,096 in 2019 (The Scottish Government, 2020).

The Scottish fleet consists of 1,557 (74%) vessels of 10 m and under. The breakdown of vessels 10m and under is as follows:

- Nephrops trawl – 68 vessels.
- Creel fishing – 1,347 vessels.
- Other – 124 vessels.

The over 10 m fleet of 539 (26%) vessels is comprised of:

- Demersal fleet 174 vessels.
- Shellfish 346 vessels.
- Pelagic 19 vessels.

3.1.2 Northern Ireland

The Northern Irish fishing fleet is much smaller in comparison to the Scottish fleet and comprised 232 active fishing vessels at the end of 2019. However, throughout 2019 there were more active licensed vessels (264) and therefore increased activity. In 2019, the Northern Irish fleet consisted of 151 (57%) vessels of 10m and under and 113 (43%) vessels over 10m.

The over 10 m fleet is composed of:

- Demersal fleet 80 vessels.
- Shellfish 9 vessels.
- Pelagic 3 vessels.
- 1 miscellaneous vessel.

However, several vessels switched fishing gear throughout 2019 (DAERA 2020b).

3.2 Fishing ports

In Scotland, there are a total of 148 fishing ports divided over 18 districts. The districts are annotated in Figure 3-1. The districts closest to the proposed development within the Clyde are Ayr and Campbeltown. In 2018, the top three ports by tonnage and value were Peterhead, Fraserburgh and Shetland.

In Northern Ireland, the three main fishing ports are Kilkeel, Portavogie and Ardglass. Additionally, there are about 20 smaller ports where small numbers of pot fishing vessels are based. See Figure 3-2.

Figure 3-1 Fishing ports in Scotland



The Scottish Government 2019c

Figure 3-2 Fishing ports in Northern Ireland



Yates and Schoeman 2014

4. TARGET SPECIES AND FISHING METHODS

The study area supports a range of fish and shellfish species and a valuable commercial fishery. The following section provides the details of the target species and fishing methods used in the study area. Fishing techniques undertaken within the vicinity of the proposed cable corridors include; potting, dredging, trawling and diving.

4.1 Target species

Table 4-1 provides an overview of the commercial fish and shellfish species targeted in the vicinity of the proposed development.

Table 4-1 Target species likely to be present in the vicinity of the proposed development

Target species	Gear type	Depth range	Listed by*
Shellfish			
Brown crab (<i>Cancer pagurus</i>)	Pots	Down to 100m	-
Velvet swimming crab (<i>Necora puber</i>)	Pots	Down to 25m	-
Common lobster (<i>Homarus Gammarus</i>)	Pots	Down to 60m	-
King scallop (<i>Pecten maximus</i>)	Dredging, diving	10-110m	-
Queen scallop (<i>Aequipecten opercularis</i>)	Dredging, diving	Down to 100m	-
Nephrops (<i>Nephrops norvegicus</i>)	Pots, beam trawling, otter trawling	20-800m	-
Demersal			
Haddock (<i>Melanogrammus aeglefinus</i>)	Beam trawling, otter trawling	40-300m	IUCN Red list
European hake (<i>Merluccius merluccius</i>)	Beam trawling, otter trawling	70-350m	UKBAP, Scottish Biodiversity list and Northern Ireland Priority Species
Pelagic			
Atlantic herring (<i>Clupea harengus</i>)	Pelagic trawling	Down to 200m	IUCN Red list, UKBAP, Scottish Biodiversity list, Scottish Priority Marine Feature and Northern Ireland Priority Species

Note: The International Union for Conservation of Nature (IUCN) red list of threatened species lists the global extinction risk status of species. UKBAP priority species were those that were identified as being the most threatened and requiring conservation action under the UK Biodiversity Action Plan (UK BAP).

The Scottish Biodiversity List is a list of animals, plants and habitats that Scottish Ministers consider to be of principal importance for biodiversity conservation in Scotland. Priority marine features (PMFs) are habitats and species that we consider to be marine nature conservation priorities in Scottish waters.

In Northern Ireland there are a number of plants and animals that are under threat and require conservation action. These species have been identified as Priority Species.

Sources: MARLIN (2020), UK BAP (JNCC 2007), Scottish biodiversity list (NatureScot 2020), Northern Ireland priority species list (DAERA 2020).

4.2 Trawl fisheries

Trawling is towing a net (trawl) through the water behind a fishing vessel. Trawling can be divided into bottom trawling and midwater trawling, based on the position of the net. Bottom trawling is towing the net along the seabed (benthic trawling) targeting species such as Nephrops or just above the seabed (demersal trawling) for species such as cod and haddock. Midwater trawling, also known as pelagic trawling, targets species in the water column such as herring and mackerel. Semi-pelagic trawling occurs along both proposed cable routes (Seagard 2020a).

Trawl nets comprise of a body of net ending in a cod-end where the fish are collected. The mouth of the net must be held open and it is the method used to keep the mouth of the net open which distinguishes the type of trawl.

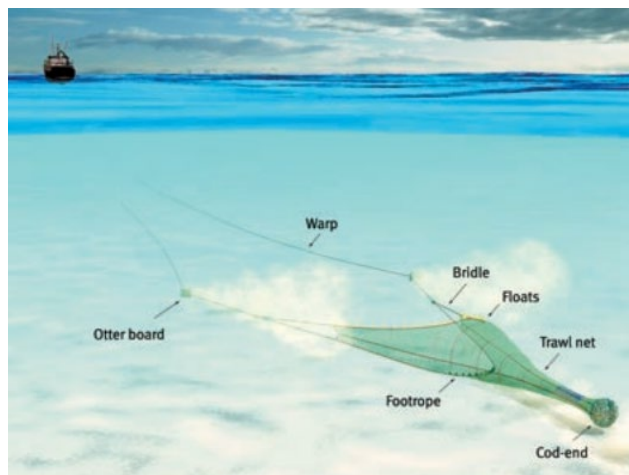
4.2.1 Beam trawling

Beam trawling is the original and simplest form of bottom trawling, whereby the mouth of the net is held open by a solid metal beam, attached to two "shoes", which are solid metal plates, welded to the ends of the beam, which slide over and disturb the seabed. This method is mainly used on smaller vessels, fishing for flatfish or Nephrops, relatively close inshore.

4.2.2 Otter trawling

Otter trawling derives its name from the pair of trawl doors (otter boards) which are used to keep the mouth of the trawl net open (Figure 4-1). Otter boards are made of timber or steel and are hydrodynamically designed in such a way that, when the net is towed along the seabed at a certain speed, they push outwards and prevent the mouth of the net from closing. They may also act like a plough digging up the seabed, to create a turbid cloud and scare fish towards the net mouth. Targeting both whitefish and Nephrops, the otter trawl is by far the most commonly used of the towed gears in Scotland (Galbraith & Rice 2004).

Figure 4-1 The principal features of demersal otter trawl (bottom trawling) gear



Galbraith and Rice 2004

4.2.3 Pelagic trawling

Pelagic (mid-water) trawl gear is used to target shoaling fish species such as herring and mackerel. In order to protect herring in the Firth of Clyde the following measures are in place (Scottish Government 2012):

- A complete ban on herring fishing is in place between 1st January to 30th April each year

- A complete ban on all forms of active fishing from the 1st February to the 1st April on the Ballantrae Bank spawning grounds
- A ban on herring fishing between 00:00 Saturday morning and 24:00 Sunday night.

4.3 Scallop dredging

Dredging is a fishing method by which metal dredgers are towed across the seabed to collect shellfish and bivalves. Each dredge consists of a rigid triangular steel frame and a tooth bar, behind which a mat of linked steel rings is secured (Figure 4-2). As scallops usually lie buried in sand and fine gravel, they are raked out by the teeth and swept into a collecting bag. Hydraulic dredgers also exist which spray jets of water onto the shellfish to dislodge them from their location. Large vessels can drag as many as twenty cages behind them (Figure 4-3).

Scallop dredging can have a significant environmental impact if not managed effectively (Galbraith & Rice 2004; Seafish 2019). Scallop dredging is of high commercial value for Northern Ireland. Significant scallop dredging by Northern Irish vessels occurs within the proposed cable corridors, hence it is essential to achieve deep burial and protect the cables as much as possible (Seagard 2020a).

In Northern Irish waters, the scallop fishery is subject to seasonal closure between 1 June and 31 October. Currently, the installation is planned to take place in September, which would avoid overlap with scallop fishing. However, if the schedule would be delayed, this would mean installation might take place during the scallop fishing season (Seagard 2020a). In Scottish waters, there is an active scallop fishery in the Clyde. During consultation with the FPOs it was mentioned that the scallop season does not typically begin in earnest until November.

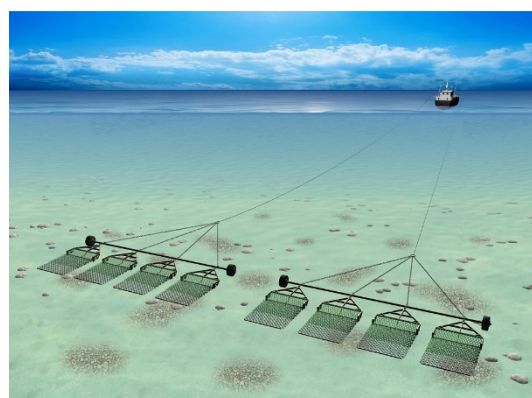
The Northern Ireland Scallop Fishermen's Association (NISFA) has started a scallop enhancement project to improve the long-term sustainability of stocks. The project comprises two sites in the vicinity of the proposed cable routes, one South of Donaghadee and one South of Larne. Within these sites, the project will be putting down young scallops, and these are anticipated to disperse substantially during the larval/juvenile period (Seagard 2020a).

