MORGAN AND MORECAMBE OFFSHORE WIND FARMS: TRANSMISSION ASSETS

Environmental Statement

Volume 2, Chapter 6: Commercial fisheries

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Prepared by:

RPS

Prepared for:

Morgan Offshore Wind Limited, Morecambe Offshore Windfarm Ltd

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Glossary

Term	Meaning
Applicants	Morgan Offshore Wind Limited (Morgan OWL) and Morecambe Offshore Windfarm Ltd (Morecambe OWL).
Baseline	The status of the environment without the Transmission Assets in place.
Commitment	This term is used interchangeably with mitigation and enhancement measures. The purpose of commitments is to avoid, prevent, reduce or, if possible, offset significant adverse environmental effects. Primary and tertiary commitments are taken into account and embedded within the assessment set out in the Environmental Statement. Secondary commitments are incorporated to reduce effects to environmentally acceptable levels following initial assessment.
Cumulative Effects	The combined effect of the Transmission Assets in combination with the effects from other proposed developments, on the same receptor or resource.
Design Envelope	A description of the range of possible elements and parameters that make up the Transmission Assets options under consideration, as set out in detail in Volume 1, Chapter 3: Project Description. This envelope is used to define the Transmission Assets for Environmental Impact Assessment purposes when the exact engineering parameters are not yet known. This is also referred to as the Maximum Design Scenario or Rochdale Envelope approach.
Development Consent Order	An order made under the Planning Act 2008, as amended, granting development consent.
Effect	The term used to express the consequence of an impact. The significance of effect is determined by correlating magnitude of the impact with the importance, or sensitivity, of the receptor or resource in accordance with defined significance criteria.
EIA Scoping Report	A report setting out the proposed scope of the Environmental Impact Assessment process. The Transmission Assets Scoping Report was submitted to The Planning Inspectorate (on behalf of the Secretary of State) for the Morgan and Morecambe Offshore Windfarms Transmission Assets in October 2022.
Environmental Impact Assessment	The process of identifying and assessing the significant effects likely to arise from a project. This requires consideration of the likely changes to the environment, where these arise as a consequence of a project, through comparison with the existing and projected future baseline conditions.
Environmental Statement	The document presenting the results of the Environmental Impact Assessment process.
Fishery	A group of vessel voyages which target the same species or use the same gear.
Generation Assets	The generation assets associated with the Morgan Offshore Wind Project and the Morecambe Offshore Windfarm include the offshore wind turbines, together with other electrical infrastructure that contributes to electricity production, including inter-array cables, offshore substation platforms and possible platform link cables to connect offshore substations.

Term	Meaning
ICES Rectangles	Defined areas, 1 degree longitude x 0.5 degree latitude equalling approximately 30 x 30 nm used for fisheries statistics.
Impact	Change that is caused by an action/proposed development, e.g., land clearing (action) during construction which results in habitat loss (impact).
Inter-related Effects	Inter-related effects arise where an impact acts on a receptor repeatedly over time to produce a potential additive effect or where a number of separate impacts, such as noise and habitat loss, affect a single receptor.
Intertidal Area	The area between Mean High Water Springs and Mean Low Water Springs.
Landfall	The area in which the offshore export cables make landfall (come on shore) and the transitional area between the offshore cabling and the onshore cabling. This term applies to the entire landfall area at Lytham St. Annes between Mean Low Water Springs and the transition joint bay inclusive of all construction works, including the offshore and onshore cable routes, intertidal working area and landfall compound(s).
Marine Licence	The Marine and Coastal Access Act 2009 requires a marine licence to be obtained for licensable marine activities. Section 149A of the Planning Act 2008 allows an applicant for to apply for 'deemed marine licences' in English waters as part of the development consent process.
Maximum Design Scenario	The realistic worst-case scenario, selected on a topic-specific and impact specific basis, from a range of potential parameters for the Transmission Assets
Mean High Water Springs	The height of mean high water during spring tides in a year.
Mean Low Water Springs	The height of mean low water during spring tides in a year.
Mitigation Measures	This term is used interchangeably with Commitments. The purpose of such measures is to avoid, prevent, reduce or, if possible, offset significant adverse environmental effects.
Morecambe Offshore Windfarm: Generation Assets	The offshore generation assets and associated activities for the Morecambe Offshore Windfarm.
Morecambe OWL	Morecambe Offshore Windfarm Ltd is a joint venture between Zero-E Offshore Wind S.L.U. (Spain) (a Cobra group company) (Cobra) and Flotation Energy Ltd.
Morecambe Offshore Windfarm: Transmission Assets	The offshore export cables, landfall and onshore infrastructure required to connect the Morecambe Offshore Windfarm to the National Grid.
Morgan and Morecambe Offshore Wind Farms: Transmission Assets	The offshore and onshore infrastructure connecting the Morgan Offshore Wind Project and the Morecambe Offshore Windfarm to the national grid. This includes the offshore export cables, landfall site, onshore export cables, onshore substations, 400 kV grid connection cables and associated grid connection infrastructure such as circuit breaker compounds. Also referred to in this report as the Transmission Assets, for ease of reading.
Morgan Offshore Wind Project: Generation Assets	The offshore generation assets and associated activities for the Morgan Offshore Wind Project.

Term	Meaning
Morgan OWL	Morgan Offshore Wind Limited is a joint venture between bp Alternative Energy Investments Ltd. and Energie Baden-Württemberg AG (EnBW).
Morgan Offshore Wind Project: Transmission Assets	The export cables, landfall and onshore infrastructure required to connect the Morgan Offshore Wind Project to the National Grid.
National Grid	National Grid is the system operator of Great Britain's electricity and gas supply. This includes England, Scotland and Wales. It is the company that manages the network and distribution of electricity and gas that powers all our homes and businesses.
National Policy Statements	The current national policy statements published by the Department of for Energy Security and Net Zero and Climate Change in 2023 and adopted in 2024.
Offshore Export Cables	The cables which would bring electricity from the Generation Assets to the landfall.
Offshore Order Limits	See Transmission Assets Order Limits: Offshore (below).
Otter Trawl	Otter trawls consist of a pair of otter boards (large rectangular boards) which hold open the mouth of a net.
Pelagic Trawl	Pelagic trawls consist of nets which are used to catch fish in the water column, rather than on the seafloor.
Planning Inspectorate	The agency responsible for operating the planning process for Development Consent Orders.
Preliminary Environmental Information Report	A report that provides preliminary environmental information in accordance with the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017. This is information that enables consultees to understand the likely significant environmental effects of a project and which helps to inform consultation responses.
Safety Zones	An area around a structure or vessel which should be avoided.
Scoping Opinion	Sets out the Planning Inspectorate's response (on behalf of the Secretary of State) to the Scoping Report prepared by the Applicants. The Scoping Opinion contains the range of issues that the Planning Inspectorate, in consultation with statutory stakeholders, has identified should be considered within the Environmental Impact Assessment process.
Scour Protection	Protective materials to avoid sediment being eroded away from the base of the foundations due to the flow of water.
Seine Nets	A seine net consists of a large net which is drawn together to surround and enclose a shoal of fish.
Static Gear	Gear that is set to catch fish or shellfish. This is a collective term and includes gears such as pots, traps and set nets.
Study Area	This is an area which is defined for each environmental topic which includes the Transmission Assets Order Limits as well as potential spatial and temporal considerations of the impacts on relevant receptors.
Transboundary Effects	Effects from a project within one state that affect the environment of another state(s).

Term	Meaning
Transmission Assets	See Morgan and Morecambe Offshore Wind Farms: Transmission Assets (above)
Transmission Assets Order Limits	The area within which all components of the Transmission Assets will be located, including areas required on a temporary basis during construction and/or decommissioning.
Transmission Assets Order Limits: Offshore	The area within which all components of the Transmission Assets seaward of Mean Low Water Springs will be located, including areas required on a temporary basis during construction and/or decommissioning. Also referred to in this report as the Offshore Order Limits, for ease of reading.
Transmission Assets Scoping Boundary	The term used to define the boundary used at the time the Scoping Report was submitted.
Vessel Monitoring System	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 vessels.

Acronyms

Acronym	Meaning
AIS	Automatic Identification System
ANIFPO	Anglo North Irish Fish Producers Organisation
CFLO	Company Fisheries Liaison Officer
DCO	Development Consent Order
DECC	Department of Energy and Climate Change (formerly Department of Business Energy and Industrial Strategy, now Department of Energy Security and Net Zero)
DEFA	Department of Environmental, Food and Agriculture
EIA	Environmental Impact Assessment
ES	Environmental Statement
EU	European Union
EU STECF	European Union Scientific, Technical and Economic Committee for Fisheries
FIR	Fishing Industry Representative
IEMA	Institute of Environmental Management and Assessment
ICES	International Council for the Exploration of the Sea
ISEFPO	Irish South and East Fish Producers Organisation
LTMP	Long Term Management Plan
MCZ	Marine Conservation Zone
MDS	Maximum Design Scenario

Acronym	Meaning
MFPO	Manx Fish Producers Organisation
MHWS	Mean High Water Springs
MMO	Marine Management Organisation
MPA	Marine Protected Area
MSAR	Monthly Shellfish Activity Report
NFFO	National Federation of Fishermen's Organisations
NIFPO	Northern Ireland Fish Producers Organisation
OFLO	Offshore Fisheries Liaison Officer
PEIR	Preliminary Environmental Information Report
SAC	Special Area of Conservation
SFF	Scottish Fishermen’s Federation
SMZ	Scallop Mitigation Zone
SPA	Special Areas of Protection
SSC	Suspended Sediment Concentration
SWFPA	The Scottish White Fish Producers Association Ltd
UK	United Kingdom
VMS	Vessel Monitoring System
WCSP	West Coast Sea Products Ltd
WFA	Welsh Fishermen’s Association
WFC	Whitehaven Fishermen’s Cooperative
WFPO	Western Fish Producers Organisation

Units

Unit	Description
%	Percentage
£	Pound sterling
km	kilometre
km^2	Kilometre squared
kW	Kilowatt (power)
kWh	Kilowatt hour
m	Metres
nm	Nautical miles (distance; one nm = 1.852 km)

Unit	Description
t	Tonnes

6 Commercial fisheries

6.1 Introduction

6.1.1.1 This chapter of the Environmental Statement (ES) presents the findings of the Environmental Impact Assessment (EIA) work undertaken for the Morgan and Morecambe Offshore Wind Farms: Transmission Assets. For ease of reference, the Morgan and Morecambe Offshore Wind Farms Transmission Assets are referred to in this chapter as the 'Transmission Assets'. This ES accompanies the application to the Planning Inspectorate for development consent for the Transmission Assets.

6.1.1.2 The purpose of the Transmission Assets is to connect the Morgan Offshore Wind Project: Generation Assets and Morecambe Offshore Windfarm: Generation Assets (referred to collectively as the 'Generation Assets') to the National Grid. A description of the Transmission Assets can be found in Volume 1, Chapter 3: Project description of the ES.

6.1.1.3 This chapter considers the likely impacts and effects of the Transmission Assets on commercial fisheries during the construction, operation and maintenance, and decommissioning phases. Specifically, it relates to the Transmission Assets Order Limits: Offshore (hereafter referred to as the Offshore Order Limits) seaward of Mean Low Water Springs.

6.1.1.4 This ES chapter:

- identifies the key legislation, policy and guidance relevant to commercial fisheries;
- details the EIA scoping and consultation process undertaken to date for commercial fisheries;
- confirms the study area for the assessment, the methodology used to identify baseline environmental conditions and sets out the existing and future environmental baseline conditions, established from desk studies, surveys and consultation;
- identifies any assumptions and limitations encountered in compiling the environmental baseline information;
- identifies the scope of the assessment;
- details the mitigation and/or monitoring measures that are proposed to prevent, minimise, reduce or offset the possible environmental effects identified in the EIA process;
- defines the project design parameters used to inform for the impact assessment;
- identifies the impact assessment methodology and presents an assessment of the likely impacts and effects in relation to the construction, operation and maintenance, and decommissioning phases of the Transmission Assets on commercial fisheries (and, where relevant, the impacts and effects of commercial fisheries on the Transmission Assets);

- identifies any cumulative, transboundary and/or inter-related effects in relation to the construction, operation and maintenance, and decommissioning phases of the Transmission Assets on commercial fisheries.

6.1.1.5 The assessment presented is informed by the following technical chapters and should be read in conjunction with:

- Volume 2, Chapter 2: Benthic subtidal and intertidal ecology of the ES;
- Volume 2, Chapter 3: Fish and shellfish ecology of the ES;
- Volume 2, Chapter 7: Shipping and navigation of the ES;
- Volume 2, Chapter 9: Other Sea users of the ES.

6.1.1.6 This chapter also draws upon information to support the assessment contained within Volume 2, Annex 6.1: Commercial fisheries technical report of the ES (document reference F2.6.1).

6.1.1.7 For the purposes of this chapter, commercial fishing is defined as any form of fishing activity where the catch is sold for taxable profit. Recreational rod and line fishers, as well as charter-angling operators, are also active in the region, and potential impacts on these receptors are assessed in Volume 4, Chapter 2: Socio-economics of the ES.

6.1.1.8 In October 2023, the Preliminary Environmental Information Report (PEIR) for the Transmission Assets was published to support the pre-application consultation activities required under the 2008 Act, which lasted for 42 days and concluded on 23 November 2023. Comments received on the PEIR have been reviewed and incorporated (where appropriate) into this ES.

6.2 Legislation, policy and guidance

6.2.1 Planning policy context

6.2.1.1 The Transmission Assets will be located in English offshore waters (beyond 12 nautical miles (nm) from the English coast) and inshore waters, with the onshore infrastructure located wholly within England. As set out in Volume 1, Chapter 1: Introduction, of this ES, the Secretary of State for Energy Security and Net Zero (formerly Business, Energy and Industrial Strategy) has directed that the Transmission Assets are to be treated as development for which development consent is required under the Planning Act 2008, as amended.

National Policy Statements

6.2.1.2 There are currently six energy National Policy Statements (NPSs), three of which contain policy relevant to offshore wind development and the Transmission Assets, specifically:

- Overarching NPS for Energy (NPS EN-1) which sets out the United Kingdom (UK) Government's policy for the delivery of major energy infrastructure (Department for Energy Security & Net Zero, 2024a);

- NPS for Renewable Energy Infrastructure (NPS EN-3) (Department for Energy Security & Net Zero, 2024b);
- NPS for Electricity Networks Infrastructure (NPS EN-5) (Department for Energy Security & Net Zero 2024c).

6.2.1.3 Although NPS: EN-1, EN-3, and EN-5 all contain policy relevant to offshore wind development, only NPS EN-3 includes specific policy statements for commercial fisheries, thus NPS EN-1 and NPS EN-5 are not considered further within this chapter.

6.2.1.4 NPS EN-3 includes guidance on what matters are to be considered in a commercial fisheries assessment of an offshore renewable energy project. NPS EN-3 also highlights a number of factors relating to the determination of an application and in relation to mitigation. These are summarised in **Table 6.1** below.

6.2.1.5 The policies within the current NPSs relevant to all topics in the ES can be viewed in the National Policy Statement tracker (document reference J26) and Planning Statement (document reference J28), submitted with the Application.

Table 6.1: Summary of the NPS EN-3 policies relevant to this chapter

Summary of NPS provision	How and where considered in the ES
The UK fishing industry is diverse. The type and significance of impacts will therefore vary depending on the section of the fleet affected. Applicants should consider both direct impacts on fishing activity and indirect impacts such as displacement (on both the industry and Marine Protected Sites) and the ability of fishers to relocate (paragraph 2.8.153 of NPS EN-3)	To ensure that potential impacts which may affect certain fleets/fisheries in different ways are fully assessed, a number of commercial fisheries receptor groups have been identified through review of data and feedback from stakeholder consultation (see **section 6.3.4**). A total of eight key receptor groups have been defined. These have been categorised based on gear type, nature of fishing activity and nationality and are summarised in **Table 6.7**. Displacement of commercial fisheries into other areas have been assessed for all phases of the Transmission Assets (**section 6.11.3**).
Applicants should undertake early consultation with a cross-section of the fishing industry, as well as MMO, SNCBs, relevant Inshore Fisheries and Conservation Authorities (IFCAs), Defra and Welsh Government, to identify impacts, and actively encourage input from active fishers to provide evidence of their use of the area to support the impact assessments (paragraph 2.8.154 of NPS EN-3).	Liaison with the fishing industry, via the Company Fisheries Liaison Officer (CFLO) and Fishing Industry Representative (FIR), is being adhered to in line with the best practice guidance outlined in **section 6.2.2**. Early engagement for the Transmission Assets specifically was established with fisheries stakeholders in November 2022, and engagement will continue throughout the lifetime of the project (see **Table 6.3**). To communicate the commitments and measures by the Transmission Assets to co-exist with the fishing industry and reduce impacts on commercial fisheries where appropriate, the Applicants have committed to the development of a Fisheries Liaison and Co-existence Plan (FLCP) (CoT 52, **Table**

Summary of NPS provision	How and where considered in the ES
	6.10), which is secured within the deemed marine licence(s) within the draft Development Consent Order (DCO). An outline of this plan has been included with the Application (document reference J13).
Where any part of a proposal involves a grid connection, or transmission to shore or in the inshore area, appropriate inshore fisheries groups should also be consulted (paragraph 2.8.155 of NPS EN-3).	Consultation with relevant stakeholders (local, regional, national and international) has been undertaken for the Transmission Assets and is summarised in **section 6.2.2**, (see also **Table 6.3)**, with further information in Volume 2, Annex 6.1: Commercial fisheries technical report of the ES (document reference F2.6.1) and the Consultation Report (document reference E1), which has been submitted as part of the DCO application.
Applicants will be expected to undertake dialogue with the fishing industry during the planning and design of individual offshore wind farm and transmission proposals to maximise the potential for co-existence/co-location and reduce potential displacement (paragraph 2.8.158 of NPS EN-3).	
Offshore wind farms can have a negative impact on some fish stocks and fishing activity, and/or a positive impact on other fish stocks and/or other types of commercial fishing. Whilst the footprint of an offshore wind farm and any associated infrastructure may be a hindrance to certain types of commercial fishing activity such as trawling, other fishing activities, such as potting, may be able to take place within operational wind farms without unduly disrupting or compromising navigational safety (paragraph 2.8.156 of NPS EN-3).	Potential impacts to fish stocks arising from the Transmission Assets have been assessed in Volume 2, Chapter 3: Fish and shellfish ecology of the ES. Potential impacts on the commercial fisheries that target the fish stocks are assessed in **section 6.11.5** of this chapter. Potential impacts to commercial fisheries have been described in **section 6.11**, and cumulative effects are described in **section 6.13**.
Applicant assessments should include robust baseline data and detailed surveys of the effects on fish stocks of commercial interest, and any potential reduction or increase in such stocks that will result from the presence of the wind farm development and of any safety zones (see paragraph 2.8.152 – 2.8.164 of NPS EN-3). The assessments should also provide evidence regarding any likely benefits or constraints on fishing activity within the project's boundaries (paragraph 2.8.157 of NPS EN-3).	Volume 2, Chapter 3: Fish and shellfish ecology of the ES outlines the potential impacts on fish stocks, including those of commercial interest. Baseline fisheries activity data has been collated from official sources and through consultation, as described in **section 6.5** and Volume 2, Annex 6.1: Commercial fisheries technical report of the ES (document reference F2.6.1). Likely constraints and advisory exclusion zones associated with the Transmission Assets are assessed in **section 6.11** (further information is provided in the Safety Zone Statement, document reference: J33).

Summary of NPS provision	How and where considered in the ES
Applicants should consider guidance on best practice for fisheries liaison, which has been jointly agreed by the renewables industry and fishing community (paragraph 2.8.159 of NPS EN-3).	Liaison with the fishing industry, via the CFLO and FIR, is being adhered to in line with the best practice guidance outlined in **section 6.2.2**. Early engagement for the Transmission Assets specifically was established with fisheries stakeholders in November 2022, and engagement will continue throughout the lifetime of the project (see **section 6.8**). To communicate the commitments and measures by the Transmission Assets to co-exist with the fishing industry and reduce impacts on commercial fisheries as far as practicably possible, the Applicants have committed to the development of a FLCP (CoT 52, **Table 6.10**), which is secured within the deemed marine licence(s) within the draft DCO. An outline of this plan has been included with the Application (document reference J13).
In some circumstances, transboundary issues may be a consideration as fishing vessels from other coastal States may fish in waters within which offshore wind farms are sited. Applicants should seek advice from Defra in such circumstances (paragraph 2.8.160 of NPS EN-3).	Transboundary impacts have been described in **section 6.14**, where consideration has been given to both UK and non-UK fishing fleets.
In some circumstances, applicants may seek declaration of safety zones around wind turbines and other infrastructure. Although these might not be applied until after consent to the wind farm has been granted (paragraph 2.8.161 of NPS EN-3).	As set out in **Table 6.11**, the key permanent offshore infrastructure for the Transmission Assets and of relevance to commercial fisheries includes the offshore export cables between the Generation Assets and landfall. Other transmission infrastructure (offshore substation platforms and interconnector cables between the platforms) are included within the applications for the Generation Assets only (Volume 1, Chapter 3: Project description of the ES).
The declaration of a safety zone excludes or restricts activities within the defined sea areas including commercial fishing (paragraph 2.8.162 of NPS EN-3).	
Where there is a possibility that safety zones will be sought, applicant assessments should include potential effects on commercial fishing (paragraph 2.8.163 of NPS EN-3).	

Summary of NPS provision	How and where considered in the ES
Where the precise extents of potential safety zones are unknown, a realistic worst-case scenario should be assessed. Applicants should consult the Maritime and Coastguard Agency as part of this process (paragraph 2.8.164 of NPS EN-3).	The safety zone scheme, as set out in the Energy Act 2004 and the Electricity (Offshore Generating Stations) (Safety Zones) (Applications Procedures and Control of Access) Regulations 2007 (SI No 2007/1948), applies to territorial waters in or adjacent to England, Scotland and Wales (between the mean low water mark and the seaward limits of the territorial sea, thereby including internal coastal waters and territorial waters). The scheme applies to all Offshore Renewable Energy Infrastructure (OREI) including offshore wind farms. However, as outlined within the Guidance for Applying for safety zones around OREI, the safety zone scheme does not cover subtidal cables, as outlined in the Safety Zone Statement (document reference: J33). During construction of the Transmission Assets, rather than complete closure of the Transmission Assets Order Limits, it is proposed that advisory exclusion zones of 500 m will be present around vessels installing subtidal export cables, as outlined in the Safety Zone Statement (document reference: J33). Implications from the implementation of advisory exclusion zones on commercial fishing have been presented in **section 6.11**. Advisory exclusion zones (CoT66 and CoT50 **Table 6.10)** are committed to within the Outline FLCP (document reference J13) Safety Zone Statement (document reference J33) included with the application. The Maximum Design Scenario for the Transmission Assets is discussed in further in **section 6.9.1**.

Summary of NPS provision	How and where considered in the ES
The Secretary of State should be satisfied that the site selection process has been undertaken in a way that reasonably minimises adverse effects on fish stocks, including during peak spawning periods and the activity of fishing itself (paragraph 2.8.318 of NPS EN-3).	The potential impacts arising from the Transmission Assets have been discussed with statutory bodies during consultation. The Applicants are taking and will continue to take steps to minimise the effects upon the industry in the area through appropriate mitigation, where required (see **section 6.8**). To communicate the commitments and measures by the Transmission Assets to co-exist with the fishing industry and reduce impacts on commercial fisheries as far as practicably possible, the Applicants have committed to the development of a FLCP (CoT50, **Table 6.10**, an Outline FLCP provided with the application as document reference J13). Volume 2, Chapter 3: Fish and shellfish ecology of the ES outlines the potential impacts on fish stocks, including those of commercial interest.
The Secretary of State should consider the extent to which the proposed development occupies any recognised important fishing grounds and whether the project would prevent or significantly impede protection of sustainable commercial fisheries or fishing activities (paragraph 2.8.319 of NPS EN-3).	The ES considers the extent to which the Transmission Assets will overlap with recognised fishing grounds. The Applicants have carried out consultation with fishing stakeholders, in order to fully understand any potential impacts (see **section 6.3**). The results of this assessment are presented in this chapter (see section **6.11**).
Where the Secretary of State considers the wind farm or offshore transmission would significantly impede protection of sustainable fisheries or fishing activity at recognised important fishing grounds, this should be attributed a correspondingly significant weight (paragraph 2.8.320 of NPS EN-3).	
The Secretary of State should consider adverse or beneficial impacts on different types of commercial fishing on a case-by-case basis (paragraph 2.8.321 of NPS EN-3).	Potential impacts to commercial fisheries have been described in **section 6.11**, and cumulative effects are described in section **6.13**. Each potential impact within these assessments have been assessed separately for each identified receptor group (**Table 6.7**) and phase of the Transmission Assets.
The Secretary of State should be satisfied that the Applicant has sought to design the proposal having consulted the MMO or NRW in Wales, Defra or Welsh Government in Wales and representatives of the fishing industry with the intention of minimising the loss of fishing opportunity taking into account effects on other marine interests. Guidance has been jointly agreed by the renewables and fishing industries on how they should liaise with the intention of allowing the two industries to successfully co-exist. (paragraph 2.8.322 of NPS EN-3).	The Applicants are taking and will continue to take steps to facilitate co-existence with existing commercial fishing activity and minimise disruption as far as is practicably possible. Early engagement for the Transmission Assets specifically was established with fisheries stakeholders in November 2022 and engagement will continue throughout the lifetime of the project, where appropriate (see **section 6.8**).

Summary of NPS provision	How and where considered in the ES
Any mitigation proposals should result from the Applicant having detailed consultation with relevant representatives of the fishing industry, IFCAs, the MMO and the relevant Defra policy team in England (paragraph 2.8.250 of NPS EN-3).	Consultation is an important aspect of the assessment of potential impacts on commercial fisheries for the Transmission Assets and any related mitigation. Early engagement for the Transmission Assets specifically was established with fisheries stakeholders in November 2022 and engagement will continue throughout the lifetime of the project (see **section 6.8**). A FLCP (CoT50), **Table 6.10,** which is secured within the deemed marine licence(s) in the draft DCO. An outline FLCP has been included with the Application (document reference J13) with detailed FLCPs developed by the Applicants through ongoing consultation with fisheries stakeholders.
Mitigation should be designed to enhance, where reasonably possible, any potential medium and long-term positive benefits to the fishing industry and commercial fish stocks and the marine environment (paragraph 2.8.251 of NPS EN-3).	Mitigation measures are presented in **Table 6.10** with all mitigation measures detailed in the Commitments Register in Volume 1, Annex 5.3 (document reference F1.5.3)and considered throughout **section 6.11**.
The Secretary of State will need to consider the extent to which disruption to the fishing industry, whether short term during construction or long term over the operational period, including that caused by the future implementation of any safety zones, has been mitigated where reasonably possible (paragraph 2.8.323 of NPS EN-3).	A range of mitigation options have been explored with the fishing industry representatives and stakeholders of the fishing community, where disruption is anticipated (see **section 6.8** and **6.11**).
Where an offshore wind farm or offshore transmission could affect a species of fish that is of commercial interest, but is also of ecological value, the Secretary of State should refer to paragraph 2.8.147 of NPS EN-3 with regard to the latter (paragraph 2.8.324 of NPS EN-3)	Potential impacts on commercially important fish and shellfish resources via the construction, operation and maintenance, and decommissioning phases of the Transmission Assets have been assessed in **section 6.11.5**.
Fish in the context of this NPS also includes elasmobranchs (sharks and rays) and shellfish (i.e., crabs) (paragraph 2.8.147 of NPS EN-3).	

Marine policy

UK Marine Policy Statement

6.2.1.6 The UK Marine Policy Statement explicitly expresses fishing sector support, and regarding displacement, advocates '*seeking solutions, such as co-location of activity wherever possible'*. Specifically, paragraphs 3.8.1, 3.8.2, and 2.3.1.5 stipulate that the process of marine planning should "e*nable the co-existence of compatible activities wherever possible*" and supports the reduction of real and potential conflict, as well as maximising compatibility and encouraging co-existence of activities (HM Government, 2011).

6.2.1.7 **Table 6.2** sets out a summary of the key specific policies set out in the North West Inshore and North West Offshore Marine Plan (HM Government, 2021) which are relevant to this chapter, along with details as to how these have been addressed within this assessment.

Table 6.2: Summary of inshore and offshore marine plan policies relevant to this chapter

Policy	Key provisions	How and where considered in the ES
NW-FISH-2: Fisheries	Proposals that may have significant adverse impacts on access for fishing activities must demonstrate that they will, in order of preference: a) avoid b) minimise c) mitigate - adverse impacts so they are no longer significant. If it is not possible to mitigate significant adverse impacts, proposals should state the case for proceeding.	The Applicants are taking and will continue to take steps to minimise the potential impacts upon the fishing industry in the area through appropriate mitigation where required. Designed-in measures related to commercial fisheries are provided in **section 6.8**.
NW-FISH-3: Fisheries	Proposals that may have significant adverse impacts on essential fish habitat, including spawning, nursery and feeding grounds, and migratory routes, must demonstrate that they will, in order of preference: a) avoid b) minimise c) mitigate - adverse impacts so they are no longer significant.	The Transmission Assets assessment has considered the impacts on fish stocks in Volume 2, Chapter 3: Fish and shellfish ecology of the ES, the chapter includes potential impacts on habitats, spawning, nursery and feeding grounds, and migratory routes.
NW-CE-1: Cumulative effects	Proposals which may have adverse cumulative effects with other existing, authorised, or reasonably foreseeable proposals must demonstrate that they will, in order of preference: a) avoid b) minimise c) mitigate – adverse cumulative and/or in-combination effects so they are no longer significant.	Cumulative impacts on commercial fisheries are assessed in **section 6.13**.
NW-CO-1: Co-existence	Proposals that may have significant adverse impacts on, or displace, existing activities must demonstrate that they will, in order of preference: a) avoid b) minimise c) mitigate – adverse impacts so they are no longer significant. If it is not possible to mitigate significant adverse impacts, proposals must state the case for proceeding	The Applicants are taking, and where appropriate, will continue to take steps to minimise the impacts upon the fishing industry in the area through appropriate mitigation where required. Measures adopted as part of the Transmission Assets, and which are relevant to commercial fisheries, are provided in **section 6.8** and include a commitment to develop Fisheries Liaison and Coexistence Plans (document reference J13). An Outline Plan, which will inform the final plans, is submitted as part of the application for development consent.

6.2.2 Relevant guidance

6.2.2.1 The commercial fisheries impact assessment has followed the methodology set out in Volume 1, Chapter 5: Environmental assessment methodology of the ES. Specific to the commercial fisheries impact assessment, the following guidance documents have also been considered.

- FLOWW Best Practice Guidance for Offshore Renewables Developments: Recommendations for Fisheries Liaison: FLOWW (Fishing Liaison with Offshore Wind and Wet Renewables Group) (FLOWW, 2014).
- FLOWW Best Practice Guidance for Offshore Renewables Developments: Recommendations for Fisheries Disruption Settlements and Community Funds. FLOWW (Fishing Liaison with Offshore Wind and Wet Renewables Group) (FLOWW, 2015).
- Best Practice Guidance for Fishing Industry Financial and Economic Impact Assessments (United Kingdom Fisheries Economics Network (UKFEN), 2012).
- Options and Opportunities for Marine Fisheries Mitigation Associated with Windfarms (Blyth-Skyrme, 2010).
- Fishing and Submarine Cables – Working Together (International Cable Protection Committee (ICPC), 2009).
- RenewableUK (2013) Cumulative impact assessment guidelines, guiding principles for cumulative impacts assessments in offshore wind farms.
- Seafish Best Practice Guidance for Fishing Industry Financial and Economic Impact Assessments (2012).

6.3 Consultation

6.3.1 Scoping

6.3.1.1 On 28 October 2022, the Applicants submitted a Scoping Report to the Planning Inspectorate which described the scope and methodology for the technical studies being undertaken to provide an assessment of any likely significant effects for the construction, operation and maintenance, and decommissioning phases of the Transmission Assets.

6.3.1.2 Following consultation with the appropriate statutory bodies, the Planning Inspectorate (on behalf of the Secretary of State) provided a Scoping Opinion on 8 December 2022.

6.3.2 Evidence plan process

6.3.2.1 Following scoping, consultation and engagement with interested parties specific to commercial fisheries has continued. An Evidence Plan Process (EPP) has been developed for the Transmission Assets, seeking to ensure engagement with the relevant aspects of the EIA process throughout the pre-application phase. The development and monitoring of the Evidence Plan

and its subsequent progress has been undertaken by the EPP Steering Group. The Steering Group comprises the Planning Inspectorate, the Applicants, the Marine Management Organisation, Natural England, Historic England, the Environment Agency and the Local Planning Authorities as the key regulatory bodies.

6.3.2.2 The Applicants are committed to open, constructive, collaborative and solutions-focused consultation with commercial fisheries stakeholders. ERM provides the role of CFLO on behalf of the Applicants. Informal consultation has been undertaken with key local and regional fisheries stakeholders since June 2021. Consultations have continued over the pre application phase of the Transmission Assets, ensuring that relevant information from fisheries stakeholders is presented within this ES. It is also intended to ensure engagement continues past the submission of the application for development consent through to the construction and operation and maintenance phases of the Transmission Assets. In addition to stakeholder meetings focussed on the EIA process, fisheries stakeholders have also been engaged at a detailed level during offshore surveys associated with the Morgan Offshore Wind Project and Morecambe Offshore Windfarm, which have been undertaken in 2021, 2022 and 2023. This is relevant to the Transmission Assets as any additional feedback received during consultation not captured already for the Transmission Assets alone, has been used to inform the baseline environment and assessment of effects.

6.3.3 Section 42 responses

6.3.3.1 The preliminary findings of the EIA process were published in the Preliminary Environmental Information Report (PEIR) in October 2023. The PEIR was prepared to provide the basis for formal consultation under the Planning Act 2008. This included consultation with statutory bodies under section 42 of the Planning Act 2008. **Table 6.3** provides a summary of the comments received that are of relevance to commercial fisheries during section 42 consultation and how these have been addressed in the ES.

6.3.4 Summary of consultation responses received

6.3.4.1 A summary of the key impacts specific to commercial fisheries raised during consultation activities undertaken to date for the Transmission Assets is presented in **Table 6.3**. **Table 6.3** also lists how feedback has been considered in the production of this ES chapter. Information from consultees has been used to inform the baseline in **section 6.6** (and Volume 2, Annex 6.1: Commercial fisheries technical report of the ES, document reference F2.6.1) and assessment of effects (**section 6.11**) .

6.3.4.2 Comments raised during Generation Assets consultations that are of direct relevance to the Transmission Assets ES have also been set out in **Table 6.3**. This includes consultation undertaken for the Generation Assets that provided feedback on spatial extent, gear deployment and any other key comments (i.e. comments on cable burial depth and cable protection) not already captured in consultation for the Transmission Assets. In addition to feedback received during consultation for the Transmission Assets alone, this

additional feedback has been used to inform the assessment of effects (**section 6.11**).

Table 6.3: Summary of key consultation comments raised during consultation activities undertaken for the Transmission Assets and Generation Assets (where applicable) relevant to commercial fisheries

Date	Consultee and type of response	Comments raised	Response to queries raised and/or where considered in this chapter
June 2021	Individual fishers from Fleetwood and Maryport; Irish South and East Fish Producers Organisation (ISEFPO); Manx Fish Producers Organisation (MFPO); National Federation of Fisherman's Organisations (NFFO); Welsh Fishermen's Association (WFA); Western Fish Producers Organisation (WFPO); and Whitehaven Fishermen's Cooperative (WFC). Introductory meeting to introduce the Morgan Offshore Wind Project: Generation Assets. Providing fisheries stakeholders with an outline of the 2021 offshore survey programme and discussion of potential impacts on fisheries stakeholders. Comments raised at this meeting are of relevance in informing this Chapter.	• There are seven Irish scallop vessels that are normally active in the area December to Spring. • Long-term datasets should be used where possible, particularly due to the dynamic nature of queen scallop (*Aequipecten opercularis*) beds.	• Feedback from consultees regarding fishing activity has been presented within the baseline (Volume 2, Annex 6.1: Commercial fisheries technical report of the ES, document reference F2.6.1) and considered in the assessment of effects (**section 6.11**). • Ten-year datasets have been obtained for landings statistics and Vessel Monitoring System (VMS) data, as outlined in **section 6.5**.
June 2021	Scottish Fishermen's Federation (SFF); Scottish White Fish Producers Association (SWFPA); and West Coast Sea Products Ltd (WCSP).	• The section of the Offshore Order Limits that overlaps with the western section of the Morgan Array Area (particularly the western part) is located in key queen scallop grounds.	• Feedback from consultees regarding spatial extent of fishing activity has been presented within the baseline (Volume 2, Annex 6.1: Commercial fisheries technical report of the ES, document reference F2.6.1) and considered in the assessment of effects (**section 6.11**).

Date	Consultee and type of response	Comments raised	Response to queries raised and/or where considered in this chapter
	Introductory meeting to introduce the Morgan Offshore Wind Project: Generation Assets. Providing fisheries stakeholders with an outline of the 2021 offshore survey programme and discussion of potential impacts on fisheries stakeholders. Topics discussed at this meeting are of relevance in informing this Chapter.		• The Applicants recognise the importance of queen scallop landings and have engaged with the relevant stakeholders since 2021 to establish the extent of the nomadic fleet. Spatial distribution of fishing activity using VMS data, supported by feedback from consultation, highlighted that the section of the Transmission Assets Order Limits that overlaps with the western section of the Morgan Array Area is located in key queen scallop grounds fishing ground for vessels utilising dredges (as presented in Volume 2, Annex 6.1: Commercial fisheries technical report of the ES, document reference F2.6.1) • The Applicants are working to facilitate coexistence with existing commercial fishing activity and minimise disruption as far as possible. A Fisheries Liaison and Co-existence Plan (FLCP) will be developed by the Applicants through ongoing consultation with fisheries stakeholders, which will be based on the Outline FLCP submitted as part of the Application (document reference J13). The commitments made by the Applicants are designed to enable coexistence as far as possible during all project phases. They include commitments to not close the entire development area during the construction phase (CoT61, with full details of all commitments provided in **Table 6.10**, and development and adherence to an offshore Construction Method Statement (CMS) which includes an Outline Offshore Cable Specification and Installation Plan (CSIP) prior to construction of the offshore export cable

Date	Consultee and type of response	Comments raised	Response to queries raised and/or where considered in this chapter
			(CoT45, with full details of all commitments provided in **Table 6.10** (This includes details of cable burial depths, cable protection, cable monitoring, and a cable layout plan which ensures safe navigation is not compromised and that cable protection will be designed to minimise snagging hazards as far as possible, for example by minimising height above seabed, smooth and shallower profiles, grade used for rock placement, type of rock (i.e. smoother edges)). • As a result of these commitments (among others, all of which are listed in **Table 6.10** with full details of all commitments provided in **Table 6.10**, commercial fishing receptor groups will be able to continue fishing within parts of the Offshore Order Limits during construction. During the operation and maintenance phase, the commitments will provide the space for continued fishing within the Offshore Order Limits.
February 2022	MFPO, NFFO and WFC. Meeting to update on programme, and outline the commercial fisheries datasets used to inform the: • Morgan Offshore Wind Project: Generation Assets • Transmission Assets.	• Discussion regarding cables (i.e. burial depth and potential protection) and the potential for coexistence with the scallop fishery during operations and maintenance phase.	• Information was collated from stakeholders on gear penetration depth and considered in the assessment of effects (**section 6.11**). • The Applicants have committed to burying the offshore export cables where possible to a minimum burial depth of 0.5 m, in areas where this is not achievable the cable will be protected (**section 6.8**) (CoT45 with full details of all commitments provided in **Table 6.10**. • The Applicants are working to facilitate coexistence with existing commercial fishing activity and minimise disruption as far as

Date	Consultee and type of response	Comments raised	Response to queries raised and/or where considered in this chapter
			possible. A Fisheries Liaison and Co-existence Plan (FLCP) will be developed by the Applicants through ongoing consultation with fisheries stakeholders, which will be based on the Outline FLCP submitted as part of the Application (document reference J13). The Applicants have committed to the development and adherence to an offshore CMS which includes an CSIP prior to construction of the offshore export cable (CoT45, with full details of all commitments provided in **Table 6.10**. This includes details of cable burial depths, cable protection, cable monitoring, and a cable layout plan which ensures safe navigation is not compromised and that cable protection will be designed to minimise snagging hazards as far as possible, for example by minimising height above seabed, smooth and shallower profiles, grade used for rock placement, type of rock (i.e. smoother edges). • As a result of this commitment (among others, all of which are listed in **Table 6.10** with full details of all commitments provided in **Table 6.10**, commercial fishing receptor groups will be able to continue fishing within the Offshore Order Limits during the operation and maintenance phase.
February 2022	ANIFPO, Rederscentrale and WFPO. Meeting to update on programme, and outline the commercial fisheries datasets used to inform the:	• Queries regarding cumulative and in-combination impacts with other activities and developments. • Queries regarding impacts on fish stocks.	• Cumulative effects have been assessed in **section 6.13**. • Assessment of fish stocks has been assessed in Volume 2, Chapter 3: Fish and shellfish ecology of the ES.

Date	Consultee and type of response	Comments raised	Response to queries raised and/or where considered in this chapter
	• Morgan Offshore Wind Project: Generation Assets. • Transmission Assets.	• Queries regarding VMS data does not capture smaller vessels.	• It is acknowledged that there is a lack of data for vessels <15 m in length. To ensure that smaller vessels are represented in the baseline (**section 6.6** and Volume 2, Annex 6.1: Commercial fisheries technical report of the ES, document reference F2.6.1), multiple datasets have been collated which capture vessels <15 m in length. For example: consultation has been undertaken to better understand activity of vessels <15 m in the region; site specific surveys are also collating information on all fishing vessels, such as the scouting potting surveys and marine traffic surveys, which include vessels <15 m (**Table 6.5**).
February 2022	SFF, SWFPA and WCSP. Meeting to update on programme, and outline the commercial fisheries datasets used to inform the: • Morgan Offshore Wind Project: Generation Assets. • Transmission Assets.	• Discussion regarding location of offshore substation to cause least disruption to fisheries. • Queries regarding VMS data does not capture smaller vessels. • Query concerning the location of the offshore export cable routes. • Discussion regarding cables (i.e. burial depth and potential protection) and the potential for coexistence with the scallop fishery during operation and maintenance phase.	• The Morgan offshore booster substation and Offshore Substation Platforms were removed from the Design Envelope following PEIR so there is no sea surface piercing infrastructure associated with the Transmission Assets. • It is acknowledged that there is a lack of data for vessels <15 m in length. To ensure that smaller vessels are represented in the baseline (**section 6.6** and Volume 2, Annex 6.1: Commercial fisheries technical report of the ES, document reference F2.6.1), multiple datasets have been collated which capture vessels <15 m in length. For example: consultation has been undertaken to better understand activity of vessels <15 m in the region; site specific surveys are also collating information on all fishing vessels, such as the scouting potting surveys and marine traffic

Date	Consultee and type of response	Comments raised	Response to queries raised and/or where considered in this chapter
			surveys, which include vessels <15 m (**Table 6.5**). • The Transmission Assets will be located within the Offshore Order Limits as shown on **Figure 6.1** (see Volume 2: Figures). The offshore elements of the Transmission Assets are located in the east Irish Sea within English offshore waters (beyond 12 nm from the English coast) and inshore waters (within 12 nm from the English coast). • The Applicants are working to facilitate coexistence with existing commercial fishing activity and minimise disruption as far as possible. Offshore export cables will be buried where possible to a minimum burial depth of 0.5 m and in areas where this is not achievable the cable will be protected (**section 6.8**). The Applicants have committed to the development and adherence to an offshore CMS which includes an CSIP prior to construction of the offshore export cable (CoT45, with full details of all commitments provided in **Table 6.10**. This includes details of cable burial depths, cable protection, cable monitoring, and a cable layout plan which ensures safe navigation is not compromised and that cable protection will be designed to minimise snagging hazards as far as possible, for example by minimising height above seabed, smooth and shallower profiles, grade used for rock placement, type of rock (i.e. smoother edges).
February 2022	Individual charter boat skippers.	• Requested to be added to future fisheries stakeholder meetings.	• Individuals relevant here were added in Notice to Mariners distribution list and future

Date	Consultee and type of response	Comments raised	Response to queries raised and/or where considered in this chapter
	Email correspondence.		commercial fisheries stakeholder meeting invite list following this request.
October and November 2022	Department of Environmental, Food and Agriculture (DEFA) and MFPO Consultation meeting to update commercial fisheries stakeholders on and inform the: • Generation Assets • Transmission Assets.	• Query as to whether fisheries data sources include Isle of Man activity, for both over and under 15 m length vessels. • Query raised that a displacement effect is likely to be experienced by Isle of Man fishing interests in terms of displaced vessels coming into Isle of Man grounds, particularly from a cumulative perspective. • Advised that landings data shown over at least an eight to nine year period, as queen scallop show seven to 10 year cyclical variations that will only be captured over this time series, as a minimum. Noted that king scallop is slightly different; typical two to three year cyclical variation, and less significant variation. • The annual April to June seasonal closure of queen scallop fishery in the Irish Sea is also highlighted. • Discussion regarding cables (i.e. burial depth and potential protection) and the potential for coexistence with the scallop fishery during operation and maintenance phase. • Discussion on consenting approach for the Transmission Assets and the shared connection between the Generation Assets.	• The existing environment detailed in **section 6.6.2** confirms that Isle of Man vessels are included in the baseline data sources. Landing statistics include both over and under 15 m length vessels, whilst VMS data includes only vessels 15 m and over. • Additional king and queen scallop swept area (km^2) data and crab, lobster and whelk pot haul data (2017 to 2023) were provided by the Isle of Man Government following the statutory consultation. All licenced scallop fishing vessels, regardless of size and country of origin, are required to operate a VMS system in Isle of Man's territorial waters. The additional datasets therefore provide comprehensive coverage of vessels permitted to operate within the Isle of Man's territorial waters, of all vessel sizes. These data have been incorporated into **section 6.6** and Volume 2, Annex 6.1: Commercial fisheries technical report of the ES (document reference F2.6.1). • Ten-year datasets have been obtained for landings statistics and VMS data, as outlined in **section 6.5**. • The annual seasonal closure of the queen scallop fishery has been noted and considered in Volume 2, Annex 6.1: Commercial fisheries technical report of the ES (document reference F2.6.1).