Figure 4-2 Schematic of four dredges



Source: Seafish 2019

Figure 4-3 Dredges towed behind a vessel

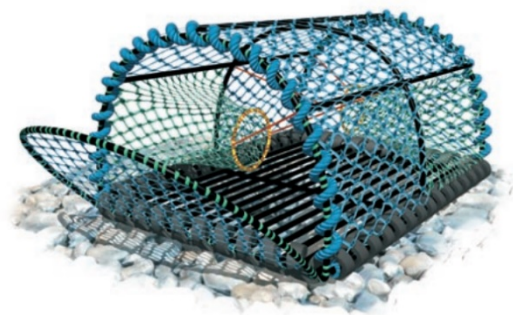


Source: Seafish 2019

4.4 Pot fisheries

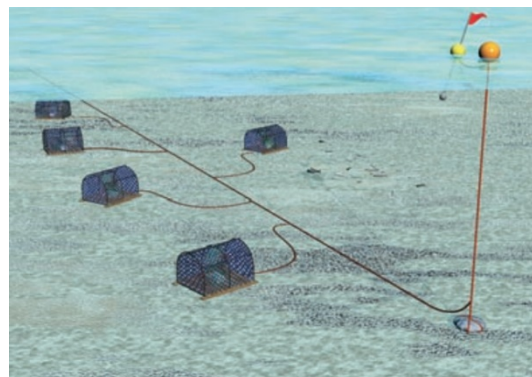
Pots and creels are static traps made out of metal or wood and rope (Figure 4-4) used to target active scavenging crustaceans such as brown crab, velvet crab, lobster and Nephrops. Their design lets crabs, lobsters and Nephrops enter the pot to take the bait but they cannot escape. They are baited with dead fish and lowered to the seabed on ropes, usually about a dozen at a time. A buoy is used to mark the location (Figure 4-5) and fishermen will return to retrieve their catch after a day or two (British Sea Fishing 2020).

Figure 4-4 Traditional 'D' shaped creel



Galbraith & Rice 2004

Figure 4-5 Creels attached to a buoy



Galbraith & Rice 2004

In Scottish waters, the Clyde is a creel fishing region. The cable installation will require some static pots to be temporarily displaced (Seagard 2020a). During consultation with the FPOs it was mentioned that the tentative installation period in September coincides with a profitable time for the crab/lobster industries, so charting a path to the cable lay area through all the buoys may be a challenge (Seagard 2020a).

4.5 Diving

Diving for scallops involves collecting scallops by hand from the seabed. Although this method requires much more effort and quantities landed through diving are considerably lower than through dredging, scallops are landed in pristine condition so are more valuable. Dive-caught scallops are generally regarded as more sustainable than traditionally caught scallops. However, as divers can get to areas where vessels cannot, there are concerns that dive fishing has impacts on the stock by collecting from potential sources of spawning (AFBINI 2014).

5. FISHERIES ALONG THE CABLE ROUTES

This section describes the fisheries that are encountered along the cable corridors and has been informed by consultation with local fishing organisations and vessels.

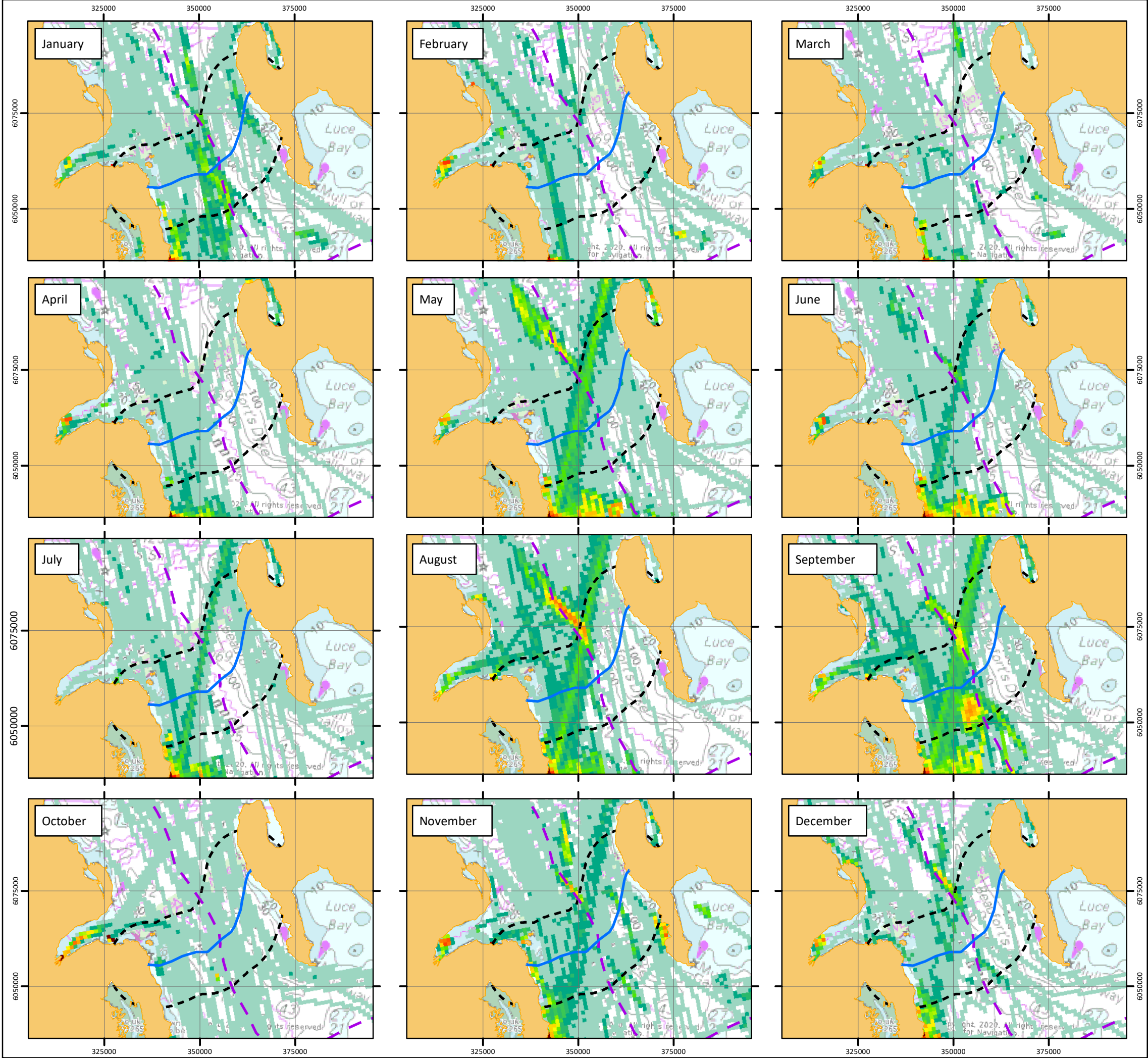
5.1 Scot-NI 3

The proposed cable Scot-NI 3 crosses four different commercial fishing areas described in Table 5-1. Refer to Figure 5-2 (drawing P2302-3-FISH-003-A) for spatial patterns of fisheries landings to cross reference with table 5-1.

Table 5-1 Key fisheries that spatially overlap with Scot-NI 3

Fishery	Gear type	Target species	Location - spatial overlap between the fishery and the Project
1	Pots and traps	Crab and lobster	Northern Irish coast
2	Dredges	Scallops	Scottish waters
3	Demersal trawls	Haddock, Hake	Within the centre of the North Channel in deep water. Both in Scottish and Northern Irish waters.
4	Pelagic trawls	Nephrops	Scottish waters: Nephrops trawlers operate in water from 20 m depth out to the deeper, rocky ground by Mermaid Bank

Figure 5-1 shows the AIS vessel density per month in the vicinity of the proposed Scot-NI 3 cable. This Figure identifies a cluster of activity south of the proposed Scot-NI 3 cable in Northern Irish waters. There is also increased activity across the North Channel, towards the Firth of Clyde. From Figure 6-2 it appears that demersal trawling is the most common type of fishing in the relatively deep middle part of the North Channel, called Beaufort's Dyke. However, applying a speed filter to filter out vessels that are not moving at typical fishing speeds (0 – 4 knots) reveals that most vessels are crossing rather than fishing within the middle of the North Channel (Seagard 2020b). This is consistent with the information from the fisheries consultation that most fishing activities, especially potting, are taking place closer to shore (Seagard 2020a).