Date	Consultee and type of response	Comments raised	Response to queries raised and/or where considered in this chapter
			• The Applicants are working to facilitate coexistence with existing commercial fishing activity and minimise disruption as far as possible. Offshore export cables will be buried where possible to a minimum burial depth of 0.5 m and in areas where this is not achievable the cable will be protected (**section 6.8**). The Applicants have committed to the development and adherence to an offshore CMS which includes an CSIP prior to construction of the offshore export cable (CoT45, with full details of all commitments provided in **Table 6.10**. This includes details of cable burial depths, cable protection, cable monitoring, and a cable layout plan which ensures safe navigation is not compromised and that cable protection will be designed to minimise snagging hazards as far as possible, for example by minimising height above seabed, smooth and shallower profiles, grade used for rock placement, type of rock (i.e. smoother edges).
October and November 2022	SFF, WCSP and SWFPA Consultation meeting to update commercial fisheries stakeholders on and inform the: • Generation Assets • Transmission Assets.	• Noted that the nomadic scallop fleet is increasingly being pushed out of other grounds and so consideration of cumulative effects is relevant. Some of the vessels in the area will likely be from the nomadic scallop fleet, with some from Kirkcudbright being more locally based. • The section of the Transmission Assets Order Limits that overlaps with the western section of the Morgan Array Area is located in key queen scallop grounds.	• Cumulative effects on the Scottish west coast scallop vessels specifically have been assessed in **section 6.12**. • The Applicants recognise the importance of queen scallop landings and has engaged with the relevant stakeholders since 2021 to establish the extent of the nomadic fleet. Spatial distribution of fishing activity using VMS data, supported by feedback from consultation, highlighted that the section of the Offshore Order Limits that overlaps with the western section of the Morgan Array Area is located in key queen scallop grounds fishing

Date	Consultee and type of response	Comments raised	Response to queries raised and/or where considered in this chapter
		• Discussion regarding cables (i.e. burial depth and potential protection) and the potential for coexistence with the scallop fishery during operation and maintenance phase. Gear penetration can vary between 0.05-0.25 m. • Discussion on consenting approach for the Transmission Assets and the shared connection between the Generation Assets.	ground for vessels utilising dredges (as presented in Volume 2, Annex 6.1: Commercial fisheries technical report of the ES, document reference F2.6.1). • Information was collated from stakeholders on gear penetration depth and has been considered in the assessment of effects (**section 6.11**). Offshore export cables will be buried where possible to a minimum burial depth of 0.5 m and in areas where this is not achievable the cable will be protected (**section 6.8**). The Applicants have committed to the development and adherence to an offshore CMS which includes an CSIP prior to construction of the offshore export cable (CoT45, with full details of all commitments provided in **Table 6.10**. This includes details of cable burial depths, cable protection, cable monitoring, and a cable layout plan which ensures safe navigation is not compromised and that cable protection will be designed to minimise snagging hazards as far as possible, for example by minimising height above seabed, smooth and shallower profiles, grade used for rock placement, type of rock (i.e. smoother edges).
November 2022	Individual static gear operator from Fleetwood. Consultation meeting to update commercial fisheries stakeholders on and inform the:	• Queries regarding sound impacts on whelk as a result of the construction of the Transmission Assets. • Discussion on the importance of whelk in the inshore region.	• Assessment of fish stocks has been assessed in Volume 2, Chapter 8: Fish and shellfish ecology of the ES. • The Applicants recognise the importance of whelk landings and has engaged with the relevant stakeholders since 2021 to establish the extent of the static gear fleet. Spatial distribution of fishing activity using VMS data,

Date	Consultee and type of response	Comments raised	Response to queries raised and/or where considered in this chapter
	• Morgan Offshore Wind Project: Generation Assets. • Transmission Assets.	• Discussion on spatial extent of fishing activity, during construction and the management of the Transmission Assets. • Discussion on consenting approach for the Transmission Assets and the shared connection between the Generation Assets.	supported by feedback from consultation and landings, highlighted that this fishery is active within the study area and in parts the of the Offshore Order Limits (as presented in Volume 2, Annex 6.1: Commercial fisheries technical report of the ES, document reference F2.6.1). • Feedback from consultees regarding fishing activity has been collated and fed into the design process where possible. The maximum design scenario (MDS) has been assessed in the impact assessment (**section 6.9.1**).
November 2022	Individual fishing operators from Conwy. Consultation meeting to update commercial fisheries stakeholders on and inform the: • Morgan Offshore Wind Project: Generation Assets. • Transmission Assets.	• Queries regarding co-existence during the operation and maintenance phase. • Queries regarding impacts on fish stocks. • Discussion on consenting approach for the Transmission Assets and the shared connection between Morgan and Morecambe.	• The Applicants are working to facilitate coexistence with existing commercial fishing activity and minimise disruption as far as possible. Detailedse FLCPs will be developed by the Applicants through ongoing consultation with fisheries stakeholders, which will be based on the Outline FLCP submitted as part of the Applications (document reference J13). The commitments made by the Applicants are designed to enable coexistence as far as possible during all project phases. They include commitments to not close the entire development area during the construction phase (CoT61, with full details of all commitments provided in **Table 6.10**, and development and adherence to an offshore Construction Method Statement (CMS) which includes an Outline Offshore Cable Specification and Installation Plan (CSIP) prior to construction of the offshore export cable (CoT45, with full details of all commitments provided in **Table 6.10**. This includes details of cable burial depths, cable

Date	Consultee and type of response	Comments raised	Response to queries raised and/or where considered in this chapter
			• protection, cable monitoring, and a cable layout plan which ensures safe navigation is not compromised and that cable protection will be designed to minimise snagging hazards as far as possible, for example by minimising height above seabed, smooth and shallower profiles, grade used for rock placement, type of rock (i.e. smoother edges). • As a result of these commitments (among others, all of which are listed in **Table 6.10** and Volume 1, Annex 5.3: Commitments Register of the ES, document reference F1.5.3), commercial fishing receptor groups will be able to continue fishing within parts of the Offshore Order Limits during construction. During the operation and maintenance phase, the commitments will allow for continued fishing within the Offshore Order Limits. • Assessment of fish stocks has been assessed in Volume 2, Chapter 3: Fish and shellfish ecology of the ES.
November and December 2022	ANIFPO, NIFPO and WFA. Consultation meeting to update commercial fisheries stakeholders on and inform the: • Generation Assets. • Transmission Assets.	• The section of the Transmission Assets Order Limits that overlaps with the Morecambe Array Area is not located within key fishing grounds for the Northern Irish fleet, but that the wider region is of importance. • Queries regarding VMS data does not capture smaller vessels. • Discussion on consenting approach for the Transmission Assets and the shared connection between the Generation Assets.	• Feedback from consultees regarding fishing activity has been presented within the baseline (Volume 2, Annex 6.1: Commercial fisheries technical report of the ES, document reference F2.6.1) and considered in the assessment of effects (**section 6.11**). • It is acknowledged that there is a lack of data for vessels <15 m in length. To ensure that smaller vessels are represented in the baseline (**section 6.6** and Volume 2, Annex 6.1: Commercial fisheries technical report of the ES, document reference F2.6.1), multiple datasets have been collated which capture

Date	Consultee and type of response	Comments raised	Response to queries raised and/or where considered in this chapter
			vessels <15 m in length. For example: consultation has been undertaken to better understand activity of vessels <15 m in the region; site specific surveys are also collating information on all fishing vessels, such as the scouting potting surveys and marine traffic surveys, which include vessels <15 m (**Table 6.5**).
December 2022	Rederscentrale. Consultation meeting to update commercial fisheries stakeholders on and inform the: • Morgan Offshore Wind Project: Generation Assets • Transmission Assets.	• Noted that Rederscentrale's beam trawl vessels that operate within the Irish Sea are using a newer gear technology which does not penetrate as deep into the seabed. • Discussion on spatial extent of fishing activity, cable burial and potential cable protection options. • Discussion on consenting approach for the Transmission Assets and the shared connection between Morgan and Morecambe.	• Feedback from consultees regarding fishing gear has been presented within the baseline (Volume 2, Annex 6.1: Commercial fisheries technical report of the ES, document reference F2.6.1) and considered in the assessment of effects (**section 6.11**). • Offshore export cables will be buried where possible to a minimum burial depth of 0.5 m and in areas where this is not achievable the cable will be protected (**section 6.8**). The Applicants have committed to the development and adherence to an offshore CMS which includes an CSIP prior to construction of the offshore export cable (CoT45, **Table 6.10**. This includes details of cable burial depths, cable protection, cable monitoring, and a cable layout plan which ensures safe navigation is not compromised and that cable protection will be designed to minimise snagging hazards as far as possible, for example by minimising height above seabed, smooth and shallower profiles, grade used for rock placement, type of rock (i.e. smoother edges).

Date	Consultee and type of response	Comments raised	Response to queries raised and/or where considered in this chapter
December 2022	ISEFPO. Consultation meeting to update commercial fisheries stakeholders on and inform the: • Morgan Offshore Wind Project: Generation Assets. • Transmission Assets.	• Discussion regarding cable burial depth and concerns regarding snagging. • Discussion on consenting approach for the Transmission Assets and the shared connection between Morgan and Morecambe.	• Offshore export cables will be buried where possible to a minimum burial depth of 0.5 m and in areas where this is not achievable the cable will be protected (**section 6.8**). The Applicants have committed to the development and adherence to an offshore CMS which includes an CSIP prior to construction of the offshore export cable (CoT45, **Table 6.10**. This includes details of cable burial depths, cable protection, cable monitoring, and a cable layout plan which ensures safe navigation is not compromised and that cable protection will be designed to minimise snagging hazards as far as possible, for example by minimising height above seabed, smooth and shallower profiles, grade used for rock placement, type of rock (i.e. smoother edges). • Loss of fishing grounds and snagging risk are assessed in **section 6.11.4**.
December 2022	The Planning Inspectorate. Scoping Opinion for the Transmission Assets	• Interference with fishing activity: The Scoping Report proposes to scope out this matter on the grounds that cable installation, maintenance and decommissioning activities will be temporary, and construction, maintenance and decommissioning activities associated with the Offshore Substation Platforms and any Morgan offshore booster station would be temporary and limited in spatial extent. The Inspectorate agrees that, subject to consultation with commercial fisheries stakeholders, this matter can be scoped out of the ES.	• This impact has been scoped out of the ES assessment in line with the response from the Planning Inspectorate (see **section 6.3.1**) on the basis there are no Likely Significant Effects (LSE) and following consultation with commercial fisheries stakeholders. Consultation with commercial fisheries stakeholders to date is summarised in in this table (**Table 6.3**). • Since PEIR, the Morgan offshore booster station, offshore substation platforms and interconnector cables have been removed from the Design Envelope. The removal of the booster station, along with the removal of the

Date	Consultee and type of response	Comments raised	Response to queries raised and/or where considered in this chapter
			offshore substation platforms, means there is no sea surfacing piercing infrastructure associated with the Transmission Assets which focuses solely on the aligned infrastructure required to connect the Generation Assets to landfall (i.e. offshore export cables).
December 2022	The Planning Inspectorate. Scoping Opinion for the Transmission Assets.	• Increase in steaming distances: Considering the temporary nature of the activities, and that once operational, fishing vessels will be able to transit through the wind farm array area with limited change to existing steaming distances, the Inspectorate agrees that significant effects are unlikely and that this matter can be scoped out of the ES subject to the continued consultation noted in the Scoping Report. • Mitigation measures – cable positioning and protection: The Scoping Report states that where cable burial to sufficient depth to avoid interaction with fishing gear is not possible cable protection will be employed. This will be designed to enable trawling to continue over it. The ES must clearly describe the mitigation measures to be employed, with care taken to ensure consistency with cable protection matters considered for other environmental aspects, as necessary. • Section 3.2 of the Transmission Assets Scoping Report (Underwater noise) states that the underwater noise study would inform the Commercial Fisheries ES chapter. However, Section 5.1 of the Scoping Report (Commercial fisheries) does not specifically	• This impact has been scoped out of the ES assessment in line with the response from the Planning Inspectorate (see **section 6.3.1**) on the basis there are no Likely Significant Effects (LSE).The removal of the booster station, along with the removal of the offshore substation platforms from the Design Envelope, mean that there is no sea surface piercing infrastructure proposed for the Transmission Assets that could lead to a significant change to existing steaming distances. • Offshore export cables will be buried where possible to a minimum burial depth of 0.5 m and in areas where this is not achievable the cable will be protected (**section 6.8**). The Applicants have committed to the development and adherence to an offshore CMS which includes an CSIP prior to construction of the offshore export cable (CoT45, **Table 6.10**. This includes details of cable burial depths, cable protection, cable monitoring, and a cable layout plan which ensures safe navigation is not compromised and that cable protection will be designed to minimise snagging hazards as far as possible, for example by minimising height above seabed, smooth and shallower profiles, grade

Date	Consultee and type of response	Comments raised	Response to queries raised and/or where considered in this chapter
		identify underwater noise as a potential impact. The influence of noise impacts on commercial fisheries (i.e. as a result of impacts on targeted species) should be clearly explained and assessed within the ES.	used for rock placement, type of rock (i.e. smoother edges). • Underwater noise is considered as part of the Fish and Shellfish Assessment in Volume 2, Chapter 3: Fish and shellfish ecology of the ES. This chapter has cross-referenced impacts to fish and shellfish in **section 6.11.5**
December 2022	Marine Management Organisation (MMO). Scoping Response.	• Full details of the proposed mitigation are not provided at this stage, as is typical for the scoping stage. Where required, further mitigation will be identified within the topic-specific chapters of the ES. The MMO also acknowledge that commercial fisheries stakeholders are to be consulted with regarding the EIA Scoping Report; these consultations might highlight a need for mitigation.	• Details of the measures proposed (Commitments) are set out in **section 6.8**. Consultation with commercial fisheries stakeholders to date is summarised in **Table 6.3** and provided in Volume 2, Annex 6.1: Commercial fisheries technical report of the ES (document reference F2.6.1). Consultation will continue during the preparation of the final Fisheries Liaison and Coexistence Plans, an outline plan, which will inform the final plans, has been submitted with the Application (document reference J13).
December 2022	Isle of Man Government. Scoping Response.	• Any marine developments within or adjacent to the Isle of Man territorial waters have the potential to impact commercial fisheries in Manx waters, and the Committee would appreciate if the relevant fishing organisations on the island, listed in the report as consultees, are engaged as fully as possible via the appointed Fisheries Liaison Officer (FLO). • Various fisheries stock surveys and assessments are carried out in Manx and UK waters, by both Manx-based and UK research organisations (e.g. Bangor University, AFBI), frequently using the same survey stations14	• The Manx Fish Producers Organisation is one of the fisheries stakeholders that the Applicants have been engaged with for the Transmission Assets since 2021. Consultation with commercial fisheries stakeholders to date is summarised in this table (**Table 6.3**). • Data from annual scallop surveys undertaken by AFBI and Bangor University have been reviewed to characterise the shellfish assemblages within the study area, which includes the Manx waters (**section 3.6** of Volume 2, Annex 3.1: Fish and shellfish ecology technical report of the ES).

Date	Consultee and type of response	Comments raised	Response to queries raised and/or where considered in this chapter
		(this 2019 report is indicative, and more recent reports are available). It is recommended that impact assessments and associated FLO contact these organisations for further and recent data. The Committee is supportive of collaborative research and cooperation in relation to fisheries science and management.	• Data from annual scallop surveys undertaken by AFBI and Bangor University have also been reviewed to characterise the shellfish assemblages within the study area, which includes the Manx waters (**section 3.6** of Volume 2, Annex 3.1: Fish and shellfish ecology technical report of the ES).
May 2023	Individual fishing operators from Lytham. Public consultation meetings relevant for the Transmission Assets.	• Requested to be added to future fisheries stakeholder meetings. • Queries raised about the impact of piling on mussel and flat fish stocks.	• Individuals relevant here were added in Notice to Mariners distribution list and future commercial fisheries stakeholder meeting invite list following this request. • Since PEIR, the Morgan offshore booster station, offshore substation platforms and interconnector cables has been removed from the Design Envelope. The removal of these, mean that there is no installation of infrastructure that requires pilling proposed for the Transmission Assets, which allows the application to focus solely on the aligned infrastructure required to connect the Morgan Offshore Wind Project and Morecambe Offshore Windfarm to the National Grid (i.e. the offshore export cables). • Impacts on fish stocks are considered as part of the Fish and Shellfish Assessment in Volume 2, Chapter 3: Fish and shellfish ecology of the ES. This chapter has cross-referenced impacts to commercially important fish and shellfish in **section 6.11.5**
November 2023	Natural England.	• Advised consideration of aggregate extraction Area 457 and Mersey Tidal Power Project within the CEA.	• Aggregate extraction has been operational in Area 457 since 2010 and is, therefore, included as part of the baseline within the commercial fisheries technical annex and

Date	Consultee and type of response	Comments raised	Response to queries raised and/or where considered in this chapter
	Response to S42 Consultation for the Transmission Assets.		chapter of the ES, and hence not considered within the cumulative effect assessment for commercial fisheries. • The Mersey Tidal Power Project will not be located within the CEA commercial fisheries study area (**Figure 6.1**, Volume 2, Figures) and has, therefore, been screened out of the cumulative effects assessment (**section 6.13**).
November 2023	Orsted Burbo Bank. Response to S42 Consultation for the Transmission Assets.	• Queries regarding cumulative and in-combination effects in relation to further displacement of fisheries and established co-existence relationships. • Queries regarding proposed approach to ongoing cumulative monitoring and survey programmes.	• The Burbo Bank Windfarm Extension has been operational since 2020 and is, therefore, included as part of the baseline within the commercial fisheries technical annex and chapter of the ES, and hence not considered within the cumulative effect assessment in **section 6.12**. • To date, the Applicants have managed fisheries co-existence via open and transparent communications, timely notices for surveys and consultation meetings with commercial fisheries stakeholders. The Transmission Assets will disseminate information to the fishing community via the CFLO and appointed FIR. Notices and information for fisheries stakeholders, will be distributed to all relevant fisheries interests via NtMs and through the Kingfisher Information Service of Seafish notifications as a minimum. Specific notification periods are outlined within the FLCP. An outline of this plan has been included with the Application (document reference J13).
November 2023	North Western Inshore Fisheries Conservation Authority (NWIFCA).	• Commented that commercially important shellfish beds are located on the north west	• The Applicants have obtained relevant data from the NWIFCA, which provides

Date	Consultee and type of response	Comments raised	Response to queries raised and/or where considered in this chapter
	Response to S42 Consultation for the Transmission Assets.	coastline proximal to the proposed transmission cable route that need to be scoped in and assessed. • Requested consultation with inshore fisheries operating from Lytham with commercial interest in a number of species in the area, specifically Sole, Plaice, Bass and Mullet. • Request to be consulted on final methodologies to ensure fisheries and fisheries interests are protected.	comprehensive information on the spatial extent and landings for the mussel and cockle beds that are located within the commercial fisheries study area. This data has now been incorporated into the Volume 2, Annex 6.1: Commercial fisheries technical report of the ES (document reference F2.6.1) and has been brought into the commercial fisheries assessment. • Early engagement for the Transmission Assets specifically was established with fisheries stakeholders in November 2022 and will continue throughout the lifetime of the project. Close engagement has continued with commercial fisheries stakeholders, including those operating out of Lytham, in order to discuss key queries with regard to the Transmission Assets. Meetings were undertaken in September 2023 to update stakeholders on the revised Offshore Order Limits. • An Outline Fisheries Liaison and Coexistence Plan (document reference J13) has been submitted by the Applicants through ongoing consultation with fisheries stakeholders. An outline of this plan has been included with the Application. Mitigation and monitoring commitments are set out within the ES chapters and mitigation and monitoring schedule.
November 2023	Isle of Man Department of Infrastructure.	• Commented that the use of >15 m vessel VMS data is likely to disproportionately under-represent Manx scallop dredge vessels	• The existing environment detailed in **section 6.6.2** confirms that Isle of Man vessels are included in the baseline data sources. The MMO landing statistics include both over and

Date	Consultee and type of response	Comments raised	Response to queries raised and/or where considered in this chapter
	Response to S42 Consultation for the Transmission Assets.	operating in the area, as vessel size is typically smaller than nomadic UK vessels. • Query raised that Manx vessels are disproportionately under-represented in the baseline. • Incorrect statement made that Isle of Man scallop vessels only use otter trawls, will also tend under-represent the Manx scallop dredge fleet in the area. • Noted mis-classification between Isle of Man scallop dredge vessels and Scottish West coast scallop vessels. Both deploy Newhaven dredges (not otter trawls) in this area and should potentially be considered equivalently. • Asked for confirmation that Manx scallop dredge vessels have been appropriately assessed relative to Scottish dredge vessels, and whether they should therefore also be considered/included in the Cumulative Effects Assessment section. • Asked for confirmation that the Isle of Man, as another state, has been appropriately considered in the context of Transboundary effects. • Queries raised regarding validity of the assumptions and conclusions in relation to impacts, as well as how can the ES be defended in the longer term, or stakeholders interests be properly safeguarded. • Suggested review and inclusion of Manx Marine Environmental Assessment (MMEA) for consideration in trans-boundary and cumulative effects.	under 15 m length vessels, whilst VMS data includes only vessels 15 m and over. • Additional king and queen scallop swept area (km^2) data and crab, lobster and whelk pot haul data (2017 to 2023) were provided by the Isle of Man Government following the statutory consultation (**Table 6.4**). All licenced scallop fishing vessels, regardless of size and country of origin, are required to operate a VMS system in Isle of Man's territorial waters. The additional datasets therefore provide comprehensive coverage of vessels permitted to operate within the Isle of Man's territorial waters, of all vessel sizes. These data have been incorporated into Volume 2, Annex 6.1 Commercial fisheries technical report of the ES (document reference F2.6.1) and have been fully considered in the assessment of effects (**section 6.11**). • Feedback from consultation has established, at the time of writing, there are 55 vessels licenced to fish for king scallop in Isle of Man waters (29 of which are Isle of Man registered vessels). Of these, 36 can also fish for queen scallops (25 of which are Isle of Man registered vessels). This, in addition to relevant datasets have been incorporated into Volume 2, Annex 6.1 Commercial fisheries technical report of the ES (document reference F2.6.1) and have been fully considered in the assessment of effects (**section 6.11**). • Limitations and assumptions of the datasets are summarised in **section 6.10.5** and are outlined in further detail in Volume 2, Annex

Date	Consultee and type of response	Comments raised	Response to queries raised and/or where considered in this chapter
			6.1: Commercial fisheries technical report of the ES (document reference F2.6.1). • The Isle of Man is a Crown Dependency of the UK and not a European Economic Area (EEA) State. Therefore, Regulation 32 of the EIA Regulations does not apply to the Isle of Man. For this reason, it is not considered to be a transboundary consultee for the Transmission Assets. As such, potential impacts upon environmental receptors within the Isle of Man are not considered to be transboundary. Nonetheless, potential impacts upon commercial fisheries receptors within the Isle of Man are fully considered within **section 6.11**.
November 2023	NRW. Response to S42 Consultation for the Transmission Assets.	• Suggested that the Offshore elements of EniHynet and that Isle of Man offshore wind farm Mooir Vannin should be included for assessment of cumulative effects.	• The Scoping report for the Isle of Man Offshore Wind Farm (now called Mooir Vannin Offshore Wind Farm) has been submitted to Isle of Man Government and is available on Orsted's website: https://orsted.im/mooirvannin/document-library. As a Scoping chapter has been submitted, this project has been included as a Tier 2 project within the cumulative effects assessment section of this chapter (**section 6.13**).
November 2023	B Henderson MLC. Response to S42 Consultation for the Transmission Assets.	• Queries raised regarding impacts on relevant or known wildlife populations. • Queried that a thorough EIA will be undertaken and relevant wildlife organisations consulted.	• Potential impacts on fish and shellfish ecology are assessed within Volume 2, Chapter 3: Fish and Shellfish Ecology of the ES. Potential impacts on commercially important fish and shellfish resources are assessed within this chapter.

Date	Consultee and type of response	Comments raised	Response to queries raised and/or where considered in this chapter
November 2023	Blackpool & The Fylde College. Response to S42 Consultation for the Transmission Assets.	• Queries raised on assurances given to conserve habitats and marine life.	• Potential impacts on fish and shellfish ecology are assessed within Volume 2, Chapter 3: Fish and Shellfish Ecology of the ES. Potential impacts on commercially important fish and shellfish resources are assessed within this chapter.
November 2023	Orsted Burbo Extension Ltd. Response to S42 Consultation for the Transmission Assets.	• Queries regarding cumulative and in-combination effects in relation to further displacement of fisheries and established co-existence relationships. • Queries regarding proposed approach to ongoing cumulative monitoring and survey programmes.	• The Burbo Bank Windfarm Extension has been operational since 2020 and is, therefore, included as part of the baseline within the commercial fisheries technical annex and chapter of the ES, and hence not considered within the cumulative effect assessment in **section 6.12**. • To date, the Applicants have managed fisheries co-existence via open and transparent communications, timely notices for surveys and consultation meetings with commercial fisheries stakeholders. The Transmission Assets will disseminate information to the fishing community via the CFLO and appointed FIR. Notices and information for fisheries stakeholders, will be distributed to all relevant fisheries interests via NtMs and through the Kingfisher Information Service of Seafish notifications as a minimum (CoT 62 and CoT 112) (**Table 6.10**). Specific notification periods are outlined within the Outline FLCP (document reference J13).
November 2023	Walney (UK) Offshore Windfarms Limited.	• Queries regarding cumulative and in-combination effects in relation to further displacement of fisheries and established co-existence relationships, as well as temporary habitat disturbance or loss.	• The Walney Offshore Windfarms (Walney 1 and 2) has been operational since 2011 and is, therefore, included as part of the baseline Volume 2, Annex 6.1: Commercial fisheries technical report of the ES (document

Date	Consultee and type of response	Comments raised	Response to queries raised and/or where considered in this chapter
	Response to S42 Consultation for the Transmission Assets.	• Queries regarding proposed approach to ongoing cumulative monitoring and survey programmes.	reference F2.6.1), and hence not considered within the cumulative effect assessment. • The Walney Extension Windfarm (Walney 3 and 4) has been operational since 2018 and is, therefore, included as part of the baseline within the commercial fisheries technical annex and chapter of the ES, and hence not considered within the cumulative effect assessment. • To date, the Applicants have managed fisheries co-existence via open and transparent communications, timely notices for surveys and consultation meetings with commercial fisheries stakeholders. The Transmission Assets will disseminate information to the fishing community via the CFLO and appointed FIR. Notices and information for fisheries stakeholders, will be distributed to all relevant fisheries interests via NtMs and through the Kingfisher Information Service of Seafish notifications as a minimum. Specific notification periods are outlined within the FLCP. An outline of this plan has been included with the Application (document reference J13).
November 2023	Northwest Wildlife Trust. Response to S42 Consultation for the Transmission Assets.	• Query raised on HRA Screening Report of fishing or fisheries activities that have the potential for cumulative impacts on the marine environment and ecology in combination. • Queries regarding the current Defra policy3 ensuring that all existing and potential fishing operations are managed in line with Article 6 of the Habitats Directive.	• Cumulative effects have been assessed in **section 6.13**. • A description of the likely interactive effects arising from the Transmission Assets on commercial fisheries is provided in Volume 4, Chapter 3: Inter-relationships of the ES. There is no change in the significance of effects

Date	Consultee and type of response	Comments raised	Response to queries raised and/or where considered in this chapter
		• Highlighted that there is significant potential for adverse impacts outside of designated areas. • Queried the consideration of transboundary effects and cumulative impacts across borders, given the proximity to Welsh waters and Isle of Man.	resulting from the inter-related assessment for commercial fisheries. • Potential impacts on commercially important fish and shellfish resources are assessed within this chapter. • A screening of transboundary impacts has been carried out and any potential for significant transboundary effects with regard to commercial fisheries from the Transmission Assets upon the interests of other states has been assessed as part of the ES. Potential impacts on both UK and foreign commercial fishing fleets have been considered as part of this impact assessment; it was predicted that there will be no significant effects on Irish and Belgian vessels which operate within the study area.
November 2023	MLC. Response to S42 Consultation for the Transmission Assets.	• Noted comments made by Isle of Man Department of Infrastructure. • Queries raised on assurances given to conserve habitats and marine life.	• Potential impacts on fish and shellfish ecology are assessed within Volume 2, Chapter 3: Fish and Shellfish Ecology of the ES. Potential impacts on commercially important fish and shellfish resources are assessed within this chapter.
November 2023	Orsted - West of Duddon Sands. Response to S42 Consultation for the Transmission Assets.	• Queries regarding cumulative and in-combination effects in relation to further displacement of fisheries and established co-existence relationships, as well as temporary habitat disturbance or loss.	• The West of Duddon Sands Windfarm has been operational since 2014 and is, therefore, included as part of the baseline within the commercial fisheries technical annex and chapter of the ES, and hence not considered within the cumulative effect assessment. Cumulative effects have been assessed in **section 6.13**.

Date	Consultee and type of response	Comments raised	Response to queries raised and/or where considered in this chapter
November 2023	MMO. Response to S42 Consultation for the Transmission Assets.	• MMO recommends early engagement with key stakeholders, along with the early appointment of a Fisheries Liaison Officer. • Requested an Outline Fisheries Liaison Plan is submitted with the Application. • Advice on matters to be scoped into the EIA.	• Early engagement for the Transmission Assets specifically was established with fisheries stakeholders in November 2022 and will continue throughout the lifetime of the project. • The Applicants are working to facilitate co-existence with existing commercial fishing activity and minimise disruption as far as is practicably possible. An Outline Fisheries Liaison and Coexistence Plan (document reference J13) has been submitted by the Applicants through ongoing consultation with fisheries stakeholders. • The scope of the assessment is discussed in **section 6.7**.
November 2023	NFFO and WFA. Response to S42 Consultation for the Transmission Asset.s	• The PEIR chapter characterised the commercial fishing industry well and effort has been made to describe the fisheries using a variety of sources. Raised some remaining issues with how these data have been interpreted and used to assess the impacts to the diverse fishing fleets that are the current users of the area. • Noted spatial squeeze on fisheries in east Irish Sea due to other projects and restrictions on mobile gear within Marine Conservation Zones. Also noted the factors associated with the re-negotiation of the Trade and Cooperation Agreement which will affect fishing opportunities in the region. • Noted synergising assessments from neighbouring Round 4 wind farm developments (that have assessed the	• Limitations of the data are discussed in **section 6.10.5**, and also where appropriate in other sections of this chapter. Text has been updated where appropriate, e.g. the inclusion of cross-references to **section 6.10.5**, where the datasets are analysed. • The future baseline (**section 6.6.4**) considers these factors, which is then used to inform the assessment. CEA considers any proposed plans or projects. While restrictions within Marine Protected Areas (MPAs) are also considered within the CEA, in the context of loss or restricted access to fishing grounds (**section 6.13**). • Spatial squeeze on fisheries due to offshore developments in the east Irish Sea, including the possibility of further restrictions with regards to the potential ban on all mobile gear

Date	Consultee and type of response	Comments raised	Response to queries raised and/or where considered in this chapter
		impacts to the regions commercial fisheries very differently) will further aid in truly assessing impacts and mitigating. • Noted that an estimated economic loss to businesses of 5-20% is considered as low magnitude and no mitigation suggested. • Queries raised regarding the shallow target burial depth invalidating the assumption that dredging can safely continue and should not be cited in mitigation of identified impacts. • Whilst there is a commitment to follow FLOWW Guidelines (2014) for liaison and disruption agreements, these are under review, and we would like to see this acknowledged and a commitment made to follow the most up to date guidelines. • Queried what are the protocols to be followed are if an effect is observed during monitoring.	within Marine Conservation Zones (MCZs), have been assessed as part of the cumulative effects assessment, within section 6.10 of the commercial fisheries chapter of the ES. The renegotiation of the Trade and Cooperation Agreement and how that may affect opportunities in the region is considered in the future baseline section of the of the commercial fisheries technical annex of the ES, which is used to inform the assessment of significant effects within the commercial fisheries chapter of the ES. • The low magnitude of impact definition has been updated within **Table 6.13** and carried forward within the assessment of significant effects. The definition has been revised to now consider a potential loss of revenue of between 5-10%, as a low magnitude of impact while the medium magnitude of impact definition now covers a potential loss of revenue of between 11-50%. Estimated percentage reduction in annual value of landings valuations are informed by expert judgement that is based on data analysis, stakeholder feedback, Offshore Order Limits presented and how these may affect fishing activity. • Offshore export cables will be buried, where possible, to a minimum burial depth of 0.5 m to reduce the risk of snagging (CoT 45) (**Table 6.10**). If appropriate burial depth cannot be achieved, external cable protection may be required, the locations of which would be communicated to all commercial fisheries groups. Safety risk for fishing vessels

Date	Consultee and type of response	Comments raised	Response to queries raised and/or where considered in this chapter
			associated with potential gear snagging is assessed in Volume 2, Chapter 7: Shipping and navigation of the ES (document reference F2.7). • Cross-reference to other Round 4 developments with regard to assessment of impacts on commercial fisheries receptors has been used to inform this commercial fisheries chapter of the ES. • Updated FLOWW Guidelines for liaison and disruption agreements are under review and have not yet been published, this has been acknowledged within the Outline FLCP (document reference J13).
September 2023	SWFPA and WCSP (SFF invited but did not attend). Consultation meeting – Project update for: • Generation Assets • Transmission Assets.	• Queries regarding cable laying and if there will be large areas of closure, due to cables being laid down and being buried later. • Queries regarding rock protection.	• The Applicants are working to facilitate coexistence with existing commercial fishing activity and minimise disruption as far as possible. A FLCP will be developed by the Applicants through ongoing consultation with fisheries stakeholders, which will be based on the Outline FLCP submitted as part of the Application (document reference J13). The commitments made by the Applicants are designed to enable coexistence as far as possible during all project phases. They include commitments to not close the entire development area during the construction phase (CoT61, **Table 6.10**, and development and adherence to an offshore Construction Method Statement (CMS) which includes an Outline Offshore Cable Specification and Installation Plan (CSIP) prior to construction of the offshore export cable (CoT45, **Table 6.10**) (This includes details of cable burial depths,

Date	Consultee and type of response	Comments raised	Response to queries raised and/or where considered in this chapter
			• cable protection, cable monitoring, and a cable layout plan which ensures safe navigation is not compromised and that cable protection will be designed to minimise snagging hazards as far as possible, for example by minimising height above seabed, smooth and shallower profiles, grade used for rock placement, type of rock (i.e. smoother edges)). • As a result of these commitments (among others, all of which are listed in **Table 6.10** and Volume 1, Annex 5.3: Commitments Register of the ES, document reference F1.5.3), commercial fishing receptor groups will be able to continue fishing within parts of the Offshore Order Limits during construction. During the operation and maintenance phase, the commitments will provide the space for continued fishing within the Offshore Order Limits.
September 2023	TN Trawlers. Consultation meeting – Project update for: • Generation Assets. • Transmission Assets.	• Regarding cable burial depth and fishing gear penetration depth, noted that scallop fishing gear tooth bars are nine to 10 inches long. • Price of steel has increased costs on gear requirements and maintenance, as well as price of fuel. • Noted no major concerns with information presented.	• Information was collated from stakeholders on gear penetration depth and has been considered in the assessment of effects (**section 6.11**). Offshore export cables will be buried where possible to a minimum burial depth of 0.5 m and in areas where this is not achievable the cable will be protected (**section 6.8**). The Applicants have committed to the development and adherence to an offshore CMS which includes an CSIP prior to construction of the offshore export cable (CoT45, **Table 6.10**). This includes details of cable burial depths, cable protection, cable

Date	Consultee and type of response	Comments raised	Response to queries raised and/or where considered in this chapter
			monitoring, and a cable layout plan which ensures safe navigation is not compromised and that cable protection will be designed to minimise snagging hazards as far as possible, for example by minimising height above seabed, smooth and shallower profiles, grade used for rock placement, type of rock (i.e. smoother edges).
September 2023	MFPO and IoM Government. Consultation meeting – Project update for: • Generation Assets. • Transmission Assets.	• Raised that the proposed construction approach of rolling construction zones around installation vessels may still have potential impacts due to tow directions, wind conditions, tides, etc. • Noted that there are seasonal closures within the Isle of Man Territorial Sea for both king and queen scallop to protect spawning periods. King scallop: from 1 June to 31 October; and queen scallop from 1 April to 30 June. A curfew also exists within the Isle of Man Territorial Sea, with fishing for king scallop prohibited between 18:00 and 06:00. • Noted that Brexit has affected costs rather than markets. Peruvian queen scallop market is a factor in prices. • Noted that queen scallop vessels fish with nets (not dredgers) and lighter gear, and so are less likely to be impacted than scallop fishers with heavier gear.	• The Transmission Assets are aware of the likely complexity on managing construction activities whilst maintaining the area open to fishing activities. However, sufficient time is available to ensure communication processes and plans are discussed and in place prior to commencement of construction. • Ongoing liaison will continue and provide warning prior to construction activities taking place. A process for managing and communicating the use of advisory exclusion zones (as outlined within the Safety Zone Statement, document reference: J33) will be developed post-consent once the construction programme has been finalised and will be set out in the FLCP (an outline of this has been submitted with the Application, document reference J13) prepared post-consent.
September 2023	Rederscentrale.	• Confirmed that 90% of the Belgian fleet active within the Transmission Assets commercial	• Feedback from consultees regarding target species and fishing gear has been presented within the baseline (Volume 2, Annex 6.1: Commercial fisheries technical report of the

Date	Consultee and type of response	Comments raised	Response to queries raised and/or where considered in this chapter
	Consultation meeting – Project update for: • Generation Assets. • Transmission Assets.	fisheries study area deploy beam trawls using SumWing technology. • Confirmed that sole is the target species.	ES, document reference F2.6.1) and considered in the assessment of effects (**section 6.11**).
September 2023	NFFO, NFFO Services, Whitehaven Fishermen's Cooperative, P&M Fishing and the MMO. Consultation meeting – Project update for: • Generation Assets. • Transmission Assets.	• Noted that the rolling construction zones around installation vessels is a step in the correct direction. However, raised a concern to the level of liaison needed for this approach to construction, which needs to be reflected in the Fisheries liaison and co-existence plan.	• The Applicants are aware of the likely complexity on managing construction activities whilst maintaining the area open to fishing activities. A process for managing and communicating the use of advisory exclusion zones (document reference: J33) will be developed post-consent once the construction programme has been finalised and will be set out in the Fisheries Liaison & Co-existence Plan. An outline of this plan has been submitted with the Application (Document reference J13).
September 2023	Seafish and individual fishing operators from Blackpool. Consultation meeting – Project update for: • Generation Assets. • Transmission Assets.	• Queries regarding cable burial and the potential for a snagging risk. • Queried the type of scour/rock protection being considered and raised that limestone may be incompatible with mussel settlement.	• Offshore export cables will be buried where possible to a minimum burial depth of 0.5 m and in areas where this is not achievable the cable will be protected (**section 6.8**) (CoT 45, **Table 6.10**). Loss of fishing grounds and snagging risk are assessed in **section 6.11.4**. • Limestone is not being considered as a material for cable protection.
September 2023	Individual fishing operators from Conwy. Consultation meeting – Project update for:	• Queries raised regarding displacement and spatial squeeze as a result of other projects within the Irish Sea.	• Spatial squeeze on fisheries due to offshore developments in the east Irish Sea, including the possibility of further restrictions with regards to the potential ban on all mobile gear within Marine Conservation Zones (MCZs),

Date	Consultee and type of response	Comments raised	Response to queries raised and/or where considered in this chapter
	• Generation Assets. • Transmission Assets.	• Noted that prices of production have increased which has an impact on the price of shellfish. • Raised a concern regarding noise impacts on fish species and stock.	have been assessed as part of the cumulative effects assessment, within **section 6.13** of the commercial fisheries chapter of the ES. • The renegotiation of the Trade and Cooperation Agreement and how that may affect opportunities in the region is considered in the future baseline section of the of the commercial fisheries technical annex of the ES, which is used to inform the assessment of significant effects within the commercial fisheries chapter of the ES. • Assessment of fish stocks has been assessed in Volume 2, Chapter 3: Fish and shellfish ecology of the ES.
October 2023	ANIFPO, ISEFPO, NIFPO. Consultation meeting – Project update for: • Generation Assets. • Transmission Assets.	• Noted no major concerns raised with the information presented. • Stated that currently no Irish vessel are thought to fish in the Transmission Assets area and fishing is unlikely to affect Irish fishers inside the 12 nm limit. • Stated that NI vessels will have very little static gear in the area, any vessels in the area will most likely use dredge or trawl nets. Unlikely that NIFPO members active along the coast of the TA landfall, activity is thought to be further north.	• Feedback from consultees regarding fishing activity has been presented within the baseline (Volume 2, Annex 6.1: Commercial fisheries technical report of the ES, document reference F2.6.1) and considered in the assessment of effects (see **section 6.11**).
February 2024	NWIFCA. Meeting regarding intertidal cockle and mussel fishery data for the Transmission Assets.	• Provided intertidal mussel and cockle landings data (2017/8 to 2023/24). • Confirmed 150 hand gatherers are permitted to operate within the NWFICA district.	• This has been incorporated into Volume 2, Annex 6.1: Commercial fisheries technical report of the ES (document reference F2.6.1) and has been brought into the commercial fisheries assessment.

6.4 Study area

6.4.1.1 The Transmission Assets are located within the International Council for the Exploration of the Sea (ICES) Division VIIa (Irish Sea) statistical area, which is divided into statistical rectangles for the purpose of recording fisheries landings. The Offshore Order Limits (illustrated in Figure 6.1, Volume 2, Figures) is located in ICES Rectangles 36E5, 36E6, 37E5 and 37E6 and is wholly within English waters.

6.4.1.2 A broad commercial fisheries study area has been defined for the purposes of this ES chapter, to provide a wider regional context to the current fisheries activity, and to ensure that potential impacts (e.g. displacement of fishing vessels) from the Transmission Assets on commercial fisheries have been fully assessed. Therefore, for the purposes of this ES chapter, the commercial fisheries study area is defined as ICES Rectangles 36E5, 36E6, 37E5 and 37E6 (Figure 6.1 (Volume 2, Figures)).

6.4.1.3 Given the operational ranges of the fishing fleets active in the region, and considering feedback from consultation, the study area for the Cumulative Effects Assessment (CEA) for commercial fisheries remains the same as for the main assessment (ICES Rectangles 36E5, 36E6, 37E5 and 37E6). The study area ensures that relevant regional fishing grounds, for a range of different fishing fleets, have been fully assessed as part of the CEA.

6.5 Baseline methodology

6.5.1 Methodology for baseline studies

6.5.1.1 To characterise the baseline environment for commercial fisheries within the commercial fisheries study area (see **section 6.4**), a range of existing studies and datasets have been collated and reviewed, in addition to feedback from project-specific consultation and site-specific surveys. Landings statistics have been analysed using Microsoft Excel, while VMS data have been analysed through ArcMap Geographic Information System (GIS) software.

6.5.1.2 Where possible, data have been collated over a 10-year period in order to:

- account for trends and seasonal variations in vessel landings and effort;
- align the data sources utilised in informing the Transmission Assets, with those used in the Generation Assets; and
- consider cyclical scallop periods as consultation feedback has indicated the scallop fisheries in the area of the Offshore Order Limits are cyclical, over periods of seven to eight years for queen scallop and three to four years for king scallop (*Pecten maximus*).

6.5.1.3 These data have been supplemented with qualitative information gathered through consultation with commercial fisheries stakeholders and communication with the FIR. Additional data sources have also been used to supplement the VMS data, which does not capture smaller fishing vessels. More detail on the data sources used to inform the commercial fisheries

baseline is provided in the **section 6.6.2** and within Volume 2, Annex 6.1: Commercial fisheries technical report of the ES (document reference F2.6.1).

Desk studies

6.5.1.4 Information on commercial fisheries activity within the study area was collected through a detailed desktop review of existing studies and datasets (**Table 6.4**), feedback from consultation (**Table 6.3**) and site-specific surveys (**Table 6.5**). Limitations and assumptions of the datasets are summarised in **section 6.10.5** and are outlined in further detail in Volume 2, Annex 6.1: Commercial fisheries technical report of the ES (document reference F2.6.1).