SCOTLAND - NORTHERN IRELAND
TELECOMMUNICATION CABLES

AIS VESSEL DENSITY - SCOT-NI3
Monthly Vessel Densities
Fishing Vessels

Drawing No: P2302-3-SHIP-001

A

Legend

SCOT-NI3 Submarine Cable Route

Scotland/Northern Ireland Adjacent Waters Limit

10km Area of Interest

2019 Vessel Density

Vessel Hours (per km²)

100

10

0

N

W

E

S

NOTE: Not to be used for Navigation

Date	04 September 2020
Coordinate System	WGS 1984 UTM Zone 30N
Projection	Transverse Mercator
Datum	WGS 1984
Data Source	EMODnet; UKHO; GEBCO; ESRI; MarineFind
File Reference	J:\P2302\Mxd\08_SHIP\ P2302-3-SHIP-001.mxd
Created By	Chris Dawe
Reviewed By	Emma Storey
Approved By	Paula Daglish

BT

Global Marine

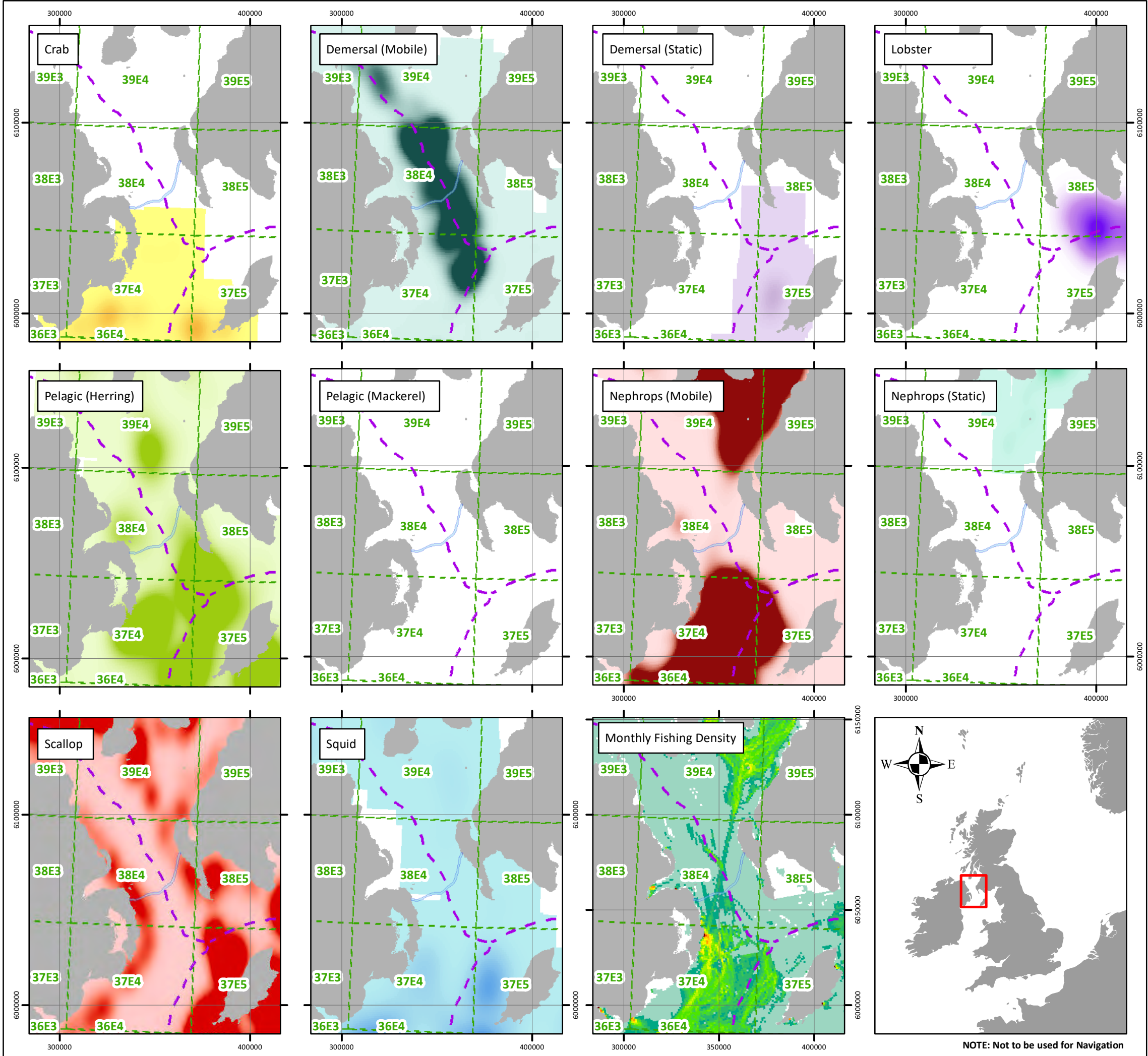
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SCOTLAND - NORTHERN IRELAND
TELECOMMUNICATION CABLES

FISH ACTIVITY
Average Fishing Intensity (Hours) 2009-2013
SCOT-NI3

Drawing No: P2302-3-FISH-004

A

Legend

SCOT-NI3 Proposed Cable Corridor

Scotland/Northern Ireland Adjacent Waters Limit

ICES Rectangle

Monthly Average Fishing Vessel Intensity (2019)

Vessel Hours per km² (log scale)

High : 100

Low : 0

Amalgamated VMS Intensity
2009 - 2013 - by Species

Crab

High : 0.96

Low : 0

Pelagic - Herring

High : 0.73

Low : 0

Scallop

High : 0.81

Low : 0

Demersal mobile

High : 0.47

Low : 0

Pelagic - Mackerel

High : 1.69

Low : 0

Squid

High : 5.33

Low : 0

Demersal static

High : 1.19

Low : 0

Nephrops mobile

High : 0.62

Low : 0

Lobster

High : 2.22

Low : 0

Nephrops static

High : 19.86

Low : 0

Date

08 September 2020

Coordinate System

WGS 1984 UTM Zone 30N

Projection

Transverse Mercator

Datum

WGS 1984

Data Source

UKHO; GEBCO; MS: EMODnet; Esri

File Reference

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P2302-3-FISH-004.mxd

Created By

Chris Dawe

Reviewed By

Emma Storey

Approved By

Nathalie De Groot

BT

Global Marine

intertek

0

30

60

90

120

km

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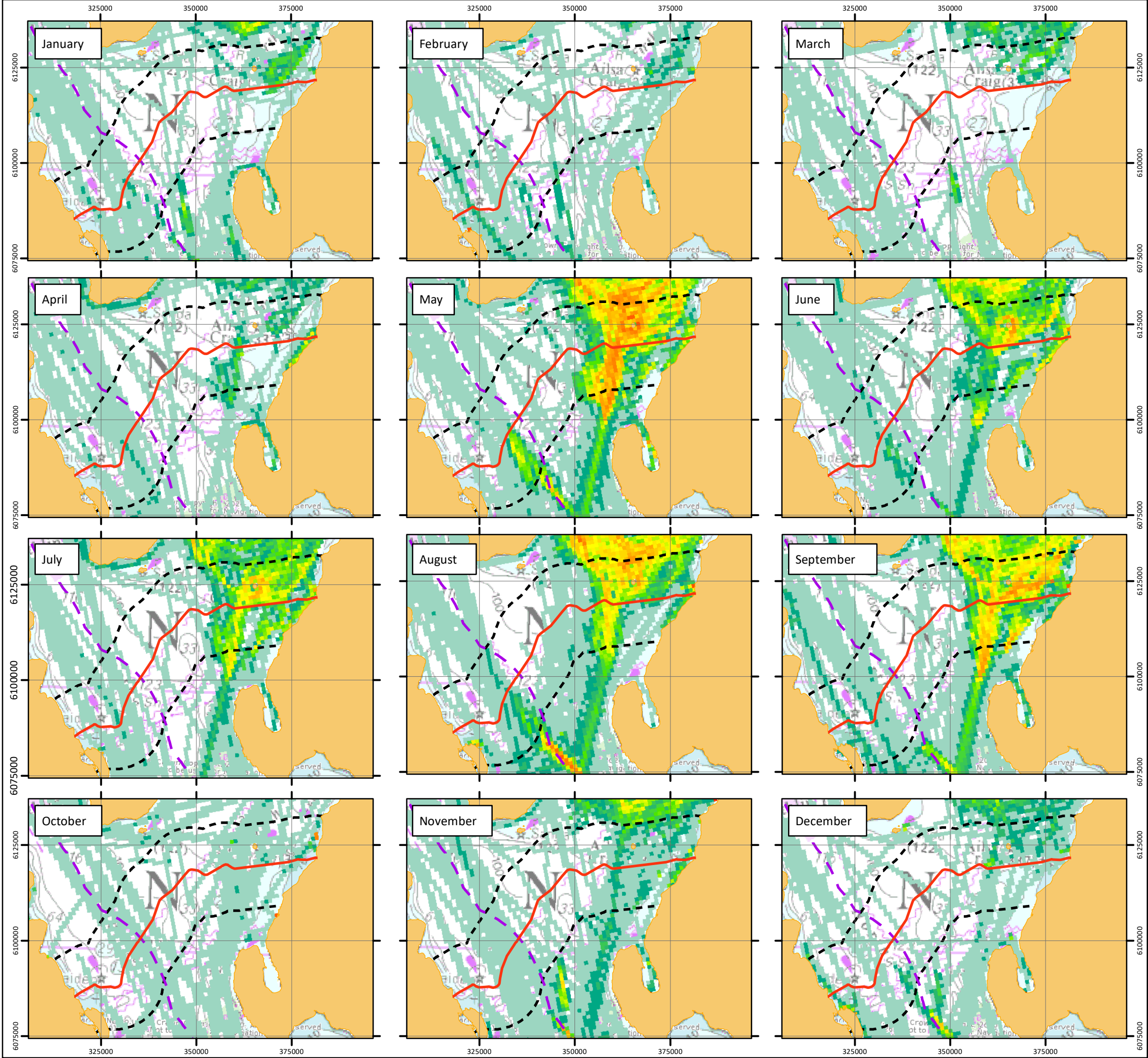
5.2 Scot-NI 4

Four key fisheries have been identified along the proposed Scot-NI 3 cable as described in Table 5-2. Refer to Figure 5-4 (drawing P2302-4-FISH-003-A) for spatial patterns of fisheries landings to cross reference with table 5-1.

Table 5-2 Key fisheries that spatially overlap with Scot-NI 4

Fishery	Gear type	Target species	Location - spatial overlap between the fishery and the Project
1	Pots	Crab and lobster	In the Firth of Clyde (from shore 40/50 meters out to mobile gear ground). Mostly close to shore in Northern Irish waters, but some pots are located in deeper waters.
2	Dredges	Scallops	Firth of Clyde.
3	Demersal trawls	Nephrops, Haddock and Hake	Firth of Clyde and just south of the cable across Beaufort's Deep.
4	Pelagic trawls	Herring	In Scottish waters, where the cable direction changes from West in the Firth of Clyde Area to Southwest across the North Channel.

Figure 5-3 shows the AIS vessel density per month in the vicinity of the proposed Scot-NI 4 cable. Figure 5-4 shows most of the fishing activity in the vicinity of Scot-NI 4 is concentrated in the Firth of Clyde (Scotland) between May and September. There is also increased activity to the south, within the North Channel, however as discussed above, most vessels are crossing rather than fishing area in the middle of the North Channel (Seagard 2020b).



SCOTLAND - NORTHERN IRELAND TELECOMMUNICATION CABLES

AIS VESSEL DENSITY - SCOT-NI4 Monthly Vessel Densities Fishing Vessels

Drawing No: P2302-4-SHIP-001

A

Legend

- SCOT-NI4 Submarine Cable Route
- Scotland/Northern Ireland Adjacent Waters Limit
- 10km Area of Interest

2019 Vessel Density
Vessel Hours (per km²)

100

10

0

N

W

E

S

NOTE: Not to be used for Navigation

Date	04 September 2020
Coordinate System	WGS 1984 UTM Zone 30N
Projection	Transverse Mercator
Datum	WGS 1984
Data Source	EMODnet; UKHO; GEBCO; ESRI; MarineFind
File Reference	J:\P2302\Mxd\08_SHIP\ P2302-4-SHIP-001.mxd
Created By	Chris Dawe
Reviewed By	Emma Storey
Approved By	Paula Daglish

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Global Marine

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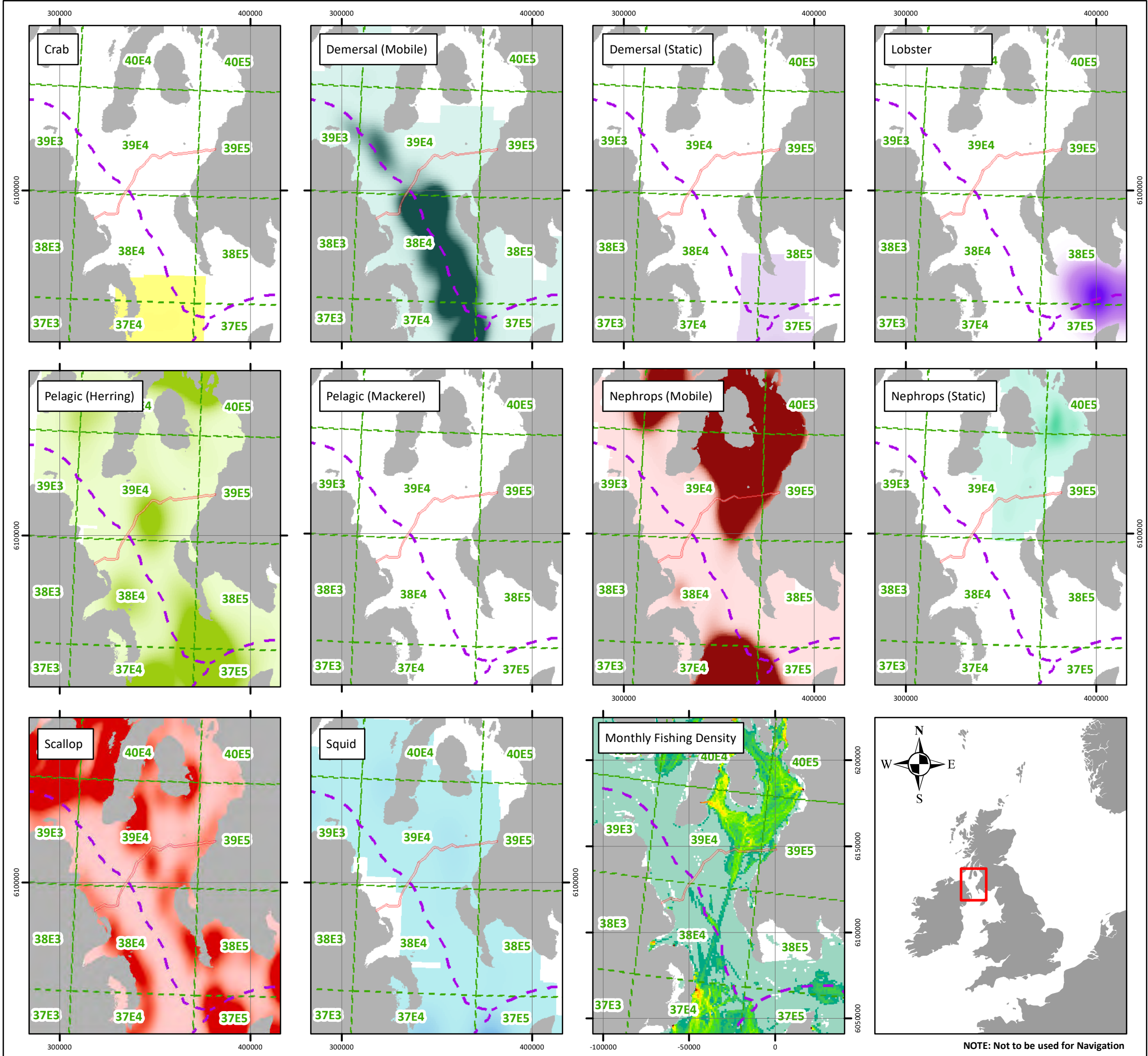
40

km

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SCOTLAND - NORTHERN IRELAND
TELECOMMUNICATION CABLES

FISH ACTIVITY
Average Fishing Intensity (Hours) 2009-2013
SCOT-NI4

Drawing No: P2302-4-FISH-004

A

Legend

SCOT-NI4 Proposed Cable Corridor

Scotland/Northern Ireland Adjacent Waters Limit

ICES Rectangle

Monthly Average Fishing Vessel Intensity (2019)

Vessel Hours per km² (log scale)

High : 100

Low : 0

Amalgamated VMS Intesity
2009 - 2013 - by Species

Crab

High : 0.96

Low : 0

Pelagic - Herring

High : 0.73

Low : 0

Scallop

High : 0.81

Low : 0

Demersal mobile

High : 0.47

Low : 0

Pelagic - Mackerel

High : 1.69

Low : 0

Squid

High : 5.33

Low : 0

Demersal static

High : 1.19

Low : 0

Nephrops mobile

High : 0.62

Low : 0

Lobster

High : 2.22

Low : 0

Nephrops static

High : 19.86

Low : 0

Date

08 September 2020

Coordinate System

WGS 1984 UTM Zone 30N

Projection

Transverse Mercator

Datum

WGS 1984

Data Source

UKHO; GEBCO; MS: EMODnet; Esri

File Reference

J:\P2302\Mxd\06_FISH\
P2302-4-FISH-004.mxd

Created By

Chris Dawe

Reviewed By

Emma Storey

Approved By

Nathalie De Groot

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0

30

60

90

120

km

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6. FISH LANDINGS DATA

6.1 Landings Data

Landing tonnage and their respective value provide a good indication of the importance of each species commercially in an area. Scot-NI 3 is located within the ICES rectangle 38E4. Scot-NI 4 is located within ICES rectangle 38E4, 39E4 and 39E5.

The average annual value of fish and shellfish landed from within ICES rectangles 38E4, 39E4 and 39E5 for 2014-2018 collectively was around £9.97 million and the average annual tonnage was around 4,874 tonnes.

The overall catch data is sub-divided into fisheries targeting bottom living (demersal) fish, mid-water and surface (pelagic) fish and shellfish (including squid), with information available at species level within each group. Overall, shellfish form the most important component of commercial fishing landings for this area, both in terms of value and tonnage; 94% of the average annual value and 97% of the average tonnage landed were shellfish (The Scottish Government 2019a).

6.2 Fisheries type

Tables 6-1, 6-2 and 6-3 summarise the annual catch value per ICES rectangle for each fisheries type over the past 5 years.

Table 6-1 Annual catch value ICES rectangles 38E4

Year	Quantity (tonnes)			Price (£)			Effort (days)
	Shellfish	Demersal	Pelagic	Shellfish	Demersal	Pelagic	
2014	570	4	501	1,320,075	10,770	120,246	599
2015	578	122	327	1,247,759	165,027	98,221	828
2016	640	189	1,118	1,462,122	295,228	581,376	977
2017	691	240	446	1,869,624	453,744	153,704	1,158
2018	495	242	547	1,351,783	454,963	191,572	964
Average	595	160	588	1,450,273	275,946	229,024	905

Source: The Scottish Government 2019a

Table 6-2 Annual catch value ICES rectangles 39E4

Year	Quantity (tonnes)			Price (£)			Effort (days)
	Shellfish	Demersal	Pelagic	Shellfish	Demersal	Pelagic	
2014	3,498	14	99	7,273,986	15,692	25,355	4,751
2015	2,797	12	0.35	6,129,139	13,087	149	4,052
2016	3,707	49	0.16	8,043,370	68,044	122	5,183
2017	2,984	81	-	6,647,680	111,428	-	4,513
2018	2,261	24	0.71	5,410,845	36,013	850	3,727
Average	3,049	36	25	6,701,004	48,853	6,619	4,445