Table 6.4: Summary of key desktop data sources/reports

Title	Source	Year	Author
Landing statistics by ICES Rectangle for UK and Isle of Man vessels (all vessel sizes).	MMO.	2012 to 2022	MMO, 2022a
Landings statistics by port (all vessel sizes).	MMO.	2012 to 2022	MMO, 2022b
Landings statistics by ICES Rectangle for European Union (EU) vessels (all vessel sizes).	European Union Scientific, Technical and Economic Committee for Fisheries (EU STECF.)	2006 to 2016	EU STECF, 2017
VMS data for UK and Isle of Man vessels (≥15 m)	MMO.	2009 to 2020	MMO, 2021a
VMS data for European[1] mobile bottom contacting gear vessels (>12 m).	ICES.	2009 to 2020	ICES, 2020
ICES scallop assessment working group.	ICES.	2019	ICES, 2019
UK Inshore Fishing Intensity.	Centre for Environment, Fisheries and Aquaculture Science (Cefas).	2010 to 2012	Cefas, 2021
Isle of Man pot hauls.	Isle of Man Government, DEFA.	2010 to 2021	Isle of Man Government, DEFA
Isle of Man swept area.	Isle of Man Government, DEFA.	2017 to 2023	Isle of Man Government, DEFA
Intertidal mussel and cockle landings data.	NWIFCA.	2017 and 2018 to 2023 and 2024	NWIFCA, 2024

Landings statistics

6.5.1.5 Species landing data is recorded by ICES Rectangle and collected via the EU logbook scheme. Landings data has been collated for the UK (and Isle of

[1] This dataset was collated prior to the UK's withdrawal from the EU, so includes data from UK vessels.

Man) and EU Member states for all ICES Rectangles that overlap the study area, as illustrated in Figure 6.1(Volume 2, Figures).

6.5.1.6 Landings statistics were collated across a 10 year period from each country. They include all landings by a country's nationally registered vessels into all ports. The parameters examined were:

- gear type;
- year;
- ICES Rectangle;
- vessel length;
- species;
- landing port;
- value (£); and
- live weight (tonnes (t)).

Vessel monitoring system data

6.5.1.7 VMS data from the period 2009 to 2020 was collated from the MMO and ICES to provide an overview of the spatial extent of fishing activity within the study area. The MMO dataset only captures data for ≥15 m vessels and the ICES dataset is from vessels >12 m in length. Fishing effort was provided in kWh, which has been calculated by multiplying the time associated with each VMS report, by the engine power of the vessel concerned at the time of activity.

6.5.1.8 The ICES data analysed only includes mobile bottom contacting gear types, so pots and traps (static gear) were not included.

6.5.1.9 King scallop (*Pecten maximus*) and queen scallop (*Aequipecten opercularis*) swept area (km^2) data between 2017 to 2023 was collated from the Isle of Man Government to provide an overview of the spatial extent of this fishing activity type within and around Manx territorial waters. All licensed scallop fishing vessels, regardless of size and country of origin, are required to operate a VMS system in Manx Territorial Waters. As such, data for all king scallop (dredge) and queen scallop (otter trawl/dredge) vessel sizes are available, with the dataset not being limited to vessels >15 m, or >12 m in length. The dataset provided are split by Irish Sea (IS) Boxes, which are used to collect data for the Isle of Man Nest Forms Electronic Daily Scallop Catch Return.

6.5.1.10 Combined total crab (*Cancer pagurus)* and lobster pot haul, and whelk pot haul data was collated from the Isle of Man Government. The data was provided at Monthly Shellfish Activity Report (MSAR) square level for the period 2010 to 2021. MSAR squares only report on activity within ICES Rectangle 37E5, for all Manx registered vessels.

Site-specific surveys

6.5.1.11 Data from a range of site-specific survey activities and/or offshore/remote observations has also been used to inform the commercial fisheries baseline environment. A summary of the site-specific surveys that have been used to inform the commercial fisheries baseline environment (and subsequent impact assessment) is outlined in **Table 6.5**. Information on these surveys, including limitations and assumptions of the data (as summarised in **section 6.10.5),** is discussed further in Volume 2, Annex 6.1: Commercial fisheries technical report of the ES (document reference F2.6.1).

Table 6.5: Summary of site-specific survey data

Title	Extent of survey	Overview of survey	Survey contractor	Date	Reference to further information
Offshore Fisheries Liaison Officer (OFLO) observations 2021	Transmission Assets commercial fisheries study area plus 10 nm buffer.	OFLO onboard the survey vessel recorded observations (from Automatic Identification System (AIS), radar, visual observations and radio communications) of fishing vessels and fishing gear present.	NFFO	30 June 2022 to 18 September 2022	Volume 2, Annex 6.1: Commercial fisheries technical report of the ES (document reference F2.6.1).
Winter vessel traffic survey 2021	Morgan Offshore Wind Project: Generation Assets, plus a 10 nm buffer.	AIS and radar.	NASH Maritime	21 November 2021 to 4 December 2021	Volume 2, Annex 6.1: Commercial fisheries technical report of the ES (document reference F2.6.1).
Winter vessel traffic survey 2022	Morecambe Offshore Windfarm: Generation Assets, plus a 10 nm buffer.	A summary of fishing vessels identified during a project-specific winter 2022 vessel traffic surveys.	NASH Maritime	9 February 2022 to 26 February 2022	Volume 2, Annex 6.1: Commercial fisheries technical report of the ES (document reference F2.6.1).

Title	Extent of survey	Overview of survey	Survey contractor	Date	Reference to further information
Scouting survey	Defined area within the Transmission Assets Scoping Boundary.	Recordings of static gear.	NFFO	6 March 2022 to 13 March 2022	Volume 2, Annex 6.1: Commercial fisheries technical report of the ES (document reference F2.6.1)
Summer vessel traffic survey 2022	Morgan Offshore Wind Project: Generation Assets plus a 10 nm buffer.	AIS and radar.	NASH Maritime	15 July 2022 to 29 July 2022	Volume 2, Annex 6.1: Commercial fisheries technical report of the ES (document reference F2.6.1)
Summer vessel traffic survey 2022	Morecambe Offshore Windfarm: Generation Assets, plus a 10 nm buffer.	A summary of fishing vessels identified during a project-specific summer 2022 vessel traffic survey.	NASH Maritime	30 July 2022 to 13 August 2022	Volume 2, Annex 6.1: Commercial fisheries technical report of the ES (document reference F2.6.1)
OFLO observations 2022	Transmission Assets commercial fisheries study area plus 10 nm buffer.	OFLO onboard the survey vessel recorded observations s (from AIS, radar, visual observations and radio communications) of fishing vessels and fishing gear present.	NFFO	1 April 2022 to 10 July 2022	Volume 2, Annex 6.1: Commercial fisheries technical report of the ES (document reference F2.6.1)
ERM (formally MarineSpace) observations 2022	Transmission Assets commercial fisheries study area plus 10 nm buffer.	Fisheries monitoring using Automatic Identification System data.	ERM (formally MarineSpace)	July 2022 to September 2022	Volume 2, Annex 6.1: Commercial fisheries technical report of the ES (document reference F2.6.1)

Title	Extent of survey	Overview of survey	Survey contractor	Date	Reference to further information
Spring vessel traffic survey 2023	Morgan Offshore Wind Project: Generation Assets plus 10 nm.	AIS and radar.	NASH Maritime	4 May 2023 to 18 May 2023	Volume 2, Annex 6.1: Commercial fisheries technical report of the ES (document reference F2.6.1).
Summer vessel traffic survey 2023	Morgan and Morecambe Offshore Wind Farms: Transmission Assets.	AIS and radar.	NASH Maritime	3 August 2023 to 17 August 2023	Volume 2, Annex 6.1: Commercial fisheries technical report of the ES (document reference F2.6.1).
Morgan Generation Assets top up vessel traffic survey 2023	Morgan Offshore Wind Project: Generation Assets plus 10 nm.	AIS and radar.	NASH Maritime	11 November 2023 to 27 November 2023	Volume 2, Annex 6.1: Commercial fisheries technical report of the ES (document reference F2.6.1).
Winter vessel traffic survey 2023	Morgan and Morecambe Offshore Wind Farms: Transmission Assets.	AIS and radar.	NASH Maritime	28 November 2023 to 13 December 2023	Volume 2, Annex 6.1: Commercial fisheries technical report of the ES (document reference F2.6.1).

6.6 Baseline environment

6.6.1.1 Characterisation of the baseline environment for commercial fisheries is based upon the Volume 2, Annex 6.1: Commercial fisheries technical report of the ES (document reference F2.6.1) and has been undertaken using the data sources listed in **section 6.5.1** alongside feedback from consultation (**section 6.3**). Limitations and assumptions of the datasets are summarised in **section 6.10.5** and are outlined in further detail in Volume 2, Annex 6.1: Commercial fisheries technical report of the ES (document reference F2.6.1).

6.6.2 Desk study

Overview of landings data

6.6.2.1 Data compiled by both the MMO (MMO, 2023a) and EU STECF[2] (EU STECF, 2017) was reviewed for the most recently available 10 year period of landings (2012 to 2022 and 2006 to 2016, respectively). MMO and EU STECF datasets were filtered to show only landings from the study area (ICES Rectangles 36E5, 36E6, 37E5 and 37E6). The Offshore Order Limits will be located in 36E5, 36E6, 37E5 and 37E6 (**Figure 6.1**, Volume 2, Figures).

6.6.2.2 The MMO data indicate that, over the period 2012 to 2022, shellfish was the most important species group in terms of landed weight and value for UK and Isle of Man vessels (**Diagram 6.1** and **Diagram 6.2**), with the highest landings from ICES Rectangle 37E5. Landings of demersal and pelagic species were considerably lower than shellfish.

6.6.2.3 As expected, for UK and Isle of Man vessels, the largest proportion of vessels was from the >10 m class; these vessels were predominantly from England, the Isle of Man, Northern Ireland, Scotland and Wales. The smaller UK vessels (≤10 m) were predominantly from the Isle of Man only, reflecting the closer proximity of home ports to this fleet, with relatively small recordings of landings for Welsh, Scottish and Northern Irish vessels.

6.6.2.4 Dredges accounted for 54% of total landings by UK and Isle of Man vessels from the study area. This indicates the importance of the queen and king scallop fisheries in the region. Demersal trawl/seine (targeting demersal dwelling species) were also of notable importance in the study area and consisted mostly of vessels >10 m in length.

6.6.2.5 Due to the distance from their home ports and vessel capabilities, a limited number of non-UK / non- Isle of Man vessels <15 m in length are active within the study area, with these being registered in Ireland. The majority of landings from non-UK / non- Isle of Man vessels in the region were from vessels registered in Belgium and Ireland (**Diagram 6.3**). These vessels predominantly utilise beam trawls and dredges. Key species were common sole (*Solea solea)*, European plaice (*Pleuronectes platessa)*, thornback ray (*Raja clavata)*, rays and skates and brill (*Scophthalmus rhombus*).

6.6.2.6 There was a large variety of species caught by the Belgian and Irish fleets and given the understanding that both fleets almost exclusively use beam trawls and dredges, it is presumed other species may have been caught as by-catch during fishing for the main target species. Both beam trawls and dredge gear types exhibit poor selectivity and, hence, tend to have high by-catch rates (Volume 2, Annex 6.1: Commercial fisheries technical report of the ES, document reference F2.6.1).

[2] EU STECF is a group of experts, appointed by the European Commission, that undertakes scientific work, provides scientific advice on fisheries management and implements a data collection framework.

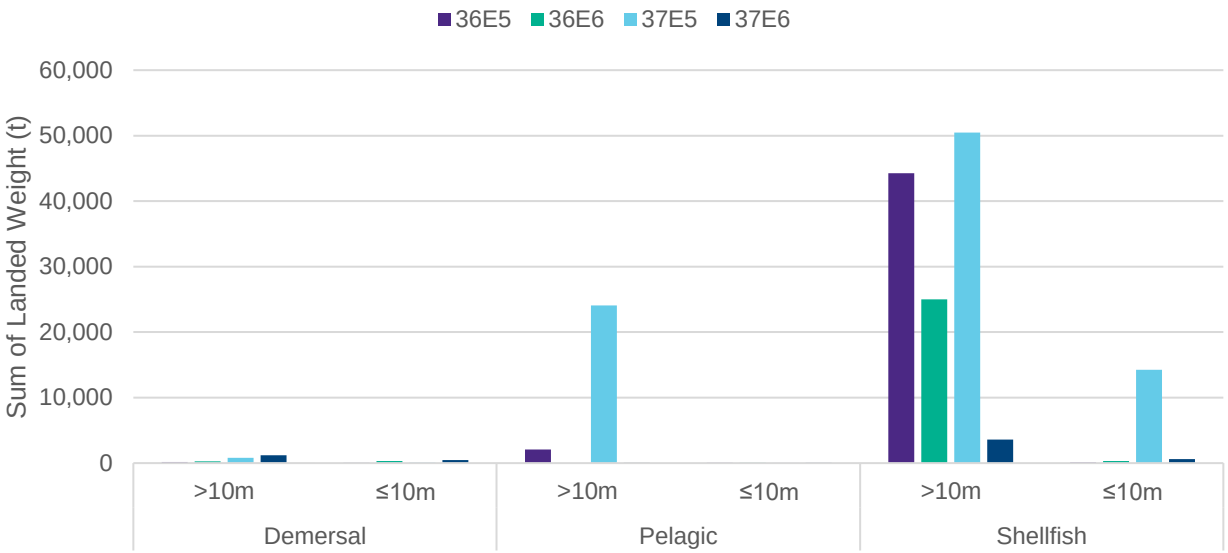

Diagram 6.1: Sum of landed weight (2012 to 2022) within the study area, displayed by species group and vessel class (UK and Isle of Man vessels) (Source: MMO, 2023a)

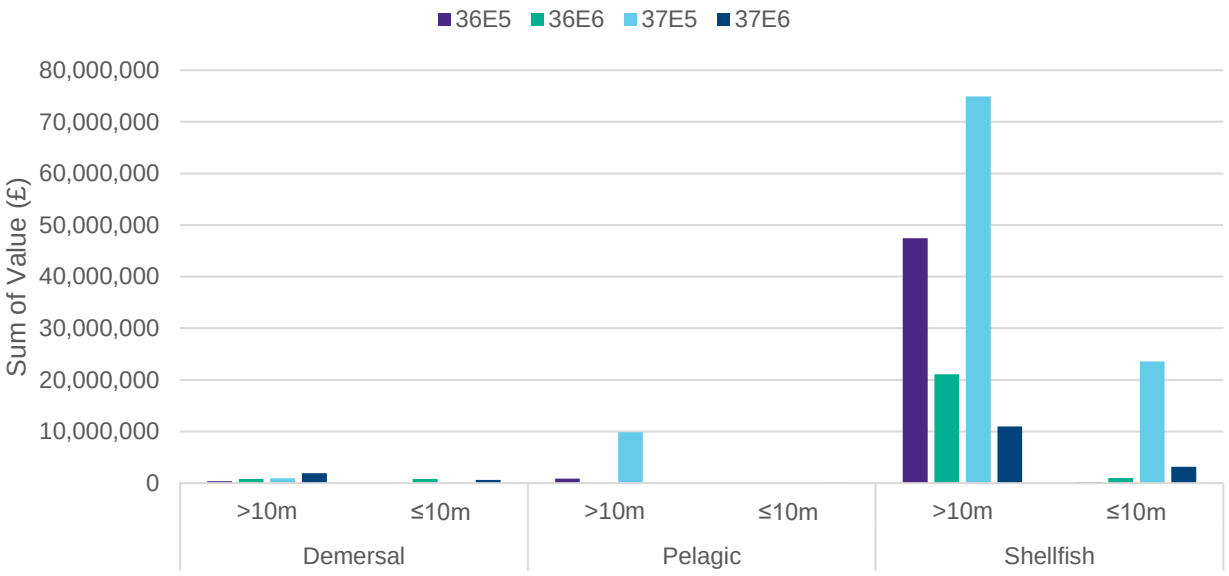

Diagram 6.2: Sum of landed value within the study area (2012 to 2022), displayed by species group (UK and Isle of Man vessels) (Source: MMO, 2023a)

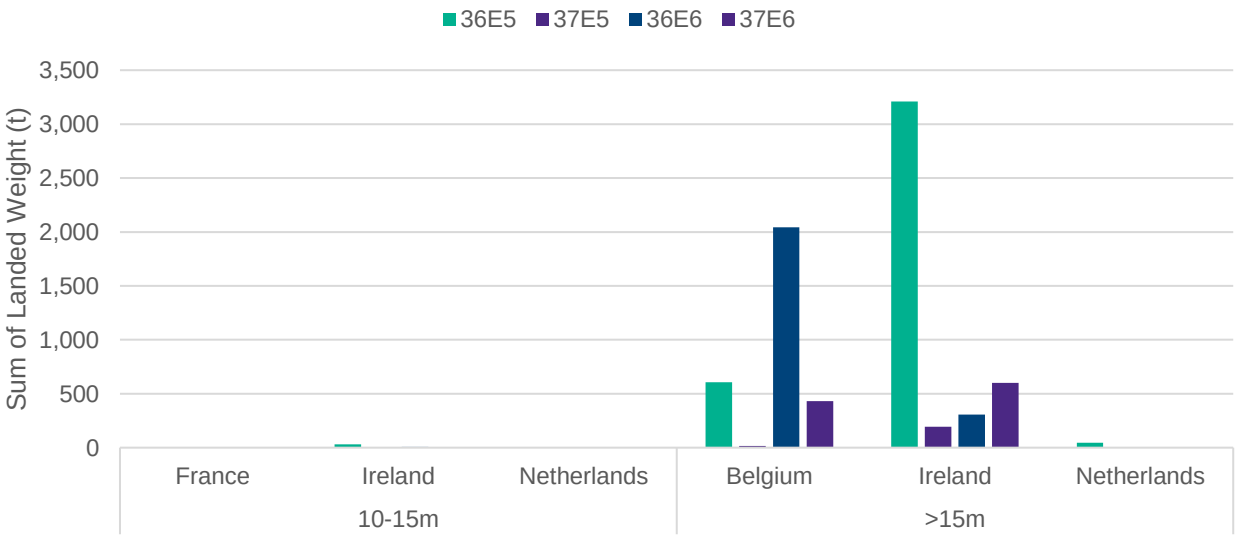

Diagram 6.3: Sum of landed weight by vessel size class (2006 to 2016) within the study area (non-UK / non- Isle of Man vessels) (Source: EU STECF, 2017)

Seasonal temporal change

6.6.2.7 In terms of intra-annual variation, landings by UK and Isle of Man vessels varied for all species/vessels over the period (2012 to 2022), with a clear seasonal pattern of highest weight of landings between March and November each year (**Diagram 6.4**).

6.6.2.8 For the top five species landed by UK and Isle of Man vessels within the study area (**Diagram 6.4**), the following were the key periods for highest weight and value.

- Queen scallop (*Aequipecten opercularis*) – July to September.
- King scallop (*Pecten maximus*) – November to May.
- Herring (*Clupea harengus*) – August to September.
- Whelk (*Buccinum undatum*) – May to July.
- Norway lobster (*Nephrops*) – April to July.

6.6.2.9 For the non-UK fleet, based on the EU STECF, 2017 data as presented in Volume 2, Annex 6.1: Commercial fisheries technical report of the ES (document reference F2.6.1), the top five species landed within the study area are king scallop, common sole, European plaice, Norway lobster and thornback ray. Based on data presented only by quarter, the periods January to March and April to June appear to be the most important in terms of landings, especially for species such as common sole and thornback ray. July to September was the least productive quarter, likely due to seasonal scallop closures in the area.

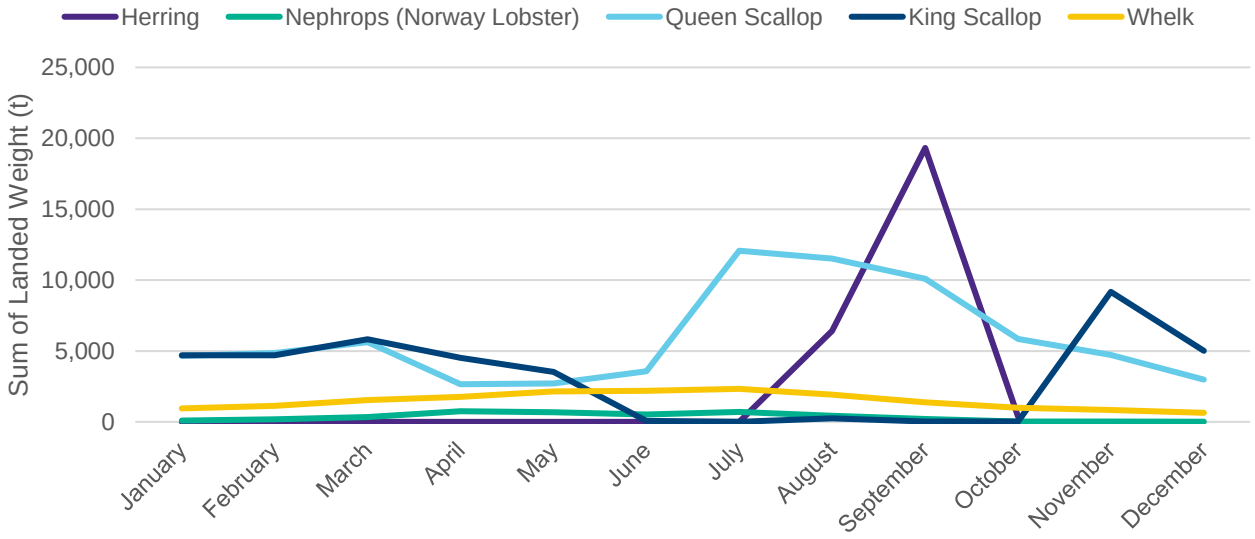

Diagram 6.4: Seasonal trends in top five species by total landed weight (UK and Isle of Man) vessels across the study area (2012 to 2022) (Source: MMO, 2023a)

Annual temporal change

6.6.2.10 In terms of annual variation for UK and Isle of Man vessels between 2012 to 2022, landings varied for all species/vessels over the period, with a considerably lower weight of queen scallop landings during 2017 to 2021 than between 2012 to 2017 (**Diagram 6.5**). Landings of whelk generally increased between 2013 to 2021. Landings of king scallop, herring and Norway lobster fluctuated yearly.

6.6.2.11 For the non-UK and non-Isle of Man fleets, as presented in Volume 2, Annex 6.1: Commercial fisheries technical report of the ES (document reference F2.6.1), the EU STECF, 2017 data showed that between 2006 to 2016, the year 2006 appeared to be the most important in terms of landings across the study area. Landings of king scallop were significantly higher between 2012

to 2016 than the previous years, which aligns with feedback from project-specific consultation regarding the cyclical nature of the fishery.

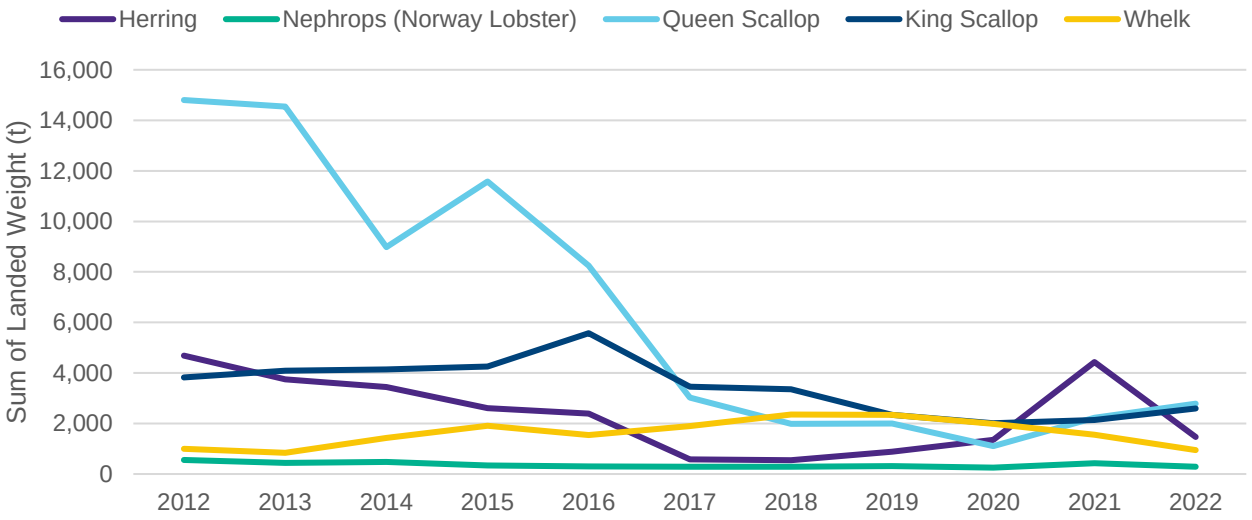

Diagram 6.5: Annual trends in top five species by total landed weight (UK and Isle of Man) vessels across the study area (2012 to 2022) (Source: MMO, 2023a)

Spatial distribution of fishing activity/effort by gear type

6.6.2.12 The spatial distribution of fishing activity/effort in the study area has been fully described within Volume 2, Annex 6.1: Commercial fisheries technical report of the ES (document reference F2.6.1). A summary of the key regional fisheries is provided below and is based on review and analysis of multiple datasets (**Table 6.4**), as well as direct consultation with individual skippers and fisheries organisations (**Table 6.3**).

Static gear

6.6.2.13 Analyses of the MMO VMS data (2016 to 2020) for static gear vessels (MMO, 2021a), split by ICES sub rectangle, show that the spatial distribution of UK static gear vessels ≥15 m varies yearly across the study area.

6.6.2.14 UK static gear vessels ≥15 m were active across the study area. Higher intensities of potting activity were generally observed between Barrow-in-Furness and the English-Welsh maritime boundary, and north of the Isle of Man. Within the Offshore Order Limits, levels of potting were generally higher in the east (Volume 2, Annex 6.1: Commercial fisheries technical report of the ES, document reference F2.6.1). Feedback from consultation with fisheries stakeholders has suggested this activity is mostly from vessels targeting whelk (13 to 17 m in length), which are largely operating out of Fleetwood and Whitehaven.

6.6.2.15 Inside the 12 nm limit, there were relatively low levels of effort overlapping with the Offshore Order Limits (Volume 2, Annex 6.1: Commercial fisheries technical report of the ES, document reference F2.6.1). The following additional datasets were used to provide distribution information on activity by smaller vessels that would not have been captured in the VMS data. The

Centre for Environment, Fisheries and Aquaculture Science (Cefas) data shows the static gear intensity (<15 m vessels) along the majority of the Offshore Order Limits was relatively low, with slightly higher intensities observed within the nearshore area between Barrow-in-Furness and Whitehaven. This aligns with the MMO landings data.

6.6.2.16 Combined total crab and lobster pot haul, and whelk pot haul data, collated from the Isle of Man Government, is provided at MSAR square level (2010 to 2021), which only report on activity within ICES Rectangle 37E5 for all Manx registered vessels.

6.6.2.17 Isle of Man registered static gear vessels, targeting crab and lobster, were active across ICES Rectangle 37E5 at varying degrees. Higher intensities of crab and lobster pot haul effort were observed to the south and west of the Isle of Man, within the Manx 6 nm limit. Lower levels of activity can generally be observed to the west of the Isle of Man and beyond the Manx 6 nm limit. An overlap of crab and lobster pot haul effort can be observed with the Offshore Order Limits, although this is at a relatively low level (Volume 2, Annex 6.1: Commercial fisheries technical report of the ES, document reference F2.6.1).

6.6.2.18 Isle of Man registered static gear vessels, targeting whelk, were active across ICES Rectangle 37E5. Higher intensities of whelk pot haul effort were observed within the Manx 6 nm limit particularly in areas to the south east of the Isle of Man. Lower levels of activity can generally be observed in all areas of ICES Rectangle 37E5 beyond the Manx 6 nm limit. An overlap of whelk pot haul effort can be observed with the Offshore Order Limits, although this is at a relatively low level (Volume 2, Annex 6.1: Commercial fisheries technical report of the ES, document reference F2.6.1).

Dredge gear

6.6.2.19 Dredges consist of rigid structures that target numerous species of shellfish through towing along the seabed. Within the study area, queen and king scallop are both caught by vessels deploying dredges, although due to the differences in behaviour between the two species, slightly different gear types may be used for them. King scallop are generally fished by vessels operating Newhaven dredges, while queen scallop are targeted using skid dredges (or otter trawls as discussed below in **paragraph 6.6.2.28**).

6.6.2.20 Within the study area, landings using mechanical dredge accounted for approximately 54% of total landings by UK and Isle of Man vessels (MMO, 2023a), indicating the relative importance of the scallop dredge fishery in the region. Of these UK and Isle of Man vessels, the MMO landings data indicated Scottish, Isle of Man and Northern Irish fisheries accounted for the majority of the dredge landings in the study area. In terms of non-UK and non-Isle of Man vessels, the Irish fleet accounted for the largest proportion of dredge vessels. Annual landed weight by the dredge fishery was highly variable, with considerably lower catches within the study area between 2017 to 2020, compared with 2010 to 2016 (**Diagram 6.5**). This reflects the somewhat cyclical nature of scallop fisheries, where particular grounds are

more productive in certain years and are, therefore, targeted on a cyclical basis, as indicated by fisheries stakeholders in consultation workshops.

6.6.2.21 The dredge fishery targets scallops, with minimal landings of other commercial species. Landings by Isle of Man dredge vessels are highest from 37E5, with notable landings also from 36E5; landings by Scottish dredge vessels are highest from 36E5, with notable landings from 36E6 and 37E5; landings by Northern Irish dredge vessels were notable from 37E5, 36E5 and 36E6; and landings by Irish dredge vessels were highest from 36E5. VMS data indicated that highest intensities of the dredge fishery were within the Isle of Man 12 nm limit, and within the north west parts of the Offshore Order Limits. This is supported by feedback from consultation, which highlighted the north west section of the Offshore Order Limits is an important queen scallop fishing ground, whereas other parts of the Offshore Order Limits is of lesser importance to the scallop fisheries.

6.6.2.22 King scallop (dredge) and queen scallop (otter trawl/dredge) swept area (km^2) data between 2017 to 2023, collated from the Isle of Man Government, provide an overview of the spatial extent of all licenced scallop fishing vessels within Manx territorial waters.

6.6.2.23 Dredge vessels targeting king scallop were active across the Manx Territorial Sea, at varying intensities. Highest intensities can generally be observed within the Isle of Man 12 nm limit and to the west of the Offshore Order Limits; relatively high levels of activity overlapped with the north west part of the Offshore Order Limits. Lowest levels of activity can be observed beyond the Isle of Man 12 nm limit. It is evident while analysing the data that dredge activity and intensity varies by year, which also corroborates information from fisheries stakeholders, suggesting that the fishery is cyclical over eight to nine year periods (Volume 2, Annex 6.1: Commercial fisheries technical report of the ES, document reference F2.6.1).

6.6.2.24 Activity by dredge/otter trawl deployed by vessels targeting queen scallop was generally highest in the south east section of ICES Rectangle 37E5, overlapping with the north west part of the Offshore Order Limits (2018 to 2022). Other areas of relatively high activity can be observed within the Isle of Man Territorial Sea, particularly in areas to the north and south of the Isle of Man. Lowest levels of activity can be observed beyond the Isle of Man 12 nm limit. Activity fluctuated across the time period studied (Volume 2, Annex 6.1: Commercial fisheries technical report of the ES, document reference F2.6.1).

Demersal fishery – beam trawl

6.6.2.25 Beam trawls consist of nets that are held open by a heavy tubular steel beam, which are towed along the seabed. Most beam trawls tow two beams at a time. Beam trawling catches a wide range of bottom dwelling species and has the potential to catch a variety of non-target by-catch. Beam trawls may use tickler chains, which are attached at the front of the net and slide along the seabed to disturb species of fish within their path, encouraging them to rise up into the net behind. The majority of beam trawl vessels active within the study area deploy the SumWing. The SumWing is a fishing method

that replaces the traditional heavy beam with a “wing” style beam without any beam shoes at the end, which creates lift as it is towed through the water and is designed to skim approximately 600 mm above the seabed (Seafish, 2023).

6.6.2.26 VMS data illustrating beam trawl (vessels >12 m) activity over the period 2009 to 2020, showed sporadic overlap with discrete areas within the Offshore Order Limits, at a relatively low intensity (Volume 2, Annex 6.1: Commercial fisheries technical report of the ES, document reference F2.6.1). There were two areas of higher intensity beam trawling activity within the study area, which did not overlap with the Offshore Order Limits; these areas are to the south of the Isle of Man, and beyond the 12 nm limit of English waters.

6.6.2.27 Within the study area, the landings data indicates that landings by vessels using beam trawl were predominantly undertaken by Belgian and south west coast English fleets. The target species of this fishery are sole and plaice, which are principally taken from ICES Rectangles 36E6 and 36E5. This coincides with information provided from fisheries stakeholders during consultation, which has indicated that beam trawl vessels from the south west of the UK are active in the Offshore Order Limits during the Spring, with these vessels predominantly targeting sole and plaice. Belgian beam trawl vessels are active within the study area, but do not fish where the Offshore Order Limits is located. Beam trawl activity fluctuated across the time period studied.

Demersal fishery – otter trawl

6.6.2.28 The otter trawl gear type consists of a trawl net with otter boards (large rectangular boards), which are used to keep the mouth of the trawl net open. Otter boards typically consist of timber or steel material and are positioned in such a way that when the net is towed along the seabed, hydrodynamic forces push the otter boards outwards and prevent the mouth of the net from closing.

6.6.2.29 Otter trawl gears are used to target queen scallop, particularly by vessels from the Isle of Man, and to target Norway lobster. This method, similar to skid dredges, targets queen scallop which are more active swimmers than king scallop.

6.6.2.30 Otter trawl vessels from Belgium, England, Isle of Man, Northern Ireland, Scotland and Wales were active within the study area; although activity fluctuated across the time period studied. Feedback from consultation suggested that otter trawl vessels from the Isle of Man target queen scallop, generally between July and October.

6.6.2.31 VMS data illustrating activity by otter trawl vessels (>12 m) from England, Isle of Man and Northern Ireland displays highest observed levels within the west and north east of the study area, with an area of activity also located south east of the Isle of Man (Volume 2, Annex 6.1: Commercial fisheries technical report of the ES, document reference F2.6.1). Activity within the Offshore Order Limits was generally limited to the north west part, which is likely due to vessels targeting scallop. The higher intensity area off the Cumbria coast

aligns with the Norway lobster grounds; although this does not overlap with the Offshore Order Limits.

6.6.2.32 As discussed above in **paragraph 6.6.2.24**, queen scallop (otter trawl/dredge) swept area (km^2) data between 2017 to 2023 indicate that activity was highest in the south east section of ICES Rectangle 37E5, overlapping with the north west part of the Offshore Order Limits (2018 to 2022) (Volume 2, Annex 6.1: Commercial fisheries technical report of the ES, document reference F2.6.1).

Mussel and cockle fishery – hand gathered/dredge

6.6.2.33 Despite not appearing in the top 15 species by landed weight/value in the study area (MMO, 2023a), another important UK fishery in the study area is the intertidal harvesting of cockles and mussels, particularly within Morecambe Bay. These beds do not occur within the Offshore Order Limits (Volume 2, Annex 6.1: Commercial fisheries technical report of the ES, document reference F2.6.1).

6.6.2.34 The intertidal mussel beds within Morecambe Bay, regulated by the NWIFCA, are defined as either permanent or ephemeral beds, influencing the type of fishing activity occurring throughout the year. Permanent mussel beds are maintained by recruitment of spat amongst adults and can be harvested all year round by hand gatherers. At the time of writing, there are 150 permitted commercial hand gatherers within the NWIFCA district. The deployment of mechanical or vessel based fishing gear is not permitted within these areas. Ephemeral mussel beds occur in areas where large amounts of spat settle intermittently on a substrate (i.e. rocky intertidal habitat), grow and rapidly build up mud, and become prone to dislodgement (i.e. washed away during a gale). Ephemeral mussel beds can be harvested by hand under derogation or fished by dredge vessel, typically at only one or two periods of the year. Intertidal cockle beds within Morecambe Bay, also regulated by the NWIFCA, are only harvested by hand gatherers.

6.6.3 Site-specific surveys

6.6.3.1 A summary of the site-specific surveys that have been used to inform the commercial fisheries baseline environment (and subsequent impact assessment) is outlined in **Table 6.5**. Information on these surveys is discussed in detail within Volume 2, Annex 6.1: Commercial fisheries technical report of the ES (document reference F2.6.1). Limitations and assumptions of this data are summarised in **section 6.10.5**, and outlined in further detail in Volume 2, Annex 6.1: Commercial fisheries technical report of the ES (document reference F2.6.1).

6.6.4 Future baseline conditions

6.6.4.1 The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 require that '*an outline of the likely evolution thereof without implementation of the development as far as natural changes from the baseline scenario can be assessed with reasonable effort on the basis of the availability of environmental information and scientific knowledge*' is included

within the ES. This section provides an outline of the likely future baseline conditions in the absence of the Transmission Assets.

6.6.4.2 The baseline environment for commercial fisheries is constantly evolving, as the fishing industry is dynamic, with frequent and sometimes unpredictable changes which affect activity, such as changes in fish abundance and distribution, climatic conditions, management regulations and fuel costs (DECC, 2016). A review by the Irish Sea Maritime Forum highlighted that 'Brexit', overfishing and spatial conflict are considered key future concerns for the fishing Industry (Salthouse, 2021). More recently, increased fuel prices are likely to impact fishing activity; for example, vessels with longer transit times may reduce their activity in the region, due to higher fuel prices.

6.6.4.3 The baseline was described using the most recent datasets available and across a 10 year time period, where possible. This time period was selected to account for variations within the different fisheries, for example the scallop fishery within the study area is cyclical over eight to nine year periods, as established in consultation with commercial fisheries stakeholders. Feedback from consultation indicated that reduced levels of queen scallop were observed between 2017 to 2020, so the next few years are expected to see higher catches and, therefore, a higher level of activity. The future baseline scenario is expected to reflect the cyclical nature of the fisheries which is observed in the datasets analysed.

6.6.4.4 At the time of writing, uncertainty remains with respect to impacts of the UK's withdrawal from the Common Fisheries Policy (CFP) and how fishing activity may be affected within the study area. Under the new EU-UK Trade and Cooperation Agreement there is a five-year transition period, whereby 25% of the EU quota for British waters will be transferred to the UK fishing fleet, phased across the five years until 2025. As a result, the UK will receive higher quota shares for some stocks, as outlined in **Table 6.6** for species within the Irish Sea. However, a large proportion of landings within the study area are from non-quota shellfish species, so will not be affected by the quota changes. Quota allocations for 2026 and beyond are likely to be the same as for 2025 and access to EU/UK waters will be subject to annual negotiations (ABPmer, 2021). The introduction of the Catch Certificate and other supporting documents, as well as changes to tariffs could act as a barrier to the UK fishing fleet exporting landings to the EU.

Table 6.6: Quota share changes by 2026 for the UK, for species within the Irish Sea (Source: ABPmer, 2021)

Stock	2020 UK share of EU quota	2026 UK share of EU/UK quota or total allowable catch (TAC)	UK quota absolute increase
Herring	73.97%	99.01%	25%
Plaice	41.15%	51.11%	10%
Haddock	47.91%	56.02%	8%
Whiting	38.70%	61.00%	22%
Cod	28.79%	44.80%	16%
Sole	21.01%	23.30%	2%

6.6.4.5 New herring quota for the Isle of Man was introduced in July 2023. Although while noting that changing target species is not a simple and straight forward process, fishing businesses may be able to diversify, rather than relying on king and queen scallop which are seasonal fisheries.

6.6.4.6 Irish and Belgian vessels are the main non-UK / non- Isle of Man vessels that are active within the study area. At present, it is not clear how their activity will change post 2026, as they predominantly catch species which are subject to quota allocations. Inshore UK vessels in the study area generally target non-quota shellfish species, but they could be affected by potential tariff and non-tariff barriers if exporting to the EU.

6.6.4.7 Other pressures on the fishing industry, such as rising fuel costs or potential designations of marine protected areas could affect the commercial fisheries baseline. The impact of the Covid-19 pandemic may not yet be seen in the official datasets, but there could be changes within the fishing industry due to adapting to, and recovering from, the pandemic.

6.6.5 Key receptors

6.6.5.1 From **section 6.6** and the commercial fisheries baseline environment presented Volume 2, Annex 6.1: Commercial fisheries technical report of the ES (document reference F2.6.1), there is a range of UK (and Isle of Man) and non-UK fleets targeting a number of different fisheries in the study area. The diverse nature of these fleets and fisheries means that potential impacts on the Transmission Assets will vary depending on the fleet concerned.

6.6.5.2 To ensure that potential impacts which may affect certain fleets/fisheries in different ways are fully assessed, a number of commercial fisheries receptor groups have been identified through review of data and feedback from stakeholder consultation. A total of eight key receptor groups have been defined. These have been categorised based on gear type, nature of fishing activity and nationality (**Table 6.7**).

6.6.5.3 It is important to note that not all commercial fishing fleets active in the study area will be affected by the Transmission Assets. The mussel and cockle fishery receptor group has been scoped out of this assessment, as it is not

anticipated this fishery will be affected by the proposed development of the Transmission Assets. The designated cockle and mussel beds are not located within, or in the immediate vicinity of the Offshore Order Limits.

6.6.5.4 The Norway lobster vessels receptor group has been assessed within the displacement impact but scoped out for all other impacts. This receptor group shows relatively high levels of activity, north east of the Offshore Order Limits, so could be affected by vessels displaced by the Transmission Assets. However, these vessels are not active within the Offshore Order Limits, so will not be directly affected by other potential impacts considered within this assessment.

6.6.5.5 **Table 6.7** identifies the receptors taken forward into the assessment.

Table 6.7: Key receptors taken forward to assessment

Receptor	Description
Inshore static gear vessels	Smaller (≤12 m) static gear vessels that are active across the inshore region (between 0 to 12 nm). These are predominantly local English vessels that mostly target whelk, lobster and crab, as established by consultation.
Offshore static gear vessels	Larger (>12 m) static gear vessels that are active offshore (beyond 12 nm) and within the Offshore Order Limits. These are predominantly English vessels that mostly target whelk, as established by consultation.
Beam trawl vessels	Beam trawl vessels that are active across the study area. Vessels are predominantly from Belgium and the south coast of England that mostly target sole and plaice, as established by consultation, but may include vessels from other UK jurisdictions and Ireland. Vessels from the south coast of England are active within the Offshore Order Limits, whereas Belgium beam trawl vessels are not.
Scallop vessels – Scottish west coast	West coast based Scottish vessels deploying dredges that are active across the study area, targeting king and queen scallop. Key ports for this receptor group include Kirkcudbright and Annan. The west coast based Scottish scallopers are particularly active within the study area for the dredging of queen scallop.
Scallop Vessels – Isle of Man	Vessels from the Isle of Man deploying otter trawls that are active across the study area, including within the Offshore Order Limits, targeting king and queen scallop. Consultation with stakeholders has established that queen scallop targeted by Isle of Man vessels deploying dredges and otter trawls generally operate within the Manx Territorial Sea, while Isle of Man vessels deploying dredges target king scallop in both the Manx Territorial Waters and areas beyond in UK waters. Fishing techniques in the Isle of Man differ to the rest of the UK fleet due to the fisheries regulations set out by the Isle of Man Government and the main target species.
Other scallop vessels	Vessels deploying dredges that are active across the study area, targeting king and queen scallop. Vessels are predominantly from Northern Ireland and Ireland, as established by consultation, but may also include more nomadic vessels from other UK jurisdictions.
Herring vessels	Vessels deploying pelagic trawls and seine nets that are active across the study area, targeting herring. Vessels are predominantly from Ireland and Northern Ireland, as established by MMO and EU STECF landings data, and consultation.
Norway lobster (*Nephrops*) vessels	Vessels predominantly deploying demersal trawls/seine and otter trawls that are active across the study area, targeting Norway lobster (*Nephrops*). Vessels are predominantly from England, Northern Ireland and Scotland, as established by MMO and EU STECF landings data and consultation.

6.7 Scope of the assessment

6.7.1.1 The scope of this assessment has been developed in consultation with relevant statutory and non-statutory consultees as detailed in **Table 6.3**.

6.7.1.2 The following impacts on commercial fisheries are discussed within the context of the commercial fisheries baseline and the maximum design scenario.

- Temporary loss or restricted access to fishing grounds within the Offshore Order Limits.
- Displacement of fishing activity to other areas due to loss or restricted access to fishing grounds.
- Safety risks for fishing vessels associated with potential gear snagging.
- Potential impacts on commercially important fish and shellfish resources during the construction phase.
- Supply chain opportunities for local fishing vessels.

6.7.1.3 Taking into account the scoping and consultation process, **Table 6.8** summarises the impacts considered during each project phase as part of this assessment.

Table 6.8: Impacts considered within this assessment

Activity	Impacts scoped into the assessment
Construction phase	
Advisory exclusion zones of 500 m present around vessels installing subtidal export cables.	Temporary loss or restricted access to fishing grounds within the Offshore Order Limits.
	Displacement of fishing activity to other areas due to loss or restricted access to fishing grounds.
Installation of subtidal export cables.	Safety risks for fishing vessels associated with potential gear snagging.
Activities arising from the construction phase of the Transmission Assets.	Potential impacts, such as underwater noise, on commercially important fish and shellfish resources during the construction phase.
Requirement for vessels (such as guard vessels) during the construction phase of the Transmission Assets.	Supply chain opportunities for local fishing vessels. During the construction phase of the Transmission Assets, the following areas of potential support that could be provided by local commercial fishing operators have been identified: • Guard vessels. • Scouting surveys. • Visual checks of infrastructure. • OFLO duties.
Operation and maintenance	

Activity	Impacts scoped into the assessment
The implementation of advisory clearance distances around cable maintenance vessels during the operation and maintenance phase.	Loss or restricted access to fishing grounds within the Offshore Order Limits.
	Displacement of fishing activity to other areas due to loss or restricted access to fishing grounds.
Presence of subtidal export cables that may have become unburied/exposed and/or presence of associated external cable protection during the operation and maintenance phase.	Safety risks for fishing vessels associated with potential gear snagging.
Activities arising from the operation and maintenance phase of the Transmission Assets (including loss of habitat via cable protection; temporary habitat disturbance via cable remediation/repair; EMF from active cables)	Potential impacts on commercially important fish and shellfish resources.
Requirement for vessels (such as guard vessels) during the operation and maintenance phase of the Transmission Assets may provide supply chain opportunities for local fishing vessels leading to a beneficial impact.	Supply chain opportunities for local fishing vessels.
Decommissioning phase	
The implementation of advisory clearance distances around vessels undertaking decommissioning works.	Loss or restricted access to fishing grounds within the Offshore Order Limits.
Decommissioning of subtidal export cables.	Displacement of fishing activity to other areas due to loss or restricted access to fishing grounds.
Activities arising from the decommissioning phase of the Transmission Assets.	Safety risks for fishing vessels associated with potential gear snagging.
Requirement for vessels (such as guard vessels) during the decommissioning phase of the Transmission Assets.	Supply chain opportunities for local fishing vessels.

6.7.1.4 Impacts which are not considered likely to be significant have been scoped out of the assessment. A summary of the effects scoped out, together with justification for scoping them out and whether the approach has been agreed with key stakeholders through either scoping or consultation, is presented in **Table 6.9.**

Table 6.9: Impacts scoped out of the assessment

Impacts	Justification
Interference with fishing activity.	Offshore export cable installation, maintenance, and any decommissioning activities will be temporary and limited in spatial extent. The number of vessels required during installation, maintenance and any decommissioning activities associated with the offshore export cables is also unlikely to add significantly to the marine traffic already present within the Offshore Order Limits. Any impacts will be temporary, therefore potential effects are likely to be not significant in EIA terms. The Planning Inspectorate agreed in the Scoping Opinion that this matter can be scoped out on the basis that continued consultation with commercial fisheries stakeholders is undertaken (**Table 6.3**).
Increase in steaming distances.	Offshore export cable installation, maintenance, and any decommissioning activities will be temporary and therefore longer steaming distances will occur for a short period of time. Therefore, any potential impacts are unlikely to be significant in EIA terms. The Planning Inspectorate agreed in the Scoping Opinion that this matter can be scoped out on the basis, that continued consultation with commercial fisheries stakeholders is undertaken (**Table 6.3**).

6.8 Measures adopted as part of the Transmission Assets (Commitments)

6.8.1.1 For the purposes of the EIA process, the term 'measures adopted as part of the Transmission Assets' is used to include the following two types of mitigation measures (adapted from Institute of Environmental Management and Assessment (IEMA), 2016). These measures are set out in Volume 1, Annex 5.3: Commitments Register of the ES (document reference F1.5.3).

- Embedded mitigation. This includes the following.
  - Primary (inherent) mitigation – measures included as part of the project design. IEMA describes these as 'modifications to the location or design of the development made during the pre-application phase that are an inherent part of the project and do not require additional action to be taken'. This includes modifications arising through the iterative design process. These measures will be secured through the consent itself through the description of the project and the parameters secured in the DCO and/or marine licences. For example, a reduction in footprint or height.
  - Tertiary (inexorable) mitigation. IEMA describes these as 'actions that would occur with or without input from the EIA feeding into the design process. These include actions that will be undertaken to meet other existing legislative requirements, or actions that are considered to be standard practices used to manage commonly occurring environmental effects'. It may be helpful to secure such measures through a Code of Construction Practice (CoCP) or similar.
- Secondary (foreseeable) mitigation. IEMA describes these as '*actions that will require further activity in order to achieve the anticipated outcome'*. These include measures required to reduce the significance of environmental effects (such as lighting limits) and may be secured through an Environmental Management Plan (EMP).

6.8.1.2 In addition, where relevant, measures have been identified that may result in enhancement of environmental conditions. Such measures are clearly identified within Volume 1, Annex 5.3: Commitments Register of the ES (document reference F1.5.3). The measures relevant to this chapter are summarised in **Table 6.10**.

6.8.1.3 Embedded measures that will form part of the final design (and/or are established legislative requirements/best practice) have been taken into account as part of the initial assessment presented in **section 6.11** below (i.e., the initial determination of impact magnitude and significance of effects assumes implementation of these measures). This ensures that the measures that the Applicants are committed to are taken into account in the assessment of effects.

6.8.1.4 Where an assessment identifies likely significant adverse effects, further or secondary mitigation measures may be applied. These are measures that could further prevent, reduce and, where possible, offset these effects. They are defined by IEMA as actions that will require further activity in order to achieve the anticipated outcome and may be imposed as part of the planning consent, or through inclusion in the ES (referred to as secondary mitigation measures in IEMA, 2016). For further or secondary measures both pre-mitigation and residual effects are presented.

Table 6.10: Measures (commitments) adopted as part of the Transmission Assets

Commitment number	Measure adopted	How the measure will be secured
Embedded measures		
CoT45	The Outline Offshore Cable Specification and Installation Plan (CSIP) for the Fylde MCZ includes: details of cable burial depths, cable protection, and cable monitoring. The Outline CSIP also includes an Outline Cable Burial Risk Assessment (CBRA). Detailed CSIP(s) and CBRA(s) will be prepared by the Applicants covering the full extent of their respective offshore export cable corridors. Detailed CSIPs will be developed in accordance with the Outline CSIP and will ensure safe navigation is not compromised including consideration of under keel clearance. No more than 5% reduction in water depth (referenced to Chart Datum) will occur at any point on the offshore export cable corridor route without prior written approval from the MCA.	DCO Schedule 14 (Marine Licence 1: Morgan Offshore Wind Project Transmission Assets). Part 2 - Condition18(1)(e) (Pre-construction plans and documentation) and DCO Schedule 15 (Marine Licence 2: Morecambe Offshore Wind Farm Transmission Assets), Part 2 - Condition 18(1)(e) (Pre-construction plans and documentation.)
CoT50	Detailed Fisheries Liaison and Coexistence Plan(s) will be developed in accordance with the Outline Fisheries Liaison and Coexistence Plan and will include details for providing advance warning and information on accurate locations for construction and maintenance activities, associated Safety Zones, and advisory passing distances to be given via Notifications to Mariners to ensure navigation safety.	DCO Schedule 14 (Marine Licence 1: Morgan Offshore Wind Project Transmission Assets). Part 2 - Condition18(1)(f)(v) (Pre-construction plans and documentation) and DCO Schedule 15 (Marine Licence 2: Morecambe Offshore Wind Farm Transmission Assets), Part 2 - Condition 18(1)(f)(v) (Pre-construction plans and documentation).
CoT55	Offshore Decommissioning Programme will be developed prior to decommissioning and will include information on the consideration of recycling of materials, where practicable, and if opportunities are available.	DCO Schedule 2A Requirement 21 (Offshore decommissioning) and DCO Schedule 2B Requirement 21 (Offshore decommissioning).

Commitment number	Measure adopted	How the measure will be secured
CoT59	The United Kingdom Hydrographic Office will be notified of both the commencement, progress and completion of offshore construction works to allow marking of all installed infrastructure on nautical charts.	DCO Schedule 14 (Marine Licence 1: Morgan Offshore Wind Project Transmission Assets). Part 2 - Condition14 (8-10) (Notifications and inspections) and DCO Schedule 15 (Marine Licence 2: Morecambe Offshore Wind Farm Transmission Assets), Part 2 - Condition14 (8-10) (Notifications and inspections).
CoT61	An Outline Fisheries Coexistence and Liaison Plan will seek to minimise the duration for which the offshore export cable corridors will be closed to vessels during construction, to limit disruption to commercial fishing activities, if and where practicable. Detailed Fisheries Coexistence and Liaison Plan(s) will be developed in accordance with the Outline Plan.	DCO Schedule 14 (Marine Licence 1: Morgan Offshore Wind Project Transmission Assets). Part 2 - Condition18(1)(f)(iv) (Pre-construction plans and documentation) and DCO Schedule 15 (Marine Licence 2: Morecambe Offshore Wind Farm Transmission Assets), Part 2 - Condition18(1)(f)(iv) (Pre-construction plans and documentation).
CoT62	Outline Fisheries Liaison and Coexistence Plan(s) will be produced to set out the commitments relating to coexistence with the fishing industry and to ensure navigational safety. It will reference the appointment, and responsibilities of, a company fisheries liaison officer (CFLO). Detailed Fisheries Liaison and Coexistence Plan(s) will accord with the Outline Fisheries Liaison and Coexistence Plan(s).	DCO Schedule 14 (Marine Licence 1: Morgan Offshore Wind Project Transmission Assets) Part 2 - Condition18(1)(f)(iv) (Pre-construction plans and documentation) and DCO Schedule 15 (Marine Licence 2: Morecambe Offshore Wind Farm Transmission Assets), Part 2 - Condition18(1)(f)(iv) (Pre-construction plans and documentation).

Commitment number	Measure adopted	How the measure will be secured
CoT65	Offshore Environmental Management Plan(s) (EMPs) will be developed and will include details of: - a marine pollution contingency plan to address the risks, methods and procedures to deal with any spills and collision incidents during construction and operation of the authorised scheme for activities carried out below MHWS; - a chemical risk review to include information regarding how and when chemicals are to be used, stored and transported in accordance with recognised best practice guidance; - waste management and disposal arrangements; - the appointment and responsibilities of a fisheries liaison officer; - a fisheries liaison and coexistence plan (which accords with the outline fisheries liaison and co-existence plan) to ensure relevant fishing fleets are notified of commencement of licensed activities pursuant to condition and to address the interaction of the licensed activities with fishing activities; - measures to minimise disturbance to marine mammals and rafting birds from vessels; and - measures to minimise the potential spread of invasive non-native species, including adherance to IMO ballast water management guidelines.	DCO Schedule 14 (Marine Licence 1: Morgan Offshore Wind Project Transmission Assets). Part 2 - Condition18(1)(f) (Pre-construction plans and documentation) and DCO Schedule 15 (Marine Licence 2: Morecambe Offshore Wind Farm Transmission Assets), Part 2 - Condition18(1)(f) (Pre-construction plans and documentation).
CoT66	A Safety Zone Statement has been submitted as part of the application for development consent. Advisory exclusion zones of 500 m will be applied during construction and maintenance. Where defined by risk assessment, guard vessels will also be used to ensure adherence with Safety Zones or advisory passing distances to mitigate impacts which pose a risk to surface navigation.	DCO Schedule 14 (Marine Licence 1: Morgan Offshore Wind Project Transmission Assets) Part 2 - Condition18(1)(f)(iv) (Pre-construction plans and documentation) and DCO Schedule 15 (Marine Licence 2: Morecambe Offshore Wind Farm Transmission Assets), Part 2 - Condition18(1)(f)(iv) (Pre-construction plans and documentation).

Commitment number	Measure adopted	How the measure will be secured
CoT71	An Outline Offshore Operation and Maintenance Plan has been prepared and submitted as part of the application for development consent. Detailed Offshore Operation and Maintenance Plan(s) will be produced prior to entering the operation and maintenance phase.	DCO Schedule 14 (Marine Licence 1: Morgan Offshore Wind Project Transmission Assets). Part 2 - Condition11(3) (Maintenance of the authorised scheme) and DCO Schedule 15 (Marine Licence 2: Morecambe Offshore Wind Farm Transmission Assets), Part 2 - Condition11(3) (Maintenance of the authorised scheme).
CoT112	Advance warning will be provided via Notice to Mariners to ensure that the appropriate authorities are informed of offshore construction, operation and maintenance, and decommissioning activities. Copies of all notices must be provided to the MMO, MCA and UKHO as well as other interested parties, as appropriate.	DCO Schedule 14 (Marine Licence 1: Morgan Offshore Wind Project Transmission Assets). Part 2 – Condition 14(8-9) (Notifications and inspections) and DCO Schedule 15 (Marine Licence 2: Morecambe Offshore Wind Farm Transmission Assets), Part 2 - Condition 14(8-9) (Notifications and inspections).

6.9 Key parameters for assessment

6.9.1 Maximum design scenario

6.9.1.1 The MDS identified in **Table 6.11** have been selected from Scenario 3: Sequential construction, which has the potential to result in the greatest effect (i.e. longest duration) on an identified receptor or receptor group. These scenarios have been selected from the Project Design Envelope provided in Volume 1, Chapter 3: Project description of the ES. Effects of greater adverse significance are not predicted to arise should any other development scenario, based on details within the Project Design Envelope (e.g., different infrastructure layout), to that assessed here be taken forward in the final design.

6.9.1.2 The MDSs in **Table 6.11** and assessment of effects in **section 6.11** considers the relevant construction scenario (i.e. sequential or concurrent) that equate to the MDS for that impact pathway. The MDS for the sequential construction scenario (i.e. site preparation and construction will take place over a maximum of 30 months, noting a possible gap between completion of construction for the first project and commencement of construction for the second project) equates to the greatest time over which impacts to commercial fisheries may occur. The MDS for the concurrent construction scenario (i.e. site preparation and construction will take place at the same time over a maximum of 21 months) equates to the maximum amount of impact to commercial fisheries at one time (e.g. maximum amount of vessels onsite at any one time). It should, however, be noted that the total magnitude of each impact is the same for both the concurrent and sequential scenarios.

Table 6.11: Maximum design scenario considered for the assessment of impacts

Impact	Phase[a]			Maximum Design Scenario	Justification
	C	O	D		
Loss or restricted access to fishing grounds	✓	✓	✓	**Construction phase** For loss or restricted access to fishing grounds, the MDS is for activities to be carried out sequentially over a 30 month site preparation and construction scenario: • Duration: Elements of offshore sequential construction including site preparation (e.g. boulder and sandwave clearance) relevant to the Transmission Assets and commercial fisheries will take place over a period of up to 30 months, with a possible gap between the completion for the first project and commencement of construction for the second project. It is assumed that fishing would be able to continue during any gap between the construction phases for the projects. During periods of construction, fishing activity will only be excluded from discrete spatial areas (i.e. only parts of the Offshore Order Limits will be subject to temporary restrictions where construction is taking place). • Advisory exclusion zones: To minimise the duration for which the offshore export cable corridors will be closed to vessels during construction, it is proposed that advisory exclusion zones of 500 m will be present around vessels installing subtidal export cables. The loss or restricted access to fishing grounds created by such advisory exclusion zones will be gradual as the presence of infrastructure increases. Temporary restrictions to fishing activity and/or anchoring, will also be required in areas where full cable burial to target depth has not yet been achieved and/or surface-laid cable exists (prior to cover by external cable protection). In such areas of temporarily shallow-buried/surface-laid cable, the restricted areas will be monitored by Guard Vessels. • Up to a total of 30 installation vessels on site at any one-time during construction (19 for the Morgan Offshore Wind Project and 11 for the Morecambe Offshore Windfarm).	Maximum duration and extent of fishing exclusion, and therefore the greatest potential to restrict access to fishing grounds. The MDS identified has been selected from Scenario 3: Sequential construction, which has the greatest effect (i.e. longest duration) on an identified receptor or receptor group.

Impact	Phase[a]			Maximum Design Scenario	Justification
	C	O	D		
				• Up to 286 installation vessel movements (return trips) (per year) during construction (226 for the Morgan Offshore Wind Project and 60 for the Morecambe Offshore Windfarm). • During the construction phase the loss or restricted access to fishing grounds will be gradual, as the presence of infrastructure increases; reaching the MDS, outlined below, in the operation and maintenance phase. The MDS in terms of the presence of infrastructure would be on the completion of construction, during the operation and maintenance phase. • Existing disused/out of service cable removal: up to 28 km.	
Loss or restricted access to fishing grounds	✓	✓	✓	**Operation and maintenance phase** Operation duration: up to 35 years. Export cable: • Up to 400 km of export cables for the Morgan Offshore Wind Project buried (where possible) to a minimum depth of 0.5 m. • Up to 84 km of export cables for the Morecambe Offshore Windfarm buried (where possible) to a minimum depth of 0.5 m. Export cable protection: • Up to 40 km (10% of total length) of export cables for the Morgan Offshore Wind Project may require cable protection (articulated pipe, rock dump or mattressing) up to a height of 2 m and a width of 10 m. • Up to 8.4 km (10% of total length) of export cables for the Moremcabme Offshore Windfarm may require cable protection (articulated pipe, rock dump or mattressing) up to a height of 2 m and a width of 10 m. Export cable crossings: • 45 crossings for the Morgan Offshore Wind Project with concrete mattresses/frond mattress/rock berm, maximum dimensions – 2.8 m height x 200 m length x 30 m width.	The Transmission Assets fisheries mitigation and management measures and how they may facilitate co-existence during the operation and maintenance phase are outlined within **Table 6.10** and are committed to within the outline FLCP (document reference J13). Full details of all commitments are provided in Volume 1, Annex 5.3: Commitments Register of the ES (document reference F1.5.3).

Impact	Phase[a]			Maximum Design Scenario	Justification
	C	O	D		
				• 6 crossings for Morecambe Offshore Windfarm ith concrete mattresses/frond mattress/rock berm, maximum dimensions – 2.8 m height x 200 m length x 30 m width. • Advisory exclusion zones: 500 m around any vessel involved in major maintenance works. • Up to a total of 14 operation and maintenance vessels on site at any one time: – Up to 8 for the Morgan Offshore Wind Project (two CTVs/workboats, one jack-up vessels, one cable repair vessels, two other vessels and two excavators/backhoe dredgers). – Up to six for the Morecambe Offshore Wind farm (two CTVs/workboats, one jack-up vessels, one cable repair vessels, one other vessels and one excavators/backhoe dredgers). • Up to 77 operation and maintenance vessel movements (return trips) each year: – Up to 52 for the Morgan Offshore Wind Project. – Up to 25 for the Morecambe Offshore Windfarm. • Subtidal Export cable repair: – Up to 14 subtidal cable repair events totalling up to 56 km of subtidal cable repair over lifetime of the Morgan Offshore Wind Project. – Up to 7 subtidal cable repair events totalling up to 28 km subtidal repair over the lifetime of the Morecambe Offshore Windfarm. • Intertidal export cable repair: – Up to 4 intertidal cable repair events totalling 4 km over the lifetime of the Morgan Offshore Wind Project. – Up to 4 intertidal cable repair events totalling 9.6 km over the Morecambe Offshore Windfarm. • Subtidal cable reburial:	

Impact	Phase[a]			Maximum Design Scenario	Justification
	C	O	D		
				– Up to 7 subtidal cable reburial events (16 km per event) totalling up to 112 km over the lifetime of the Morgan Offshore Wind Project. – Up to 7 subtidal cable reburial events (3.4 km per event) totalling up to 23.8 km over the lifetime of the Morecambe Offshore Windfarm. • Intertidal cable reburial: – Up to 28 intertidal cable reburial events totalling up to 7 km over the lifetime of the Morgan Offshore Wind Project. – Up to 14 intertidal cable reburial events totalling up to 3.5 km over the Morecambe Offshore Windfarm. **Decommissioning phase** • The current preferred approach to the offshore export cables is that they would be left in situ; however, a future scenario could exist where they may be retrieved and, if retrieved, would be disposed of, or recycled, in line with latest relevant legislation and guidance at the time. It is preferable that cable protection outside of the Fylde MCZ (e.g. cable ducting, rock dump/armour, mattresses, etc) be left in situ. • In the absence of detailed methodologies and schedules, decommissioning works and associated implications for commercial fisheries are considered analogous with those assessed for the operation and maintenance phase.	
Displacement of fishing activity into other areas	✓	✓	✓	**Construction phase** Refer to 'Loss or restricted access to fishing grounds' section of this table. **Operation and maintenance phase** Refer to 'Loss or restricted access to fishing grounds' section of this table. **Decommissioning phase** Refer to 'Loss or restricted access to fishing grounds' section of this table.	Maximum duration and extent of fishing exclusion, and hence the greatest potential for gear conflict and increased pressure on adjacent grounds.

Impact	Phase[a]			Maximum Design Scenario	Justification
	C	O	D		
Loss or damage to gear due to snagging	✓	✓	✓	**Construction phase** Refer to 'Loss or restricted access to fishing grounds' section of this table. **Operation and maintenance phase** Refer to 'Loss or restricted access to fishing grounds' section of this table. **Decommissioning phase** Refer to 'Loss or restricted access to fishing grounds' section of this table.	Maximum duration and extent of seabed obstructions and therefore the maximum potential for interactions between infrastructure and fishing gear.
Potential impacts on commercially important fish and shellfish resources	✓	✓	✓	See the MDS presented in Volume 2, Chapter 3: Fish and shellfish ecology of the ES.	The MDS presented in Volume 2, Chapter 3: Fish and shellfish ecology of the ES provide for the greatest disturbance to fish and shellfish species, and therefore the resulting effect to commercial fisheries. This considers impacts as a whole on commercially important species, rather than any one impact in particular.
Supply chain opportunities for local fishing vessels	✓	✓	✓	**Construction phase** • Duration: Sequential construction scenario (including site preparation) of up to 30 months for the offshore export cables, noting a possible gap between completion of construction of the Transmission Assets for the first project and commencement of construction for the second project. • Likely number of guard vessels onsite at one time (subtidal export cable): – One for the Morgan Offshore Wind Project – One for the Morecambe Offshore Windfarm • Potential provision of fishing vessel for visual checks of project infrastructure. • Potential provision of fishing vessel for scouting surveys.	Potential opportunities for local fishing vessels (potential beneficial impact for commercial fishing vessels).

Impact	Phase[a]			Maximum Design Scenario	Justification
	C	O	D		
				• Potential for OFLO duties. **Operation and maintenance phase** • There may be opportunities for commercial fishing vessels to provide marine operation support during the operation and maintenance phase (up to 35 years) of the Transmission Assets, such as OFLO duties during period of major maintenance and guard vessel requirements. **Decommissioning phase** • In the absence of detailed methodologies, the supply chain opportunities for local fishing vessels are considered the same as for the construction phase.	

[a] C=construction, O=operation and maintenance, D=decommissioning

6.10 Assessment methodology

6.10.1 Overview

6.10.1.1 The approach to determining the significance of effects is a two-stage process that involves defining the magnitude of the impact and the sensitivity of the receptor. This section describes the criteria applied in this chapter to assign values to the magnitude of impacts and the sensitivity of the receptors. The terms used to define magnitude and sensitivity are based on those which are described in further detail in Volume 1, Chapter 5: Environmental assessment methodology of the ES and guidance documents outlined in **section 6.2.2.**

6.10.2 Receptor sensitivity/value

6.10.2.1 The criteria for defining sensitivity in this chapter are outlined in **Table 6.12** below.

Table 6.12: Sensitivity criteria

Sensitivity	Definition
High	Very low spatial adaptability due to limited operational range and/or very low ability to deploy more than one gear type. Very limited spatial tolerance due to dependence upon a single ground. Very low recoverability due to inability to mitigate loss of fishing area by operating in alternative areas.
Medium	Limited spatial adaptability due to extent of operational range and/or limited ability to deploy an alternative gear type. Limited spatial tolerance due to dependence upon a limited number of fishing grounds. Limited recoverability with some ability to mitigate loss of fishing area by operating in alternative areas.
Low	Moderate spatial adaptability due to extensive operational range and/or moderate ability to deploy an alternative gear type. Moderate spatial tolerance due to ability to fish numerous fishing grounds. Moderate recoverability due to ability to mitigate loss of fishing area by operating in a range of alternative areas of the Irish Sea.
Negligible	Category of fishing receptor with an extensive operational range and high method versatility. Vessel able to exploit a large number of fisheries.

6.10.3 Magnitude of impact

6.10.3.1 The criteria for defining magnitude in this chapter are outlined in **Table 6.13** below.

6.10.3.2 It should be noted that beneficial impacts as a result of the Transmission Assets are also possible. In such a case, the same definitions would apply as for adverse, albeit in reverse (e.g. the impact would affect an area from which a minor proportion (5-10%) of a commercial fishing receptor's annual value of

landings is caught and/or would lead to a 5-10% increase in annual value of landings).

Table 6.13: Magnitude of impact criteria

Magnitude of impact		Definition
High	Adverse	The effect would be permanent/irreplaceable change and is likely to occur.
		The impact would permanently affect an area from which the majority (>50%) of a commercial fishing receptor's annual value of landings is caught and/or would lead to a >50% reduction in annual value of landings.
	Beneficial	The effect would be permanent/irreplaceable change and is likely to occur.
		The impact would permanently affect an area from which the majority (>50%) of a commercial fishing receptor's annual value of landings is caught and/or would lead to a >50% increase in annual value of landings.
Medium	Adverse	The effect would be long-term (e.g. greater than five years) though reversible, and is likely to occur.
		The impact would affect an area from which a moderate proportion (11-50%) of a commercial fishing receptor's annual value of landings is caught and/or would lead to a 11-50% reduction in annual value of landings.
	Beneficial	The effect would be long-term (e.g. greater than five years) though reversible, and is likely to occur.
		The impact would affect an area from which a moderate proportion (11-50%) of a commercial fishing receptor's annual value of landings is caught and/or would lead to a 11-50% increase in annual value of landings.
Low	Adverse	The effect would be short to medium term (e.g. up to five years) through reversible and could possibly occur.
		The impact would affect an area from which a minor proportion (5-10%) of a commercial fishing receptor's annual value of landings is caught and/or would lead to a 5-10% reduction in annual value of landings.
	Beneficial	The effect would be short to medium term (e.g. up to five years) through reversible and could possibly occur.
		The impact would affect an area from which a minor proportion (5-10%) of a commercial fishing receptor's annual value of landings is caught and/or would lead to a 5-10% increase in annual value of landings.
Negligible	Adverse	The effect would be short-term (e.g. up to one year), intermittent and reversible and unlikely to occur.
		The impact would affect an area from which a very small proportion (<5%) of a commercial fishing receptor's annual value of landings is caught and/or would lead to a <5% reduction in annual value of landings.
	Beneficial	The effect would be short-term (e.g. up to one year), intermittent and reversible and unlikely to occur.
		The impact would affect an area from which a very small proportion (<5%) of a commercial fishing receptor's annual value of landings is caught and/or would lead to a <5% increase in annual value of landings.
No change		No loss or alteration of characteristics, features or elements; no observable impact either adverse or beneficial.

6.10.4 Significance of effect

6.10.4.1 The significance of the effect upon commercial fisheries has been determined by taking into account the sensitivity of the receptor and the magnitude of the impact. The method employed for this assessment is presented in **Table 6.14**. Where a range of significance levels is presented, the final assessment for each effect is based upon expert judgement.

6.10.4.2 In all cases, the evaluation of receptor sensitivity, impact magnitude and significance of effect has been informed by professional judgement and is underpinned by narrative to explain the conclusions reached.

6.10.4.3 For the purpose of this assessment, any effects with a significance level of minor or less are not considered to be significant in terms of the EIA Regulations.

6.10.4.4 Where impacts fall within a range of 'minor or moderate' within **Table 6.14**, the final assessment of significance in EIA terms has been made based on the understanding of the receptor.

Table 6.14: Assessment matrix

Sensitivity of receptor	Magnitude of impact			
	Negligible	**Low**	**Medium**	**High**
Negligible	Negligible	Negligible or Minor	Negligible or Minor	Minor
Low	Negligible or Minor	Negligible or Minor	Minor	Minor or Moderate
Medium	Negligible or Minor	Minor	Moderate	Moderate or Major
High	Minor	Minor or Moderate	Moderate or Major	Major

6.10.4.5 Where the magnitude of impact is 'no change', no effect would arise.

6.10.4.6 The definitions for significance of effect levels are described as follows.

- Major: These beneficial or adverse effects are considered to be very important considerations and are likely to be material in the decision-making process. These effects are generally, but not exclusively, associated with sites or features of international, national or regional importance that are likely to suffer a most damaging impact and loss of resource integrity. However, a major change in a site or feature of local importance may also enter this category.
- Moderate: These beneficial or adverse effects have the potential to be important and may influence the key decision-making process. The cumulative effects of such factors may influence decision-making if they lead to an increase in the overall adverse or beneficial effect on a particular resource or receptor.
- Minor: These beneficial or adverse effects are generally, but not exclusively, raised as local factors. They are unlikely to be critical in the decision-making process but are important in enhancing the subsequent design of the project.

- Negligible: No effects or those that are beneath levels of perception, within normal bounds of variation or within the margin of forecasting error.

6.10.4.7 Secondary mitigation will be applied (where possible) for impacts that are of moderate or major significance.

6.10.5 Assumptions and limitations of the assessment

6.10.5.1 It is acknowledged that there are a range of assumptions and limitations of the datasets used within this chapter, as discussed in detail within Volume 2, Annex 6.1: Commercial fisheries technical report of the ES (document reference F2.6.1). For example, landings data are limited by the data being collected from ICES rectangles, which is a relatively large area in which fishing intensity can vary. VMS data will not capture vessels <15 m (MMO dataset) and <12 m (ICES dataset), so inshore fishing activity is likely to be under-represented in these datasets.

6.10.5.2 Consultation has previously been held with fisheries stakeholders (see **section 6.11**) to develop further understanding of fishing activity within the study area, particularly where there is a lack of data availability. The Cefas data, site specific marine traffic and scouting surveys have also been used to inform the existing environment and support official data sources. Data from the Cefas study are purely indicative in nature but have been used to supplement the VMS data which does not capture the spatial activity of smaller fishing vessels.

6.10.5.3 Efforts have been made to agree the data sources with relevant fisheries stakeholders, particularly where there are limitations. Data sources were presented to fisheries stakeholders and were discussed during consultation. For example, with regard to the VMS data, it was concluded that official data sources generally align with fisheries stakeholders' understanding of fishing patterns, but it was noted and agreed that inshore fishing is likely to be under-represented by these data.

6.10.5.4 The conclusions of this commercial fisheries assessment are constrained by these assumptions and limitations; however, they do not cause significant uncertainty or unreliability within the assessment, due to being supplemented with stakeholder feedback and site specific data.

6.11 Assessment of effects

6.11.1 Introduction

6.11.1.1 The potential impacts of the construction, operation and maintenance, and decommissioning phases of the Transmission Assets have been assessed. The potential impacts arising from these different phases of the Transmission Assets are listed in **Table 6.11**, along with the MDS against which each impact has been assessed.

6.11.1.2 A description of the likely effect on receptors caused by each identified impact is provided below. Due to the seasonality of activities of the different

fishing fleets, the impacts are presumed to occur during the peak activity periods for each receptor group.

6.11.2 Loss or restricted access to fishing grounds

6.11.2.1 The construction, operation and maintenance, and decommissioning phases of the Transmission Assets may lead to loss or restricted access to fishing grounds.

6.11.2.2 The MDS is represented by the maximum number of advisory exclusion zones around installation vessels during construction and decommissioning, and by the maximum amount of offshore export cable protection and cable crossings during the operation and maintenance phase, plus any additional, temporary advisory exclusion zones around vessels undertaking major maintenance works.

Construction phase

6.11.2.3 During construction of the Transmission Assets, it is proposed that temporary 500 m advisory exclusion zones will be present around vessels installing offshore export cables to minimise the duration for which the offshore export cable corridors will be closed to commercial fishing vessels during construction. The loss of, or restricted access to fishing grounds created by such advisory exclusion zones will be gradual as the presence of infrastructure increases. Temporary restrictions to fishing activity and/or anchoring, will also be required in areas where full cable burial to target depth has not yet been achieved and/or surface-laid cable exists (prior to cover by external cable protection). In such areas of temporarily shallow-buried/surface-laid cable, the restricted areas will be monitored by guard vessels (CoT66) (as outlined within **Table 6.10** with further details provided in the Safety Zone Statement, document reference J33).

6.11.2.4 Construction of the Transmission Assets will also involve seabed preparation activities for subtidal export cables, comprising sandwave and boulder clearance throughout the Offshore Order Limits.

6.11.2.5 Elements of offshore sequential construction relevant to the Transmission Assets and commercial fisheries will take place over a period of up to 30 months (site preparation and construction activities), with a possible gap between the completion for the first project and commencement of construction for the second project. It is assumed that fishing would be able to continue during any gap between the construction phases for the projects. The interaction between construction activities of the Transmission Assets and the Generation Assets are discussed in the Cumulative Effects Assessment (**section 6.13**).

6.11.2.6 Although receptor groups are active within the Offshore Order Limits, fishing activity will only be excluded from discrete spatial areas (i.e. only discrete sections of the Offshore Order Limits will be subject to temporary restrictions at any one time, via temporary 500 m advisory exclusion zones around major offshore export cable installation vessels).

Sensitivity of the receptor

Inshore static gear vessels

6.11.2.7 The potential area from which this receptor group will have reduced access is relatively small (i.e. minimising the duration for which the offshore export cable corridors will be closed to vessels during construction via advisory exclusion zones of 500 m around vessels undertaking installation within the inshore section of the Offshore Order Limits). However, this receptor group generally constitutes smaller vessels (<12 m) that deploy static gear, and although these vessels have some ability to deploy alternative gear, this is relatively limited, as is their spatial adaptability.

6.11.2.8 Inshore static gear vessels are deemed to be of limited spatial adaptability, limited spatial tolerance and limited recoverability. The sensitivity of the receptor is therefore, considered to be **medium**.

Offshore static gear vessels

6.11.2.9 This commercial fisheries receptor comprises larger offshore vessels (>12 m) that deploy static gear within the wider part of the Irish Sea than inshore static gear vessels. VMS data identified that these vessels have been observed within various areas of the study area and are occasionally active at relatively low levels along the Offshore Order Limits. This receptor group has the ability to fish a wider area than any areas they may be temporarily excluded from during construction works.

6.11.2.10 Offshore static gear vessels are deemed to be of high spatial adaptability, moderate spatial tolerance and moderate recoverability. The sensitivity of the receptor is, therefore, considered to be **low**.

Beam trawl vessels

6.11.2.11 This commercial fisheries receptor group generally constitutes larger beam trawl vessels (>12 m) from Belgium and the south coast of England that are active within the study area. The baseline review process established that only the south coast vessels operate within the Offshore Order Limits, at a relatively low level, and generally only within the north east section during the Spring period. Despite effort within the north east section being observed to a relatively low degree, this activity occurs relatively consistently throughout the study period (2009 to 2020). This receptor group has the ability to fish numerous grounds within the wider Irish Sea and beyond.

6.11.2.12 Beam trawl vessels are deemed to be of limited adaptability and tolerance with high recoverability. The sensitivity of the receptor is, therefore, considered to be **negligible**.

Scallop vessels – Scottish west coast

6.11.2.13 This commercial fisheries receptor group generally consists of larger vessels (>12 m) from the Scottish west coast, deploying dredge gear and targeting queen and king scallop. Although vessels within this group exhibit a relatively high operational range, their spatial tolerance in this part of the Irish Sea is

limited due to their reliance on the northwest section of the Offshore Order Limits for queen scallop dredging (**Table 6.3**). Additionally, Scottish west coast scallop vessels have limited ability to deploy alternative gear. However, while the western section is important to this receptor group, the nomadic fleet also operate in other areas of the Irish Sea and beyond.

6.11.2.14 Scottish west coast scallop vessels are deemed to be of limited spatial adaptability, limited spatial tolerance and limited recoverability. The sensitivity of the receptor is therefore, considered to be **medium**.

Scallop vessels – Isle of Man

6.11.2.15 Within the study area, according to landing statistics during the study period (2012 to 2022) (Volume 2, Annex 6.1: Commercial fisheries technical report of the ES, document reference F2.6.1), this receptor group almost exclusively operates out of ICES Rectangles 37E5 and 36E5, with effort recorded within the north most section of the Offshore Order Limits. Dependence on the commercial fisheries study area can be observed (and confirmed via consultation) for Isle of Man vessels targeting queen scallop (while deploying dredges and otter trawls within Manx Territorial Waters) and king scallop (while deploying dredges within Manx Territorial Waters and areas beyond in UK waters). This receptor group, therefore, exhibits limited spatial adaptability and limited spatial tolerance. It has also been established that vessels within this receptor group possess a limited ability to deploy alternative gear.

6.11.2.16 It is noted, however, that the Isle of Man Government administers a robust Scallop Long-Term Management Plan (LTMP) within its territorial waters. The fishery is highly regulated and, whilst access is non-discriminatory by way of nationality or home port, eligibility to participate is determined on the basis of a number of factors including historic track record and vessel characteristics.

6.11.2.17 Isle of Man scallop vessels have limited spatial adaptability, limited spatial tolerance and limited recoverability. The sensitivity of the receptor is therefore, considered to be **medium**.

Other scallop vessels

6.11.2.18 This receptor group comprises nomadic scallop vessels, that are often observed transiting through the Offshore Order Limits to other parts of the wider Irish Sea. The receptor group exhibits an extensive operational range and is able to mitigate loss or restricted access to fishing grounds through its spatial tolerance.

6.11.2.19 Other scallop vessels are deemed to be of high spatial adaptability, high spatial tolerance and high recoverability. The sensitivity of this receptor is, therefore, considered **negligible**.

Herring vessels

6.11.2.20 This receptor group comprises vessels from England and Northern Ireland, that target herring through deploying pelagic trawls and seines. Within the study area, this fishery almost exclusively operates out of ICES Rectangle

37E5, in which a relatively small, north west section of the Offshore Order Limits is positioned. The fishery runs from August to September annually (**Diagram 6.4**), when the herring start to aggregate prior to spawning (Duncan and Emmerson, 2018). This receptor group operates within the study area for only a relatively short duration and is likely to operate across numerous other fishing grounds throughout the remainder of the year. The receptor group exhibits an extensive operational range and possesses an ability to target other pelagic species through deployment of alternative gear. This is likely to mitigate loss or restricted access to fishing grounds during construction of the Transmission Assets.

6.11.2.21 Herring vessels are deemed to be of high spatial adaptability, moderate spatial tolerance, and high recoverability. The sensitivity of this receptor is, therefore, considered to be **low**.

Magnitude of impact

Inshore static gear vessels

6.11.2.22 Inshore static gear vessels are active within the inshore region of the study area and the Offshore Order Limits, with feedback establishing these are predominantly English vessels targeting whelk, lobster and crab, operating out of local ports such as Fleetwood. Limited spatial activity data is available for this receptor group; however, Cefas data indicates relatively low static gear activity across the entire inshore section of the Offshore Order Limits (0 to 12 nm), with no activity observed within the offshore section. Construction works within the Offshore Order Limits beyond the 12 nm limit will therefore not affect this receptor. Therefore, actual disruption via construction activity will be more limited.

6.11.2.23 Due to the commitment to minimise the duration for which the offshore export cable corridors will be closed to vessels during construction (CoT66 with further details provided in **Table 6.10** and the Outline Safety Zone Statement submitted with the application, document reference J33), a relatively low proportion of this receptor's annual landings may be affected. Some studies suggest there may be potential benefits to lobster fisheries from temporary closures of selected areas during construction (Roach *et al*., 2015).

6.11.2.24 It is noted, however, that vessels within this receptor group would likely be required to temporarily remove their gear from areas where installation works were being undertaken, and either relocate to other areas offshore or bring to shore, depending on available grounds and fishing preferences.

6.11.2.25 The limited area and period of exclusion is assessed as resulting in a loss of between <5% of the annual value of landings, for vessels within this receptor group.

6.11.2.26 In light of the above, the impact is predicted to be of local spatial extent, short to medium term duration (i.e. sequential construction scenario of up to 30 months for the offshore export cables with possible gap between construction), intermittent, and with high reversibility due the temporary nature of the works. It is predicted the impact will affect the receptor directly, but be of negligible magnitude, as it is judged construction would only affect

an area from which a minor proportion of the receptor group's commercial annual value of landings is caught. The magnitude of impact is, therefore, considered to be **negligible**.

Offshore static gear vessels

6.11.2.27 Offshore static gear vessels are active across the study area, including the area where the Offshore Order Limits is located. Consultation has established these are predominantly English vessels targeting crab and whelk. VMS data indicates there is a large spatial extent of fishing effort by offshore static gear vessels (>15 m vessels) within the study area. VMS data also indicates that highest concentrations of static gear activity (>15 m vessels) were generally located to the north and south of the Offshore Order Limits, between 2016 to 2020.

6.11.2.28 This receptor group will be affected by construction works within the Offshore Order Limits. Elements of offshore sequential construction relevant to the Transmission Assets and commercial fisheries will take place over a period of up to 30 months (site preparation and construction activities), with a possible gap between the completion for the first project and commencement of construction for the second project. It is assumed that fishing would be able to continue during any gap between the construction phases for the projects.

6.11.2.29 Due to the commitment to minimise the duration for which the offshore export cable corridors will be closed to vessels during construction (CoT66, with further details provided in **Table 6.10** and the Outline Safety Zone Statement submitted with the application, document reference J33) a relatively low proportion of this receptor's annual landings may be affected. The area of exclusion during construction works is, therefore, assessed as representing between <5% of the annual value of landings for vessels in this receptor group.

6.11.2.30 In light of the above, the impact is predicted to be of local spatial extent, short to medium term duration (i.e. i.e. sequential construction scenario of up to 30 months for the offshore export cables with possible gap between construction) and intermittent, and with high reversibility due to the temporary nature of the works. It is predicted the impact will affect the receptor directly, but be of negligible magnitude, as it is judged that construction would only affect an area from which a very small proportion of the receptor group's commercial annual value of landings is caught. The magnitude of impact for this receptor is, therefore, considered to be **negligible**.

Beam trawl vessels

6.11.2.31 Consultation has established that approximately one English and approximately six Belgian beam trawl vessels operate within the study area. Only the English beam trawl vessel operates within the Offshore Order Limits, at a relatively low level and generally only within the north east section of the Offshore Order Limits during the Spring period. Whilst operating within the study area, the Belgian beam trawl vessels mostly trawl north east of the Offshore Order Limits predominantly targeting sole and plaice. All of these vessels fish within the wider Irish Sea, and not only within the study area, highlighting their nomadic nature.

6.11.2.32 Loss of, or restricted access to, fishing grounds during the construction phase is, therefore, assessed to have a predicted loss of <5% of this receptor's annual value of landings.

6.11.2.33 In light of the above, the impact is predicted to be of local spatial extent, short to medium term duration (i.e. sequential construction scenario of up to 30 months for the offshore export cables with possible gap between construction), intermittent, and with high reversibility due to the temporary nature of the works. It is predicted the impact will affect the receptor directly, but be of negligible magnitude, as it is judged construction would only affect an area from which a very small proportion of the receptor group's commercial annual value of landings is caught. The magnitude of impact for this receptor is, therefore, considered to be **negligible**.

Scallop vessels – Scottish west coast

6.11.2.34 Landing statistics indicate the study area was important to Scottish west coast scallopers during the period 2012 to 2022, with 11 scallop vessels based in Annan, Ballantrae and Kirkcudbright active. Consultation with stakeholders (SFF, SWFPA and WCSP) established the north west section of the Offshore Order Limits (i.e. western section of the Morgan Generation Assets) is considered to be the most important ground; with August to December being particularly important months. These vessels also target king scallop within this area, with November to May being a key period within the year.

6.11.2.35 During the construction phase, fishing activity will also only be excluded from discrete spatial areas (i.e. only sections of the Offshore Order Limits will be subject to temporary restrictions, via temporary 500 m advisory exclusion zones around major subtidal export cable installation vessels). This limited area of exclusion for fishing activity is assessed as resulting in a loss of <5% of the annual value of landings for vessels in this receptor group.

6.11.2.36 In light of the above, the impact is predicted to be of local spatial extent, short to medium term duration (i.e. sequential construction scenario of up to 30 months for the offshore export cables with possible gap between construction), intermittent, and with high reversibility due to the temporary nature of the works. It is predicted the impact will affect the receptor directly, but be of negligible magnitude, as it is judged that construction would only affect an area from which a minor proportion of the receptor group's

commercial annual value of landings is caught. The magnitude of impact for this receptor is, therefore, considered to be **negligible**.

Scallop vessels – Isle of Man

6.11.2.37 Feedback from consultation has established that, at the time of writing, there are 55 vessels licenced to fish for king scallop in Isle of Man waters (29 of which are Isle of Man registered vessels) and 36 that can fish for queen scallops (25 of which are Isle of Man registered vessels). Due to the size and capacity of the Manx vessels, it is expected that the majority of these vessels will not fish beyond the Manx 12 nm. The majority of these vessels have a licence for both king and queen scallop.

6.11.2.38 Fisheries monitoring has recorded 2 Manx vessels large enough to fish outside of the Manx territorial sea. Consultation with stakeholders has established Isle of Man vessels that operate beyond the Manx 12 nm limit generally deploy Newhaven dredges to target king scallop. Landing statistics (2012 to 2022) indicate Isle of Man scallop vessels almost exclusively operate within ICES Rectangle 37E5, with effort in 36E5 recorded to a lesser degree, however activity only relates to small areas in the north west most section of the Offshore Order Limits (and northern section of the Morgan Generation Assets). King scallop (dredge) swept area (km^2) data (2017 to 2023) (inclusive of all dredge vessels licenced to fish for king scallop in Isle of Man waters), provided by the Isle of Government, indicate that although highest levels of activity can generally be observed within the Isle of Man 12 nm limit and to the west of the Offshore Order Limits, relatively high levels of activity can also be observed to overlap with the north west part of the Offshore Order Limits.

6.11.2.39 When considering the above, and the fact that fishing activity for this receptor would also only be excluded from discrete spatial areas during the construction phase (i.e. only sections of the Offshore Order Limits will be subject to temporary restrictions, via temporary 500 m advisory exclusion zones around major subtidal export cable installation vessels), loss or restricted access to fishing grounds is assessed as representing between <5% of the annual value of landings for vessels within this receptor group.

6.11.2.40 In light of the above, the impact is predicted to be of local spatial extent, short to medium term duration (i.e. sequential construction scenario of up to 30 months for the offshore export cables with possible gap between construction), intermittent, and with high reversibility due to the temporary nature of the works. It is predicted the impact will affect the receptor directly, but be of negligible magnitude, as it is judged construction would only affect an area from which a very small proportion of the receptor group's commercial annual value of landings is caught. The magnitude of impact for this receptor is, therefore, considered to be **negligible**.