Source: The Scottish Government 2019a

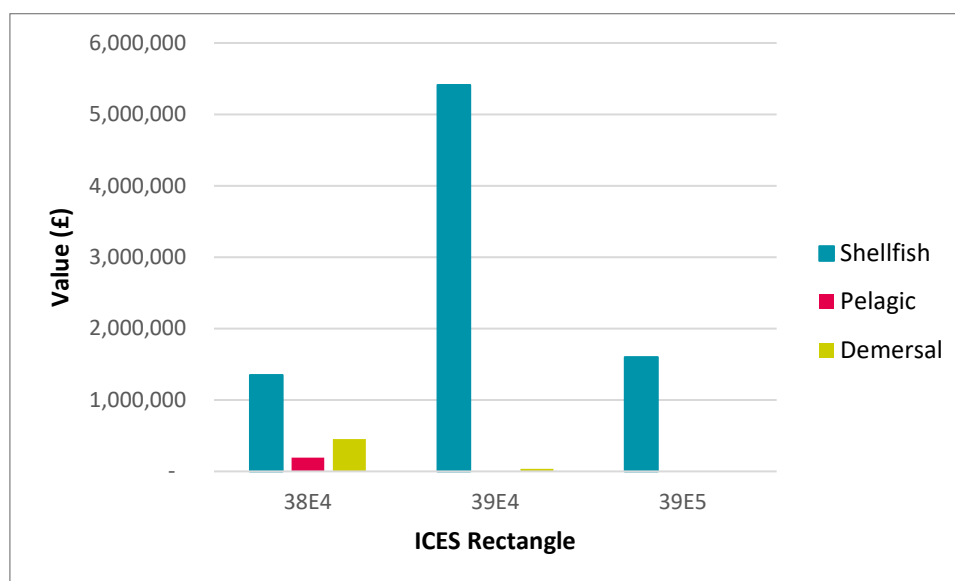
Table 6-3 Annual catch value ICES rectangles 39E5

Year	Quantity (tonnes)			Price (£)			Effort (days)
	Shellfish	Demersal	Pelagic	Shellfish	Demersal	Pelagic	
2014	546	1.4	0.3	1,368,360	1,471	390	697
2015	266	0.4	-	703,518	601	-	348
2016	419	0.4	-	1,222,269	221	-	595
2017	482	0.3	-	1,392,505	211	-	553
2018	415	0.8	-	1,601,637	1,256	-	457
Average	426	0.6	-	1,257,658	752	-	530

Source: The Scottish Government 2019a

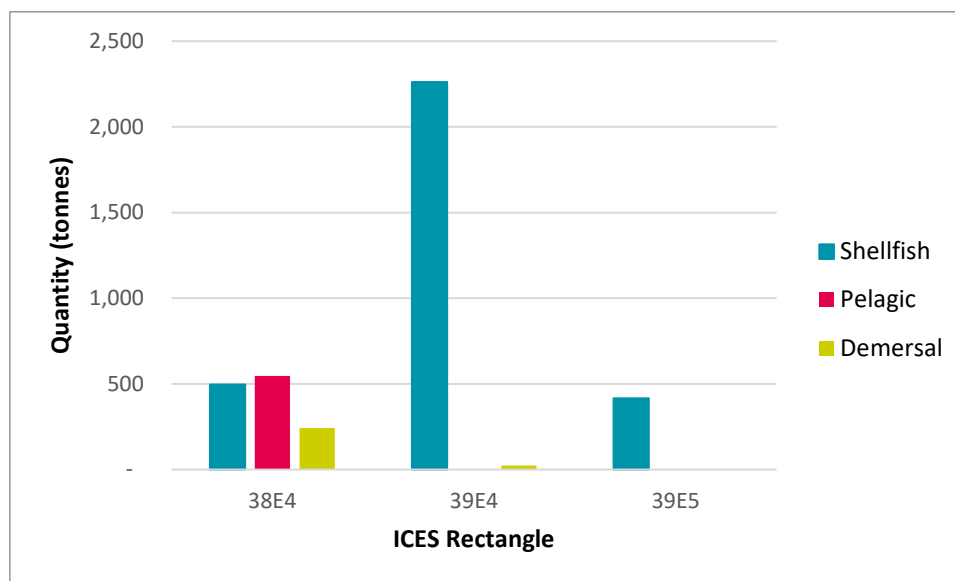
Figure 6-1 and Figure 6-2 provide an overview of the value and mass of landings by fisheries within the vicinity of the proposed cables routes (ICES rectangle 38E4, 39E4 and 39E5). Overall, the most important fisheries in the area, in terms of both quantity and value, are shellfish fisheries. However, within ICES rectangle 38E4, pelagic species are marginally more important in terms of quantity.

Figure 6-1 2018 Annual value by species type within ICES rectangles 38E4, 39E4 and 39E5



Source: The Scottish Government 2019a

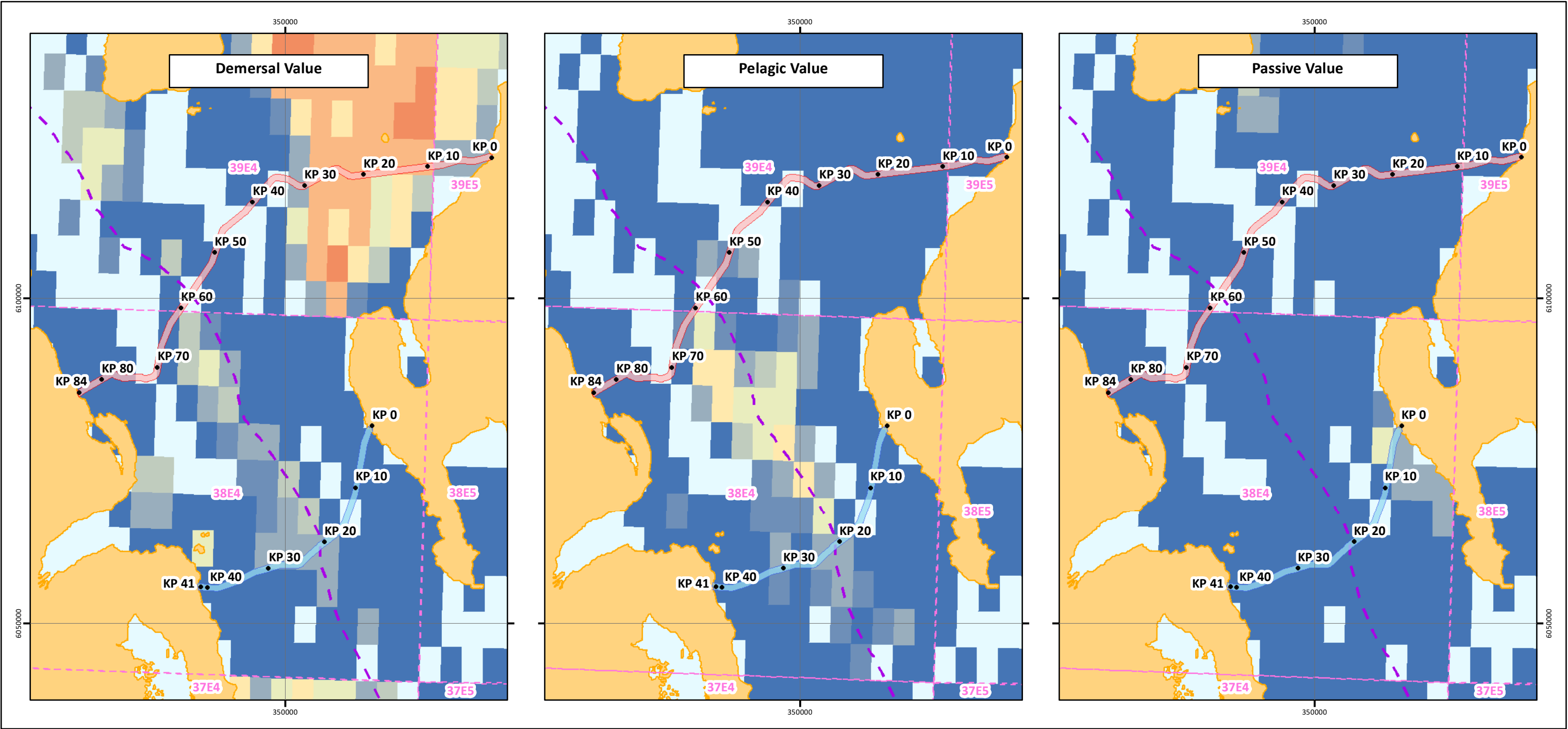
Figure 6-2 2018 Annual catch landed by species type within ICES rectangles 38E4, 39E4 and 39E5