Other scallop vessels

6.11.2.41 Feedback, via consultation with fisheries stakeholders and analyses of official datasets, indicate that this receptor group predominantly constitutes vessels from the Republic of Ireland and Northern Ireland, plus a small number of more nomadic vessels from Wales and South West England. While landing statistics indicate the relative importance of scallop within the study area, remote monitoring has established that these vessels are highly nomadic, often passing through the Offshore Order Limits in transit to fish other areas of the Irish Sea. These vessels also target scallop across a relatively wide area offshore.

6.11.2.42 During the construction phase, fishing activity will also only be excluded from discrete spatial areas. Loss or restricted access to fishing grounds during construction is, therefore, assessed as representing <5% of the annual value of landings for this receptor group.

6.11.2.43 In light of the above, the impact is predicted to be of local spatial extent, short to medium term duration (i.e. sequential construction scenario of up to 30 months for the offshore export cables with possible gap between construction), intermittent, and with high reversibility due to the temporary nature of the works. It is predicted the impact will affect the receptor directly, but be of negligible magnitude, as it is judged construction would only affect an area from which a very small proportion of the receptor group's commercial annual value of landings is caught. The magnitude of impact for this receptor is, therefore, considered to be **negligible**.

Herring vessels

6.11.2.44 Feedback via consultation has established that at the time of writing, the herring fishery in the region is comprised of three pelagic trawlers from Northern Ireland and two from England. Landings statistics indicate that within the study area, this receptor group almost exclusively operates within ICES Rectangle 37E5, in which a relatively small, north west section of the Offshore Order Limits is located. The Douglas Bank herring fishery, positioned within ICES Rectangle 37E5, overlaps with the north west section of the Offshore Order Limits; and is subject to annual closure between 21 September and 15 November. Landings statistics indicate that August and September are the most important months for the herring fishery.

6.11.2.45 During the construction phase, fishing activity will also only be excluded from discrete spatial areas (i.e. only sections of the Offshore Order Limits will be subject to temporary restrictions, via temporary 500 m advisory exclusion zones around major installation vessels).

6.11.2.46 While considering the above, the extent of the Offshore Order Limits positioned within ICES Rectangle 37E5, and the relatively short time period in which this fishery is active (August to September) within the study area, loss or restricted access to fishing grounds during construction is assessed as representing <5% of the annual value of landings for this receptor group.

6.11.2.47 The impact is predicted to be of local spatial extent, short to medium term duration (i.e. sequential construction scenario of up to 30 months for the

offshore export cables with possible gap between construction), intermittent, and with high reversibility due to the temporary nature of the works. It is predicted that the impact will affect the receptor directly, but be of negligible magnitude, as it is judged construction would only affect an area from which a very small proportion of the receptor group's annual value of landings is caught. The magnitude of impact for this receptor is, therefore, considered to be **negligible**.

Significance of the effect

6.11.2.48 A summary of the sensitivity of receptors, impact magnitude and overall effect significance (all of which are not significant in EIA terms) is provided in **Table 6.15**.

Table 6.15: Sensitivity, magnitude and impact significance relating to loss or restricted access to fishing grounds during construction of the Transmission Assets

Receptor Group	Sensitivity	Magnitude	Significance
Inshore static gear vessels	Medium	Negligible	Negligible and Not Significant
Offshore static gear vessels	Low	Negligible	Negligible and Not Significant
Beam trawl vessels	Negligible	Negligible	Negligible and Not Significant
Scottish west coast scallop vessels	Medium	Negligible	Minor adverse and Not Significant
Isle of Man scallop vessels	Medium	Negligible	Minor adverse and Not Significant
Other scallop vessels	Negligible	Negligible	Negligible and Not Significant
Herring vessels	Low	Negligible	Negligible and Not Significant

Operation and maintenance phase

6.11.2.49 As set out in **Table 6.11**, the key permanent offshore infrastructure for the Transmission Assets and of relevance to commercial fisheries includes the offshore export cables between the Generation Assets and landfall. Other transmission infrastructure (offshore substation platforms and interconnector cables between the platforms) are included within the applications for the Generation Assets only (Volume 1, Chapter 3: Project description of the ES).

6.11.2.50 During the operation and maintenance phase of the Transmission Assets, commercial fishing activity may be affected in discreet areas (in terms of loss or restricted access to fishing grounds and the associated reduction in revenue) by associated export cable protection and export cable crossings

within the Offshore Order Limits, for the lifetime of the Project. This impact is dependent on the location of the receptor's fishing grounds and also the spatial extent of potential fishing grounds lost.

- Export cable protection: up to 40 km (10% of total length) for the Morgan Offshore Wind Project export cables and up to 8.4 km for the Morgan Offshore Windfarm export cables may require cable protection (articulated pipe, rock dump or mattressing) up to a height of 2 m and a width of 10 m.
- Cable crossings: 51 crossings (45 for the Morgan Offshore Wind Project and 6 for the Morecambe Offshore Windfarm) with concrete mattresses/frond mattress/rock berm, maximum dimensions – 2.8 m height x 200 m length x 30 m width.

6.11.2.51 The Applicants have committed to the development and adherence to an offshore CMS which includes a CSIP prior to construction of the offshore export cable and subsequent protection (CoT45, **Table 6.10**). This includes details of cable burial depths, cable protection, cable monitoring, and a cable layout plan which ensures safe navigation is not compromised and that cable protection will be designed to coexist with fishing activity as far as possible, for example by minimising height above seabed, smooth and shallower profiles, grade used for rock placement, type of rock (i.e. smoother edges).

Sensitivity of receptor

6.11.2.52 The sensitivity of the receptor groups remains the same as described for the construction phase of this impact and is summarised below and in **Table 6.16**.The following sections provide a summary of the sensitivity for each commercial fisheries receptor during the operation and maintenance phase.

Inshore static gear vessels

6.11.2.53 Inshore static gear vessels are deemed to be of limited spatial adaptability, limited spatial tolerance and limited recoverability. The sensitivity of the receptor is, therefore, considered to be **medium**.

Offshore static gear vessels

6.11.2.54 Offshore static gear vessels are deemed to be of high spatial adaptability, moderate spatial tolerance and moderate recoverability. The sensitivity of the receptor is, therefore, considered to be **low**.

Beam trawl vessels

6.11.2.55 Beam trawl vessels are deemed to be of high spatial adaptability, high spatial tolerance and high recoverability. The sensitivity of the receptor is, therefore, considered to be **negligible**.

Scallop vessels – Scottish west coast

6.11.2.56 Scottish west coast scallop vessels are deemed to be of limited spatial adaptability, limited spatial tolerance and limited recoverability. The sensitivity of the receptor is therefore, considered to be **medium**.

Scallop vessels – Isle of Man

6.11.2.57 Isle of Man scallop vessels are deemed to be of limited spatial adaptability, limited spatial tolerance and limited recoverability. The sensitivity of the receptor is therefore, considered to be **medium**.

Other scallop vessels

6.11.2.58 Other scallop vessels are deemed to be of high spatial adaptability, high spatial tolerance and high recoverability. The sensitivity of this receptor is, therefore, considered to be **negligible**.

Herring vessels

6.11.2.59 Herring vessels are deemed to be of high spatial adaptability, moderate spatial tolerance and high recoverability. The sensitivity of this receptor is, therefore, considered to be **low**.

Magnitude of impact

6.11.2.60 Existing legislation does not prohibit fishing from occurring within operational wind farm sites or transmission assets. Subject to the successful burial of the offshore export cables, to be confirmed by post-installation surveys as appropriate and if necessary, corrective measures where target burial depth has not been achieved, it is assumed that fishing activities will be able to resume in these areas once the cables are operational. The only exception will be any temporary (advisory) 500 m exclusion zones that will be implemented around any large vessels undertaking cable repair/remediation events.

6.11.2.61 Trial areas for the use of static commercial fishing gear within the Hywind Floating Offshore Wind Farm and on dynamic sections of the export/inter-array cables allowed the safe operation of the static gear and sufficient room to manoeuvre for a 30 m fishing vessel (Wright *et al*., 2023). Post construction fish surveys undertaken on Westermost Rough Offshore Wind Farm highlighted that landings per unit effort were consistent with pre-construction site investigation surveys and catches per unit effort of lobsters increased post-construction (Roach *et al*., 2022).

6.11.2.62 In line with standard practice in the offshore oil and gas industry (and becoming established in the offshore wind sector), measures will be undertaken to ensure that where external cable protection is required (concrete mattressing/rock berm protection for up to 10% of the total cable length has been assumed for this assessment), the protection methods used are as far as practically possible, compatible with fishing activities (i.e.

external cable protection that will have sloped sides to minimise risk of snagging) (CoT45 in **Table 6.10**).

6.11.2.63 Mitigation measures adopted in relation to the Transmission Assets, as outlined in **Table 6.10**, will minimise the impact of the loss, or restricted access to, fishing grounds during the operation and maintenance phase. A dedicated FLO will also be appointed to communicate timings and location of any maintenance works with the commercial fishing industry.

6.11.2.64 A number of fleets from the UK and other nationalities operate within the study area. The impact is predicted to be of regional spatial extent, of relevance to international fishing fleets, and of long-term duration, as it will directly affect fleets across the 35-year design life of the Transmission Assets.

Inshore static gear vessels

6.11.2.65 This receptor group will not be affected by a loss of grounds or restricted access to the Transmission Assets beyond 12 nm during the operation and maintenance phase, due to the distance offshore (i.e. these vessels do not fish in this area). The only permanent infrastructure within the inshore region will be the subtidal export cables, which will be fully buried or have external cable protection and will, therefore, not prevent this receptor continuing to fish. The only exception to this is if any cable repair/remediation events are required in the operation and maintenance phase in the inshore region. This would lead to some temporary, spatially limited impacts where vessels would be requested to avoid such areas for the short-term duration of the works.

6.11.2.66 The loss or restricted access to fishing grounds during the operation and maintenance phase is, therefore, assessed as representing <5% of the annual value of landings for vessels in this receptor group.

6.11.2.67 In light of the above, the impact (via cable repair/remediation events), is predicted to be of local spatial extent, long term duration, intermittent, and with high reversibility. It is predicted that the impact will affect the receptor directly, but be of negligible magnitude, as it is judged operation and maintenance of the Transmission Assets would only affect an area from which a very small proportion of the receptor group's commercial annual value of landings is caught. The magnitude of impact is, therefore, considered to be **negligible**.

Offshore static gear vessels

6.11.2.68 This receptor group will not lose access to discrete areas as a result of infrastructure within the Offshore Order Limits. Due to the nature of the fishing gear, this receptor group is not expected to be affected by the offshore export cables, as these cables will be fully buried or have external cable protection, thus, permitting the deployment of static gear (pots). The only exception to this is if any cable repair/remediation events are required in the operation and maintenance phase. This would lead to some temporary, spatially limited impacts where vessels would be requested to avoid such areas for the short-term duration of the works.

6.11.2.69 Presuming that fishing by this receptor group could continue within the Offshore Order Limits, the loss or restricted access to fishing grounds is, therefore, assessed as representing <5% of the annual value of landings for vessels in this receptor group.

6.11.2.70 In light of the above, the impact (via cable repair/remediation events) is predicted to be of local spatial extent, long term duration, intermittent, and with high reversibility due to the temporary nature of any maintenance works. It is predicted that the impact will affect the receptor directly, but be of negligible magnitude, as it is judged operation and maintenance of the Transmission Assets would only affect an area from which a very small proportion of the receptor group's commercial annual value of landings is caught. The magnitude of impact is, therefore, considered to be **negligible**.

Beam trawl vessels

6.11.2.71 This receptor group will not lose access to discrete areas as a result of project infrastructure (this does not apply for Belgian beam trawl vessels as they do not actively fish within the Offshore Order Limits). Due to the nature of the fishing gear (e.g. limited bottom contact with use of the SumWing, **paragraph 6.6.2.25**, this receptor group is not expected to be affected by the cable protection and cable crossings.

6.11.2.72 Presuming that fishing by this receptor group could continue within the Offshore Order Limits, the loss or restricted access to fishing grounds is, therefore, assessed as representing <5% of the annual value of landings for vessels in this receptor group.

6.11.2.73 In light of the above, the impact (via cable repair/remediation events) is predicted to be of local spatial extent, long term duration, intermittent, and with high reversibility due to the temporary nature of any maintenance works. It is predicted the impact will affect the receptor directly, but be of negligible magnitude, as it is judged that the operation and maintenance of the Transmission Assets would only affect an area from which a very small proportion of the receptor group's commercial annual value of landings is caught. The magnitude of impact is, therefore, considered to be **negligible**.

Scallop vessels – Scottish west coast

6.11.2.74 Feedback, via consultation confirmed that gear penetration of vessels within this receptor group varied between 0.05 - 0.25 m, so adequate burial of cables is important to allow these vessels to continue fishing within the Offshore Order Limits. While it is assumed that fishing will continue within the Offshore Order Limits, due to the nature of the gear (e.g. robust bottom contact with the use of Newhaven dredges for king scallop and skid dredges for queen scallop, **paragraph 6.6.2.19**), it is expected this receptor group will lose access to discrete areas as a result of where offshore export cable protection (up to 10% of total offshore export cable length) and cable crossings (up to 51 throughout the Offshore Order Limits) will be required. In addition, any cable repair/remediation events required during the operation and maintenance phase would lead to some temporary, spatially limited

impacts, where vessels would be requested to avoid such areas for the short-term duration of the works.

6.11.2.75 While taking into account the spatial extent of fishing activity (**section 6.6.2**) and nature of gear deployed by this receptor group (**paragraph 6.6.2.19**), the area of fishing grounds lost via temporary cable repair/remediation events, offshore export cable protection and cable crossings during the operation and maintenance phase is not anticipated to lead to a reduction of more than 5% in annual value of landings for vessels in this receptor group.

6.11.2.76 In light of the above, the impact is predicted to be of regional spatial extent, long term duration, continuous, and with low reversibility. It is predicted that the impact will affect the receptor directly, but be of negligible magnitude, as it is judged that it would affect an area from which a very small proportion of the receptor group's annual value of landings is caught. The magnitude of impact is, therefore, considered to be **negligible**.

Scallop vessels – Isle of Man

6.11.2.77 Dependence on the commercial fisheries study area can be observed (and confirmed via consultation) for Isle of Man vessels targeting queen scallop (while deploying dredges and otter trawls within Manx Territorial Waters) and king scallop (while deploying dredges within Manx Territorial Waters and areas beyond in UK waters).

6.11.2.78 Due to the nature of the gear (e.g. robust bottom contact with the use of Newhaven dredges for king scallop, **paragraph 6.6.2.19**), it is expected this receptor group will lose access to discrete areas as a result of where offshore export cable protection (up to 10% of total offshore export cable length) and cable crossings (up to 51 throughout the Offshore Order Limits) will be required. In addition, any cable repair/remediation events required during the operation and maintenance phase would lead to some temporary, spatially limited impacts, where vessels would be requested to avoid such areas for the short-term duration of the works.

6.11.2.79 While it is assumed that fishing will continue within the Offshore Order Limits during the operation and maintenance phase, access may be lost in areas as a result of offshore export cable protection and cable crossings and via temporary cable repair/remediation events. However, the extent these areas lost is not anticipated to lead to a reduction of >5% of the annual value of landings for vessels in this receptor group.

6.11.2.80 In light of the above, the impact is predicted to be of regional spatial extent, long term duration, continuous, and with low reversibility. It is predicted the impact will affect the receptor directly, but be of negligible magnitude, as it is judged that it would affect an area from which a very small proportion of the receptor group's annual value of landings is caught. The magnitude of impact is, therefore, considered to be **negligible**.

Other scallop vessels

6.11.2.81 Due to the nature of the gear (e.g. robust bottom contact with the use of Newhaven dredges for king scallop, **paragraph 6.6.2.19**), it is expected this

receptor group will lose access to discrete areas as a result of where offshore export cable protection (up to 10% of total offshore export cable length) and cable crossings (up to 51 throughout the Offshore Order Limits) will be required. In addition, any cable repair/remediation events required during the operation and maintenance phase would lead to some temporary, spatially limited impacts, where vessels would be requested to avoid such areas for the short-term duration of the works.

6.11.2.82 As it is assumed that fishing will continue within the Offshore Order Limits during the operation and maintenance phase, the area lost for continued dredging is assessed as representing <5% of the annual value of landings for vessels in this receptor group.

6.11.2.83 In light of the above, the impact is predicted to be of local spatial extent, long term duration, intermittent, and with high reversibility due to the temporary nature of any maintenance works. It is predicted that the impact will affect the receptor directly, but be of negligible magnitude, as it is judged that it would affect an area from which a very small proportion of the receptor group's commercial annual value of landings is caught. The magnitude of impact is, therefore, considered to be **negligible**.

Herring vessels

6.11.2.84 This receptor group will not lose access to areas of the Offshore Order Limits as a result of project infrastructure. Due to the nature of the fishing gear, this receptor group is not expected to be affected by the external cable protection and cable crossings. The only exception to this is if any cable repair/remediation events are required in the operation and maintenance phase. This would lead to some temporary, spatially limited impacts where vessels would be requested to avoid such areas for the short-term duration of the works.

6.11.2.85 Therefore, during the operation and maintenance phase, the temporary area lost for fishing is assessed as only representing <5% of the annual value of landings for vessels in this receptor group.

6.11.2.86 In light of the above, the impact is predicted to be of local spatial extent, long term duration, intermittent, and with high reversibility due to the temporary nature of any maintenance works. It is predicted that the impact will affect the receptor directly, but be of negligible magnitude, as it is judged that it would affect an area from which a very small proportion of the receptor group's commercial annual value of landings is caught. The magnitude of impact for this receptor is, therefore, considered to be **negligible**.

Significance of effect

6.11.2.87 A summary of the sensitivity of receptors, impact magnitude and overall effect significance (all of which are not significant in EIA terms) is provided in **Table 6.16**.

Table 6.16: Sensitivity, magnitude and impact significance relating to loss or restricted access to fishing grounds during the operation and maintenance phase of the Transmission Assets

Receptor Group	Sensitivity	Magnitude	Significance
Inshore static gear vessels	Medium	Negligible	Negligible and Not Significant
Offshore static gear vessels	Low	Negligible	Negligible and Not Significant
Beam trawl vessels	Negligible	Negligible	Negligible and Not Significant
Scottish west coast scallop vessels	Medium	Negligible	Minor adverse and Not Significant
Isle of Man scallop vessels	Medium	Negligible	Minor adverse and Not Significant
Other scallop vessels	Negligible	Negligible	Negligible and Not Significant
Herring vessels	Low	Negligible	Negligible and Not Significant

Decommissioning phase

6.11.2.88 The current preferred approach to the offshore export cables is that they would be left in situ; however, a future scenario could exist where they may be retrieved and, if retrieved, would be disposed of, or recycled, in line with latest relevant legislation and guidance at the time. It is preferable that cable protection outside of the Fylde MCZ (e.g. cable ducting, rock dump/armour, mattresses, etc) be left in situ.

6.11.2.89 In the absence of detailed methodologies and schedules, decommissioning works and associated implications for commercial fisheries are considered analogous with those assessed for the operation and maintenance phase.

Sensitivity of receptor

6.11.2.90 The sensitivity of the receptor groups remains the same as described for the operation and maintenance of this impact and is summarised in **Table 6.17**.

Magnitude of impact

6.11.2.91 The magnitude of the receptor groups remains the same as described for the operation and maintenance phase of this impact and is summarised in **Table 6.17**.

Significance of effect

6.11.2.92 A summary of the sensitivity of receptors, impact magnitude and overall effect significance (all of which are not significant in EIA terms) is provided in **Table 6.17**.

Table 6.17: Sensitivity, magnitude and impact significance relating to loss or restricted access to fishing grounds during decommissioning of the Transmission Assets

Receptor Group	Sensitivity	Magnitude	Significance
Inshore static gear vessels	Medium	Negligible	Negligible and Not Significant
Offshore static gear vessels	Low	Negligible	Negligible and Not Significant
Beam trawl vessels	Negligible	Negligible	Negligible and Not Significant
Scottish west coast scallop vessels	Medium	Negligible	Minor adverse and Not Significant
Isle of Man scallop vessels	Medium	Negligible	Minor adverseand Not Significant
Other scallop vessels	Negligible	Negligible	Negligible and Not Significant
Herring vessels	Low	Negligible	Negligible and Not Significant

6.11.3 Displacement of fishing activity into other areas

6.11.3.1 The construction, operation and maintenance, and decommissioning phases of the Transmission Assets may lead to displacement of fishing activity into other areas, as a result of loss or restricted access to fishing grounds. This displacement can create potential adverse effects on existing fisheries in the areas that vessels are displaced into.

6.11.3.2 The MDS is represented by the maximum number of advisory exclusion zones around offshore export cable installation vessels during construction and decommissioning, and via any cable repair/remediation events required during the operation and maintenance phase (and by export cable protection and cable crossings, depending on gear type deployed). The MDS is summarised in **Table 6.11** and is the same as for the “Loss or restricted access to fishing grounds” impact.

Construction phase

6.11.3.3 Elements of offshore sequential construction relevant to the Transmission Assets and commercial fisheries will take place over a period of up to 30 months inclusive of site preparation and construction activities, with a possible gap between the completion for the first project and commencement of construction for the second project. It is assumed that fishing would be

able to continue during any gap between the construction phases for the projects.

Sensitivity of receptor

Inshore static gear vessels

6.11.3.4 The inshore static gear fleet operates across distinct areas of ground, from the coastline out to 12 nm. Displacement of this receptor group from current fishing grounds may occur if displaced vessels beyond 12 nm explore grounds further inshore, although, this is considered unlikely. This receptor is limited to a number of grounds, and although these vessels have some ability to deploy alternative gear, this is relatively limited.

6.11.3.5 Inshore static gear vessels are deemed to be of limited spatial adaptability, have limited spatial tolerance and limited recoverability. The sensitivity of the receptor is, therefore, considered to be **medium**.

Offshore static gear vessels

6.11.3.6 Displacement of mobile vessels, such as those that deploy beam trawls and dredges, into the areas where the offshore static gear vessels set pots could cause displacement of fishing activity for this receptor group. However, this receptor group has the ability to fish a wider area than those areas they may be temporarily excluded from during construction works.

6.11.3.7 Offshore static gear vessels are deemed to be of high spatial adaptability, moderate spatial tolerance and moderate recoverability. The sensitivity of the receptor is, therefore, considered to be **low**.

Beam trawl vessels

6.11.3.8 Beam trawl vessels exhibit extensive operational ranges and they have the ability to fish numerous grounds within the wider Irish Sea. Some Belgian beam trawl vessels that have been recorded within the study area, have also been observed to deploy alternative gear types.

6.11.3.9 Beam trawl vessels are deemed to be of high spatial adaptability, high spatial tolerance and high recoverability. The sensitivity of the receptor is, therefore, considered to be **negligible**.

Scallop vessels – Scottish west coast

6.11.3.10 This receptor group has limited spatial tolerance due to dependence upon the study area for queen scallop dredging. However, while the western section is important to this receptor group, the nomadic fleet also operate in other areas of the Irish Sea and beyond. The Scottish west coast scallop vessels also have a limited ability to deploy alternative gear.

6.11.3.11 Scottish west coast scallop vessels are deemed to be of limited spatial adaptability, limited spatial tolerance and limited recoverability. The sensitivity of the receptor is therefore, considered to be **medium**.

Scallop vessels – Isle of Man

6.11.3.12 Within the commercial fisheries study area, according to landing statistics, this receptor group almost exclusively operated out of ICES Rectangles 37E5 and 36E5 throughout the study period (2012 to 2022). Dependence on the study area can be observed (and confirmed via consultation) for Isle of Man vessels targeting queen scallop (while deploying dredges and otter trawls within Manx Territorial Waters) and king scallop (while deploying dredges within Manx Territorial Waters and areas beyond in UK waters).

6.11.3.13 Isle of Man scallop vessels are deemed to be of limited spatial adaptability, limited spatial tolerance and limited recoverability. The sensitivity of the receptor is therefore, considered to be **medium**.

Other scallop vessels

6.11.3.14 This receptor group comprises nomadic scallop vessels that are often observed transiting through the Offshore Order Limits to other parts of the wider Irish Sea. The receptor group exhibits an extensive operational range and is able to mitigate loss or restricted access to fishing grounds through their spatial tolerance.

6.11.3.15 Other scallop vessels are deemed to be of limited vulnerability with high recoverability and tolerance. The sensitivity of this receptor is, therefore, considered to be **negligible**.

Herring vessels

6.11.3.16 As discussed in **paragraph 6.11.2.44**, this receptor group operates within the study area for only a relatively short duration (August to September) and is likely to operate across numerous other fishing grounds throughout the remaining year. The receptor group exhibits an extensive operational range and possesses an ability to target other pelagic species through deployment of alternative gear.

6.11.3.17 Herring vessels are deemed to be of high spatial adaptability, moderate spatial tolerance and high recoverability. The sensitivity of this receptor is, therefore, considered to be **low**.

Norway lobster (*Nephrops*) vessels

6.11.3.18 This receptor group comprises vessels that are predominantly from England, Northern Ireland and Scotland, that deploy demersal trawls/seine and otter trawls to target Norway lobster. The fishery predominantly targets the Norway lobster grounds of the Cumbria coast (NW IFCA, 2022), which do not overlap with the Offshore Order Limits. Displacement of this receptor group has been assessed due to a potential effect arising due to other displaced fishing vessels from the Offshore Order Limits. This receptor group possesses the ability to deploy alternative gear, that targets other demersal species.

6.11.3.19 Norway lobster vessels are deemed to be of high spatial adaptability, high spatial tolerance and high recoverability. The sensitivity of this receptor is, therefore, considered to be **negligible**.

Magnitude of impact

Inshore static gear vessels

6.11.3.20 Displacement of mobile beam trawl and scallop vessels, from the Offshore Order Limits into the inshore areas where this receptor's vessels set static gear (pots), is unlikely, as the mobile vessels would likely focus on alternative established offshore grounds throughout the Irish Sea or even further afield. Displacement of offshore static vessels from the Offshore Order Limits beyond 12 nm into inshore areas could occur due to construction works, requiring the inshore static gear vessels to temporarily relocate gear and/or experience a reduction in landings due to a greater number of vessels targeting stocks in this inshore area. However, this is also judged to be unlikely, as these offshore static vessels would likely look to remain in grounds further offshore, such as in the east offshore Irish Sea region. Displacement of individual vessels within this receptor group, from the Offshore Order Limits within 12 nm, onto adjacent grounds that may be fished by other inshore vessels, is also possible. However, the commitment made by the Applicants to minimise the duration for which the offshore export cable corridors will be closed to vessels during construction will limit the extent of such displacement (CoT66 with further details provided in **Table 6.10** and the Safety Zone Statement included with the application as document reference J33). Therefore, disruption via construction activity for the Transmission Assets alone will be more limited.

6.11.3.21 The displacement of fishing activity during construction therefore results in a predicted loss of <5% of this receptor's annual value of landings.

6.11.3.22 In light of the above, the impact is predicted to be of local spatial extent, short to medium term duration (i.e. sequential construction scenario of up to 30 months for the offshore export cables with possible gap between construction), intermittent, and with high reversibility due to the temporary nature of the works. It is predicted the impact will affect the receptor directly, but be of negligible magnitude, as it is judged that it would only affect an area from which a very small proportion of the receptor group's annual value of landings is caught. The magnitude of impact is, therefore, considered to be **negligible**.

Offshore static gear vessels

6.11.3.23 Displacement of mobile vessels deploying beam trawl and scallop dredges from the Offshore Order Limits, into the areas where offshore static gear vessels set static gear (pots), could cause conflict between these different receptor groups. However, assuming that fishing will only be excluded via 500 m advisory exclusion zones around major installation vessels, and that such displacement will be temporary and limited to discrete spatial areas at any one time, the extent of displacement is judged to be negligible. Displacement of fishing activity during construction is, therefore, predicted to result in a loss of <5% of this receptor's annual value of landings.

6.11.3.24 In light of the above, the impact is predicted to be of local spatial extent, short to medium term duration (i.e. sequential construction scenario of up to 30

months for the offshore export cables with possible gap between construction), intermittent, and with high reversibility due to the temporary nature of the works. It is predicted the impact will affect the receptor directly, but be of negligible magnitude, as it is judged that it would only affect an area from which a very small proportion of the receptor group's annual value of landings is caught. The magnitude of impact for this receptor is, therefore, considered as **negligible**.

Beam trawl vessels

6.11.3.25 Displacement of scallop vessels deploying dredges and offshore static gear deploying pots, from the Offshore Order Limits into the areas where beam trawl vessels are active, could cause conflict between these different receptor groups. During construction, fishing activity will only be excluded from discrete spatial areas (i.e. only sections of the Offshore Order Limits will be subject to temporary restrictions around major installation vessels).

6.11.3.26 In light of the above, the impact is predicted to be of local spatial extent, short to medium term duration (i.e. sequential construction scenario of up to 30 months for the offshore export cables with possible gap between construction), intermittent, and with high reversibility due to the temporary nature of the works. It is predicted the impact will affect the receptor directly, but be of negligible magnitude, as it is judged that it would only affect an area from which a very small proportion of the receptor group's annual value of landings is caught. The magnitude of impact is, therefore, considered to be **negligible**.

Scallop vessels – Scottish west coast

6.11.3.27 Displacement of offshore static gear, beam trawl vessels and other scallop receptor gear from the Offshore Order Limits beyond 12 nm into areas of Scottish west coast scallop activity could cause conflict between these different receptor groups. However, the extent of this displacement is judged to be limited due to fishing activity only being excluded from discrete spatial areas during the construction phase (i.e. around major installation vessels).

6.11.3.28 The displacement of fishing activity during construction therefore results in a predicted loss of <5% of this receptor's annual value of landings.

6.11.3.29 In light of the above, the impact is predicted to be of local spatial extent, short to medium term duration (i.e. sequential construction scenario of up to 30 months for the offshore export cables with possible gap between construction), intermittent, and with high reversibility. It is predicted the impact will affect the receptor directly, but be of negligible magnitude, as it is judged that it would only affect an area from which a very small proportion of the receptor group's annual value of landings is caught. The magnitude of impact is, therefore, considered to be **negligible**.

Scallop vessels – Isle of Man

6.11.3.30 Displacement of other fishing vessels from the Offshore Order Limits into areas where Isle of Man scallop vessels fish could cause conflict between

these different receptor groups. However, displacement of non-UK vessels, such as Belgian beam trawl vessels or Irish scallop vessels, into the Manx Territorial Sea (within 12 nm) within ICES Rectangle 37E5 and 36E5 will not occur, as non-UK vessels do not have access to this area, under the London Fisheries Convention 1964. Displacement of Scottish west coast scallop vessels and other scallopers into the Manx Territorial Sea is also limited, as under the Isle of Man Scallop LTMP, access to king scallop dredging is limited to vessels under 221 kW, unless they possess Grandfather Rights. These Grandfather Rights will be terminated by November 2024 under the LTMP. Only vessels which possess a UK and Isle of Man fishing vessel licence with scallop entitlement, may fish for scallops within Manx Territorial waters. The fishery is highly regulated and, whilst access is non-discriminatory by way of nationality or home port, eligibility to participate is determined on the basis of a number of factors including historic track record and vessel characteristics. At the time of writing, there are 55 vessels licenced to fish for king scallop in Isle of Man waters (29 of which are Isle of Man registered vessels). Of these, 36 can also fish for queen scallops (25 of which are Isle of Man registered vessels).

6.11.3.31 The displacement of fishing activity during construction therefore results in a predicted loss of <5% of this receptor's annual value of landings.

6.11.3.32 In light of the above, the impact is predicted to be of local spatial extent, short to medium term duration (i.e. sequential construction scenario of up to 30 months for the offshore export cables with possible gap between construction), intermittent, and with high reversibility. It is predicted the impact will affect the receptor directly, but be of negligible magnitude, as it is judged that it would only affect an area from which a very small proportion of the receptor group's annual value of landings is caught. The magnitude of impact for this receptor is, therefore, considered to be **negligible**.

Other scallop vessels

6.11.3.33 Displacement of fishing activity into areas where other scallop vessels are active during construction is predicted to result in a loss of <5% of this receptor's annual value of landings. This is due to the highly nomadic nature of this receptor group and exclusion being limited to discrete areas.

6.11.3.34 In light of the above, the impact is predicted to be of local spatial extent, short to medium term duration (i.e. sequential construction scenario of up to 30 months for the offshore export cables with possible gap between construction), intermittent, and with high reversibility. It is predicted the impact will affect the receptor directly, but be of negligible magnitude, as it is judged that construction would only affect an area from which a very small proportion of the receptor group's annual value of landings is caught. The magnitude of impact for this receptor is, therefore, considered to be **negligible**.

Herring vessels

6.11.3.35 Landing statistics indicate the study area was particularly important to vessels landing herring throughout the study period (2012 to 2022), with

August and September being particularly important months. Landing statistics also indicate that within the study area, this receptor group almost exclusively operates within ICES Rectangle 37E5, in which a relatively small, north west section of the Offshore Order Limits is positioned (an approximate total area within ICES Rectangle 37E5 of 11%, excluding the Isle of Man).

6.11.3.36 The majority of ICES Rectangle 37E5 is positioned within the Manx Territorial Sea (within 12 nm), with the baseline review process having established this receptor group is predominantly active within this inshore region. Displacement of non-UK fishing vessels, such as Belgian beam trawls, from the Offshore Order Limits into other inshore areas within ICES Rectangle 37E5, is unlikely as non-UK vessels do not have access to this area under the London Fisheries Convention 1964. Displacement of Scottish west coast scallop vessels, and other scallopers, into the Manx Territorial Sea is also limited, as under the Isle of Man Scallop LTMP, access to king scallop dredging is limited to vessels under 221 kW, unless they possess Grandfather Rights. These Grandfather Rights will be terminated by November 2024 under the LTMP. Only vessels which possess a UK and Isle of Man fishing vessel licence with scallop entitlement, may fish for scallops within Manx Territorial waters. Conflict between the Isle of Man scallop vessels and herring vessels receptor groups is possible; although this is limited by differing key periods of activity between the king scallop and herring fishery (**section 6.6.2**), and the discrete spatial areas of exclusion during construction.

6.11.3.37 The displacement of fishing activity during construction, therefore, results in a predicted loss of <5% of this receptor's annual value of landings.

6.11.3.38 In light of the above, the impact is predicted to be of local spatial extent, short to medium term duration (i.e. sequential construction scenario of up to 30 months for the offshore export cables with possible gap between construction), intermittent, and with high reversibility. It is predicted that impact will affect the receptor directly, but be of negligible magnitude, as it is judged that construction would only affect an area from which a very small proportion of the receptor group's annual value of landings is caught. The magnitude of impact for this receptor is, therefore, considered to be **negligible**.

Norway lobster (*Nephrops*) vessels

6.11.3.39 While landing statistics indicate the relative importance of Norway lobster within the study area, remote monitoring, consultation feedback and analysis of VMS data has established these vessels mainly target the Norway lobster grounds off the Cumbria coast (NW IFCA, 2022). These grounds are largely located within the English inshore region (within the 12 nm boundary) and do not overlap with the Offshore Order Limits. Vessels are predominantly from England, Northern Ireland and Scotland, as established by MMO and EU STECF landings data, and project-specific consultation.

6.11.3.40 The Norway lobster grounds off the Cumbria coast are comprised of fine or silty mud that allow for Norway lobster populations to thrive (NW IFCA, 2022). In contrast, king and queen scallop usually reside in firm sand, or fine

or sandy gravel (MarLIN, 2022); thus, they are unlikely to be found in abundance within the Norway lobster grounds off the Cumbria coast. This is also supported through analysis of VMS dredging data (2009 to 2021), where limited to no existing scallop dredging activity has been observed within the vicinity of the Norway lobster grounds. Therefore, displacement of scallop dredging vessels from the Offshore Order Limits into the Norway lobster grounds is considered unlikely.

6.11.3.41 Similarly, beam trawls, targeting plaice, commonly occur over sandy sediment types, as opposed to muddy sediment, while commercial fishing of sole is usually limited to deeper offshore waters where sole tend to school in groups, which allow for catches on a commercial scale (NW IFCA, 2022). Non-UK vessels, such as the Belgian beam trawlers, do not have access to English inshore areas under the London Fisheries Convention 1964, with access, therefore, limiting displacement of this fishery into the Norway lobster grounds.

6.11.3.42 Displacement of offshore static gear vessels from the Offshore Order Limits into the Norway lobster grounds of the Cumbria coast is considered possible. However, it is understood that a spatial 'gentleman's agreement' exists between the different gear types in operation within the study area, and it is assumed this would continue during the construction phase of the Transmission Assets. Therefore, it is anticipated that displacement of offshore static gear vessels from the Offshore Order Limits into the Norway lobster grounds is not likely to occur.

6.11.3.43 On the basis of the above, and the discrete spatial areas of exclusion during construction, the limited displacement of fishing activity from the Offshore Order Limits during construction into Norway lobster grounds, therefore, results in a predicted loss of <5% of this receptor's annual value of landings.

6.11.3.44 The impact is predicted to be of local spatial extent, short to medium term duration (i.e. sequential construction scenario of up to 30 months for the offshore export cables with possible gap between construction), intermittent, and with high reversibility. It is predicted that the impact will affect the receptor directly, but be of negligible magnitude, as it is judged that construction would only affect an area from which a very small proportion of the receptor group's annual value of landings is caught. The magnitude of impact for this receptor is, therefore, considered to be **negligible**.

Significance of effect

6.11.3.45 A summary of the sensitivity of receptors, impact magnitude and overall effect significance (all of which are not significant in EIA terms) is provided in **Table 6.18**.

Table 6.18: Sensitivity, magnitude and impact significance relating to displacement of fishing activity into other areas during construction of the Transmission Assets

Receptor Group	Sensitivity	Magnitude	Significance
Inshore static gear vessels	Medium	Negligible	Negligible and Not Significant
Offshore static gear vessels	Low	Negligible	Negligible and Not Significant
Beam trawl vessels	Negligible	Negligible	Negligible and Not Significant
Scottish west coast scallop vessels	Medium	Negligible	Negligible and Not Significant
Isle of Man scallop vessels	Medium	Negligible	Negligible and Not Significant
Other scallop vessels	Negligible	Negligible	Negligible and Not Significant
Herring vessels	Low	Negligible	Negligible and Not Significant
Norway lobster (*Nephrops*) vessels	Negligible	Negligible	Negligible and Not Significant

Operation and maintenance phase

Sensitivity of receptor

6.11.3.46 The sensitivity of the receptor groups remains the same as described for the construction phase of this impact and is summarised in **Table 6.18**.

Magnitude of impact

Inshore static gear vessels

6.11.3.47 It is unlikely this receptor group will be affected by displacement of vessels from the Offshore Order Limits beyond 12 nm, due to the offshore vessels preferring to focus on alternative established offshore grounds throughout the Irish Sea. The only permanent infrastructure in the inshore region that could create displacement effects will be the Transmission Assets offshore export cable, which will be fully buried or have external cable protection. The Applicants do not intend to restrict fishing activity within the Offshore Order Limits during the operational phase. Any restrictions will be limited to

temporary 500 m advisory exclusion zones around vessels undertaking major maintenance works. Therefore, it is assumed that fishing in the inshore region by this receptor group will be able to continue during the operation and maintenance phase and that any resulting displacement of fishing activity from the Offshore Order Limits will only lead to a potential reduction of annual value of landings of <5%.

6.11.3.48 In light of the above, the impact (via cable repair/remediation events), is predicted to be of local spatial extent, long term duration, intermittent, and with high reversibility. It is predicted that the impact will affect the receptor directly, but be of negligible magnitude, as it is judged that operation and maintenance would only affect an area from which a very small proportion of the receptor group's annual value of landings is caught. The magnitude of impact is, therefore, considered to be **negligible**.

Offshore static gear vessels

6.11.3.49 Displacement of mobile vessels deploying beam trawl and scallop dredges during the operation and maintenance phase from the Offshore Order Limits, into the areas where offshore static gear vessels set pots, could cause conflict between these different receptor groups. However, it is noted that the other mobile gear receptor groups target a relatively large area in comparison to the Offshore Order Limits. It is also currently understood that a spatial 'gentleman's agreement' exists between the different gear types in operation in this area, as discussed during the construction phase, and it is assumed that this would continue during the operation and maintenance phase. The Applicants do not intend to restrict fishing activity within the Offshore Order Limits during the operational phase. Any restrictions will be limited to temporary 500 m advisory exclusion zones around vessels undertaking major maintenance works intermittently over 35 years. Therefore, displacement of fishing activity during the operation and maintenance phase is predicted to result in a loss of <5% of this receptor's annual value of landings.

6.11.3.50 In light of the above, the impact (via cable repair/remediation events), is predicted to be of local spatial extent, long term duration, intermittent, and with high reversibility. It is predicted that the impact will affect the receptor directly, but be of negligible magnitude, as it is judged that operation and maintenance would only affect affect an area from which a very small proportion of the receptor group's annual value of landings is caught. The magnitude of impact for this receptor is, therefore, considered to be **negligible**.

Beam trawl vessels

6.11.3.51 Consultation established these vessels operate within the Offshore Order Limits at a relatively low level, and generally only within the north east section during the Spring period. While direct displacement caused by infrastructure within the Offshore Order Limits is minimal, as a result of their spatial preferences, displacement of other offshore vessels during the operation and maintenance phase, from the Offshore Order Limits into areas where beam trawl vessels operate, could cause conflict between these different receptor groups. However, consultation established that these vessels fish within the

wider Irish Sea, and not only within the Offshore Order Limits, highlighting their nomadic nature and operational range. The Applicants do not intend to restrict fishing activity within the Offshore Order Limits during the operational phase. Any restrictions will be limited to temporary 500 m advisory exclusion zones around vessels undertaking major maintenance works intermittently over 35 years. Displacement of fishing activity during the operation and maintenance phase, therefore, results in a predicted loss of <5% of this receptor's annual value of landings.

6.11.3.52 In light of the above, the impact (via cable repair/remediation events), is predicted to be of local spatial extent, long term duration, intermittent, and with high reversibility. It is predicted that the impact will affect the receptor directly, but be of negligible magnitude, as it is judged that operation and maintenance would only affect an area from which a very small proportion of the receptor group's annual value of landings is caught. The magnitude of impact for this receptor is, therefore, considered to be **negligible**.

Scallop vessels – Scottish west coast

6.11.3.53 Displacement of offshore static gear, beam trawl vessels and other scallop receptor gear from the Offshore Order Limits located beyond 12 nm into areas of Scottish west coast scallop activity could cause conflict between these different receptor groups. However, it is noted that the other mobile gear receptor groups and offshore static gear vessels target a relatively large area in comparison to that of the Offshore Order Limits. It is also currently understood that a spatial 'gentleman's agreement' exists between the different gear types in operation in this area and it is assumed that this would continue during the operation and maintenance phase. The Applicants do not intend to restrict fishing activity within the Offshore Order Limits during the operational phase. Any restrictions will be limited to temporary 500 m advisory exclusion zones around vessels undertaking major maintenance works intermittently over 35 years. Therefore, displacement of fishing activity during the operation and maintenance phase results in a predicted loss of <5% of this receptor's annual value of landings.

6.11.3.54 In light of the above, the impact (via cable repair/remediation events), is predicted to be of local spatial extent, long term duration, intermittent, and with high reversibility. It is predicted that the impact will affect the receptor directly, but be of negligible magnitude, as it is judged that operation and maintenance would only affect an area from which a very small proportion of the receptor group's annual value of landings is caught. The magnitude of impact is, therefore, considered to be **negligible**.

Scallop vessels – Isle of Man

6.11.3.55 Displacement of other fishing vessels from the Offshore Order Limits into areas where Isle of Man Scallop vessels fish could create conflict, as previously discussed for the construction phase. The Applicants do not intend to restrict fishing activity within the Offshore Order Limits during the operational phase. Any restrictions will be limited to temporary 500 m advisory exclusion zones around vessels undertaking major maintenance works intermittently over 35 years.

6.11.3.56 The displacement of fishing activity during the operation and maintenance phase, therefore, results in a predicted loss of <5% of this receptor's annual value of landings.

6.11.3.57 In light of the above, the impact (via cable repair/remediation events), is predicted to be of local spatial extent, long term duration, intermittent, and with high reversibility. It is predicted that the impact will affect the receptor directly, but be of negligible magnitude, as it is judged that operation and maintenance would only affect an area from which a very small proportion of the receptor group's annual value of landings is caught. The magnitude of impact for this receptor is, therefore, considered to be **negligible**.

Other scallop vessels

6.11.3.58 Displacement, during the operation and maintenance phase, of fishing activity into areas where this receptor group is active, is predicted to result in a loss of <5% of this receptor's annual value of landings, due to the nomadic nature and relatively high operational range of the receptor.

6.11.3.59 In light of the above, the impact (via cable repair/remediation events), is predicted to be of local spatial extent, long term duration, intermittent, and with high reversibility. It is predicted that the impact will affect the receptor directly, but be of negligible magnitude, as it is judged that operation and maintenance would only affect an area from which a very small proportion of the receptor group's annual value of landings is caught. The magnitude of impact for this receptor is, therefore, considered to be **negligible**.

Herring vessels

6.11.3.60 Landing statistics indicate that within the study area, this receptor group almost exclusively operate within ICES Rectangle 37E5, in which a relatively small, north west section of the Offshore Order Limits is positioned (an approximate total area within ICES Rectangle 37E5 of 11%, excluding the Isle of Man); with August and September being particularly important months. The majority of ICES Rectangle 37E5 is positioned within the Manx Territorial Sea (within 12 nm), with the baseline review process having established that this receptor group is predominantly active within this inshore region.

6.11.3.61 Displacement of non-UK fishing vessels, such as Belgian beam trawls, from the Offshore Order Limits into other inshore areas within ICES Rectangle 37E5, is unlikely, as previously discussed for the construction phase. The Applicants do not intend to restrict fishing activity within the Offshore Order Limits during the operational phase. Any restrictions will be limited to temporary 500 m advisory exclusion zones around vessels undertaking major maintenance works intermittently over 35 years. The displacement of fishing activity during the operation and maintenance phase, therefore, results in a predicted loss of <5% of this receptor's annual value of landings.