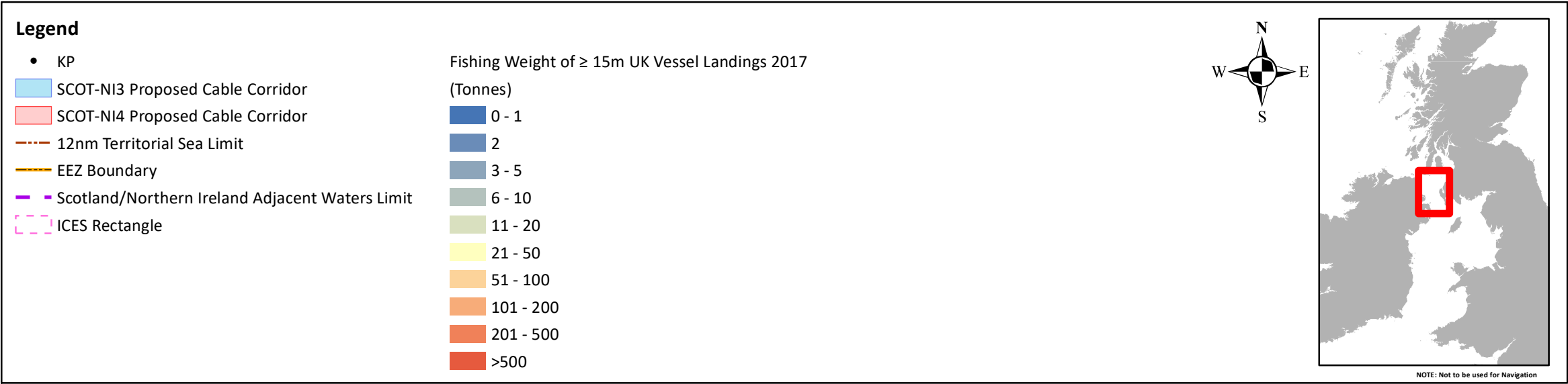
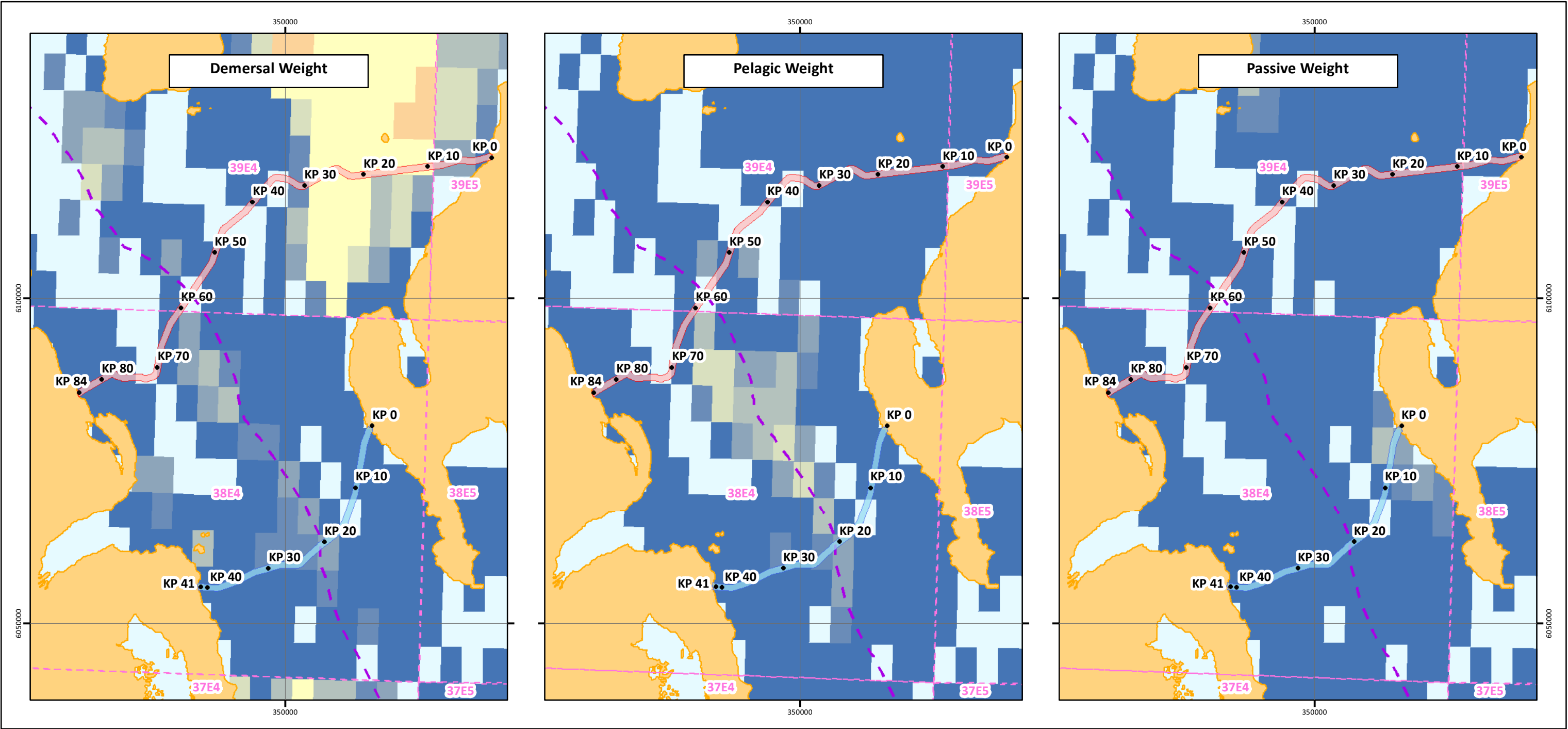
Source: The Scottish Government 2019a

The dominance of the demersal (predominantly shellfish) sector can also be seen from Figures 6-3 (Drawing reference: P2302_FISH-011) and 6-4 (Drawing reference: P2302_FISH-010), which show the spatial patterns of fishing activities for both SCOT-NI 3 and SCOT-NI 4 per gear type (demersal, pelagic and “passive” which means static gear) in terms of sales and weight. The cable routes are dominated by shell fishing with the SCOT-NI 4 route of particular importance in terms of value and sales of shellfish.

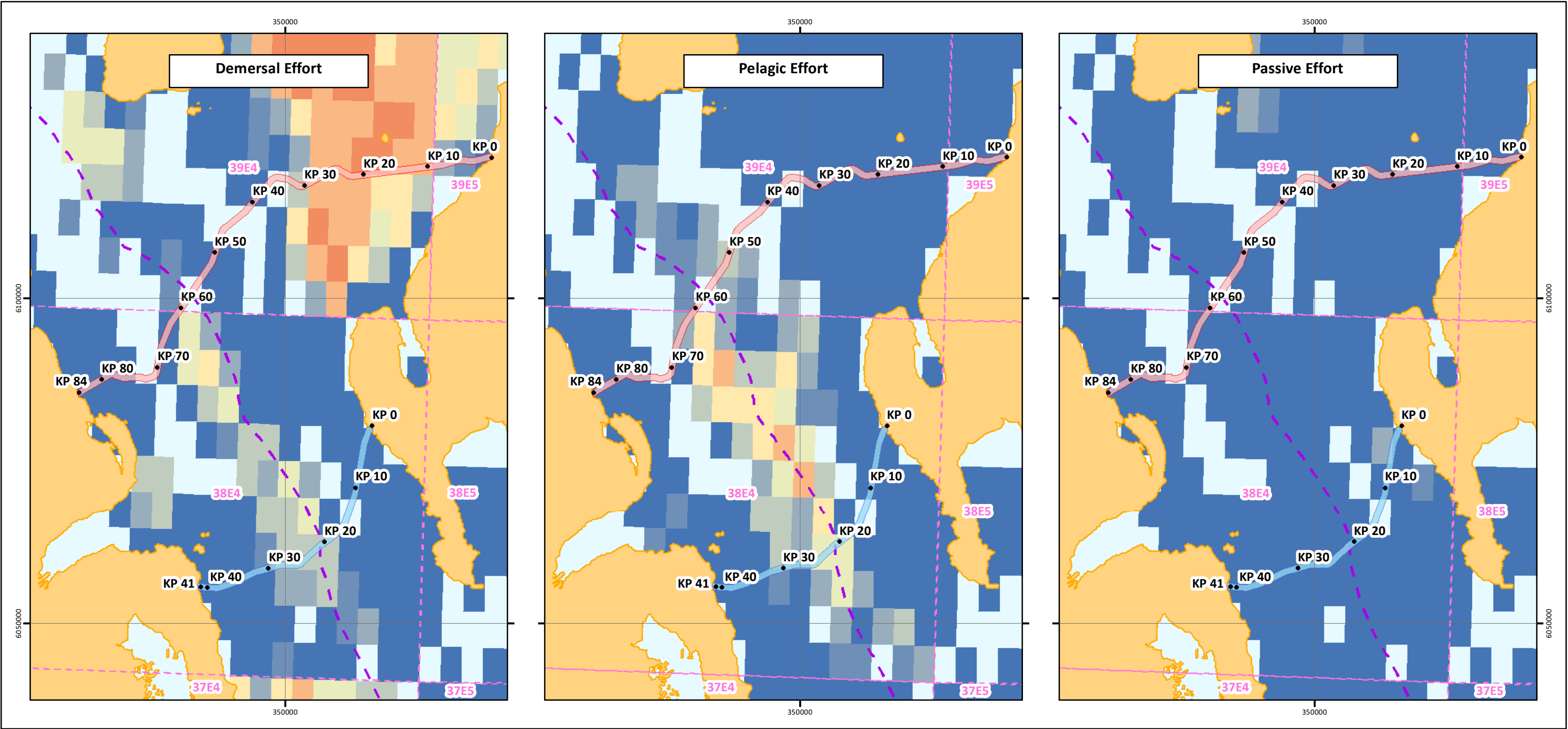
Figures 6-5 (Drawing reference: P2302_FISH-009) show that the fishing effort measured in number of days is more equally distributed across the gear types, with most active effort for demersal species within the SCOT-NI 3 cable corridor (ICES rectangle 38E4) and most pelagic effort within SCOT-NI 4 cable corridor (within ICES rectangle 39E4).



Date	14 September 2020
Coordinate System	WGS 1984 UTM Zone 30N
Projection	Transverse Mercator
Datum	WGS 1984
Data Source	UKHO; ICES; MMO; GEBCO; ESRI;
File Reference	J:\P2302\Mxd\06_FISH\ P2302-FISH-011.mxd
Created By	Chris Dawe
Reviewed By	Abigale Nelson
Approved By	Paula Daglish



Date	14 September 2020
Coordinate System	WGS 1984 UTM Zone 30N
Projection	Transverse Mercator
Datum	WGS 1984
Data Source	UKHO; ICES; MMO; GEBCO; ESRI;
File Reference	J:\P2302\Mxd\06_FISH\ P2302-FISH-010.mxd
Created By	Chris Dawe
Reviewed By	Abigale Nelson
Approved By	Paula Daglish



SCOTLAND - NORTHERN IRELAND TELECOMMUNICATION CABLES FISHING ACTIVITY - Fishing Effort in kwh for ≥ 15m UK Vessels 2017 Drawing No: P2302-FISH-009 | A



Date	14 September 2020
Coordinate System	WGS 1984 UTM Zone 30N
Projection	Transverse Mercator
Datum	WGS 1984
Data Source	UKHO; ICES; MMO; GEBCO; ESRI;
File Reference	J:\P2302\Mxd\06_FISH\ P2302-FISH-009.mxd
Created By	Chris Dawe
Reviewed By	Abigale Nelson
Approved By	Paula Daglish

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km

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6.3 Landings by Species

In 2018, the main pelagic species caught were Atlantic herring and mackerel. The main demersal species taken were hake, haddock and cod. Important shellfish species include Nephrops, scallops and crab. The top five most landed species in these ICES rectangles for 2018 are listed by value in Table 6-4 and by weight in Table 6-5.