6.11.3.62 In light of the above, the impact (via cable repair/remediation events), is predicted to be of local spatial extent, long term duration, intermittent, and with high reversibility. It is predicted that the impact will affect the receptor directly, but be of negligible magnitude, as it is judged that operation and maintenance would only affect an area from which a very small proportion of

the receptor group's annual value of landings is caught. The magnitude of impact for this receptor is, therefore, considered to be **negligible**.

Norway Lobster (*Nephrops*) vessels

6.11.3.63 Remote monitoring, consultation feedback and analysis of VMS data has established that this receptor group predominantly targets the Norway lobster grounds off the Cumbria coast (NW IFCA, 2022). These grounds are located predominantly within the English inshore region (within the 12 nm boundary) and do not overlap with the Offshore Order Limits.

6.11.3.64 As described during the construction phase of this impact, the Norway lobster grounds of the Cumbria coast are comprised of fine or silty mud that is optimal for thriving Norway lobster habitat (NW IFCA, 2022). In contrast, such sediment composition is suboptimal for king and queen scallop, and these are, therefore, unlikely to be found in abundance within the Norway lobster grounds of the Cumbria coast. This is also supported through analysis of VMS dredging data (2009 to 2020), where limited to no existing scallop dredging activity has been observed within the vicinity of the Norway lobster grounds. Therefore, displacement of scallop dredging vessels from the Offshore Order Limits into the Norway lobster grounds is considered unlikely.

6.11.3.65 Similarly, beam trawl targeted plaice are commonly found in sandy sediment types, as opposed to muddy sediment, and commercial fishing of sole is usually limited to deeper offshore waters, where sole tend to school in groups, which allows for catches on a commercial scale (NW IFCA, 2022). Non-UK vessels, such as the Belgian beam trawlers, do not have access to English inshore areas under the London Fisheries Convention 1964; therefore, limiting displacement of this fishery into the Norway lobster grounds.

6.11.3.66 Displacement of offshore static gear vessels from the Offshore Order Limits into the Norway lobster grounds of the Cumbria coast is considered possible. However, it is currently understood that a spatial 'gentleman's agreement' exists between the different gear types in operation in this area, and it is assumed that this would continue during the operation and maintenance phase of the Transmission Assets. The Applicants do not intend to restrict fishing activity within the Offshore Order Limits during the operational phase. Any restrictions will be limited to temporary 500 m advisory exclusion zones around vessels undertaking major maintenance works intermittently over 35 years. Therefore, it is anticipated that displacement of offshore static gear vessels from the Transmission Assets into the Norway lobster groups is not likely to occur.

6.11.3.67 Therefore, the displacement of fishing activity during the operation and maintenance phase results in a predicted loss of <5% of this receptor's annual value of landings.

6.11.3.68 In light of the above, the impact (via cable repair/remediation events), is predicted to be of local spatial extent, long term duration, intermittent, and with high reversibility. It is predicted that the impact will affect the receptor directly, but be of negligible magnitude, as it is judged that operation and maintenance would only affect an area from which a very small proportion of

the receptor group's annual value of landings is caught. The magnitude of impact for this receptor is, therefore, considered to be **negligible**.

Significance of effect

6.11.3.69 A summary of the sensitivity of receptors, impact magnitude and overall effect significance (all of which are not significant in EIA terms) is provided in **Table 6.19.**

Table 6.19: Sensitivity, magnitude and impact significance relating to displacement of fishing activity into other areas during the operation and maintenance phase of the Transmission Assets

Receptor Group	Sensitivity	Magnitude	Significance
Inshore static gear vessels	Medium	Negligible	Negligible and Not Significant
Offshore static gear vessels	Low	Negligible	Negligible and Not Significant
Beam trawl vessels	Negligible	Negligible	Negligible and Not Significant
Scottish west coast scallop vessels	Medium	Negligible	Negligible and Not Significant
Isle of Man scallop vessels	Medium	Negligible	Negligible and Not Significant
Other scallop vessels	Negligible	Negligible	Negligible and Not Significant
Herring vessels	Low	Negligible	Negligible and Not Significant
Norway lobster (*Nephrops*) vessels	Negligible	Negligible	Negligible and Not Significant

Decommissioning phase

6.11.3.70 The current preferred approach to the offshore export cables is that they would be left in situ; however, a future scenario could exist where they may be retrieved and, if retrieved, would be disposed of, or recycled, in line with latest relevant legislation and guidance at the time. It is preferable that cable protection outside of the Fylde MCZ (e.g. cable ducting, rock dump/armour, mattresses, etc) be left in situ.

6.11.3.71 In the absence of detailed methodologies and schedules, decommissioning works and associated implications for commercial fisheries are considered analogous with those assessed for the operation and maintenance phase.

Sensitivity of receptor

6.11.3.72 The sensitivity of the receptor groups remains the same as described for the operation and maintenance phase of this impact and is summarised in **Table 6.20**.

Magnitude of impact

6.11.3.73 The magnitude of the receptor groups remains the same as described for the operation and maintenance phase of this impact and is summarised in **Table 6.20**.

Significance of effect

6.11.3.74 A summary of the sensitivity of receptors, impact magnitude and overall effect significance (all of which are not significant in EIA terms) is provided in **Table 6.20**.

Table 6.20: Sensitivity, magnitude and impact significance relating to displacement of fishing activity into other areas during decommissioning of the Transmission Assets

Receptor Group	Sensitivity	Magnitude	Significance
Inshore static gear vessels	Medium	Negligible	Negligible and Not Significant
Offshore static gear vessels	Low	Negligible	Negligible and Not Significant
Beam trawl vessels	Negligible	Negligible	Negligible and Not Significant
Scottish west coast scallop vessels	Medium	Negligible	Negligible and Not Significant
Isle of Man scallop vessels	Medium	Negligible	Negligible and Not Significant
Other scallop vessels	Negligible	Negligible	Negligible and Not Significant
Herring vessels	Low	Negligible	Negligible and Not Significant
Norway lobster (*Nephrops*) vessels	Negligible	Negligible	Negligible and Not Significant

6.11.4 Loss or damage to gear due to snagging

6.11.4.1 The construction, operation and maintenance, and decommissioning of the Transmission Assets may lead to loss or damage to fishing gear due to snagging. Snagging risks may occur as a result of infrastructure on the seabed, such as offshore export cables that may have become unburied/exposed and/or associated external cable protection.

6.11.4.2 The MDS is represented by the maximum amount of infrastructure associated with the project and is summarised in **Table 6.11**. Safety risk for fishing vessels associated with potential gear snagging is assessed in

Volume 2, Chapter 7: Shipping and navigation of the ES (document reference F2.7).

Construction phase

6.11.4.3 The progressive installation of infrastructure during the construction phase of the Transmission Assets would result in an increased potential for snagging risks to fishing vessels. These include risks associated with sub-surface infrastructure such as partially laid/surface-laid cables.

Sensitivity of receptor

6.11.4.4 For this impact, the sensitivity has been defined by the vulnerability of the receptor group associated with snagging risks.

Inshore static gear vessels

6.11.4.5 This receptor group is constituted generally of smaller vessels (<12 m) that deploy static gear, and although these vessels have some ability to deploy alternative gear, this is relatively limited, as is their spatial adaptability. The nature of static gear fishing, where gear is not towed and does not penetrate the seabed, means the vulnerability of these receptor groups is low. It is acknowledged, however, that snagging still poses a risk to static gear vessels, for example when hauling gear. The sensitivity of the receptor is therefore, considered to be **low**.

Offshore static gear vessels

6.11.4.6 This receptor group, comprising generally larger offshore vessels (>12 m), demonstrates high spatial adaptability and has the ability to fish a wider area than any areas that are subject to potential loss or damage to fishing gear due to snagging during construction works. The nature of static gear fishing, where gear is not towed and does not penetrate the seabed, means that the vulnerability of these receptor groups is low. It is acknowledged, however, that snagging still poses a risk to static gear vessels, for example when hauling gear. The sensitivity of the receptor is therefore, considered to be **low**.

Beam trawl vessels

6.11.4.7 This receptor group exhibits high spatial adaptability, due to extensive operational ranges and has the ability to fish numerous grounds within the wider Irish Sea and beyond; this receptor group therefore has the ability to fish a wider area than any areas that are subject to potential loss or damage to fishing gear due to snagging during construction works. Some Belgian beam trawl vessels that have been recorded within the study area have also been observed to deploy alternative gear types.

6.11.4.8 The nature of the gear deployed means that the vulnerability of this receptor group is medium, as the method of fishing by mobile gear vessels, means that vessels need to tow nets/trawls under significant power, and at defined

speeds. The sensitivity of the receptor is, therefore, considered to be **medium**.

Scallop vessels – Scottish west coast

6.11.4.9 Although vessels within this receptor group exhibit a relatively high operational range, they possess limited spatial tolerance due to their dependence upon the study area for queen scallop dredging. These vessels also target king scallop within the Offshore Order Limits, with November to May being a key period within the year. The Scottish west coast scallop vessels also have a limited ability to deploy alternative gear.

6.11.4.10 During consultation, this receptor group clarified that penetration of gear varied between 0.05 - 0.25 m. The nature of the gear deployed means that the vulnerability of this receptor group is high, and the method of fishing by scallop dredgers, means that vessels need to tow nets/trawls under significant power, and at defined speeds. The sensitivity of the receptor is, therefore, considered to be **high**.

Scallop vessels – Isle of Man

6.11.4.11 This receptor group predominantly deploy otter trawls and almost exclusively operates out of ICES Rectangles 37E5 and 36E5 and, therefore, exhibits moderate spatial adaptability. Consultation indicates that vessels within this receptor group are dedicated scallop vessels, with limited ability to deploy alternative gear.

6.11.4.12 During consultation, fisheries stakeholders provided information on penetration depths of gear and requested a minimum burial depth of 1.5 m; penetration of gear depended on the gear type, with otter trawl gear and queen scallop dredge gear penetrating less than king scallop dredge gear. Vessels within this receptor group deploy both otter trawls and Newhaven dredges. The nature and penetration depth of Newhaven dredges means that the vulnerability of this receptor group is high, and the method of fishing by scallop dredgers, means that vessels need to tow nets/trawls under significant power, and at defined speeds. The sensitivity of this receptor is considered to be **high**.

Other scallop vessels

6.11.4.13 As discussed, this receptor group comprises nomadic scallop vessels that are often observed transiting through the Offshore Order Limits to other parts of the wider Irish Sea. The receptor group exhibits an extensive operational range and has the ability to fish a wider area than any areas that are subject to potential loss or damage to fishing gear due to snagging during construction works.

6.11.4.14 The nature of the gear deployed, means that the vulnerability of this receptor group is medium, as the method of fishing by mobile gear vessels, means that vessels need to tow nets/trawls under significant power, and at defined speeds. The sensitivity of this receptor is, therefore, considered to be **medium**.

Herring vessels

6.11.4.15 As discussed, this receptor group comprises vessels that target herring from England and Northern Ireland, deploying pelagic trawls and seines. Within the study area, this fishery almost exclusively operates out of ICES Rectangle 37E5, in which a relatively small, north west section of the Offshore Order Limits is positioned.

6.11.4.16 The nature of the gear deployed means that the vulnerability of this receptor group is negligible, as these vessels are mostly using pelagic trawls and seines which have no, or minimal, contact with the seabed. The sensitivity of the receptor is, therefore, considered to be **negligible**.

Magnitude of impact

6.11.4.17 Mitigation measures outlined in **section 6.8** will minimise the risks of snagging during construction. The commercial fishing industry will be fully informed of any potential snagging risks through Notices to Mariners, Kingfisher Bulletins and ongoing liaison by the OFLO, CFLO and FIR. Use of advisory clearance distances will minimise the risk of interaction between fishing vessels and project infrastructure, therefore reducing the risk of snagging. Where it is required, snagging risks such as surface-laid cable that has not yet had external cable protection applied or secondary burial works undertaken, will be marked by a guard vessel or navigational marker (CoT45, CoT66, CoT112, **Table 6.10**).

Inshore static gear vessels

6.11.4.18 The element of construction activity that will impact this receptor group is the installation of the Transmission Assets within the inshore region. Cefas data (Cefas, 2021) indicates relatively low static gear activity across the Offshore Order Limits within 12 nm. Based on this, and on the proposed measures adopted as part of the Transmission Assets and the commitments to follow standard protocols, it is considered likely that fishermen within this receptor group will operate appropriately (i.e. adhering to advisory exclusion zones and avoiding infrastructure under construction and cable protection at the defined location) given adequate notification of the locations of any snagging hazards; and are highly likely to avoid the infrastructure under construction and cable protection within the Offshore Order Limits.

6.11.4.19 In light of the above, the impact is predicted to be of local spatial extent, short to medium term duration (i.e. sequential construction scenario of up to 30 months for the offshore export cables with possible gap between construction), intermittent, and with high reversibility due the temporary nature of the works. It is predicted the impact will affect the receptor directly. The magnitude of impact is, therefore, considered to be **negligible**.

Offshore static gear vessels

6.11.4.20 As previously discussed for this receptor group, VMS data indicates moderate levels of offshore static fishing gear within the Offshore Order Limits, particularly in the south east. Based on this, and on the proposed

measures adopted as part of the Transmission Assets and the commitments to follow standard protocols, it is considered likely that fishermen within this receptor group will operate appropriately (i.e. adhering to advisory exclusion zones and avoiding infrastructure under construction and cable protection at the defined location) given adequate notification of the locations of any snagging hazards; and are highly likely to avoid the infrastructure under construction and cable protection within the Offshore Order Limits.

6.11.4.21 In light of the above, the impact is predicted to be of local spatial extent, short to medium term duration (i.e. sequential construction scenario of up to 30 months for the offshore export cables with possible gap between construction), intermittent and with high reversibility due to the temporary nature of the works. It is predicted the impact will affect the receptor directly. The magnitude of impact for this receptor group is, therefore, considered to be **negligible**.

Beam trawl vessels

6.11.4.22 Consultation established these vessels fish within the wider Irish Sea and not only within the study area, highlighting their nomadic nature. The baseline review process established that these vessels operate within the Offshore Order Limits at a relatively low level, and generally only within the north most section during the Spring period. Based on this, and on the proposed measures adopted as part of the Transmission Assets and the commitments to follow standard protocols, it is considered likely that fishermen within this receptor group will operate appropriately (i.e. adhering to advisory exclusion zones and avoiding infrastructure under construction and cable protection at the defined location) given adequate notification of the locations of any snagging hazards; and are highly likely to avoid the infrastructure under construction and cable protection within the Offshore Order Limits.

6.11.4.23 In light of the above, the impact is predicted to be of local spatial extent, short to medium term duration (i.e. sequential construction scenario of up to 30 months for the offshore export cables with possible gap between construction), intermittent and with high reversibility due to the temporary nature of the works. It is predicted the impact will affect the receptor directly. The magnitude of impact for this receptor group is, therefore, considered to be **negligible**.

Scallop vessels – Scottish west coast

6.11.4.24 Through liaison with stakeholders (SFF, SWFPA and WCSP), consultation has established that Scottish west coast scallop vessels are active and rely upon the west most section of the Offshore Order Limits (within the Morgan Offshore Wind Project: Generation Assets) for the dredging of queen scallop with August to December being particularly important months. These vessels also target king scallop within the Offshore Order Limits, with November to May being a key period within the year for this. However, based on this, and on the proposed measures adopted as part of the Transmission Assets and the commitments to follow standard protocols, it is considered likely that fishermen within this receptor group will operate appropriately (i.e. adhering to advisory exclusion zones and avoiding infrastructure under construction

and cable protection at the defined location) given adequate notification of the locations of any snagging hazards; and are highly likely to avoid the infrastructure under construction and cable protection within the Offshore Order Limits.

6.11.4.25 In light of the above, the impact is predicted to be of local spatial extent, short to medium term duration (i.e. sequential construction scenario of up to 30 months for the offshore export cables with possible gap between construction), intermittent and with high reversibility due to the temporary nature of the works. It is predicted the impact will affect the receptor directly. The magnitude of impact for this receptor group is, therefore, considered to be **negligible**.

Scallop vessels – Isle of Man

6.11.4.26 As previously discussed for this receptor group, landing statistics indicate that Isle of Man scallop vessels almost exclusively operate out of Rectangles 37E5 and 36E5, with effort in 36E5 recorded to a lesser degree. Fisheries monitoring has, to date, recorded two Manx vessels large enough to fish outside of the Manx 12 nm. Based on this, and on the proposed measures adopted as part of the Transmission Assets and the commitments to follow standard protocols, it is considered likely that fishermen within this receptor group will operate appropriately (i.e. adhering to advisory exclusion zones and avoiding infrastructure under construction and cable protection at the defined location) given adequate notification of the locations of any snagging hazards; and are highly likely to avoid the infrastructure under construction and cable protection within the Offshore Order Limits.

6.11.4.27 In light of the above, the impact is predicted to be of local spatial extent, short to medium term duration (i.e. sequential construction scenario of up to 30 months for the offshore export cables with possible gap between construction), intermittent and with high reversibility due to the temporary nature of the works. It is predicted the impact will affect the receptor directly. The magnitude of impact for this receptor group is, therefore, considered to be **negligible**.

Other scallop vessels

6.11.4.28 While landing statistics indicate relative importance for scallop within the commercial fisheries study, remote monitoring has established these vessels are highly nomadic, often pass through the Offshore Order Limits in transit to fish other areas of the Irish Sea, and target scallop across a relatively wide area offshore. Based on this, and on the proposed measures adopted as part of the Transmission Assets and the commitments to follow standard protocols, it is considered likely that fishermen within this receptor group will operate appropriately (i.e. adhering to advisory exclusion zones and avoiding infrastructure under construction and cable protection at the defined location) given adequate notification of the locations of any snagging hazards; and are highly likely to avoid the infrastructure under construction and cable protection within the Offshore Order Limits.

6.11.4.29 In light of the above, the impact is predicted to be of local spatial extent, short to medium term duration (i.e. sequential construction scenario of up to 30 months for the offshore export cables with possible gap between construction), intermittent and with high reversibility due to the temporary nature of the works. It is predicted the impact will affect the receptor directly. The magnitude of impact for this receptor group is, therefore, considered to be **negligible**.

Herring vessels

6.11.4.30 As previously discussed in **paragraph 6.11.2.44**, landing statistics indicate that this receptor group almost exclusively operates out of ICES Rectangle 37E5, in which a relatively small, north west section of the Offshore Order Limits (i.e. within the north west section of the Morgan Offshore Wind Project: Generation Assets) is positioned. Landings are highest during August and September. Feedback, via consultation has established that at the time of writing, the fishery is constituted of three pelagic trawlers from Northern Ireland, and two from England.

6.11.4.31 While considering the proposed measures adopted as part of the Transmission Assets and the commitments to follow standard protocols, it is considered likely that fishermen within this receptor group will operate appropriately (i.e. adhering to advisory exclusion zones and avoiding infrastructure under construction and cable protection at the defined location) given adequate notification of the locations of any snagging hazards; and are highly likely to avoid the infrastructure under construction and cable protection within the Offshore Order Limits.

6.11.4.32 In light of the above, the impact is predicted to be of local spatial extent, short to medium term duration (i.e. sequential construction scenario of up to 30 months for the offshore export cables with possible gap between construction), intermittent and with high reversibility due to the temporary nature of the works. It is predicted the impact will affect the receptor directly. The magnitude of impact for this receptor group is, therefore, considered to be **negligible**.

Significance of effect

6.11.4.33 A summary of the sensitivity of receptors, impact magnitude and overall effect significance (all of which are not significant in EIA terms) is provided in **Table 6.21**.

Table 6.21: Sensitivity, magnitude and impact significance relating to loss or damage to fishing gear due to snagging during construction of the Transmission Assets

Receptor Group	Sensitivity	Magnitude	Significance
Inshore static gear vessels	Low	Negligible	Negligible and Not Significant
Offshore static gear vessels	Low	Negligible	Negligible and Not Significant
Beam trawl vessels	Medium	Negligible	Negligible and Not Significant
Scottish west coast scallop vessels	High	Negligible	Minor adverse and Not Significant
Isle of Man scallop vessels	High	Negligible	Minor adverse and Not Significant
Other scallop vessels	Medium	Negligible	Negligible and Not Significant
Herring vessels	Negligible	Negligible	Negligible and Not Significant

Operation and maintenance phase

6.11.4.34 During the operation and maintenance phase of the Transmission Assets, cables will be buried (where possible) to a minimum depth of 0.5 m, however potential exists for offshore export cables to become shallow-buried or exposed due to changes in seabed conditions.

6.11.4.35 Associated external cable protection could also present a snagging risk to fishing vessels: Up to 10% of the export cables (up to 48.4 km) may require external cable protection and up to 51 export cable crossings, which will require external cable protection.

Sensitivity of receptor

6.11.4.36 The sensitivity of the receptor groups remains the same as described for the construction phase of this impact, as summarised in **Table 6.21**.

Magnitude of impact

6.11.4.37 Mitigation measures outlined in **section 6.8** will minimise the risks of snagging during operation and maintenance.

6.11.4.38 Cables will be buried, where possible, to a minimum of 0.5 m to reduce the risk of snagging. If appropriate burial depth cannot be achieved, external cable protection may be required.

6.11.4.39 Cable protection shall be designed to minimise snagging hazards as far as possible, for example by minimising height above seabed, smooth and shallower profiles, grade used for rock placement, type of rock (e.g., smoother edges) (CoT45, **Table 6.10**).

6.11.4.40 Project infrastructure, including the ‘as-laid’ coordinates of the offshore export cable, shall be recorded and submitted to the United Kingdom Hydrographic Office (UKHO) and Kingfisher for inclusion on charts (CoT59, **Table 6.10**).

The commercial fishing industry will be fully informed of any potential snagging risks through Notices to Mariners, Kingfisher Bulletins and ongoing liaison by the CFLO and FIR. Use of advisory clearance distances during major maintenance periods will minimise the risk of interaction between fishing vessels and project infrastructure, therefore reducing the risk of snagging. Where it is deemed necessary, snagging risks will be marked by a guard vessel or navigational marker.

6.11.4.41 Based on the proposed mitigation measures adopted as part of the Transmission Assets, and the commitments to follow standard protocols, it is anticipated that the magnitude for loss or damage to fishing gear due to snagging will be the same as for the construction phase, as summarised in **Table 6.21**.

Significance of effect

6.11.4.42 A summary of the sensitivity of receptors, impact magnitude and overall effect significance is provided (all of which are not significant in EIA terms) in **Table 6.22**.

Table 6.22: Sensitivity, magnitude and impact significance relating to loss or damage to fishing gear due to snagging during operation and maintenance of the Transmission Assets

Receptor Group	Sensitivity	Magnitude	Significance
Inshore static gear vessels	Low	Negligible	Negligible and Not Significant
Offshore static gear vessels	Low	Negligible	Negligible and Not Significant
Beam trawl vessels	Medium	Negligible	Negligible and Not Significant
Scottish west coast scallop vessels	High	Negligible	Minor adverse and Not Significant
Isle of Man scallop vessels	High	Negligible	Minor adverse and Not Significant
Other scallop vessels	Medium	Negligible	Negligible and Not Significant
Herring vessels	Negligible	Negligible	Negligible and Not Significant

Decommissioning phase

6.11.4.43 The current preferred approach to the offshore export cables is that they would be left in situ; however, a future scenario could exist where they may be retrieved and, if retrieved, would be disposed of, or recycled, in line with latest relevant legislation and guidance at the time. It is preferable that cable

protection outside of the Fylde MCZ (e.g. cable ducting, rock dump/armour, mattresses, etc) be left in situ.

6.11.4.44 In the absence of detailed methodologies and schedules, decommissioning works and associated implications for commercial fisheries are considered analogous with those assessed for the operation and maintenance phase.

Sensitivity of receptor

6.11.4.45 The sensitivity of the receptor groups remains the same as described for the operation and maintenance phase of this impact, as summarised in **Table 6.22**.

Magnitude of impact

6.11.4.46 It is anticipated that the magnitude for loss or damage to fishing gear due to snagging will be the same, and likely less than for the operation and maintenance phase, as summarised in **Table 6.22**.

Significance of effect

6.11.4.47 A summary of the sensitivity of receptors, impact magnitude and overall effect significance (all of which are not significant in EIA terms) is provided in **Table 6.23**.

Table 6.23: Sensitivity, magnitude and impact significance relating to loss or damage to fishing gear due to snagging during decommissioning of the Transmission Assets

Receptor Group	Sensitivity	Magnitude	Significance
Inshore static gear vessels	Low	Negligible	Negligible and Not Significant
Offshore static gear vessels	Low	Negligible	Negligible and Not Significant
Beam trawl vessels	Medium	Negligible	Negligible and Not Significant
Scottish west coast scallop vessels	High	Negligible	Minor adverse and Not Significant
Isle of Man scallop vessels	High	Negligible	Minor adverse and Not Significant
Other scallop vessels	Medium	Negligible	Negligible and Not Significant
Herring vessels	Negligible	Negligible	Negligible and Not Significant

6.11.5 Potential impacts on commercially important fish and shellfish resources

6.11.5.1 The following potential impacts on fish and shellfish ecology via the construction, operation and maintenance, and decommissioning phases of the Transmission Assets have been identified.

- Temporary habitat loss/disturbance.
- Underwater sound impacting fish and shellfish receptors.
- Underwater sound from non-pilling activities during all phases.
- Increased suspended sediment concentrations (SSCs) and associated sediment deposition.
- Long-term habitat loss.
- EMFs from subsea electrical cabling.
- Introduction of hard substrata.

6.11.5.2 These potential impacts on fish and shellfish ecology are assessed within Volume 2, Chapter 3: Fish and Shellfish Ecology of the ES. The Transmission Assets fish and shellfish ecology study area covers the east Irish Sea, extending from Mean High Water Springs west from the Mull of Galloway in Scotland to the west tip of Anglesey, following the territorial waters/12 nm limit of the Isle of Man.

6.11.5.3 As discussed in Volume 6, Annex 6.1: Commercial fisheries technical report of the ES (document reference F2.6.1), the following species are of commercial importance within the study area and are, therefore, the focus of this assessment.

- Queen scallop.
- King scallop.
- Herring.
- Lobster (*Homarus gammarus*).
- Norway lobster (*Nephrops*).
- Sole (*Solea solea).*
- Plaice (*Pleuronectes platessa).*
- Whelk.

6.11.5.4 Injury due to increased risk of collision with vessels has only been assessed for basking sharks and is therefore not considered within this chapter (see Volume 2, Chapter 3: Fish and Shellfish Ecology of the ES).

Construction phase

6.11.5.5 There is potential for the construction phase to result in both adverse and/or beneficial effects on commercially important fish and shellfish populations. Adverse effects include behavioural changes or increases/declines in

abundance, which could, therefore, potentially affect the commercial fisheries which target those species.

6.11.5.6 The fish and shellfish ecology assessment concluded that for all impacts during the construction phase of the Transmission Assets, the effect will be of minor adverse significance for king and queen scallops, which is not significant in EIA terms. Therefore, no significant impact is predicted for the Scottish west coast, Isle of Man and other scallop vessels receptor groups.

6.11.5.7 The fish and shellfish ecology assessment concluded that for all impacts during the construction phase of the Transmission Assets, the effect will be of minor adverse significance for European lobster and Norway lobster, which is not significant in EIA terms. Therefore, no significant impact is predicted for offshore static gear vessels.

6.11.5.8 The fish and shellfish ecology assessment concluded that for all impacts during the construction phase of the Transmission Assets, the effect will be of minor adverse significance for herring, which is not significant in EIA terms. Therefore, no significant impact is predicted for herring vessels.

6.11.5.9 The fish and shellfish ecology assessment concluded that for the majority of impacts during the construction phase of the Transmission Assets, the effect will be of **minor adverse** significance for other marine species (e.g., sole and plaice), which is not significant in EIA terms. Therefore, no significant impact is predicted for the beam trawl vessels receptor groups, who predominantly target sole and plaice as well as other, demersal species.

Operation and maintenance phase

6.11.5.10 There is potential for the operation and maintenance phase to result in adverse and/or beneficial effects on commercially important fish and shellfish populations. Adverse effects include behavioural changes or increases/declines in abundance, which could, therefore, potentially affect the commercial fisheries which target those species.

6.11.5.11 Overall, the fish and shellfish ecology assessment concluded that the significance of effect during the operational and maintenance phase remains the same or less in comparison to the construction phase for all impacts. Therefore, no significant impact is predicted for any commercial fisheries receptor groups as a result of impacts on commercially important fish and shellfish resources.

6.11.5.12 EMFs from subsea electrical cables was only considered for the operation and maintenance phase and concluded the significance of EMFs from subsea electrical cabling during the operational and maintenance phase is **minor adverse** for all species.

6.11.5.13 Therefore, no significant impacts are predicted for any commercial fisheries receptor groups during the operation and maintenance phase, as a result of impacts on commercially important fish and shellfish resources.

Decommissioning phase

6.11.5.14 The significance of effect for each commercially important species assessed within the fish and shellfish ecology assessment is expected to remain the same, if not less than, as described during the construction phase above for each impact. The potential impacts are, therefore, not expected to exceed **minor adverse** significance, which is not significant in EIA terms.

6.11.5.15 In light of the above, no significant impact is predicated for each of the eight identified commercial fisheries receptor groups in **Table 6.7** during the decommissioning phase.

6.11.6 Supply chain opportunities for local fishing vessels

6.11.6.1 The construction, operation and maintenance, and decommissioning of the Transmission Assets may lead to supply chain opportunities for local fishing vessels. The MDS is summarised in **Table 6.11**.

Construction phase

6.11.6.2 Elements of offshore sequential construction relevant to the Transmission Assets and commercial fisheries will take place over a period of up to 30 months years, with a potential gap between completion of construction of the Transmission Assets for the first project and commencement of construction for the second project (i.e. where the Morgan Offshore Wind Project: Transmission Assets are constructed first and the Morecambe Offshore Windfarm: Transmission Assets are constructed second) (**Table 6.11**).

6.11.6.3 During the construction phase the Transmission Assets, the following areas of potential support that could be provided by local commercial fishing operators have been identified.

- Guard vessels.
- Scouting surveys.
- Visual checks of infrastructure.
- OFLO duties.

Sensitivity of receptor

6.11.6.4 For this impact, the sensitivity has been defined as the likely potential for a receptor group to provide support to the Transmission Assets.

Inshore static gear vessels

6.11.6.5 The inshore static gear vessels are unlikely to be able to provide marine operational support during the construction phase, due to the size and type of vessel (i.e., they are unlikely to have the necessary certifications to allow them to provide non-commercial fishing support). The sensitivity for this receptor group is therefore, considered to be **negligible**.

Offshore static gear vessels

6.11.6.6 While these vessels may be larger, and therefore possess larger operational ranges and capacity to provide support, these vessels may have to undergo modifications to enable safe use as support vessels, in addition to the assumption that vessels will need to obtain the relevant workboat certifications for the vessel and crew. These vessels, therefore, have low suitability to provide marine operational support during the construction phase. The sensitivity of the receptor is therefore, considered to be **low**.

Beam trawl vessels

6.11.6.7 These vessels do not have the suitability to provide marine operational support during the construction phase. Although these vessels are larger, and therefore have larger operational ranges, they are not suitable for providing support work due to poor stability without their derricks in operational position. The majority of vessels within this receptor group that are active in the study area are non-UK vessels, from Belgium and Ireland, which are not considered suitable local vessels for support (i.e. guard vessel duty). Feedback via consultation had established that at the time of writing, there is one vessel from the south west of England that is active in the study area. This English vessel has quota in the west approaches, which they would likely utilise. The sensitivity of the receptor is therefore, considered to be **negligible**.

Scallop vessels – Scottish west coast

6.11.6.8 These vessels have low suitability to provide marine operational support during the construction phase; these vessels may have to undergo modifications to enable safe use as support vessels. The sensitivity of the receptor is therefore, considered to be **low**.

Scallop vessels – Isle of Man

6.11.6.9 These vessels have low suitability to provide marine operational support during the construction phase; these vessels may have to undergo modifications to enable safe use as support vessels. The sensitivity of the receptor is, therefore, considered to be **low**.

Other scallop vessels

6.11.6.10 These vessels have low suitability to provide marine operational support during the construction phase; these vessels may have to undergo modifications to enable safe use as support vessels. The sensitivity of the receptor is therefore, considered to be **low**.

Herring vessels

6.11.6.11 While this vessel type and size may have the capacity to provide operational support, the nomadic nature of this receptor group, in addition to the assumption that vessels will need to obtain the relevant workboat

certifications for the vessel and crew, means that these vessels have low suitability to provide marine operational support during the construction phase. The sensitivity of the receptor is therefore, considered to be **low**.

Magnitude of impact

Inshore static gear vessels

6.11.6.12 Due to the relatively limited size and nature of the vessels that fall within this receptor group, it is unlikely that any notable opportunities would exist for providing supply chain support to the Transmission Assets. This is due to the fact that many of the supply chain opportunities listed above, may require larger, better equipped vessels, with the ability to stay at sea for a longer period than these smaller vessels are able.

6.11.6.13 The exception to this is potentially undertaking scouting surveys in the inshore section of the Offshore Order Limits, ahead of any future cable installation works, to identify the locations of static gear with a view to getting this temporarily removed ahead of any major cable installation works.

6.11.6.14 Even if this impact was to arise, the benefit would be relatively limited in terms of a source of revenue for this receptor group.

6.11.6.15 The impact is predicted to be of local spatial extent, short to medium term duration (i.e. sequential construction scenario of up to 30 months for the offshore export cables with possible gap between construction) and intermittent. It is predicted that the impact will affect the receptor directly, but only be of negligible benefit as it is judged that any such support by this receptor group would create a value equivalent to <5% of the receptor group's annual value of landings. The magnitude is therefore, considered to be **negligible**.

All other receptor groups

6.11.6.16 For all receptor groups, this impact is predicted to be of local spatial extent, short to medium term duration (i.e. sequential construction scenario of up to 30 months for the offshore export cables with possible gap between construction) and intermittent. It is predicted that the impact will affect the receptor directly, but only be of minor benefit, as it is judged that any such support by this receptor group would create a value equivalent to between 5-10% of the receptor group's annual value of landings. The magnitude is therefore, considered to be **low.**

Significance of effect

6.11.6.17 A summary of the sensitivity of receptors, impact magnitude and overall effect significance (all of which are not significant in EIA terms) is provided in **Table 6.24**.

Table 6.24: Sensitivity, magnitude and impact significance relating to supply chain opportunities for local fishing vessels during construction of the Transmission Assets

Receptor Group	Sensitivity	Magnitude	Significance
Inshore static gear vessels	Negligible	Negligible	Negligible beneficial and Not Significant
Offshore static gear vessels	Low	Low	Negligible beneficial and Not Significant
Beam trawl vessels	Negligible	Low	Negligible beneficial and Not Significant
Scottish west coast scallop vessels	Low	Low	Negligible beneficial and Not Significant
Isle of Man scallop vessels	Low	Low	Negligible beneficial and Not Significant
Other scallop vessels	Low	Low	Negligible beneficial and Not Significant
Herring vessels	Low	Low	Negligible beneficial and Not Significant

Operation and maintenance phase

6.11.6.18 During the operation and maintenance phase (up to 35 years), there may be opportunities for commercial fishing vessels to provide marine operational support, such as OFLO duties and guard vessel requirements during periods of major maintenance.

Sensitivity of receptor

6.11.6.19 For this impact, the sensitivity has been defined as the likely potential for a receptor group to provide support to the Transmission Assets. The sensitivity of the receptor groups remains the same as described for the construction phase of this impact, as summarised in **Table 6.24**.

Magnitude of impact

6.11.6.20 The inshore static gear vessels are unlikely to be able to provide marine operational support, as described for the construction phase. The magnitude is therefore, considered to be **negligible**.

6.11.6.21 The magnitude for all other commercial fisheries receptor groups during the operation and maintenance phase is considered to be lower than during construction, as the supply chain opportunities are likely to be shorter term and more intermittent. It is predicted that the impact will affect the receptors directly, but only be of very minor benefit, as it is judged that any such support by these receptor groups would create a value equivalent to less

than 5% of the receptor groups' annual value of landings. The magnitude is therefore, considered to be **negligible**.

Significance of effect

6.11.6.22 A summary of the sensitivity of receptors, impact magnitude and overall effect significance (all of which are not significant in EIA terms) is provided in **Table 6.25**.

Table 6.25: Sensitivity, magnitude and impact significance relating to supply chain opportunities for local fishing vessels during the operation and maintenance phase of the Transmission Assets

Receptor Group	Sensitivity	Magnitude	Significance
Inshore static gear vessels	Negligible	Negligible	Negligible beneficial and Not Significant
Offshore static gear vessels	Low	Negligible	Negligible beneficial and Not Significant
Beam trawl vessels	Negligible	Negligible	Negligible beneficial and Not Significant
Scottish west coast scallop vessels	Low	Negligible	Negligible beneficial and Not Significant
Isle of Man scallop vessels	Low	Negligible	Negligible beneficial and Not Significant
Other scallop vessels	Low	Negligible	Negligible beneficial and Not Significant
Herring vessels	Low	Negligible	Negligible beneficial and Not Significant

Decommissioning phase

6.11.6.23 In the absence of detailed methodologies for the decommissioning phase the supply chain opportunities for local fishing vessels are considered the same as for the construction phase, as summarised in **Table 6.24**.

6.11.7 Future monitoring

6.11.7.1 **Table 6.26**: Monitoring commitments below outlines the proposed monitoring commitments.

Table 6.26: Monitoring commitments

Commitment number	Measure adopted	How the measure will be secured
CoT 71	An Outline Offshore Operation and Maintenance Plan has been prepared and submitted as part of the application for development consent. Detailed Offshore Operation and Maintenance Plan(s) will be produced prior to entering the operation and maintenance phase.	DCO Schedule 14 (Marine Licence 1: Morgan Offshore Wind Project Transmission Assets). Part 2 - Condition11(3) (Maintenance of the authorised scheme) and DCO Schedule 15 (Marine Licence 2: Morecambe Offshore Wind Farm Transmission Assets), Part 2 - Condition11(3) (Maintenance of the authorised scheme).

6.12 Cumulative effect assessment methodology

6.12.1 Introduction

6.12.1.1 The Cumulative Effects Assessment (CEA) takes into account the impact associated with the Transmission Assets together with other projects and plans. The projects and plans selected as relevant to the CEA presented within this chapter are based upon the results of a screening exercise (see Volume 1, Annex 5.5: Cumulative screening matrix and location plan). Each project has been considered on a case-by-case basis for screening in or out of this chapter's assessment based upon data confidence, effect-receptor pathways and the spatial/temporal scales involved.

6.12.1.2 The commercial fisheries CEA methodology has followed the methodology set out in Volume 1, Chapter 5: Environmental assessment methodology of the ES.

6.12.1.3 The cumulative assessment considers six scenarios overall; Transmission Assets together with Morecambe Offshore Windfarm: Generation Assets only (scenario 1), Transmission Assets together with Morgan Offshore Wind Project: Generation Assets only (scenario 2) and Transmission Assets together with Morgan Offshore Wind Project: Generation Assets and Morecambe Offshore Windfarm: Generation Assets (scenario 3). These cumulative scenarios are followed by the cumulative assessment of all projects (scenarios 4a-4c), plans and activities allocated into three 'Tiers' reflecting their current stage within the planning and development process.

6.12.1.4 The cumulative assessment has been undertaken as follows.

- Scenario 1: Transmission Assets together with Morecambe Offshore Windfarm: Generation Assets.
- Scenario 2: Transmission Assets together with Morgan Offshore Wind Project: Generation Assets.

- Scenario 3: Transmission Assets together with Morgan Offshore Wind Project: Generation Assets and Morecambe Offshore Windfarm: Generation Assets.
- Scenario 4: Scenario 3 together with Tier 1, Tier 2 and Tier 3 projects, plans and activities, defined as follows.
  - Scenario 4a: Scenario 3 and Tier 1 projects., plans and activities which are:
    - under construction;
    - permitted application;
    - submitted application; or
    - those currently operational that were not operational when baseline data were collected, and/or those that are operational but have an ongoing impact.
  - Scenario 4b: Scenario 4a and Tier 2 projects, plans and activities which a scoping report has been submitted in the public domain.
  - Scenario 4c: Scenario 4b and Tier 3 projects, plans and activities which are:
    - where a scoping report has not been submitted and it is not in the public domain;
    - identified in the relevant Development Plan; or
    - identified in other plans and programmes.

6.12.1.5 This tiered approach is adopted to provide a clear assessment of the Transmission Assets alongside other projects, plans and activities.

6.12.1.6 The specific projects, plans and activities scoped into the CEA, are outlined in **Table 6.27**: List of other projects, plans and activities considered within the CEA and shown in **Figure 6.2** (Volume 2, Figures).

6.12.1.7 The range of potential cumulative impacts is identified in **Table 6.28** and is a subset of those considered for the Transmission Assets alone. Where the potential significant effect for the Transmission Assets alone is assessed as negligible or where an impact is predicted to be highly localised, these will not generally be considered within the CEA, as there is not considered to be a potential for cumulative effects with other plans, projects or activities.

6.12.1.8 Given the operational ranges of the fishing fleets active in the region, and considering feedback from consultation, the study area for the CEA for commercial fisheries remains the same as for the main assessment (ICES Rectangles 36E5, 36E6, 37E5 and 37E6) (**Figure 6.2**, Volume 2, Figures). This study area will ensure that relevant regional fishing grounds, for a range of different fishing fleets, are fully assessed as part of the CEA.

6.12.1.9 For the purposes of this assessment, projects and activities have not been included where they are considered to be included in the baseline, such as shipping routes operational offshore wind farms, aggregate areas,

operational cables and pipelines, anchorages and existing restrictions within MPAs, as commercial fisheries receptors would already be adapted to them and they do not have significant effects on commercial fisheries receptors.

Table 6.27: List of other projects, plans and activities considered within the CEA

Project / Plan	Status	Distance from the Transmission Assets (nearest point, km)	Description of project / plan	Dates of construction (if applicable)	Dates of operation (if applicable)	Temporal Overlap with the Transmission Assets[3]
Morgan Offshore Wind Project: Generation Assets	Submitted	0	Proposed offshore wind farm. Maximum of 96 wind turbines. Area: 300 km^2.	2026	2030	Yes
Morecambe Offshore Windfarm: Generation Assets	Submitted	0	Proposed offshore wind farm. Maximum of 40 wind turbines and indicative minimum spacing between wind turbines of 990 m. Area: 125 km^2.	2026	2028	Yes
Tier 1						
Mona Offshore Wind Project	Submitted	9.73	Proposed offshore wind farm. Maximum of 96 wind turbines. Area: 300 km^2.	2026	2030	Yes
Tier 2						
Mooir Vannin Offshore Wind Farm (Isle of Man)	Pre-application	2.59	Proposed offshore wind farm. Maximum of 100 fixed wind turbines. Area: 253 km^2.	2026	2030	Yes
Tier 3						
West of Walney MCZ	Designated	8	Total area of 388 km^2.	n/a	n/a	No

[3] Temporal overlap, including the construction phase of the Transmission Assets with the operation and maintenance phase of other projects (e.g. cable repairs).

Project / Plan	Status	Distance from the Transmission Assets (nearest point, km)	Description of project / plan	Dates of construction (if applicable)	Dates of operation (if applicable)	Temporal Overlap with the Transmission Assets[3]
			Protected for sea-pen and burrowing megafauna communities, and subtidal mud and sand.			
West of Copeland MCZ	Designated	7	Total area of 158 km^2. Protected for subtidal coarse and mixed sediments and subtidal sand.	n/a	n/a	No
Fylde MCZ	Designated	0	Total area of 261 km^2. Protected for subtidal mud and sand.	n/a	n/a	No
Liverpool Bay SPA	Designated	0	Total area of 2,528 km^2. Protected for a range of bird species.	n/a	n/a	No
Shell Flat and Lune Deep SAC	Designated	6	Total area of 106 km^2. Protected for reefs features large subtidal sand.	n/a	n/a	No

6.12.2 Scope of cumulative effects assessment

6.12.2.1 The impacts identified in have been selected as those having the potential to result in the greatest cumulative effect on an identified receptor or receptor group. The cumulative effects presented and assessed in this section have been based on the Project Design Envelope set out in Volume 1, Chapter 5: Project Description of the ES as well as the information available on other projects and plans. Effects of greater adverse significance are not predicted to arise should any other development scenario, based on details within the Project Design Envelope (e.g., different foundation type or substation layout), to that assessed here, be taken forward in the final design scheme.

Table 6.28: Scope of assessment of cumulative effects

Cumulative effect	Phase[a]			Project(s) considered	Justification
	C	O	D		
Loss or restricted access to fishing grounds	✓	✓	✓	MDS as described for the Transmission Assets assessed cumulatively with the following other projects/plans: • Morgan Offshore Wind Project: Generation Assets. • Morecambe Offshore Windfarm Generation Assets. **Tier 1** • Mona Offshore Wind Project. **Tier 2** • Mooir Vannin Offshore Wind Farm (Isle of Man). **Tier 3** Five MPAs: • West of Walney MCZ. • West of Copeland MCZ. • Fylde MCZ. • Liverpool Bay SPA. • Shell Flat and Lune Deep SAC.	Outcome of the CEA will be highest when the greatest number of other schemes, resulting in a loss or restricted access to fishing ground, are considered within the cumulative study area.
Loss or damage to fishing gear due to snagging	✓	✓	✓	MDS as described for the Transmission Assets assessed cumulatively with the following other projects/plans: • Morgan Offshore Wind Project: Generation Assets. • Morecambe Offshore Windfarm Generation Assets. **Tier 1** • Mona Offshore Wind Project. •	Outcome of the CEA will be highest when the greatest number of other schemes, resulting in loss or damage to fishing gear due to snagging, are considered within the cumulative study area.