For SCOT-NI 3 cable route, scallops were the top landed species by value and herring the top landed species by weight. For Scot-NI 4, a combination of scallops and Nephrops were the top landed species by value and herring and Nephrops were the top species landed by weight in 2018

Table 6-4 Top five landed species by value (£) in 2018 per ICES rectangle

Rank	38E4	39E4	39E5
1	Scallops	Nephrops (Norway Lobster)	Nephrops (Norway Lobster)
2	Herring	Scallops	Razor Clam
3	Hake	Crabs (C.P. Mixed Sexes)	Lobsters
4	Lobsters	Lobsters	Crabs (C.P. Mixed Sexes)
5	Haddock	Crabs - Velvet (Swim)	Scallops

Source: The Scottish Government 2019a

Table 6-5 Top five landed species by weight (tonnes) in 2018 per ICES rectangle

Rank	38E4	39E4	39E5
1	Herring	Nephrops (Norway Lobster)	Nephrops (Norway Lobster)
2	Scallops	Scallops	Razor Clam
3	Hake	Crabs (C.P. Mixed Sexes)	Crabs (C.P. Mixed Sexes)
4	Haddock	Haddock	Scallops
5	Crabs (C.P. Mixed Sexes)	Crabs - Velvet (Swim)	Lobsters

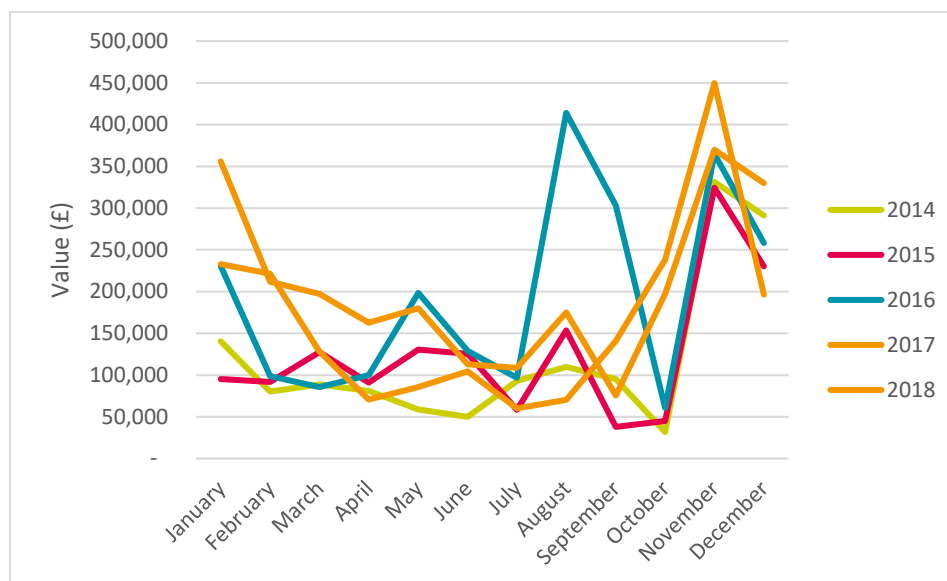
Source: The Scottish Government 2019a

6.4 Seasonal trends

Landings in terms of tonnage and value are also available by month for each ICES rectangle and analysis of this data may uncover seasonal trends (Scottish Government 2019a).

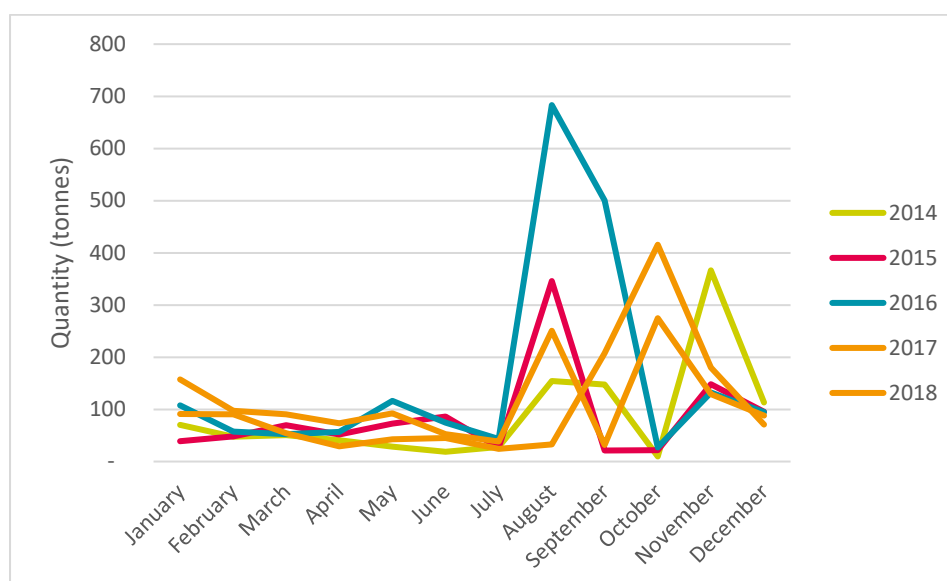
Figure 6-7 and 6-8 show that for ICES rectangle 38E4 there is a noticeable difference, especially in terms of tonnage, between the months of lower catch landings and value from December/January to July, where catch landings and value increase to a peak in November after which value and landings fall again. This data is fairly consistent across years 2014 to 2018.

Figure 6-6 Landings value by month for ICES rectangle 38E4



Source: Scottish Government 2019a

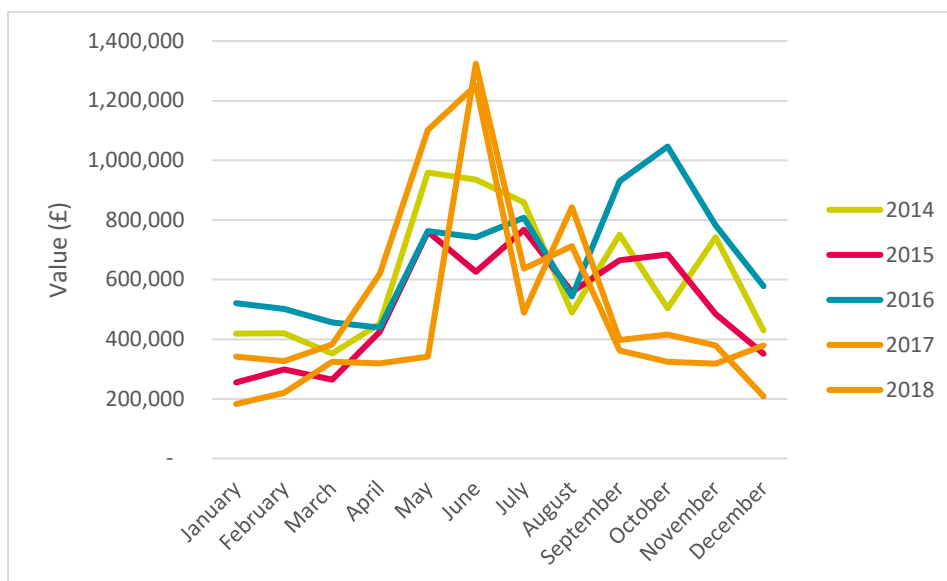
Figure 6-7 Landings tonnage by month for ICES rectangle 38E4



Source: The Scottish Government 2019a

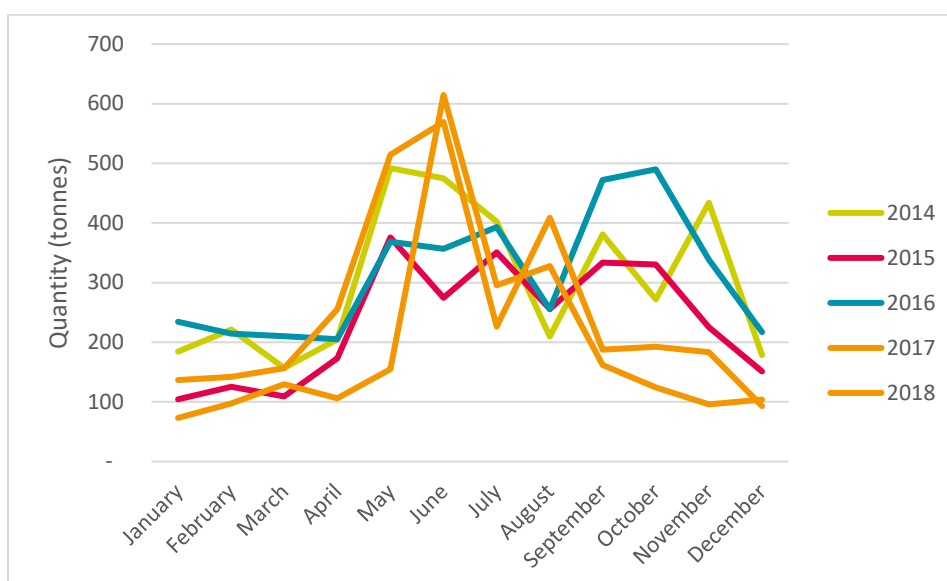
Figure 6-9 and 6-10 show a period of lower catch from December to April, a peak around June and moderate catch levels July to November for ICES rectangle 39E4. Furthermore, the landing patterns of value and tonnage look very similar.

Figure 6-8 Landings value by month for ICES rectangle 39E4



Source: The Scottish Government 2019a

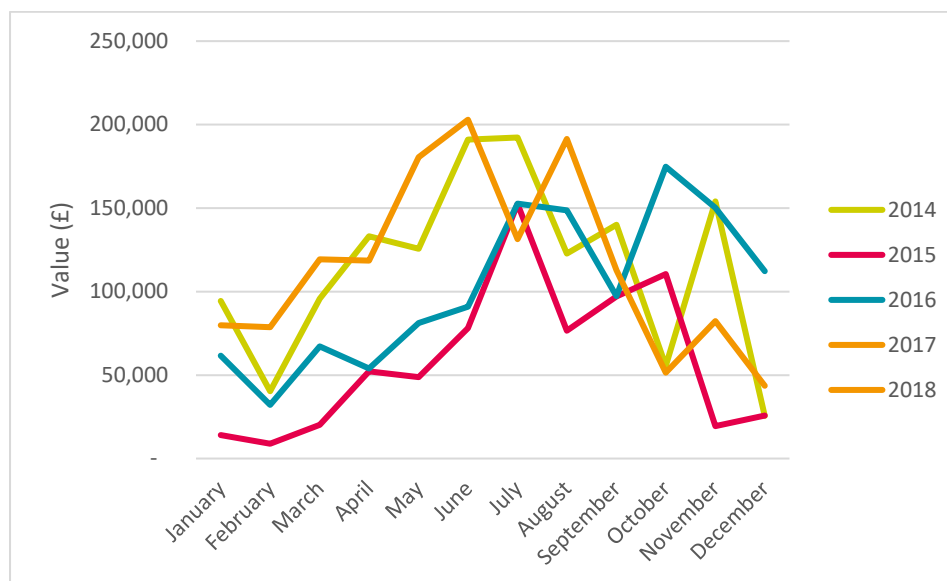
Figure 6-9 Landings tonnage by month for ICES rectangle 39E4



Source: The Scottish Government 2019a

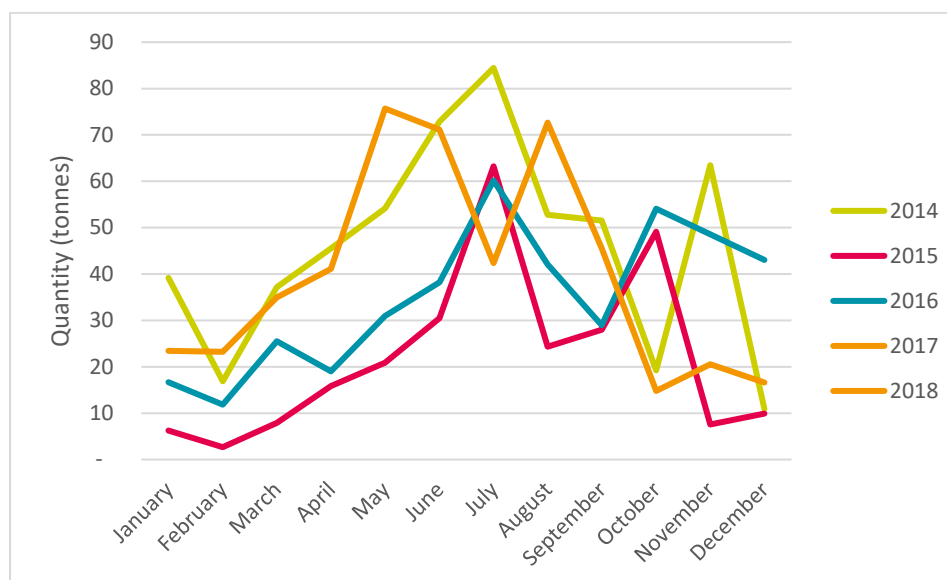
Figure 6-11 and 6-12 show that in ICES rectangle 39E5 on average the highest catch takes place over the summer months: June, July, and August, and the lowest during the winter months: December, January and February. This is generally consistent, following the same pattern across years (2014-2018)

Figure 6-10 Landings value by month for ICES rectangle 39E5



Source: The Scottish Government 2019a

Figure 6-11 Landings tonnage by month for ICES rectangle 39E5



Source: The Scottish Government 2019a

Figures 6-6 and 6-7 above indicate that the entire SCOT-NI 3 route in both Scottish and Northern Irish waters, located in ICES rectangle 38E4, falls within seasonal fisheries with peak activity from July to December. The same applies to the part of the Scot-NI 4 route within coastal Northern Irish waters.

The offshore Northern Irish and Scottish section of SCOT-NI 4 cable (ICES rectangle 39E4) is fished year-round with the key season between May and November and peak in most years from June to July (See figures 6-8 and 6-9). The Scottish nearshore area of SCOT-NI 4 (ICES rectangle 39E5) is also fished year-round with increased landings and value over the summer months from May to September (See figures 6-10 and 6-11).

7. FISHERIES KEY SENSITIVITIES

During initial consultation meetings with the fisheries stakeholders, feedback on the Project was provided and any issues or concerns were raised. The following section provides an overview of the industry key concerns.

7.1 Industry concerns

7.1.1 Temporary displacement/restricted access

During the installation of the proposed cables, temporary removal of static gear may be required and moving safety zones around the installation vessel will be in place. From the stakeholder consultation with the FPOs it became apparent that the installation schedule is a key consideration in determining the extent of the temporary displacement and restricted access. August and September were identified as particularly profitable months for potting in the Clyde, whereas the scallop fishing season in Northern Ireland runs from November to March (Seagard 2020a).

7.1.2 Snagging risk

The risk of snagging and damage to the cables is increased in areas where bottom trawling and/or scallop dredging takes place. It is therefore recommended that the cables will be buried well and that areas where burial will not be possible should be avoided. It was also mentioned that due to tidal movement in the Clyde area, a 1m cable burial depth may not be sufficient. There may be a residual risk for areas where cable burial cannot be achieved and at cable crossings.

7.1.3 Communication

Communication between the project, the FLO and the fishers are an essential part of mitigating the potential impacts from the project on commercial fisheries and vice versa. During the fisheries consultation the method, timing, and distribution of communication to fishers were discussed with various FPOs.

A lesson-learned from previous projects is that enough notice needs to be given when distributing communication, for example through a Notice to Mariners (NTM), so that all parties will be informed in time. Furthermore, fishers need to be informed of any hazards identified in the region as soon as possible. Two FPOs suggested the use of social media (Facebook, Twitter, etc.) to distribute important communication to individual fishers.

7.1.4 Impact on stocks

Another concern raised by the industry was that disturbance by cable installation has the potential to result in an indirect effect to commercial fisheries target species. Particular concern was raised in relation to scallop stocks associated with burying the cables. The Northern Ireland Scallop Fishermen's Association (NISFA) has started a scallop enhancement project to improve the long-term sustainability of stocks. The project comprises two sites in the vicinity of the proposed cable routes, one South of Donaghadee and one South of Larne. While no date has been set for this scheme, at the beginning of the scheme young scallops will be placed down which will disperse substantially during the larval/juvenile period (Seaguard 2020a).

8. SUMMARY

Important fisheries along the proposed cable routes are as follows:

- Scot-NI 3 cable route are pots and traps (crab and lobster), dredges (scallops), demersal trawls (haddock, hake) and pelagic trawls (Nephrops).
- Scot-NI 4 cable route are pots (crab and lobster), dredges (scallops), demersal trawls (Nephrops, haddock and hake) and pelagic trawls (herring).

Landings data between 2014 and 2018 has been reviewed for the ICES rectangles through which the Scot-NI cable routes extend. Scot-NI 3 is located within the ICES rectangle 38E4. Scot-NI 4 is located within ICES rectangle 38E4, 39E4 and 39E5. The landings data for this area indicates that:

- The dominant fisheries type is demersal fishing.
- Overall, shellfish form the most important component of commercial fishing landings for this area both in terms of value and tonnage.
- Within ICES 38E4 (Scot-NI 3) pelagic species are marginally more important in terms of quantity
- For SCOT-NI 3 cable route, scallops were the top landed species by value and herring the top landed species by weight in 2018.
- For Scot-NI 4, a combination of scallops and Nephrops were the top landed species by value and herring and Nephrops were the top species landed by weight in 2018.
- Fishing activity along Scot-NI 3 peaks from July to September.
- For Scot-NI 4, the nearshore and offshore areas are fished year-round.
- The Scottish nearshore key season is the summer; offshore it is summer and autumn and Northern Irish nearshore it is autumn and winter.
- In Northern Irish waters, the scallop fishery is subject to seasonal closure between 1 June and 31 October.

Trawlers and static gear fishermen represent the primary fishery that may interact with cable installation, particularly in the Firth of Clyde and approaches, on the Scot-NI 4 route (Seagard 2020a).

Initial consultation with fishing stakeholders has identified four areas of concern regarding the proposed Scot-NI 3 and Scot-NI 4 cable routes:

- Temporary displacement/restricted access (removal of static gear, exclusion zones around the installation vessel).
- Snagging risk (especially for areas where cable burial cannot be achieved and at cable crossings).
- Communication (method, timing, and distribution of communication to fishers).
- Impact on stocks (temporary habitat disturbance).

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