Cumulative effect	Phase[a]			Project(s) considered	Justification
	C	O	D		
				Tier 2 • Mooir Vannin Offshore Wind Farm (Isle of Man).	
Potential impacts on commercially important fish and shellfish stocks	✓	✓	✓	Volume 2, Chapter 3: Fish and shellfish ecology of the ES.	Outcome of the CEA will be highest when the greatest number of other schemes, resulting in potential impacts on commercially important fish and shellfish stocks, are considered within the cumulative study area.

[a] C=construction, O=operation and maintenance, D=decommissioning

6.13 Cumulative effects assessment

6.13.1 Introduction

6.13.1.1 A description of the significance of cumulative effects upon commercial fisheries receptors arising from each identified impact is given below.

6.13.1.2 The CEA is presented in a series of tables (one for each potential cumulative impact) and considers the following.

- Scenario 1: Transmission Assets together with Morecambe Offshore Windfarm: Generation Assets.
- Scenario 2: Transmission Assets together with Morgan Offshore Wind Project: Generation Assets.
- Scenario 3: Transmission Assets together with Morgan Offshore Wind Project: Generation Assets and Morecambe Offshore Windfarm: Generation Assets.
- Scenario 4a to 4c: Transmission Assets together with Morgan Offshore Wind Project: Generation Assets and Morecambe Offshore Windfarm: Generation Assets (Scenario 3) and other relevant projects and plans.

6.13.1.3 The likelihood of any significant effects on commercial fisheries occurring would largely depend on the operational practices of each particular fleet, the location and extent of their grounds relative to other developments and the timings of the construction, operation and maintenance and decommissioning phases. Effects and receptor groups are only discussed where there is the potential for a cumulative effect to arise.

6.13.2 Loss or restricted access to fishing grounds

6.13.2.1 For loss or restricted access to fishing grounds, the potential significant effect for the Transmission Assets alone, across all phases, is assessed as negligible for all receptor groups other than the Scottish west coast scallop vessels and the Isle of Man scallop vessels (assessed as minor adverse across all phases). Therefore, only the Scottish west coast scallop vessels and the Isle of Man scallop vessels have been considered within the CEA for this impact, as there is not considered to be a potential for cumulative effects with other plans, projects or activities for the other receptor groups.

Table 6.29: Cumulative effects assessment for loss or restricted access to fishing grounds for Scottish west coast scallop vessels and Isle of Man scallop vessels

	Scenario 1: Transmission Assets and Morecambe Offshore Windfarm: Generation Assets	Scenario 2: Transmission Assets and Morgan Offshore Wind Project: Generation Assets	Scenario 3: Transmission Assets and Generation Assets
Construction phase			
Sensitivity of receptor	The Scottish west coast scallop vessels receptor group generally consists of larger vessels (>12 m) that deploy dredge gear, targeting queen and king scallop. Although vessels within this group exhibit a relatively high operational range, their spatial tolerance in this part of the Irish Sea is limited due to their heavy reliance on the northwest section of the Offshore Order Limits (overlapping with the west section of the Morgan generation Assets) for queen scallop dredging. Additionally, Scottish west coast scallop vessels have limited ability to deploy alternative gear. However, while the western section of the Offshore Order Limits is important to this receptor group, they also operate in other areas of the Irish Sea and beyond. The sensitivity of the receptor to cumulative impacts is considered to be **medium**. Dependence on the commercial fisheries study area can be observed (and confirmed via consultation) for Isle of Man vessels targeting queen scallop (while deploying dredges and otter trawls within Manx Territorial Waters) and king scallop (while deploying dredges within Manx Territorial Waters and areas beyond in UK waters). Isle of Man scallop vessels are deemed to be of limited spatial adaptability, limited spatial tolerance and limited recoverability. The sensitivity of the receptor to cumulative impacts is considered to be **medium**.		
Magnitude of impact	The cumulative effects assessment for Scenario 1 considers the: • Transmission Assets; and • Morecambe Offshore Windfarm: Generation Assets. Consultation with commercial fisheries stakeholders established that queen scallop populations are present within the Offshore Order Limits, the north west section of the Offshore Order Limits (and west section of the Morgan Offshore Wind Project: Generation Assets) is considered to be the most important ground; with August to December being particularly important months. These vessels also target king scallop within the north west section of the Offshore Order Limits, with November to May being a key period within the year.	The cumulative effects assessment for Scenario 2 considers the: • Transmission Assets; and • Morgan Offshore Wind Project: Generation Assets. Consultation with commercial fisheries stakeholders established that queen scallop populations are present within the Offshore Order Limits, the north west section of the Offshore Order Limits (and west section of the Morgan Offshore Wind Project: Generation Assets) is considered to be the most important ground; with August to December being particularly important months. These vessels also target king scallop within the Morgan Offshore Wind Project: Generation Assets, with November to May being a key period within the year.	The cumulative effects assessment for Scenario 3 considers the: • Transmission Assets; and • Generation Assets. The construction phase for the Transmission Assets and Generation Assets together, has an anticipated duration of up to eight years (if constructed sequentially) and a total area of approximately 624 km^2. During this period of construction, it is anticipated that the Scottish west coast scallop vessels and Isle of Man scallop vessels (that deploy dredges, target king scallop and fish beyond the Isle of Man 12 nm limit) will temporarily lose access to fishing grounds. It is noted, however, that the dredge fishery is considered a low value fishery within the region of the Morecambe Offshore Windfarm: Generation Assets

	Scenario 1: Transmission Assets and Morecambe Offshore Windfarm: Generation Assets	Scenario 2: Transmission Assets and Morgan Offshore Wind Project: Generation Assets	Scenario 3: Transmission Assets and Generation Assets
	The construction phase for the Morecambe Offshore Windfarm: Generation Assets and the Transmission Assets, together, has an anticipated duration of up to four years and a total area of approximately 624 km^2. During this period of construction, it is anticipated that the Scottish west coast scallop vessels and Isle of Man scallop vessels (that deploy dredges to target king scallop beyond the Isle of Man 12 nm limit) will temporarily lose access to fishing grounds. It is noted, however, that the dredge fishery present within the Morecambe Offshore Windfarm: Generation Assets is considered a low- value fishery (Morecambe Offshore Windfarm Ltd, 2024), which is located 8.9 km away from the north most section of the Offshore Order Limits (where an area of relative importance to the Scottish west coast scallop fleet is located). During the construction phase of the Transmission Assets and the Morecambe Offshore Windfarm: Generation Assets fishing activity will only be excluded from discrete spatial areas (i.e. only discreet sections will be subject to temporary restrictions, via temporary 500 m safety and/or advisory exclusion zones around major installation vessels). Loss or restricted access as a result of the Transmission Assets combined with the Morecambe Offshore Windfarm: Generation Assets, during the construction phases, is, therefore, not anticipated to result in a reduction of more than 5% of the annual value	The construction phase of the Morgan Offshore Wind Project: Generation Assets and the Transmission Assets, together, has an anticipated duration of up to four years. During this period of construction, it is anticipated that the Scottish west coast scallop vessels and Isle of Man scallop vessels (that deploy dredges to target king scallop beyond the Isle of Man 12 nm limit) will temporarily lose access to fishing grounds. However, while these receptor groups are active within the north west section of the Offshore Order Limits (and west section of the Morgan Offshore Wind Project: Generation Assets), activity is undertaken to a far lesser extent throughout other areas of the Offshore Order Limits. The total area of the Morgan Offshore Wind Project: Generation Assets and the Offshore Order Limits is approximately 624 km^2. However, during the construction phase, fishing activity will only be excluded from discrete spatial areas (i.e. only sections of the Morgan Offshore Wind Project: Generation Assets and Offshore Order Limits will be subject to temporary restrictions, via temporary 500 m safety zones and/or advisory exclusion zones around major installation vessels) (Morgan Offshore Wind Project: Generation Assets, 2024). Loss or restricted access as a result of the Transmission Assets combined with the Morgan Offshore Wind Project: Generation Assets during the construction phases is, therefore, not anticipated to result in a reduction of more than 10% of the annual value of landings, due	(Morecambe Offshore Windfarm Ltd, 2023), which is located 8.9 km away from the Morgan Offshore Wind Project: Generation Assets. During the construction phase of the Transmission Assets and Generation Assets, fishing activity will only be excluded from discrete spatial areas (i.e. only sections of the Morgan Offshore Wind Project: Generation Assets and Offshore Order Limits will be subject to temporary restrictions, via temporary 500 m safety and/or advisory exclusion zones around major installation vessels) (Morgan Offshore Wind Project: Generation Assets, 2024). Loss or restricted access as a result of the Transmission Assets combined with the Generation Assets, during the construction phases, is, therefore, not anticipated to result in a reduction of more than 10% of the annual value of landings, due to the temporary and intermittent nature of the works. The cumulative effect for both the Scottish scallop vessels and the Isle of Man scallop vessels is predicted to be of local spatial extent, short to medium term duration, intermittent and with high reversibility. It is predicted that the impact will affect the receptors directly but be of low magnitude, as it is judged construction would only affect an area from which a minor proportion of the receptor group's commercial annual value of landings is caught. The magnitude of cumulative impact for these receptors is therefore, considered to be **low**.

	Scenario 1: Transmission Assets and Morecambe Offshore Windfarm: Generation Assets	Scenario 2: Transmission Assets and Morgan Offshore Wind Project: Generation Assets	Scenario 3: Transmission Assets and Generation Assets
	of landings, due to the temporary and intermittent nature of the works. The cumulative effect for both the Scottish scallop vessels and the Isle of Man scallop vessels is predicted to be of local spatial extent, short to medium term duration, intermittent and with high reversibility. It is predicted that the impact will affect the receptors directly but be of negligible magnitude, as it is judged construction would only affect an area from which a very small proportion of the receptor group's commercial annual value of landings is caught. The magnitude of cumulative impact for these receptors is therefore, considered to be **negligible**.	to the temporary and intermittent nature of the works. The cumulative effect for both the Scottish scallop vessels and the Isle of Man scallop vessels is predicted to be of local spatial extent, short to medium term duration (i.e. less than five years), intermittent and with high reversibility. It is predicted that the impact will affect the receptors directly but be of low magnitude, as it is judged construction would only affect an area from which a minor proportion of the receptor group's commercial annual value of landings is caught. The magnitude of cumulative impact for these receptors is therefore deemed as **low**.	
Significance of effect	Overall, the magnitude of the cumulative impact is deemed to be negligible and the sensitivity of the receptor is considered to be medium for both the Scottish west coast scallop vessels and the Isle of Man scallop vessels. The cumulative effect will, therefore, be of **minor** adverse significance for these receptors, which is not significant in EIA terms.	Overall, the magnitude of the cumulative impact is deemed to be low and the sensitivity of the receptor is considered to be medium for both the Scottish west coast scallop vessels and the Isle of Man scallop vessels. The cumulative effect will, therefore, be of **minor** adverse significance for these receptors, which is not significant in EIA terms.	Overall, the magnitude of the cumulative impact is deemed to be low and the sensitivity of the receptor is considered to be medium for both the Scottish west coast scallop vessels and the Isle of Man scallop vessels. The cumulative effect will, therefore, be of **minor** adverse significance for these receptors, which is not significant in EIA terms.
Operation and maintenance phase			
Sensitivity of receptor	The Scottish west coast scallop vessels receptor group generally consists of larger vessels (>12 m) that deploy dredge gear, targeting queen and king scallop. Although vessels within this group exhibit a relatively high operational range, their spatial tolerance in this part of the Irish Sea is limited due to their heavy reliance on the northwest section of the Offshore Order Limits (overlapping with the west section of the Morgan generation Assets) for queen scallop dredging. Additionally, Scottish west coast scallop vessels have limited ability to deploy alternative gear. However, while the western section is very important to this receptor group, they also operate in other areas of the Irish Sea and beyond. The sensitivity of the receptor to cumulative impacts is considered to be **medium**. Dependence on the commercial fisheries study area can be observed (and confirmed via consultation) for Isle of Man vessels targeting queen scallop (while deploying dredges and otter trawls within Manx Territorial Waters) and king scallop (while deploying dredges within Manx		

	Scenario 1: Transmission Assets and Morecambe Offshore Windfarm: Generation Assets	Scenario 2: Transmission Assets and Morgan Offshore Wind Project: Generation Assets	Scenario 3: Transmission Assets and Generation Assets
	Territorial Waters and areas beyond in UK waters). Isle of Man scallop vessels are deemed to be of limited spatial adaptability, limited spatial tolerance and limited recoverability. The sensitivity of the receptor to cumulative impacts is considered to be **medium**.		
Magnitude of impact	The cumulative effects assessment for Scenario 1 considers the: • Transmission Assets; and • Morecambe Offshore Windfarm: Generation Assets. The Morecambe Offshore Windfarm: Generation Assets is located to the north and east of well-established scallop grounds. Although some seasonal activity is known to occur across the Morecambe Offshore Windfarm: Generation Assets, the dredge fishery is considered to be a low value fishery within this area (Morecambe Offshore Windfarm Ltd, 2024). The design of the Morecambe Offshore Windfarm: Generation Assets infrastructure layout i.e. minimum spacing of 990 m between wind turbines in a row, 1,760 m between inter rows of wind turbines and up to 40 wind turbines), is expected to allow some levels of dredge activity to resume within the Morecambe Offshore Windfarm: Generation Assets (Morecambe Offshore Windfarm Ltd, 2024). Due to the nature of the gear (i.e. robust bottom contact with the use of Newhaven dredges for king scallop and skid dredges for queen scallop, it is expected that these receptor groups (Scottish west coast scallop vessels and Isle of Man scallop vessels) will lose access to discrete areas as a result of	The cumulative effects assessment for Scenario 2 considers the: • Transmission Assets; and • Morgan Offshore Wind Project: Generation Assets. While taking into account the significant reliance upon the Morgan Offshore Wind Project: Generation Assets by these receptor groups (potentially accounting for approximately 40 % of their total annual landings) to reduce the potential for project infrastructure to severely restrict fishing and to promote co-existence and co-location, the Applicant of the Morgan Offshore Wind Project: Generation Assets has committed to a Scallop Mitigation Zone (SMZ) (an area free of turbines and OSPs within the array area) that covers areas of core scallop grounds located within the west section of the Morgan Area Array, in a roughly north – south orientation. The alignment of the inter array cables is also to be orientated in a north – south orientation, as far as reasonably possible. This orientation of inter array cables and wind turbines within the Morgan Offshore Wind Project: Generation Assets is compatible with tows exhibited by vessels within this receptor group (as established via project-specific consultation feedback) and as such, dredging is expected to continue in the SMZ during the operations and maintenance phase of the Morgan Offshore Wind Project: Generation Assets,	The cumulative effects assessment for Scenario 1 considers the: • Transmission Assets; and • Generation Assets. The Morecambe Offshore Windfarm: Generation Assets is located to the north and east of well-established scallop grounds. Although some seasonal activity is known to occur across the Morecambe Offshore Windfarm: Generation Assets, the dredge fishery is considered to be a low value fishery within this area (Morecambe Offshore Windfarm Ltd, 2024). The design of the Morecambe Offshore Windfarm: Generation Assets infrastructure layout i.e. minimum spacing of 990 m between wind turbines in a row, 1,760 m between inter rows of wind turbines and up to 40 wind turbines), is expected to allow some levels of dredge activity to resume within the Morecambe Offshore Windfarm: Generation Assets (Morecambe Offshore Windfarm Ltd, 2024). To reduce the potential for project infrastructure to severely restrict fishing and to promote co-existence and co-location, the Applicant of the Morgan Offshore Wind Project: Generation Assets has committed to a SMZ that covers areas of core scallop grounds located within the west section of the Morgan Area Array, in a roughly north – south

	Scenario 1: Transmission Assets and Morecambe Offshore Windfarm: Generation Assets	Scenario 2: Transmission Assets and Morgan Offshore Wind Project: Generation Assets	Scenario 3: Transmission Assets and Generation Assets
	where external cable protection is required within the Offshore Order Limits. It is also noted, however, that the receptor groups are less active within south areas of the Offshore Order Limits, such as within the Morecambe Offshore Windfarm: Generation Assets (as established during consultation). Loss or restricted access as a result of the Transmission Assets combined with the Morecambe Offshore Windfarm: Generation Assets, during the operations and maintenance phases, is, therefore, not anticipated to result in a reduction of more than 5% of the annual value of landings, due to the temporary and intermittent nature of the works. In light of the above, the cumulative impact is predicted to be of regional spatial extent, long term duration, continuous, and with low reversibility. It is predicted that the impact will affect the receptor directly, but be of negligible magnitude, as it is judged that it would affect an area from which a very small proportion of the receptor group's annual value of landings is caught. The magnitude of cumulative impact is therefore, considered to be **negligible**.	reducing the magnitude of impact (Morgan Offshore Windfarm Limited, 2024). Such commitments, including the minimum extent of the SMZ is committed to within the Outline FLCP of the Morgan Offshore Wind Project: Generation Assets (Morgan Offshore Windfarm Limited, 2024). Stakeholders via consultation have confirmed that gear penetration varied between 0.05-0.25 m for vessels within the Scottish west coast receptor group, so adequate burial of cables is important to allow these vessels to continue fishing within the area of the Offshore Order Limits; the MDS of both the Transmission Assets and Morgan Offshore Wind Project: Generation Assets for burial depths of cables, is 0.5 m. Due to the nature of the gear (i.e. robust bottom contact with the use of Newhaven dredges for king scallop and skid dredges for queen scallop, it is expected that the receptor groups will lose access to discrete areas as a result of where external cable protection is required within the Offshore Order Limits and Morgan Offshore Wind Project: Generation Assets. It is also noted, however, that the receptor groups are less active within the Offshore Order Limits, south of the Morgan Offshore Wind Project: Generation Assets (as established during consultation). Loss or restricted access as a result of the Transmission Assets combined with the Morgan Offshore Wind Project: Generation Assets during the operations and maintenance phases is, therefore, not anticipated to result in	orientation. The alignment of the inter array cables is also to be orientated in a north – south orientation, as far as reasonably possible. This orientation of inter array cables and wind turbines within the Morgan Offshore Wind Project: Generation Assets is compatible with tows exhibited by vessels within this receptor group (as established via consultation feedback) and as such, dredging is expected to continue in the SMZ during the operations and maintenance phase of the Morgan Offshore Wind Project: Generation Assets, reducing the magnitude of impact. Such commitments, including the minimum extent of the SMZ is committed to within the Outline FLCP of the Morgan Offshore Wind Project: Generation Assets (Morgan Offshore Windfarm Limited, 2024). Due to the nature of the gear (i.e. robust bottom contact with the use of Newhaven dredges for king scallop and skid dredges for queen scallop, it is expected that the receptor groups will lose access to discrete areas as a result of where external cable protection is required within the Offshore Order Limits and Generation Assets. It is also noted, however, that the receptor groups are less active within the Offshore Order Limits, south of the Morgan Offshore Wind Project: Generation Assets, such as within the Morecambe Array Area (as established during consultation). Loss or restricted access as a result of the Transmission Assets combined with the Generation Assets, during the operations and maintenance phases, is, therefore, not

	Scenario 1: Transmission Assets and Morecambe Offshore Windfarm: Generation Assets	Scenario 2: Transmission Assets and Morgan Offshore Wind Project: Generation Assets	Scenario 3: Transmission Assets and Generation Assets
		a reduction of more than 10 % of the annual value of landings, due to the temporary and intermittent nature of the works. In light of the above, the cumulative impact is predicted to be of regional spatial extent, long term duration, continuous, and with low reversibility. It is predicted that the impact will affect the receptors directly, but be of low magnitude, as it is judged that it would affect an area from which a minor proportion of the receptor group's annual value of landings is caught. The magnitude of cumulative impact is therefore, considered to be **low**.	anticipated to result in a reduction of more than 10 % of the annual value of landings, due to the temporary and intermittent nature of the works. In light of the above, the cumulative impact is predicted to be of regional spatial extent, long term duration, continuous, and with low reversibility. It is predicted that the impact will affect the receptor directly, but be of low magnitude, as it is judged that it would affect an area from which a minor proportion of the receptor group's annual value of landings is caught. The magnitude of cumulative impact is therefore, considered to be **low**.
Significance of effect	Overall, the magnitude of the cumulative impact is deemed to be negligible and the sensitivity of the receptor is considered to be medium for both the Scottish west coast scallop vessels and the Isle of Man scallop vessels. The cumulative effect will, therefore, be of **minor** adverse significance for these receptors, which is not significant in EIA terms.	Overall, the magnitude of the cumulative impact is deemed to be low and the sensitivity of the receptor is considered to be medium for both the Scottish west coast scallop vessels and the Isle of Man scallop vessels. The cumulative effect will, therefore, be of **minor** adverse significance for these receptors, which is not significant in EIA terms.	Overall, the magnitude of the cumulative impact is deemed to be low and the sensitivity of the receptor is considered to be medium for both the Scottish west coast scallop vessels and the Isle of Man scallop vessels. The cumulative effect will, therefore, be of **minor** adverse significance for these receptors, which is not significant in EIA terms.
Decommissioning phase			
Magnitude of impact	The magnitude of impacts on the Scottish west coast scallop vessels and Isle of Man scallop vessels receptors is the same as that presented for the detailed assessment above for construction, as the impacts of the decommissioning phase will not be greater than for the construction phase.		
Sensitivity of receptor	The sensitivity of the Scottish west coast scallop vessels and Isle of Man scallop vessels receptors is the same as that presented for the detailed assessment above for construction, as the impacts of the decommissioning phase will not be greater than for the construction phase.		
Significance of effect	The significance of effect of the Scottish west coast scallop vessels and Isle of Man scallop vessels receptors is the same as that presented for the detailed assessment above for construction, as the magnitude of impact and sensitivity of the receptor during the decommissioning phase will not be greater than for the construction phase. The cumulative effect will, therefore, be of **minor adverse** significance for these receptors, which is not significant in EIA terms.		

Table 6.30: Cumulative effects assessment for loss or restricted access to fishing grounds for Scottish west coast scallop vessels and Isle of Man scallop vessels

	Scenario 4a – Transmission Assets and Generation Assets (Scenario 3) plus Tier 1 projects	Scenario 4b – Scenario 4a plus Tier 2 projects	Scenario 4c – Scenario 4b plus Tier 3 project
Construction phase			
Sensitivity of receptor	The Scottish west coast scallop vessels receptor group generally consists of larger vessels (>12 m) that deploy dredge gear, targeting queen and king scallop. Although vessels within this group exhibit a relatively high operational range, their spatial tolerance in this part of the Irish Sea is limited due to their heavy reliance on the northwest section of the Offshore Order Limits (overlapping with the west section of the Morgan generation Assets) for queen scallop dredging. Additionally, Scottish west coast scallop vessels have limited ability to deploy alternative gear. However, while the western section of the Offshore Order Limits is important to this receptor group, they also operate in other areas of the Irish Sea and beyond. The sensitivity of the receptor to cumulative impacts is considered to be **medium**. Dependence on the commercial fisheries study area can be observed (and confirmed via consultation) for Isle of Man vessels targeting queen scallop (while deploying dredges and otter trawls within Manx Territorial Waters) and king scallop (while deploying dredges within Manx Territorial Waters and areas beyond in UK waters). Isle of Man scallop vessels are deemed to be of limited spatial adaptability, limited spatial tolerance and limited recoverability. The sensitivity of the receptor to cumulative impacts is considered to be **medium**.		
Magnitude of impact	The cumulative effects assessment for Scenario 4a considers the: • Transmission Assets and Generation Assets (Scenario 3); and • Mona Offshore Wind Project. Cumulative impact with the Transmission Assets, Generation Assets and Tier 1 Mona Offshore Wind Project will occur where there is a temporal overlap of construction works with the scallop fishery that is targeted by this receptor group, predominantly within the central part of the Mona Array Area and west part of the Morgan Offshore Wind Project: Generation Assets and Transmission Assets. The construction phase of the Mona Offshore Wind Project is expected to have a low magnitude of impact on both the Scottish	The cumulative effects assessment for Scenario 4b considers the: • Scenario 4a; and • Mooir Vannin Offshore Windfarm. It is anticipated that the Scottish west coast scallop vessels and Isle of Man scallop vessels receptor groups will lose access to fishing grounds during the construction phases of the Transmission Assets, Generation Assets and Mona Offshore Wind Project. These receptor groups are less active within areas south of the Morgan Offshore Wind Project: Generation Assets, such as within the Morecambe Offshore Windfarm: Generation Assets and south sections of the Offshore Order Limits. The MDS for this receptor group would be loss of	The cumulative effects assessment for Scenario 4c considers the: • Scenario 4b; and • Tier 3 designated sites listed in **Table 6.28**: Scope of assessment of cumulative effects. The CEA considers MPAs where new management measures, focussed on commercial fishing activity, are proposed to be implemented by the MMO to protect designated features within MPAs. Any such measures may contribute to loss or restricted access to fishing grounds for commercial fisheries in the CEA study area. Such management measures (typically invoked via Byelaws) implemented before 2022, i.e. the bottom towed gear prohibition byelaw within the West of Walney MCZ implemented in 2019, are

	Scenario 4a – Transmission Assets and Generation Assets (Scenario 3) plus Tier 1 projects	Scenario 4b – Scenario 4a plus Tier 2 projects	Scenario 4c – Scenario 4b plus Tier 3 project
	west coast scallop vessels and the Isle of Man scallop vessels (Mona Offshore Wind Limited, 2024). Loss or restricted access as a result of the Mona Offshore Wind Project, Generation Assets and the Transmission Assets construction phases together, will not result in a reduction of more than 10% of the annual value of landings, due to the temporary and intermittent nature of the works and the likelihood that there will be 500 m safety zones and/or advisory exclusion zones during the construction phases of these wind farms, which will minimise loss of area to these receptor groups. The cumulative effect for both the Scottish scallop vessels and the Isle of Man scallop vessels is predicted to be of regional spatial extent, short to medium term duration (i.e. less than five years), intermittent, and with high reversibility. It is predicted that the impact will affect the receptors directly. The magnitude of cumulative impact for these receptors is, therefore, considered to be **low**.	access to key fishing grounds as a result of the construction areas of the Scenario 4a and the Tier 2 Mooir Vannin Offshore Windfarm. It is not anticipated that these receptor groups will lose access to fishing grounds during the construction phase of the Mooir Vannin Offshore Windfarm, as the offshore construction phase of Mooir Vannin Offshore Windfarm (Q1 2030 starts after the completion of the construction phase for the Generation Assets (Ørsted, 2023). There is, therefore, no temporal overlap of constructions works. While a temporal overlap of construction works may exist between the Transmission Assets and Mooir Vannin Offshore Windfarm, the sequential construction scenario of the Transmission Assets includes a potential gap (i.e. where the Morgan Offshore Wind Project: Transmission Assets are constructed first and the Morecambe Offshore Windfarm: Transmission Assets are constructed second). During this period, commercial fishing is expected to continue. It is also noted that the Mooir Vannin Offshore Windfarm is to be located within Manx territorial waters (Ørsted, 2023). Under the Isle of Man Scallop LTMP, access to king scallop dredging is limited to vessels under 221 kW, unless they possess Grandfather Rights. These Grandfather Rights will be terminated by November 2024 under the LTMP. Only vessels which possess a UK and Isle of Man fishing vessel	considered part of the commercial fisheries baseline and hence not considered within the CEA. The objective of MPAs is to maintain the integrity of the sites and the identified features within them. In addition to protected sites, the North West Inshore Fisheries and Conservation Authority have implemented a range of Byelaws that limit fishing activity within the 6 nm boundary of English waters (i.e. number of dredges deployed and size limit of vessels). Existing byelaws within the 6 nm boundary of English waters are considered part of the commercial fisheries baseline and hence not considered within the CEA. At the time of writing, it is uncertain as to whether additional management measures will be implemented with regard to commercial fisheries operating within the 6 nm boundary of English waters. The Fisheries Act 2020 introduced new powers allowing for the MMO to make byelaws to manage commercial fishing activities for the conservation of marine flora, fauna and habitats in English waters (including between 6 nm and 12 nm, and beyond 12 nm). The MMO is using these powers to introduce fisheries management to protect 41 MPAs by the end of 2024 (MMO, 2024a). This work is taking place over four stages. • Stage one: Public consultation on draft byelaws for four MPAs were undertaken in 2021 and then implemented in June 2022, none of which overlap with the CEA study area.

	Scenario 4a – Transmission Assets and Generation Assets (Scenario 3) plus Tier 1 projects	Scenario 4b – Scenario 4a plus Tier 2 projects	Scenario 4c – Scenario 4b plus Tier 3 project
		licence with scallop entitlement may fish for scallops within Manx Territorial waters. The fishery is highly regulated and, whilst access is non-discriminatory by way of nationality or home port, eligibility to participate is determined on the basis of a number of factors including historic track record and vessel characteristics. At the time of writing, there are 55 vessels licenced to fish for king scallop in Isle of Man waters (29 of which are Isle of Man registered vessels). Of these, 36 can also fish for queen scallops (25 of which are Isle of Man registered vessels). Project-specific consultation has established that the Scottish west coast scallop vessels do not operate within Manx Territorial waters. Daily catch rates are also in place for queen scallop in Manx Territorial Waters and although some vessels within this receptor group may hold a valid licence to fish, they often may choose not to. Loss or restricted access as a result of the Scenario 4a and the Mooir Vannin Offshore Windfarm construction phases is not anticipated to result in a reduction of more than 10% of the annual value of landings, due to the temporary and intermittent nature of the works. The cumulative effect for both the Scottish scallop vessels and the Isle of Man scallop vessels is predicted to be of regional spatial extent, short to medium term duration (i.e. less than five years), intermittent, and with high reversibility due to the temporary nature of the works. It is predicted that the impact	• Stage two: Focussed on the impacts of bottom towed fishing gear on all rock and reef MPA features within 13 MPAs, none of which overlap with the CEA study area. Following formal consultation by the MMO, management measures are being finalised and where appropriate introduced into the 13 MPAs. • Stage three: Covers the remaining impacts of fishing on the 41 MPAs with seabed features not already covered in stage one or stage two, four of which overlap with the CEA study area. Management options are to be considered no later than end of 2024. MPAs in stage three and overlap with the CEA study area include: – Shell Flat and Lune Deep SAC (106 km^2) designated for reefs feature large subtidal sand; – West of Copeland MCZ (158 km^2) designated for subtidal coarse and mixed sediments and sand; – West of Walney MCZ (388 km^2) designated for sea-pen and burrowing megafauna communities and subtidal mud and sand; and – Fylde MCZ (261 km^2) designated for subtidal mud and sand. • Stage four: Covers the impacts of fishing on MPAs with highly mobile species features (harbour porpoise or marine birds), with management options to be considered by the end of 2024. The Liverpool Bay SPA (designated for seabirds) is in stage four and overlaps with the CEA study area.

	Scenario 4a – Transmission Assets and Generation Assets (Scenario 3) plus Tier 1 projects	Scenario 4b – Scenario 4a plus Tier 2 projects	Scenario 4c – Scenario 4b plus Tier 3 project
		will affect the receptors directly, but be of low magnitude, as it is judged that it would affect an area from which a minor proportion of the receptor group's annual value of landings is caught. The magnitude of cumulative impact for these receptors is therefore, considered to be **low**.	The MMO has drafted a summary report focused on stage three. This report summarises the relevant evidence available for commercial fishing gear impacts on certain MPAs. More specifically, the report provides an overview of the analysis undertaken for the impacts of fishing using anchored nets and lines, bottom towed gear, and traps on features of MPAs in English waters. The summary report concluded that bottom towed gears have the potential to incur a significant negative impact on all MPA designated features in stage three, while anchored nets and traps were considered unlikely to have a significant negative impact (MMO, 2024b). It can therefore be assumed (as it is highly likely) that all bottom towed fishing gear (i.e. dredges) that operate with seabed contact will be subject to some form of limitation within the aforementioned SACs and MCZs in stage 3 that lie within the CEA study area. Management options are to be considered by the MMO no later than end of 2024. It is noted, however, that the West of Walney MCZ already contains a bottom towed gear prohibition byelaw (implemented in 2019), which is considered to be part of the commercial fisheries baseline, i.e. not assessed within this CEA. Analysis of VMS data presented within Volume 2, Annex 6.1: Commercial fisheries technical report of the ES (document reference F2.6.1) concluded that fishing activity undertaken within the commercial fisheries study area by the Scottish west coast scallop vessels is highest within offshore waters (beyond 12 m), such as

	Scenario 4a – Transmission Assets and Generation Assets (Scenario 3) plus Tier 1 projects	Scenario 4b – Scenario 4a plus Tier 2 projects	Scenario 4c – Scenario 4b plus Tier 3 project
			within the Morgan Offshore Wind Project: Generation Assets and in areas to the south west. While fishing activity by the Isle of Man scallop vessels is highest within Manx Territorial Waters and UK offshore waters (beyond 12 m). All the aforementioned SACs and MCZs are either mostly, or entirely located within English waters located between 12 and 6 nm from the coast, with the exemption of the Shell Flat and Lune Deep SAC which is located offshore (beyond 12 nm). Based on the limited risk bottom towed gear presents for protected areas designated for seabirds, additional management measures are considered unlikely within such sites. Therefore, for the Liverpool Bay SPA, which is designated for seabirds, no cumulative impact on the commercial fisheries receptors is anticipated. Based on the relatively low level of Scottish west coast scallop vessels and Isle of Man scallop vessels activity within the boundaries of the four MPAs listed above, and the commitment by the Applicants to implement the measures outlined in **Table 6.10**, the cumulative loss or restricted access to fishing grounds from project-only impacts and these potential future fishery management measures, is assessed as resulting in a 5-10% reduction in the annual value of landings for vessels in this receptor group. Given the concentrated area of activity within the north west section of the Offshore Order Limits and the limited activity observed within the protected areas, this cumulative loss of area, across all phases, is therefore considered to affect an area from which a minor proportion (5-

	Scenario 4a – Transmission Assets and Generation Assets (Scenario 3) plus Tier 1 projects	Scenario 4b – Scenario 4a plus Tier 2 projects	Scenario 4c – Scenario 4b plus Tier 3 project
			10%) of these commercial fisheries receptor's annual value of landings is caught. The magnitude of cumulative impact for the Scottish west coast scallop vessels and the Isle of man scallop vessels is, therefore, considered to be **low**.
Significance of effect	Overall, the magnitude of the cumulative impact is deemed to be low and the sensitivity of the receptor is considered to be medium for both the Scottish west coast scallop vessels and the Isle of Man scallop vessels. The cumulative effect will, therefore, be of **minor** adverse significance for these receptors, which is not significant in EIA terms.	Overall, the magnitude of the cumulative impact is deemed to be low and the sensitivity of the receptor is considered to be medium for both the Scottish west coast scallop vessels and the Isle of Man scallop vessels. The cumulative effect will, therefore, be of **minor** adverse significance for these receptors, which is not significant in EIA terms.	Overall, the magnitude of the cumulative impact is deemed to be low and the sensitivity of the receptor is considered to be medium for both the Scottish west coast scallop vessels and the Isle of Man scallop vessels. The cumulative effect will, therefore, be of **minor** adverse significance for these receptors, which is not significant in EIA terms.
Operation and maintenance phase			
Sensitivity of receptor	The Scottish west coast scallop vessels receptor group generally consists of larger vessels (>12 m) that deploy dredge gear, targeting queen and king scallop. Although vessels within this group exhibit a relatively high operational range, their spatial tolerance in this part of the Irish Sea is limited due to their heavy reliance on the northwest section of the Offshore Order Limits (overlapping with the west section of the Morgan generation Assets) for queen scallop dredging. Additionally, Scottish west coast scallop vessels have limited ability to deploy alternative gear. However, while the western section of the Offshore Order Limits is important to this receptor group, they also operate in other areas of the Irish Sea and beyond. The sensitivity of the receptor to cumulative impacts is considered to be **medium**. Dependence on the commercial fisheries study area can be observed (and confirmed via consultation) for Isle of Man vessels targeting queen scallop (while deploying dredges and otter trawls within Manx Territorial Waters) and king scallop (while deploying dredges within Manx Territorial Waters and areas beyond in UK waters). Isle of Man scallop vessels are deemed to be of limited spatial adaptability, limited spatial tolerance and limited recoverability. The sensitivity of the receptor to cumulative impacts is considered to be **medium**.		
Magnitude of impact	The cumulative effects assessment for Scenario 4a considers the:	The cumulative effects assessment for Scenario 4b considers the: • Scenario 4a; and	The cumulative effects assessment for Scenario 4c considers the: • Scenario 4b; and

	Scenario 4a – Transmission Assets and Generation Assets (Scenario 3) plus Tier 1 projects	Scenario 4b – Scenario 4a plus Tier 2 projects	Scenario 4c – Scenario 4b plus Tier 3 project
	• Transmission Assets and Generation Assets (Scenario 3); and • Tier 1 project listed in **Table 6.28**: Scope of assessment of cumulative effects. The receptor groups have indicated that they may be able to continue fishing within the Morgan Offshore Wind Project: Generation Assets and Mona Array Area, but fishing activity could be restricted. In order to reduce loss or restricted access to fishing grounds and promote co-location and co-existence during the operations and maintenance phase, The Applicants of the Morgan Offshore Wind Farm: Generation Assets and Mona Offshore Wind Project have committed to, within their respective outline Fisheries Liaison and Co-existence Plans the implementation of SMZs over areas of core scallop grounds (Morgan Offshore Wind Limited, 2024; Mona Offshore Wind Limited, 2024). Due to the nature of the gear (i.e. robust bottom contact with the use of Newhaven dredges for king scallop and skid dredges for queen scallop, it is expected that the receptor groups will lose access to discrete areas as a result of where external cable protection is required within the Offshore Order Limits, Mona Array Area and the Generation Assets. However, such external cable protection will be designed to increase potential for co-existence where practically possible (Morecambe Offshore Wind Limited, 2024; Morgan Offshore Wind Limited, 2024; Mona	• Tier 2 project listed in **Table 6.28**: Scope of assessment of cumulative effects. The receptor groups have indicated that they may be able to continue fishing within the Generation Assets, but fishing activity could be restricted. The total area from the Generation Assets alone is approximately 447 km^2. The receptor groups are less active within the Offshore Order Limits, south of the Morgan Offshore Wind Project: Generation Assets, such as within the Morecambe Offshore Windfarm: Generation Assets (as established during consultation). In order to reduce loss or restricted access to fishing grounds and promote co-location and co-existence during the operations and maintenance phase, the Applicant of the Morgan Offshore Wind Farm: Generation Assets have committed to implementing a SMZ over areas of core scallop grounds (Morgan Offshore Wind Limited, 2024). The Mooir Vannin Offshore Windfarm is to be located within Manx Territorial Waters (Ørsted, 2023). Only vessels that possess a UK and Isle of Man fishing vessel licence with scallop entitlement may fish for scallops within Manx Territorial waters. The fishery is highly regulated and, whilst access is non-discriminatory by way of nationality or home port, eligibility to participate is determined on the basis of a number of factors including historic track record and vessel characteristics. At the time of writing, there are 55 vessels licenced to fish for king	• Tier 3 designated sites listed in **Table 6.28**: Scope of assessment of cumulative effects. The magnitude of impact for this receptor groups remains the same as described for the construction phase of this impact.

	Scenario 4a – Transmission Assets and Generation Assets (Scenario 3) plus Tier 1 projects	Scenario 4b – Scenario 4a plus Tier 2 projects	Scenario 4c – Scenario 4b plus Tier 3 project
	Offshore Wind Limited, 2024 It is also noted, however, that the receptor groups are less active within the Offshore Order Limits, south of the Morgan Offshore Wind Project: Generation Assets, such as within the Morecambe Offshore Windfarm: Generation Assets (as established during consultation). Loss or restricted access as a result of the Transmission Assets combined with the Mona Offshore Wind Project and Generation Assets, during the operations and maintenance phases, is, therefore, not anticipated to result in a reduction of more than 10% of the annual value of landings, due to the temporary and intermittent nature of the works. In light of the above, the cumulative impact is predicted to be of regional spatial extent, long term duration, continuous, and with low reversibility. It is predicted that the impact will affect the receptor directly, but be of low magnitude, as it is judged that it would affect an area from which a minor proportion of the receptor group's annual value of landings is caught. The magnitude of cumulative impact is therefore, considered to be **low**.	scallop in Isle of Man waters (29 of which are Isle of Man registered vessels). Of these, 36 can also fish for queen scallops (25 of which are Isle of Man registered vessels). Daily catch rates are also in place for queen scallop in Manx Territorial Waters and although some vessels within this receptor group may hold a valid licence to fish, they often may choose not to. While the receptor groups has not indicated whether they may, or may not, be able to fish within the array area of the Mooir Vannin Offshore Windfarm once operational, the regulations currently in place limit the extent of this receptor groups activity. The Applicants of the Morgan Offshore Wind Farm: Generation Assets and Mona Offshore Wind Project have committed to, within their respective outline Fisheries Liaison and Co-existence Plans the implementation of SMZs over areas of core scallop grounds (Morgan Offshore Wind Limited, 2024; Mona Offshore Wind Limited, 2024). Loss or restricted access to fishing grounds as a result of export cable protection (up to 10% of total offshore export cable length) and cable crossing (up to 51) for the Transmission Assets is also limited in extent. Loss or restricted access as a result of the Transmission Assets and Mona Offshore Wind Project combined with the Generation Assets and Mooir Vannin Offshore Windfarm, during the operations and maintenance phases, is, therefore, not	

	Scenario 4a – Transmission Assets and Generation Assets (Scenario 3) plus Tier 1 projects	Scenario 4b – Scenario 4a plus Tier 2 projects	Scenario 4c – Scenario 4b plus Tier 3 project
		anticipated to result in a reduction of more than 10% of the annual value of landings, due to the temporary and intermittent nature of the works. In light of the above, the cumulative impact is predicted to be of regional spatial extent, long term duration, continuous, and with low reversibility. It is predicted that the impact will affect the receptor directly, but be of low magnitude, as it is judged that it would affect an area from which a minor proportion of the receptor group's annual value of landings is caught. The magnitude of cumulative impact is therefore, considered to be **low**.	
Significance of effect	Overall, the magnitude of the cumulative impact is deemed to be low and the sensitivity of the receptor is considered to be medium for both the Scottish west coast scallop vessels and the Isle of Man scallop vessels. The cumulative effect will, therefore, be of **minor** adverse significance for these receptors, which is not significant in EIA terms.	Overall, the magnitude of the cumulative impact is deemed to be low and the sensitivity of the receptor is considered to be medium for both the Scottish west coast scallop vessels and the Isle of Man scallop vessels. The cumulative effect will, therefore, be of **minor** adverse significance for these receptors, which is not significant in EIA terms.	Overall, the magnitude of the cumulative impact is deemed to be low and the sensitivity of the receptor is considered to be medium for both the Scottish west coast scallop vessels and the Isle of Man scallop vessels. The cumulative effect will, therefore, be of **minor** adverse significance for these receptors, which is not significant in EIA terms.
Decommissioning phase			
Sensitivity of receptor	The sensitivity of the Scottish west coast scallop vessels and Isle of Man scallop vessels receptors is the same as that presented for the detailed assessment above for construction, as the impacts of the decommissioning phase will not be greater than for the construction phase.		
Magnitude of impact	The magnitude of impacts on the Scottish west coast scallop vessels and Isle of Man scallop vessels receptors is the same as that presented for the detailed assessment above for construction, as the impacts of the decommissioning phase will not be greater than for the construction phase.		
Significance of effect	The significance of effect of the Scottish west coast scallop vessels and Isle of Man scallop vessels receptors is the same as that presented for the detailed assessment above for construction, as the magnitude of impact and sensitivity of the receptor during the decommissioning phase		

	Scenario 4a – Transmission Assets and Generation Assets (Scenario 3) plus Tier 1 projects	Scenario 4b – Scenario 4a plus Tier 2 projects	Scenario 4c – Scenario 4b plus Tier 3 project
	will not be greater than for the construction phase. The cumulative effect will, therefore, be of **minor** adverse significance for these receptors, which is not significant in EIA terms.		

6.13.3 Loss or damage to fishing gear due to snagging

6.13.3.1 For loss or damage of fishing gear due to snagging, the potential effect for the Transmission Assets alone, across all phases, is assessed as negligible for all receptor groups other than the other than the Scottish west coast scallop vessels and Isle of Man scallop vessels (i.e. vulnerability of gear type deployed, **section 6.11.4**). Where the potential effect for the Transmission Assets alone is assessed as negligible or where an impact is predicted to be highly localised, these will not be considered within the CEA, as there is not considered to be a potential for cumulative effects with other plans, projects, or activities. This is consistent with the approach taken in the commercial fisheries assessments for the adjacent projects and enables a more focussed assessment (rather than assessing all impacts cumulatively, even where the project alone is only contributing a negligible amount (not significant in EIA terms impact). Therefore, only the Scottish west coast scallop vessels and Isle of Man scallop vessels have been considered within the CEA for this impact, as there is not considered to be a potential for cumulative effects with other plans, projects or activities for the other receptor groups.

Table 6.31: Cumulative effects assessment for loss or damage of fishing gear due to snagging for Scottish west coast scallop vessels and Isle of Man scallop vessels

	Scenario 1: Transmission Assets and Morecambe Offshore Windfarm: Generation Assets	Scenario 2: Transmission Assets and Morgan Offshore Wind Project: Generation Assets	Scenario 3: Transmission Assets and Generation Assets
Construction phase			
Sensitivity of receptor	Although vessels within this receptor group exhibit a relatively high operational range, they possess limited spatial tolerance due to their high dependence upon the commercial fisheries study area for queen scallop dredging. It is noted, however, that this receptor group operates in other areas of the Irish Sea and beyond. The Scottish west coast scallop vessels also have a limited ability to deploy alternative gear. During consultation, this receptor group clarified that penetration of gear varied between 0.05-0.25 m. The nature of the gear deployed means that the vulnerability of this receptor group is high, and the method of fishing by scallop dredgers, means that vessels need to tow nets/trawls under significant power, and at defined speeds. The sensitivity of the receptor is, therefore, considered to be **high**. During consultation, the Isle of Man scallop vessels receptor provided information on penetration depths of gear and requested a minimum burial depth of 1.5 m; penetration of gear depended on the gear type, with otter trawl gear and queen scallop dredge gear penetrating less than king scallop dredge gear. Vessels within this receptor group deploy both otter trawls and Newhaven dredges. The nature and penetration depth of Newhaven dredges means that the vulnerability of this receptor group is high, and the method of fishing by scallop dredgers, means that vessels need to tow nets/trawls under significant power, and at defined speeds. The sensitivity of this receptor is considered to be **high**.		
Magnitude of impact	The cumulative effects assessment for Scenario 1 considers the: • Transmission Assets; and • Morecambe Offshore Windfarm: Generation Assets. Given the proposed measures adopted as part of the Transmission Assets and the commitments to follow standard protocols, in addition to the safety aspects that would be applied by Morecambe Offshore Windfarm: Generation Assets, the cumulative impacts would remain as assessed for the Transmission Assets alone. The cumulative impact for the Scottish west coast scallop vessels and Isle of Man scallop vessels is predicted to be of local spatial extent, long term duration, intermittent, and	The cumulative effects assessment for Scenario 2 considers the: • Transmission Assets; and • Morgan Offshore Windfarm: Generation Assets. Given the proposed measures adopted as part of the Transmission Assets and the commitments to follow standard protocols, in addition to the safety aspects that would be applied by the Morgan Offshore Wind Farm: Generation Assets, the cumulative impacts would remain as assessed for the Transmission Assets alone. The cumulative impact for the Scottish west coast scallop vessels and Isle of Man scallop vessels is predicted to be of local spatial extent, long term duration, intermittent, and	The cumulative effects assessment for Scenario 3 considers the: • Transmission Assets; and • Generation Assets. Given the proposed measures adopted as part of the Transmission Assets and the commitments to follow standard protocols, in addition to the safety aspects that would be applied by the Generation Assets, the cumulative impacts would remain as assessed for the Transmission Assets alone. The cumulative impact for the Scottish west coast scallop vessels and Isle of Man scallop vessels is predicted to be of local spatial extent, long term duration, intermittent, and with high reversibility due the temporary nature of the works. It is predicted that the impact will

	Scenario 1: Transmission Assets and Morecambe Offshore Windfarm: Generation Assets	Scenario 2: Transmission Assets and Morgan Offshore Wind Project: Generation Assets	Scenario 3: Transmission Assets and Generation Assets
	with high reversibility due the temporary nature of the works. It is predicted that the impact will affect the receptors directly. The magnitude of cumulative impact for these receptors is, therefore, considered to be **negligible**.	with high reversibility due the temporary nature of the works. It is predicted that the impact will affect the receptors directly. The magnitude of cumulative impact for these receptors is, therefore, considered to be **negligible**.	affect the receptors directly. The magnitude of cumulative impact for these receptors is, therefore, considered to be **negligible**.
Significance of effect	Overall, the magnitude of the cumulative impact is deemed to be negligible and the sensitivity of the receptor is considered to be high for both the Scottish west coast scallop vessels and Isle of Man scallop vessels. The cumulative effect for these receptors will, therefore, be of **minor** adverse significance, which is not significant in EIA terms	Overall, the magnitude of the cumulative impact is deemed to be negligible and the sensitivity of the receptor is considered to be high for both the Scottish west coast scallop vessels and Isle of Man scallop vessels. The cumulative effect for these receptors will, therefore, be of **minor** adverse significance, which is not significant in EIA terms.	Overall, the magnitude of the cumulative impact is deemed to be negligible and the sensitivity of the receptor is considered to be high for both the Scottish west coast scallop vessels and Isle of Man scallop vessels. The cumulative effect for these receptors will, therefore, be of **minor** adverse significance, which is not significant in EIA terms.
Operation and maintenance phase			
Sensitivity of receptor	The sensitivity of both the Scottish west coast scallop vessels and Isle of Man scallop vessels receptors is the same as that presented for the detailed assessment above for construction.		
Magnitude of impact	Given the proposed measures adopted as part of the Transmission Assets and the commitments to follow standard protocols, in addition to the safety aspects that would be applied by all other projects, the cumulative magnitude of impact for both the Scottish west coast scallop vessels and Isle of Man scallop vessels would remain as assessed for the Transmission Assets alone. The magnitude of cumulative impact for these receptors is, therefore, considered to be **negligible**.		
Significance of effect	Overall, the magnitude of the cumulative impact for both the Scottish west coast scallop vessels and Isle of Man scallop vessels receptors is deemed to be negligible and the sensitivity of the receptor is considered to be high. The cumulative significance of effect for these receptors will, therefore, be of **minor** adverse significance, which is not significant in EIA terms.		
Decommissioning phase			
Sensitivity of receptor	The sensitivity of both the Scottish west coast scallop vessels and Isle of Man scallop vessels receptors is the same as that presented for the detailed assessment above for construction		
Magnitude of impact	The cumulative magnitude of impact for both the Scottish west coast scallop vessels and Isle of Man scallop vessels is not expected to exceed the detailed assessment above for construction, as the impacts of the decommissioning phase will not be greater than for the construction phase.		

	Scenario 1: Transmission Assets and Morecambe Offshore Windfarm: Generation Assets	Scenario 2: Transmission Assets and Morgan Offshore Wind Project: Generation Assets	Scenario 3: Transmission Assets and Generation Assets
Significance of effect	The significance of effect of both the Scottish west coast scallop vessels and Isle of Man scallop vessels receptors is the same as that presented for the detailed assessment above for construction, as the magnitude of impact and sensitivity of these receptors during the decommissioning phase will not be greater than for the construction phase. The cumulative effect will, therefore, be of **minor** adverse significance for these receptors, which is not significant in EIA terms.		

Table 6.32: Cumulative effects assessment for loss or damage of fishing gear due to snagging for Scottish west coast scallop vessels and Isle of Man scallop vessels.

	Scenario 4a – Transmission Assets Generation Assets (Scenario 3) plus Tier 1 projects	Scenario 4b – Scenario 4a plus Tier 2 projects	Scenario 4c – Scenario 4b plus Tier 3 projects
Construction phase			
Sensitivity of receptor	Although vessels within this receptor group exhibit a relatively high operational range, they possess limited spatial tolerance due to their high dependence upon the commercial fisheries study area for queen scallop dredging. It is noted, however, that this receptor group operates in other areas of the Irish Sea and beyond. The Scottish west coast scallop vessels also have a limited ability to deploy alternative gear. During consultation, this receptor group clarified that penetration of gear varied between 0.05-0.25 m. The nature of the gear deployed means that the vulnerability of this receptor group is high, and the method of fishing by scallop dredgers, means that vessels need to tow nets/trawls under significant power, and at defined speeds. The sensitivity of the receptor is, therefore, considered to be **high**. During consultation, the Isle of Man scallop vessels receptor provided information on penetration depths of gear and requested a minimum burial depth of 1.5 m; penetration of gear depended on the gear type, with otter trawl gear and queen scallop dredge gear penetrating less than king scallop dredge gear. Vessels within this receptor group deploy both otter trawls and Newhaven dredges. The nature and penetration depth of Newhaven dredges means that the vulnerability of this receptor group is high, and the method of fishing by scallop dredgers, means that vessels need to tow nets/trawls under significant power, and at defined speeds. The sensitivity of this receptor is considered to be **high**.		
Magnitude of impact	The cumulative effects assessment for Scenario 4a considers the: • Transmission Assets and Generation Assets (Scenario 3); and	The cumulative effects assessment for Scenario 4b considers the: • Scenario 4a; and • Tier 2 Mooir Vanin Offshore Windfarm as listed in **Table 6.28**: Scope of assessment of cumulative effects.	The cumulative effects assessment for Scenario 4c considers the: • Scenario 4b; and • Tier 3 designated sites listed in **Table 6.28**: Scope of assessment of cumulative effects.

	Scenario 4a – Transmission Assets Generation Assets (Scenario 3) plus Tier 1 projects	Scenario 4b – Scenario 4a plus Tier 2 projects	Scenario 4c – Scenario 4b plus Tier 3 projects
	• Tier 1 Mona Offshore Wind Project as listed in **Table 6.28**: Scope of assessment of cumulative effects. Given the proposed measures adopted as part of the Transmission Assets and the commitments to follow standard protocols, in addition to the safety aspects and commitments that would be applied to the Generation Assets and the Mona Offshore Wind Project (Mona Offshore Wind Limited, 2024), the cumulative impacts would remain as assessed for the Transmission Assets alone. The cumulative impact for the Scottish west coast scallop vessels and Isle of Man scallop vessels is predicted to be of local spatial extent, long term duration, intermittent, and with high reversibility due the temporary nature of the works. It is predicted that the impact will affect the receptors directly. The magnitude of cumulative impact for these receptors is, therefore, considered to be **negligible**.	Given the proposed measures adopted as part of the Transmission Assets and the commitments to follow standard protocols, in addition to the safety aspects that would be applied by all other projects, the cumulative impacts would remain as assessed for the Transmission Assets alone. The cumulative impact for the Scottish west coast scallop vessels and Isle of Man scallop vessels is predicted to be of local spatial extent, long term duration, intermittent, and with high reversibility due the temporary nature of the works. It is predicted that the impact will affect the receptors directly. The magnitude of cumulative impact for these receptors is, therefore, considered to be **negligible**.	As all projects/plans within Tier 3 are designated sites, cumulative loss or damage to fishing gear due to snagging will not exceed the cumulative assessment undertaken for the Transmission Assets and the Generation Assets alone (Scenario 2). Snagging risks may occur as a result of infrastructure on the seabed, such as inter-array cables, offshore export cables and associated cable protection. The magnitude of cumulative impact for the Scottish west coast scallop vessels and Isle of Man scallop vessels is, therefore, considered to be **negligible**.
Significance of effect	Overall, the magnitude of the cumulative impact is deemed to be negligible and the sensitivity of the receptor is considered to be high for both the Scottish west coast scallop vessels and Isle of Man scallop vessels. The cumulative effect for these receptors will, therefore, be of **minor adverse** significance, which is not significant in EIA terms.	Overall, the magnitude of the cumulative impact is deemed to be negligible and the sensitivity of the receptor is considered to be high for both the Scottish west coast scallop vessels and Isle of Man scallop vessels. The cumulative effect for these receptors will, therefore, be of **minor adverse** significance, which is not significant in EIA terms.	Overall, the magnitude of the cumulative impact is deemed to be negligible and the sensitivity of the receptor is considered to be high for both the Scottish west coast scallop vessels and Isle of Man scallop vessels. The cumulative effect for these receptors will, therefore, be of **minor** adverse significance, which is not significant in EIA terms.
Operation and maintenance phase			

	Scenario 4a – Transmission Assets Generation Assets (Scenario 3) plus Tier 1 projects	Scenario 4b – Scenario 4a plus Tier 2 projects	Scenario 4c – Scenario 4b plus Tier 3 projects
Sensitivity of receptor	The sensitivity of both the Scottish west coast scallop vessels and Isle of Man scallop vessels receptors is the same as that presented for the detailed assessment above for construction.		
Magnitude of impact	Given the proposed measures adopted as part of the Transmission Assets and the commitments to follow standard protocols, in addition to the safety aspects that would be applied by all other projects, the cumulative magnitude of impact for both the Scottish west coast scallop vessels and Isle of Man scallop vessels would remain as assessed for the Transmission Assets alone. The magnitude of cumulative impact for these receptors is, therefore, considered to be **negligible**.		
Significance of effect	Overall, the magnitude of the cumulative impact for both the Scottish west coast scallop vessels and Isle of Man scallop vessels receptors is deemed to be negligible and the sensitivity of the receptor is considered to be high. The cumulative significance of effect for these receptors will, therefore, be of **minor** adverse significance, which is not significant in EIA terms.		
Decommissioning phase			
Sensitivity of receptor	The sensitivity of both the Scottish west coast scallop vessels and Isle of Man scallop vessels receptors is the same as that presented for the detailed assessment above for construction		
Magnitude of impact	The cumulative magnitude of impact for both the Scottish west coast scallop vessels and Isle of Man scallop vessels is not expected to exceed the detailed assessment above for construction, as the impacts of the decommissioning phase will not be greater than for the construction phase.		
Significance of effect	The significance of effect of both the Scottish west coast scallop vessels and Isle of Man scallop vessels receptors is the same as that presented for the detailed assessment above for construction, as the magnitude of impact and sensitivity of these receptors during the decommissioning phase will not be greater than for the construction phase.		

6.13.4 Potential impacts on commercially important fish and shellfish stocks

6.13.4.1 The following potential cumulative impacts on fish and shellfish ecology via the construction, operations and maintenance, and decommissioning phases of the Transmission Assets have been identified which are relevant to commercial fish species.

- Temporary habitat loss/disturbance.
- Underwater sound impacting fish and shellfish receptors.
- Underwater sound from non-pilling activities during all phases.
- Increased SSCs and associated sediment deposition.
- Long-term habitat loss.
- EMFs from subsea electrical cabling.
- Introduction of hard substrata.

6.13.4.2 These potential cumulative impacts on fish and shellfish ecology are assessed within Volume 2, Chapter 3: Fish and Shellfish Ecology of the ES.

6.13.4.3 The fish and shellfish ecology cumulative assessment concluded that for all impacts during the construction, operation and maintenance, and decommissioning phases of the Transmission Assets, the effect will be of no greater than minor adverse significance for commercial fish species, which is not significant in EIA terms. Therefore, no significant impact is predicted for commercial fisheries receptor groups.

6.14 Transboundary effects

6.14.1 Introduction

6.14.1.1 A screening of transboundary impacts has been carried out and has identified that there was no potential for significant transboundary effects with regard to commercial fisheries from the Transmission Assets upon the interests of other states.

6.14.1.2 A screening of transboundary impacts has been carried out and any potential for significant transboundary effects with regard to commercial fisheries from the Transmission Assets upon the interests of other states has been assessed as part of this ES. Potential impacts on both UK and foreign commercial fishing fleets have been considered as part of this impact assessment (**section 6.11**); it was predicted that there will be no significant effects on Irish and Belgian vessels which operate within the study area. The potential transboundary impacts assessed within Volume 1, Annex 5.4: Transboundary screening of the ES are summarised below.

- Potential effects on commercially important fish and shellfish resources will be restricted to the Offshore Order Limits and surrounding areas. Effects of underwater noise on fish and shellfish receptors, and therefore commercial fisheries receptors, are not predicted to extend beyond UK

and Isle of Man waters. The potential transboundary impact of effects on commercially important fish and shellfish stocks is concluded to be not significant in EIA terms.

- Potential impacts on both UK and foreign commercial fishing fleets have been considered as part of this impact assessment (**section 6.11**); it was predicted that there will be no significant effects on Irish and Belgian vessels, which operate within the study area. Transboundary effects on commercial fishing fleets from Belgium and Ireland, in terms of displacement from the Transmission Assets into alternative grounds, are unlikely, given that activity by these fleets have been observed at relatively low levels across the Offshore Order Limits. The potential transboundary impact of effects on displacement of non-UK commercial fishing vessels is concluded to be not significant in EIA terms.

6.15 Inter-related effects

6.15.1 Overview

6.15.1.1 Inter-relationships are the impacts and associated effects of different aspects of the Transmission Assets on the same receptor. These are as follows.

- Project lifetime effects: Assessment of the scope for effects that occur throughout more than one phase of the Transmission Assets (construction, operation and maintenance, and decommissioning), to interact to potentially create a more significant effect on a receptor group than if just one phase were assessed in isolation.
- Receptor led effects: Assessment of the scope for all relevant effects across multiple topics to interact, spatially and temporally, to create inter-related effects on a receptor.

6.15.1.2 A description of the likely interactive effects arising from the Transmission Assets on commercial fisheries is provided in Volume 4, Chapter 3: Inter-relationships of the ES. There is no change in the significance of effects resulting from the inter-related assessment for commercial fisheries.

6.15.1.3 Information on commercial fisheries within the study area was collected through a review of official datasets; additional information and knowledge obtained through consultation with fisheries groups; and site-specific surveys.

6.15.1.4 **Table 6.33** presents a summary of the impacts, measures adopted as part of the Transmission Assets and residual effects in respect to commercial fisheries. The impacts assessed include:

- loss or restricted access to fishing grounds,
- displacement of fishing activity,
- loss of damage to fishing gear due to snagging,
- potential impacts on commercially important fish; and
- shellfish resources stocks and supply chain opportunities for local fishing vessels.

6.15.1.5 Overall, it is concluded there will be no significant effects arising from the Transmission Assets during the construction, operation and maintenance, or decommissioning phases in relation to commercial fisheries.

6.15.1.6 **Table 6.34** presents a summary of the cumulative impacts, mitigation measures and residual effects. The cumulative impacts assessed include:

- loss or restricted access to fishing grounds,
- loss of damage to fishing gear due to snagging; and
- potential impacts on commercially important fish and shellfish resources.

6.15.1.7 Overall, it is concluded there will be no significant cumulative effects on commercial fisheries from the Transmission Assets alongside other projects/plans following the implementation of embedded and further mitigation measures.

6.15.1.8 The following potential transboundary impacts have been identified in regard to effects of the Transmission Assets.

- Potential effects on commercially important fish and shellfish resources.
- Displacement of fishing vessels.

6.15.1.9 Effects of underwater noise on commercially important fish and shellfish resources, and therefore commercial fisheries receptors, are not predicted to extend beyond UK and Isle of Man waters. Therefore, the potential transboundary impact of effects on commercially important fish and shellfish stocks is concluded to be not significant in EIA terms.

6.15.1.10 Due to the localised nature of any potential impacts and limited non-UK fishing fleet activity (some potential for Belgian and Irish vessels targeting sole and scallops, respectively, within the study area, but not specifically within the Transmission Assets), transboundary impacts are unlikely to occur.

Table 6.33: Summary of environmental effects, mitigation and monitoring

Description of impact	Phase[a]			Commitment number	Magnitude of impact	Sensitivity of the receptor	Significance of effect	Further mitigation	Residual significant effect	Proposed monitoring
	C	O	D							
Loss or restricted access to fishing grounds	✓	✓	✓	CoT 45 CoT 50 CoT 55 CoT 59 CoT 61 CoT 62 CoT 65 CoT 66 CoT 71 CoT 112 (**Table 6.10**).	Inshore static gear vessels C: Negligible O: Negligible D: Negligible Offshore static gear vessels C: Low O: Negligible D: Negligible Beam trawl vessels C: Negligible O: Negligible D: Negligible Scallop vessels – Scottish west coast C: Negligible O: Negligible D: Negligible	Inshore static gear vessels C: Medium O: Medium D: Medium Offshore static gear vessels C: Low O: Low D: Low Beam trawl vessels C: Negligible O: Negligible D: Negligible Scallop vessels – Scottish west coast C: Medium O: Medium D: Medium	Inshore static gear vessels C: Negligible O: Negligible D: Negligible Offshore static gear vessels C: Negligible O: Negligible D: Negligible Beam trawl vessels C: Negligible O: Negligible D: Negligible Scallop vessels – Scottish west coast C: Minor adverse O: Minor adverse D: Minor adverse	None proposed beyond existing commitments.	Inshore static gear vessels C: Negligible O: Negligible D: Negligible Offshore static gear vessels C: Negligible O: Negligible D: Negligible Beam trawl vessels C: Negligible O: Negligible D: Negligible Scallop vessels – Scottish west coast C: Minor adverse O: Minor adverse	CoT 71 (**Table 6.26**: Monitoring commitments)

Description of impact	Phase[a]			Commitment number	Magnitude of impact	Sensitivity of the receptor	Significance of effect	Further mitigation	Residual significant effect	Proposed monitoring
	C	O	D							
					Scallop vessels – Isle of Man C: Negligible O: Negligible D: Negligible Other scallop vessels C: Negligible O: Negligible D: Negligible Herring vessels C: Negligible O: Negligible D: Negligible	Scallop vessels – Isle of Man C: Medium O: Medium D: Medium Other scallop vessels C: Negligible O: Negligible D: Negligible Herring vessels C: Low O: Low D: Low	Scallop vessels – Isle of Man C: Minor adverse O: Minor adverse D: Minor adverse Other scallop vessels C: Negligible O: Negligible D: Negligible Herring vessels C: Negligible O: Negligible D: Negligible		D: Minor adverse Scallop vessels – Isle of Man C: Minor adverse O: Minor adverse D: Minor adverse Other scallop vessels C: Negligible O: Negligible D: Negligible Herring vessels C: Negligible O: Negligible D: Negligible	
Displacement of fishing activity into other areas	✓	✓	✓	CoT 45 CoT 50 CoT 55	Inshore static gear vessels C: Negligible	Inshore static gear vessels C: Medium	Inshore static gear vessels C: Negligible	None proposed beyond existing commitments.	Inshore static gear vessels C: Negligible	CoT 71 (**Table 6.26**:

Description of impact	Phase[a]			Commitment number	Magnitude of impact	Sensitivity of the receptor	Significance of effect	Further mitigation	Residual significant effect	Proposed monitoring
	C	O	D							
				CoT 59 CoT 61 CoT 62 CoT 65 CoT 66 CoT 71 CoT 112 (**Table 6.10**).	O: Negligible D: Negligible Offshore static gear vessels C: Negligible O: Negligible D: Negligible Beam trawl vessels C: Negligible O: Negligible D: Negligible Scallop vessels – Scottish west coast C: Negligible O: Negligible D: Negligible Scallop vessels – Isle of Man C: Negligible O: Negligible D: Negligible	O: Medium D: Medium Offshore static gear vessels C: Low O: Low D: Low Beam trawl vessels C: Negligible O: Negligible D: Negligible Scallop vessels – Scottish west coast C: Medium O: Medium D: Medium Scallop vessels – Isle of Man C: Medium O: Medium D: Medium	O: Negligible D: Negligible Offshore static gear vessels C: Negligible O: Negligible D: Negligible Beam trawl vessels C: Negligible O: Negligible D: Negligible Scallop vessels – Scottish west coast C: Negligible O: Negligible D: Negligible Scallop vessels – Isle of Man C: Negligible O: Negligible D: Negligible		O: Negligible D: Negligible Offshore static gear vessels C: Negligible O: Negligible D: Negligible Beam trawl vessels C: Negligible O: Negligible D: Negligible Scallop vessels – Scottish west coast C: Negligible O: Negligible D: Negligible Scallop vessels – Isle of Man C: Negligible O: Negligible D: Negligible	Monitoring commitments)

Description of impact	Phase[a]			Commitment number	Magnitude of impact	Sensitivity of the receptor	Significance of effect	Further mitigation	Residual significant effect	Proposed monitoring
	C	O	D							
					Other scallop vessels C: Negligible O: Negligible D: Negligible Herring vessels C: Negligible O: Negligible D: Negligible Norway lobster (*Nephrops*) vessels C: Negligible O: Negligible D: Negligible	Other scallop vessels C: Negligible O: Negligible D: Negligible Herring vessels C: Low O: Low D: Low Norway lobster (*Nephrops*) vessels C: Negligible O: Negligible D: Negligible	Other scallop vessels C: Negligible O: Negligible D: Negligible Herring vessels C: Negligible O: Negligible D: Negligible Norway lobster (*Nephrops*) vessels C: Negligible O: Negligible D: Negligible		Other scallop vessels C: Negligible O: Negligible D: Negligible Herring vessels C: Negligible O: Negligible D: Negligible Norway lobster (*Nephrops*) vessels C: Negligible O: Negligible D: Negligible	
Loss or damage to fishing gear due to snagging	✓	✓	✓	CoT 45 CoT 50 CoT 55 CoT 59 CoT 61 CoT 62	Inshore static gear vessels C: Negligible O: Negligible D: Negligible	Inshore static gear vessels C: Low O: Low D: Low	Inshore static gear vessels C: Negligible O: Negligible D: Negligible	None proposed beyond existing commitments.	Inshore static gear vessels C: Negligible O: Negligible D: Negligible	CoT 71 (**Table 6.26**: Monitoring commitments)

Description of impact	Phase[a]			Commitment number	Magnitude of impact	Sensitivity of the receptor	Significance of effect	Further mitigation	Residual significant effect	Proposed monitoring
	C	O	D							
				CoT 65 CoT 66 CoT 71 CoT 112 (**Table 6.10**).	Offshore static gear vessels C: Negligible O: Negligible D: Negligible Beam trawl vessels C: Negligible O: Negligible D: Negligible Scallop vessels – Scottish west coast C: Negligible O: Negligible D: Negligible Scallop vessels – Isle of Man C: Negligible O: Negligible D: Negligible Other scallop vessels	Offshore static gear vessels C: Low O: Low D: Low Beam trawl vessels C: Medium O: Medium D: Medium Scallop vessels – Scottish west coast C: High O: High D: High Scallop vessels – Isle of Man C: High O: High D: High Other scallop vessels	Offshore static gear vessels C: Negligible O: Negligible D: Negligible Beam trawl vessels C: Negligible O: Negligible D: Negligible Scallop vessels – Scottish west coast C: Minor adverse O: Minor adverse D: Minor adverse Scallop vessels – Isle of Man C: Negligible O: Negligible D: Negligible Other scallop vessels C: Negligible		Offshore static gear vessels C: Negligible O: Negligible D: Negligible Beam trawl vessels C: Negligible O: Negligible D: Negligible Scallop vessels – Scottish west coast C: Minor adverse O: Minor adverse D: Minor adverse Scallop vessels – Isle of Man C: Negligible O: Negligible D: Negligible	

Description of impact	Phase[a]			Commitment number	Magnitude of impact	Sensitivity of the receptor	Significance of effect	Further mitigation	Residual significant effect	Proposed monitoring
	C	O	D							
					C: Negligible O: Negligible D: Negligible Herring vessels C: Negligible O: Negligible D: Negligible	C: Medium O: Medium D: Medium Herring vessels C: Negligible O: Negligible D: Negligible	O: Negligible D: Negligible Herring vessels C: Negligible O: Negligible D: Negligible		Other scallop vessels C: Negligible O: Negligible D: Negligible Herring vessels C: Negligible O: Negligible D: Negligible	
Potential impacts on commercially important fish and shellfish resources	✓	✓	✓	See Volume 2, Chapter 3: Fish and shellfish ecology of the ES;				None proposed beyond existing commitments.	See Volume 2, Chapter 3: Fish and shellfish ecology of the ES;	CoT 71 (**Table 6.26**: Monitoring commitments)
Supply chain opportunities for local fishing vessels	✓	✓	✓	CoT 66 (**Table 6.10**).	Inshore static gear vessels C: Negligible O: Negligible D: Negligible Offshore static gear vessels C: Low	Inshore static gear vessels C: Negligible O: Negligible D: Negligible Offshore static gear vessels C: Low	Inshore static gear vessels C: Negligible beneficial O: Negligible beneficial D: Negligible beneficial	None proposed beyond existing commitments.	Inshore static gear vessels C: Negligible beneficial O: Negligible beneficial D: Negligible beneficial	CoT 71 (**Table 6.26**: Monitoring commitments)

Description of impact	Phase[a]			Commitment number	Magnitude of impact	Sensitivity of the receptor	Significance of effect	Further mitigation	Residual significant effect	Proposed monitoring
	C	O	D		O: Negligible D: Negligible Beam trawl vessels C: Low O: Negligible D: Negligible Scallop vessels – Scottish west coast C: Low O: Negligible D: Negligible Scallop vessels – Isle of Man C: Low O: Negligible D: Negligible Other scallop vessels C: Low O: Negligible D: Negligible	O: Low D: Low Beam trawl vessels C: Negligible O: Negligible D: Negligible Scallop vessels – Scottish west coast C: Low O: Low D: Low Scallop vessels – Isle of Man C: Low O: Low D: Low Other scallop vessels C: Low O: Low D: Low	Offshore static gear vessels C: Negligible beneficial O: Negligible beneficial D: Negligible beneficial Beam trawl vessels C: Negligible beneficial O: Negligible beneficial D: Negligible beneficial Scallop vessels – Scottish west coast C: Negligible beneficial O: Negligible beneficial D: Negligible beneficial		Offshore static gear vessels C: Negligible beneficial O: Negligible beneficial D: Negligible beneficial Beam trawl vessels C: Negligible beneficial O: Negligible beneficial D: Negligible beneficial Scallop vessels – Scottish west coast C: Negligible beneficial O: Negligible beneficial D: Negligible beneficial	

Description of impact	Phase[a]			Commitment number	Magnitude of impact	Sensitivity of the receptor	Significance of effect	Further mitigation	Residual significant effect	Proposed monitoring
	C	O	D							
					Herring vessels C: Low O: Negligible D: Negligible	Herring vessels C: Low O: Low D: Low	Scallop vessels – Isle of Man C: Negligible beneficial O: Negligible beneficial D: Negligible beneficial Other scallop vessels C: Negligible beneficial O: Negligible beneficial D: Negligible beneficial Herring vessels C: Negligible beneficial O: Negligible beneficial D: Negligible beneficial		Scallop vessels – Isle of Man C: Negligible beneficial O: Negligible beneficial D: Negligible beneficial Other scallop vessels C: Negligible beneficial O: Negligible beneficial D: Negligible beneficial Herring vessels C: Negligible beneficial O: Negligible beneficial D: Negligible beneficial	

[a] C=construction, O=operation and maintenance, D=decommissioning

Table 6.34: Summary of cumulative environmental effects, mitigation and monitoring

Description of effect	Phase[a]			Commitment number	Magnitude of impact	Sensitivity of the receptor	Significance of effect	Further mitigation	Residual significant effect	Proposed monitoring
	C	O	D							
Scenario 1: Transmission Assets and Morecambe Offshore Windfarm: Generation Assets										
Loss or restricted access to fishing grounds	✓	✓	✓	Same as described for the same impact in **Table 6.33.**	Scallop vessels – Scottish west coast C: Negligible O: Negligible D: Negligible Scallop vessels – Isle of Man C: Negligible O: Negligible D: Negligible	Scallop vessels – Scottish west coast C: Medium O: Medium D: Medium Scallop vessels – Isle of Man C: Medium O: Medium D: Medium	Scallop vessels – Scottish west coast C: Minor adverse O: Minor adverse D: Minor adverse Scallop vessels – Isle of Man C: Minor adverse O: Minor adverse D: Minor adverse	None proposed beyond existing commitments (**Table 6.10**).	Scallop vessels – Scottish west coast C: Minor adverse O: Minor adverse D: Minor adverse Scallop vessels – Isle of Man C: Minor adverse O: Minor adverse D: Minor adverse	CoT 71 (**Table 6.26**: Monitoring commitments)
Loss or damage to fishing gear due to snagging	✓	✓	✓	Same as described for the same impact in **Table 6.33.**	Scallop vessels – Scottish west coast C: Negligible O: Negligible D: Negligible	Scallop vessels – Scottish west coast C: High O: High D: High	Scallop vessels – Scottish west coast C: Minor adverse O: Minor adverse	None proposed beyond existing commitments (**Table 6.10**).	Scallop vessels – Scottish west coast C: Minor adverse O: Minor adverse	CoT 71 (**Table 6.26**: Monitoring commitments)

Description of effect	Phase[a]			Commitment number	Magnitude of impact	Sensitivity of the receptor	Significance of effect	Further mitigation	Residual significant effect	Proposed monitoring
	C	O	D							
					Scallop vessels – Isle of Man C: Negligible O: Negligible D: Negligible	Scallop vessels – Isle of Man C: High O: High D: High	D: Minor adverse Scallop vessels – Isle of Man C: Minor adverse O: Minor adverse D: Minor adverse		D: Minor adverse Scallop vessels – Isle of Man C: Minor adverse O: Minor adverse D: Minor adverse	
Potential impacts on commercially important fish and shellfish resources	✓	✓	✓	See Volume 2, Chapter 3: Fish and shellfish ecology of the ES	Low	Low - High	Minor adverse	See Volume 2, Chapter 3: Fish and shellfish ecology of the ES.	Minor adverse	CoT 71 (**Table 6.26**: Monitoring commitments)
Scenario 2: Transmission Assets and Morgan Offshore Wind Project: Generation Assets										
Loss or restricted access to fishing grounds	✓	✓	✓	Same as described for the same impact in **Table 6.33.**	Scallop vessels – Scottish west coast C: Low O: Low D: Low Scallop vessels – Isle of Man C: Low	Scallop vessels – Scottish west coast C: Medium O: Medium D: Medium Scallop vessels – Isle of Man coast	Scallop vessels – Scottish west coast C: Minor adverse O: Minor adverse D: Minor adverse Scallop vessels – Isle of Man	None proposed beyond existing commitments (**Table 6.10**).	Scallop vessels – Scottish west coast C: Minor adverse O: Minor adverse D: Minor adverse Scallop vessels –	CoT 71 (**Table 6.26**: Monitoring commitments)

Description of effect	Phase[a]			Commitment number	Magnitude of impact	Sensitivity of the receptor	Significance of effect	Further mitigation	Residual significant effect	Proposed monitoring
	C	O	D							
					O: Low D: Low	C: Medium O: Medium D: Medium	C: Minor adverse O: Minor adverse D: Minor adverse		Scallop vessels – Isle of Man C: Minor adverse O: Minor adverse D: Minor adverse	
Loss or damage to fishing gear due to snagging	✓	✓	✓	Same as described for the same impact in **Table 6.33.**	Scallop vessels – Scottish west coast C: Negligible O: Negligible D: Negligible	Scallop vessels – Scottish west coast C: High O: High D: High	Scallop vessels – Scottish west coast C: Minor adverse O: Minor adverse D: Minor adverse	None proposed beyond existing commitments.	Scallop vessels – Scottish west coast C: Minor adverse O: Minor adverse D: Minor adverse	CoT 71 (**Table 6.26**: Monitoring commitments)
Potential impacts on commercially important fish and shellfish resources	✓	✓	✓	See Volume 2, Chapter 3: Fish and shellfish ecology of the ES.				None proposed beyond existing commitments.	None.	CoT 71 (**Table 6.26**: Monitoring commitments)
Morecambe and Morgan Offshore Wind Farms: Transmission Assets										

Description of effect	Phase[a]			Commitment number	Magnitude of impact	Sensitivity of the receptor	Significance of effect	Further mitigation	Residual significant effect	Proposed monitoring
	C	O	D							
Loss or restricted access to fishing grounds	✓	✓	✓	Same as described for the same impact **in Table 6.33.**	Scallop vessels – Scottish west coast C: Low O: Low D: Low	Scallop vessels – Scottish west coast C: Medium O: Medium D: Medium	Scallop vessels – Scottish west coast C: Minor adverse O: Minor adverse D: Minor adverse	None proposed for ES beyond existing commitments.	Scallop vessels – Scottish west coast C: Minor adverse O: Minor adverse D: Minor adverse	CoT 71 (**Table 6.26**: Monitoring commitments)
Loss or damage to fishing gear due to snagging	✓	✓	✓	Same as described for the same impact in **Table 6.33.**	Scallop vessels – Scottish west coast C: Negligible O: Negligible D: Negligible	Scallop vessels – Scottish west coast C: High O: High D: High	Scallop vessels – Scottish west coast C: Minor adverse O: Minor adverse D: Minor adverse	None proposed beyond existing commitments.	Scallop vessels – Scottish west coast C: Minor adverse O: Minor adverse D: Minor adverse	CoT 71 (**Table 6.26**: Monitoring commitments)
Potential impacts on commercially important fish and shellfish resources	✓	✓	✓	See Volume 2, Chapter 3: Fish and shellfish ecology of the ES.				None proposed beyond existing commitments.	See Volume 2, Chapter 3: Fish and shellfish ecology of the ES	CoT 71 (**Table 6.26**: Monitoring commitments)
Scenario 3: Transmission Assets and Generation Assets										

Description of effect	Phase[a]			Commitment number	Magnitude of impact	Sensitivity of the receptor	Significance of effect	Further mitigation	Residual significant effect	Proposed monitoring
	C	O	D							
Loss or restricted access to fishing grounds	✓	✓	✓	Same as described for the same impact in **Table 6.33.**	Scallop vessels – Scottish west coast C: Low O: Low D: Low Scallop vessels – Isle of Man C: Low O: Low D: Low	Scallop vessels – Scottish west coast C: Medium O: Medium D: Medium Scallop vessels – Isle of Man C: Medium O: Medium D: Medium	Scallop vessels – Scottish west coast C: Minor adverse O: Minor adverse D: Minor adverse Scallop vessels – Isle of Man C: Minor adverse O: Minor adverse D: Minor adverse	None proposed for ES beyond existing commitments.	Scallop vessels – Scottish west coast C: Minor adverse O: Minor adverse D: Minor adverse Scallop vessels – Isle of Man C: Minor adverse O: Minor adverse D: Minor adverse	CoT 71 (**Table 6.26**: Monitoring commitments)
Loss or damage to fishing gear due to snagging	✓	✓	✓	Same as described for the same impact in **Table 6.33.**	Scallop vessels – Scottish west coast C: Negligible O: Negligible D: Negligible	Scallop vessels – Scottish west coast C: High O: High D: High	Scallop vessels – Scottish west coast C: Minor adverse O: Minor adverse	None proposed beyond existing commitments.	Scallop vessels – Scottish west coast C: Minor adverse O: Minor adverse	CoT 71 (**Table 6.26**: Monitoring commitments)

Description of effect	Phase[a]			Commitment number	Magnitude of impact	Sensitivity of the receptor	Significance of effect	Further mitigation	Residual significant effect	Proposed monitoring
	C	O	D							
					Scallop vessels – Isle of Man C: Negligible O: Negligible D: Negligible	Scallop vessels – Isle of Man C: High O: High D: High	D: Minor adverse Scallop vessels – Isle of Man C: Minor adverse O: Minor adverse D: Minor adverse		D: Minor adverse Scallop vessels – Isle of Man C: Minor adverse O: Minor adverse D: Minor adverse	
Potential impacts on commercially important fish and shellfish resources	✓	✓	✓	See Volume 2, Chapter 3: Fish and shellfish ecology of the ES.				None proposed beyond existing commitments.	See Volume 2, Chapter 3: Fish and shellfish ecology of the ES	CoT 71 (**Table 6.26**: Monitoring commitments)
Transmission Assets and Generation Assets (Scenario 3) plus Tier 1 projects										
Loss or restricted access to fishing grounds	✓	✓	✓	Same as described for the same impact in **Table 6.33.**	Scallop vessels – Scottish west coast C: Low O: Low D: Low	Scallop vessels – Scottish west coast C: Medium O: Medium D: Medium	Scallop vessels – Scottish west coast C: Minor adverse O: Minor adverse D: Minor adverse	None proposed for ES beyond existing commitments.	Scallop vessels – Scottish west coast C: Minor adverse O: Minor adverse	CoT 71 (**Table 6.26**: Monitoring commitments)

Description of effect	Phase[a]			Commitment number	Magnitude of impact	Sensitivity of the receptor	Significance of effect	Further mitigation	Residual significant effect	Proposed monitoring
	C	O	D							
					Scallop vessels – Isle of Man C: Low O: Low D: Low	Scallop vessels – Isle of Man C: Medium O: Medium D: Medium	Scallop vessels – Isle of Man C: Minor adverse O: Minor adverse D: Minor adverse		D: Minor adverse Scallop vessels – Isle of Man C: Minor adverse O: Minor adverse D: Minor adverse	
Loss or damage to fishing gear due to snagging	✓	✓	✓	Same as described for the same impact in **Table 6.33.**	Scallop vessels – Scottish west coast C: Negligible O: Negligible D: Negligible Scallop vessels – Isle of Man C: Negligible O: Negligible D: Negligible	Scallop vessels – Scottish west coast C: High O: High D: High Scallop vessels – Isle of Man C: High O: High D: High	Scallop vessels – Scottish west coast C: Minor adverse O: Minor adverse D: Minor adverse Scallop vessels – Isle of Man C: Minor adverse O: Minor adverse	None proposed beyond existing commitments.	Scallop vessels – Scottish west coast C: Minor adverse O: Minor adverse D: Minor adverse Scallop vessels – Isle of Man C: Minor adverse	CoT 71 (**Table 6.26**: Monitoring commitments)

Description of effect	Phase[a]			Commitment number	Magnitude of impact	Sensitivity of the receptor	Significance of effect	Further mitigation	Residual significant effect	Proposed monitoring
	C	O	D							
							D: Minor adverse		O: Minor adverse D: Minor adverse	
Potential impacts on commercially important fish and shellfish resources	✓	✓	✓	See Volume 2, Chapter 3: Fish and shellfish ecology of the ES.				None proposed beyond existing commitments.	See Volume 2, Chapter 3: Fish and shellfish ecology of the ES	CoT 71 (**Table 6.26**: Monitoring commitments)
Scenario 4b – Scenario 4a plus Tier 2 projects										
Loss or restricted access to fishing grounds	✓	✓	✓	Same as described for the same impact in **Table 6.33.**	Scallop vessels – Scottish west coast C: Low O: Low D: Low Scallop vessels – Isle of Man C: Low O: Low D: Low	Scallop vessels – Scottish west coast C: Medium O: Medium D: Medium Scallop vessels – Isle of Man C: Medium O: Medium D: Medium	Scallop vessels – Scottish west coast C: Minor adverse O: Minor adverse D: Minor adverse Scallop vessels – Isle of Man C: Minor adverse O: Minor adverse	None proposed for ES beyond existing commitments.	Scallop vessels – Scottish west coast C: Minor adverse O: Minor adverse D: Minor adverse Scallop vessels – Isle of Man C: Minor adverse	CoT 71 (**Table 6.26**: Monitoring commitments)

Description of effect	Phase[a]			Commitment number	Magnitude of impact	Sensitivity of the receptor	Significance of effect	Further mitigation	Residual significant effect	Proposed monitoring
	C	O	D							
							D: Minor adverse		O: Minor adverse D: Minor adverse	
Loss or damage to fishing gear due to snagging	✓	✓	✓	Same as described for the same impact in **Table 6.33.**	Scallop vessels – Scottish west coast C: Negligible O: Negligible D: Negligible Scallop vessels – Isle of Man C: Negligible O: Negligible D: Negligible	Scallop vessels – Scottish west coast C: High O: High D: High Scallop vessels – Isle of Man C: High O: High D: High	Scallop vessels – Scottish west coast C: Minor adverse O: Minor adverse D: Minor adverse Scallop vessels – Isle of Man C: Minor adverse O: Minor adverse D: Minor adverse	None proposed beyond existing commitments.	Scallop vessels – Scottish west coast C: Minor adverse O: Minor adverse D: Minor adverse Scallop vessels – Isle of Man C: Minor adverse O: Minor adverse D: Minor adverse	CoT 71 (**Table 6.26**: Monitoring commitments)
Potential impacts on commercially	✓	✓	✓	See Volume 2, Chapter 3: Fish and shellfish ecology of the ES				None proposed beyond	See Volume 2, Chapter 3: Fish and	CoT 71 (**Table 6.26**:

Description of effect	Phase[a]			Commitment number	Magnitude of impact	Sensitivity of the receptor	Significance of effect	Further mitigation	Residual significant effect	Proposed monitoring
	C	O	D							
important fish and shellfish resources								existing commitments.	shellfish ecology of the ES	Monitoring commitments)
Scenario 4c – Scenario 4b plus Tier 3 project										
Loss or restricted access to fishing grounds	✓	✓	✓	Same as described for the same impact in **Table 6.33.**	Scallop vessels – Scottish west coast C: Low O: Low D: Low Scallop vessels – Isle of Man C: Low O: Low D: Low	Scallop vessels – Scottish west coast C: Medium O: Medium D: Medium Scallop vessels – Isle of Man C: Medium O: Medium D: Medium	Scallop vessels – Scottish west coast C: Minor adverse O: Minor adverse D: Minor adverse Scallop vessels – Isle of Man C: Minor adverse O: Minor adverse D: Minor adverse	None proposed for ES beyond existing commitments.	Scallop vessels – Scottish west coast C: Minor adverse O: Minor adverse D: Minor adverse Scallop vessels – Isle of Man C: Minor adverse O: Minor adverse D: Minor adverse	CoT 71 (**Table 6.26**: Monitoring commitments)
Loss or damage to fishing gear	✓	✓	✓	Same as described for the same impact in **Table 6.33.**	Scallop vessels – Scottish west coast	Scallop vessels – Scottish west coast	Scallop vessels – Scottish west coast	None proposed beyond.	Scallop vessels – Scottish west coast	CoT 71 (**Table 6.26**:

Description of effect	Phase[a]			Commitment number	Magnitude of impact	Sensitivity of the receptor	Significance of effect	Further mitigation	Residual significant effect	Proposed monitoring
	C	O	D							
due to snagging					C: Negligible O: Negligible D: Negligible Scallop vessels – Isle of Man C: Negligible O: Negligible D: Negligible	C: High O: High D: High Scallop vessels – Isle of Man C: High O: High D: High	C: Minor adverse O: Minor adverse D: Minor adverse Scallop vessels – Isle of Man C: Minor adverse O: Minor adverse D: Minor adverse	existing commitments.	C: Minor adverse O: Minor adverse D: Minor adverse Scallop vessels – Isle of Man C: Minor adverse O: Minor adverse D: Minor adverse	Monitoring commitments)
Potential impacts on commercially important fish and shellfish resources	✓	✓	✓	See Volume 2, Chapter 3: Fish and shellfish ecology of the ES.				None proposed beyond existing commitments.	See Volume 2, Chapter 3: Fish and shellfish ecology of the ES	CoT 71 (**Table 6.26**: Monitoring commitments)

[a] C=construction, O=operation and maintenance, D=decommissioning

6.16 References

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